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Grade 6

Strand: Number

	Curriculum Expectations	Pages
N6.1	Demonstrate understanding of place value including: · greater than one million · less than one thousandth with and without technology.	5-43
N6.2	Demonstrate understanding of factors and multiples (concretely, pictorially, and symbolically) including: · determining factors and multiples of numbers less than 100 · relating factors and multiples to multiplication and division · determining and relating prime and composite numbers.	82-105
N6	Demonstrate understanding of the order of operations on	
N6		
N6		
N6.6	Demonstrate understanding of integers concretely, pictorially, and symbolically	182-202
N6.7	Extend understanding of fractions to improper fractions and mixed numbers.	205-225
N6.8	Demonstrate an understanding of ratio concretely, pictorially, and symbolically.	228-240
N6.9	Research and present how First Nations and Métis peoples, past and present, envision, represent, and use quantity in their lifestyles and worldviews.	243-246
TQ	Tests and quizzes	44-46, 151-154, 180-181, 203-204, 226-227, 241-242

Name: _____ 5

Curriculum Connection
NS.1

Place Value Chart

5 213 572 483											
Billions			Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones
		5	2	1	3	5	7	2	4	8	3

Instruction: Fill in the place value charts below

1) 3 521 785 246											
			Millions			Thousands			Ones		
Hundreds	Tens				Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones

2) 7 [illegible] 156											
Billions						[illegible]sands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens		[illegible]ndreds		Ones	Hundreds	Tens	Ones

3) 9 237 031 3[illegible]											
Billions			Millions			Thou[illegible]			On[illegible]		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens[illegible]	[illegible]	[illegible]		Ones

4) 2 125 284 275											
Billions			Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones

5) 8 368 547 941											
Billions			Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones

Name: _____ 6

Curriculum Connection
NS.1

Place Value - Billions

Part 1 Circle the digit for each place value written

	Number	Digit
1)	245 842	Ten thousands place
2)	8 581 578	Millions place
3)	2 846 285	Thousands place
4)	99 542	Ten-millions place
5)	86 18	Hundred-millions place
6)	2	Hundred-thousands place
7)	5 879 65	One-thousands place
8)	3 896 748 223	-billions place
9)	2 758 951 154	eds place
10)	7 856 578 452	thou place

Part 2 What place value is underlined?

	Number	Place Value
1)	8 545 121 848	
2)	3 565 215 835	
3)	3 455 458 489	
4)	9 753 602 574	
5)	5 410 848 496	

Name: _____ 8

Curriculum Connection
NA.1

Expanded Form

Questions What is the expanded form of the numbers below?

1) 6 753 501 003

6 000 000 000 + 700 000 000 + 50 000 000 + 3 000 000 + 500 000 + 1 000 + 3

2) 2 851 460 000

3) 9 128 700 000

4) [illegible]108 318

5) [illegible]7 20[illegible]

6) 5 104 705 [illegible]

7) 7 852 620 500

8) 4 870 008 985

9) 5 586 900 084

10) 7 842 000 541

Name: _____ 9

Curriculum Connection
NS.1

Expanded Form

Questions What is the standard form of the numbers below?

1) 5,000,000,000 + 800,000,000 + 40,000,000 + 100,000 + 20,000 + 3,000 + 400 + 50 + 6

5,840,123,456

2) 2,000,0 + 100,000,000 + 7,000,000 + 800,000 + 10,000 + 200 + 30 + 5

3) 9,0 ,000 + 0 + 50,000,000 + 600,000 + 70,000 + 8,000 + 900 + 10 + 2

4) 6,000,000,000 + 9, 00 0 + 6,000 + 500 + 40 + 3

5) 3,000,000,000 + 700,000,000 + 10,000 ,00 + 20 + 30 + 6

6) 4,000,000,000 + 500,000,000 + 80,000,000 + 900, 0 + 30 + 2

7) 7,000,000,000 + 100,000,000 + 20,000,000 + 400,000 + 50,000 + 6,

8) 1,000,000,000 + 200,000,000 + 30,000,000 + 400,000 + 50,000 + 6,000 + 700 + 80 + 9

9) 8,000,000,000 + 300,000,000 + 10,000,000 + 500,000 + 900 + 20 + 6 + 500 + 30 + 5

10) 5,000,000,000 + 20,000,000 + 300,000 + 5,000 + 7,000 + 800 + 90 + 4 + 3

Name: _____ 12

Curriculum Connection
- NBT

Task Cards: Place Value

Objective What are we learning about?

Students will practice converting numbers from different representations, including expanded form, written form, and standard form.

Materials What you will need for the activity.

- 24 [illegible]
- [illegible] for answers
- Pen[illegible]

Instructions [illegible]ou w[illegible] the activity

1. Begin by explaining the [illegible] of [illegible] and the importance of understanding how numbers are construct[illegible]n st[illegible]
2. Organize the students into pairs and provide e[illegible] pair [illegible] their sets of task cards.
3. Give each pair an answer recording sheet f[illegible] do[illegible] [illegible]ses.
4. Encourage teamwork by having students collabora[illegible] ir p[illegible] on finding solutions.
5. Allow students to select any task card to begin with, emphasizi[illegible] [illegible]an complete the cards in any order they prefer.
6. Instruct students to record the letter of their chosen answer (A, B, or C) on their answer sheet beside the task card's number.
7. Consider using a timer to create a dynamic challenge, adjusting the duration to fit the lesson's objectives and complexity.
8. After the activity, review the answers collectively, discussing any challenging patterns and strategies used to solve them.
9. Have students reflect on the activity, sharing the methods they applied and obstacles they overcame.

Name: _____ 13

Curriculum Connection
NS.1

Task Cards | Cut out the task cards below

Card 1:
Eight billion, three hundred seventy-five million, four hundred twenty-eight thousand, one hundred three

8,375,428,103
[illegible]357,428,103
[illegible]482,103

Card 5:
What is the expanded form of the number below?

7,204,015,690

a) 7,000,000,000 + 200,000,000 + 4,000,000 + 10,000 + 5,000 + 600 + 90
b) 7,000,000,000 + 200,000,000 + 4,000,000 + 15,000 + 6,000 + 90
c) 7,000,000,000 + 200,000,000 + 4,000,000 + 15,000 + 600 + 90

Card 2:
My number has [illegible] 4 hu[illegible]
2 hundred fifty thous[illegible]

a) 3,400,250,0[illegible]
b) 3,400,250,068
c) 3,400,205,068

Card 6:
One billion, five hundred sixty-three million, eight hundred twenty-nine thousand, seven hundred sixteen

a) 1,563,829,761
b) 1,653,829,716
c) 1,563,829,716

Card 3:
9,302,174,258

a) 9,000,000,000 + 30,000,000 + 2,000,000 + 100,000 + 70,000 + 4,000 + 200 + 50 + 8
b) 9,000,000,000 + 300,000,000 + 2,000,000 + 100,000 + 70,000 + 4,000 + 250 + 8
c) 9,000,000,000 + 300,000,000 + 2,000,000 + 100,000 + 70,000 + 4,000 + 200 + 50 + 8

Se[illegible]e hu[illegible]inety-eight million, [illegible]ed fi[illegible]usand, three h[illegible]d tw[illegible]

a) 7,1[illegible]
b) 7,198,650
c) 7,189,650,[illegible]

Card 4:
8,000,000,000 + 100,000,000 + 4,000,000 + 300,000 + 60,000 + 5,000 + 70 + 2

a) 8,134,365,772
b) 8,104,365,072
c) 8,104,365,272

Card 8:
Two billion, four hundred fifty-six million, seven hundred eighty-nine thousand, one hundred two

a) 2,456,789,102
b) 2,456,879,102
c) 2,465,789,102

Task Cards | Cut out the task cards below

Card 9:
My number has 5 billion, 6 hundred million, 7 hundred forty thousand, 3 tens, and 5 ones.

a) 5,600,704,305
b) 5,600,740,035
c) 5,600,740,305

Card 13:
My number has 4 billion, 5 hundred million, 3 hundred twenty-one thousands, 9 hundreds, 1 tens, and 8 ones.

a) 4,000,500,321,918
b) 4,500,321,918
c) 4,000,500,321,908

Card 10:
Four [illegible]on, eig[illegible] sixty-seven million, fi[illegible]ven[illegible]ree thousand, [illegible]dred f[illegible]

a) 4,867,5[illegible]
b) 4,867,523,[illegible]
c) 4,876,523,914

Card 14:
Nine billion, four hundred seventy-six million, two hundred thirty-one thousand, eight hundred seventy-four

a) 9,476,231,874
b) 9,476,231,784
c) 9,467,231,874

Card 11:
6,209,314,875

a) 6,000,000,000 + 200,000,000 + 9,000,000 + 300,000 + 10,000 + 4,000 + 800 + 70 + 5
b) 6,000,000,000 + 200,000,000 + 9,000,000 + 300,000 + 10,000 + 4,000 + 80 + 70 + 5
c) 6,000,000,000 + 200,000,000 + 9,000,000 + 300,000 + 14,000 + 8,000 + 75 + 5

Card 15:
[illegible],946

a) 3,0[illegible] + 400,[illegible] + 2,000,000 + 100,[illegible] + [illegible] + 40 + 6
b) 3,000,000,000 + 4[illegible],000 + 100,000 + 50,000 [illegible] + 6
c) 3,000,000,000 + 400,00[illegible] + 2,000,000 + 100,000 + 50,000 + 7,000 + 900 + 40 + 6

Card 12:
Three billion, two hundred eighteen million, four hundred fifty-nine thousand, seven hundred sixty-eight

a) 3,218,459,768
b) 3,218,459,876
c) 3,218,495,768

Card 16:
Five billion, six hundred thirty-two million, one hundred four thousand, two hundred fifty-six

a) 5,632,014,256
b) 5,632,104,256
c) 5,623,104,256

Name: _____ 15

Curriculum Connection No.1

Task Cards | Cut out the task cards below

Card 17:
My number has 7 billion, 8 hundred fifty million, 2 hundred ten thousand, 4 tens, and 9 ones.

a) 7,850,210,409
b) 7,800,210,409
c) 7,850,210,049

Card 21:
Three billion, nine hundred seventy-two million, one hundred fifty-four thousand, six hundred eighty-one in standard form

a) 3,972,154,618
b) 3,972,514,681
c) 3,972,154,681

Six [illegible], four [illegible] twenty-eight million, three [illegible] fifty-seven thousand, [illegible] hundred s[illegible]

a) 6,428,[illegible]
b) 6,428,35[illegible]
c) 6,482,357,96[illegible]

Card 22:
6,000,000,000 + 800,000,000 + 90,000,000 + 4,000,000 + 500,000 + 30,000 + 7,000 + 600 + 40 + 8

a) 6,849,537,648
b) 6,894,537,684
c) 6,894,537,648

Card 19:
4,706,289,154

a) 4,000,000,000 + 700,000,000 + 6,000,000 + 200,000 + 80,000 + 9,000 + 100 + 50 + 4
b) 4,000,000,000 + 700,000,000 + 6,000,000 + 200,000 + 80,000 + 9,000 + 1,000 + 50 + 4
c) 4,000,000,000 + 700,000,000 + 6,000,000 + 200,000 + 80,000 + 9,000 + 10 + 50 + 4

Card 23:
[illegible]893,201

a) [illegible]000 + 60,[illegible]000,000 + 90,000 [illegible]20[illegible]
b) 4,000,000,[illegible]50[illegible] 60,000,000 + 7,00[illegible] 90,000 + 30,000 + 200 [illegible]
c) 4,000,000,000 + 500,00[illegible] + 60,000,000 + 7,000,000 + 800,000 + 90,000 + 3,000 + 20 + 1

Card 20:
Eight billion, one hundred thirty-two million, six hundred seventy-four thousand, one hundred eighty-five

a) 8,132,674,158
b) 8,132,674,185
c) 8,132,764,185

Card 24:
My number has 4 billion, 9 hundred sixty million, 2 hundred thousand, 1 hundred, 4 tens, and 7 ones

a) 4,960,200,174
b) 4,960,200,147
c) 4,960,020,147

Name: _____ 16

Curriculum Connection
NS 1

Task Cards: Place Value

Answers | Record your answers below

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	

Name: _____ 19

Curriculum Connection
NS.1

Place Value - Number Breakdown

Instructions | Fill in the blanks below

Number Breakdown

301 048 082

B	M	H Th	T Th	Th	H	T	O

Write the expanded form of the number below

_____

Fill in the pattern below

301 048 082, _____, _____, 301 048 085, 301 048 086

Fill in the pattern below

301 048 082, 301 049 082, _____, 301 052, _____

Fill in the pattern below

301 048 082, _____, 303 048 082, _____, 305 048 082

301 048 082	+10 000	
301 048 082	+1 000 000	
301 048 082	+ 100 000 000	
301 048 082	- 10 000 000	
301 048 082	- 1 000	

Name: _____ 26

Curriculum Connection No.1

Place Value Using Decimals

Decimal numbers are any numbers that represent a value less than one. We use a decimal point to represent that a number can be less than one. We would represent a single cookie with the number 1, but we can still represent a quarter of a cookie by writing 0.25. The 0 is the whole number, while the numbers to the right of the decimal show how large the part of the whole is.

PLACE VALUE						
1		4	2	3	7	5
Ones	Decimal	Tenths	Hundredths	Thousandths	Ten Thousandths	Hun. Thousandths	Millionths

Part 1 What is the place value for the underlined number?

1) 8.124589	2) 1.23	3) 2.4217	4) 3.64882
5) 2.4335	6) 4.747823	7) 8.326	8) 7.926
9) 2.530521	10) 7.754218	11) 5.1	12) 9.538142

Part 2 Fill in the place value table for the numbers below.

1) 1.579238

Ones	Decimal	Tenths	Hundredths	Thousandths	Ten Thousandths	Hun. Thousandths	Millionths

2) 2.387219

Ones	Decimal	Tenths	Hundredths	Thousandths	Ten Thousandths	Hun. Thousandths	Millionths

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Answer the word problems below.

1) Emma's ribbon is 9.234 meters long. How long is her ribbon to the nearest hundredth?

_____

2) Sarah's water bottle holds 0.856 liters of water. How much water does it hold to the nearest hundredth?

_____

Name: _____

Answer the word problems below.

1) Emma's ribbon is 9.234 meters long. How long is her ribbon to the nearest hundredth?

_____

2) Sarah's water bottle holds 0.856 liters of water. How much water does it hold to the nearest hundredth?

_____

Name: _____

Answer the word problems below.

1) Emma's ribbon is 9.234 meters long. How long is her ribbon to the nearest hundredth?

_____

2) Sarah's water bottle holds 0.856 liters of water. How much water does it hold to the nearest hundredth?

_____

Name: _____

Answer the word problems below.

1) Emma's ribbon is 9.234 meters long. How long is her ribbon to the nearest hundredth?

_____

2) Sarah's water bottle holds 0.856 liters of water. How much water does it hold to the nearest hundredth?

_____

Name: _____ 32

Curriculum Connection
N6.1

Ordering Decimals

Instructions Order the decimal numbers using the letters

1) Order the following numbers from least to greatest:

a) 0.1234

b) 0.0012

c) 0.123

d) 0.[illegible]6

Answer (ex. a, b, c, d)

2) Order the following numbers from greatest to least:

a) 45.6789

b) 45.789

c) 45.67

d) 45.8901

Answer (ex. a, b, c, d)

3) Order the following numbers from least to greatest:

a) 987.654321

b) 98.7654321

c) 9876.54321

d) 9.87654321

Answer (ex. a, b, c, d)

4) Order the following numbers from greatest to least:

a) 0.000123

b) 0.00123

c) 0.0123

d) 0.123

Answer (ex. a, b, c, d)

Name: _____ 33

Curriculum Connection
Yr 3

Activity: Decimal Treasure Hunt

Objective

What are we learning about?

Students will practise ordering decimal numbers in the hundredths place from least to greatest in a fun and interactive way.

Materials

What you will need for the activity.

- [illegible] pieces of paper
- Mar[illegible]s or p[illegible]
- Tape
- Timer (optio[illegible])
- Small prizes (op[illegible])

Instructions

How you wi[illegible]mple[illegible]

1. Write a set of decimal numbers on 24 index c[illegible] Each [illegible]ould have one decimal number (or use the cards we have[illegible]ed).
2. Tape the cards in various locations around the cla[illegible]nsure[illegible]mbers are visible but not too easy to find.
3. Explain to the students that they will be going on a treasure h[illegible] decimal number cards. They should not move the cards when they fi[illegible]; instead, they should write the numbers on the top part of their page.
4. Once all the cards are found and recorded, students must write the numbers in order from least to greatest on the bottom part of their page.
5. Allow students to move around the room individually to find the numbers.
6. Set a timer to add excitement and challenge (optional).
7. After the hunt, gather the students and discuss the correct order of the decimal numbers. Award small prizes to students who correctly ordered their numbers (optional)

Name: _____ 34

Curriculum Connection
N6.1

Index Cards	Cut out the index cards below

28.5142	28.642
28.5	28.542
0.2758	0.2
0.275	0.258

Name: _____ 35

Curriculum Connection
N6.1

Index Cards | Cut out the index cards below

456.7859	456.7889
456.[illegible]	9.10002
9.110002	9.[illegible]
0.905760	0.915760

Name: _____ 36

Curriculum Connection
N6.1

Index Cards | Cut out the index cards below

0.902760	34.545878
0.100577	34.539978
0.807209	34.5[illegible]
0.897209	0.810209

Name: ______________________

Curriculum Connection
N6.1

Recording Sheet | Follow the instructions below

1) When you find a decimal number, write it in the box below.

2) Once you've fo[illegible]ll 24 [illegible]rite them in order from least to greatest.

1)		[illegible]	
2)		[illegible]4)	
3)		15)	
4)		16)	
5)		17)	
6)		18)	
7)		19)	
8)		20)	
9)		21)	
10)		22)	
11)		23)	
12)		24)	

Name: _____ 42

Curriculum Connection
NF.1

Comparing Decimals

Part 1 Compare the decimal numbers using >, <, and =

1)	0.012345		0.12345	2) 0.00009		0.0001
3)	[illegible]		12.3456	4) 98.765432		98.765431
5)	0.0678		[illegible]	6) 9.8765		9.8765
7)	123.45678		123.45679	8) [illegible]		0.000459

Part 2 Answer the questions below

1) A company has two suppliers who offer discounts on bulk purchases. Supplier A offers a discount of 5.6789% and Supplier B offers a discount of 5.689%. Which supplier offers a greater discount?

2) A construction company is building a bridge that needs 1,234.5678 cubic meters of concrete. Two suppliers offer different prices for the concrete. Supplier A offers a price of $89.1234 per cubic meter, while Supplier B offers a price of $89.175 per cubic meter. Which supplier offers a lower price for the required amount of concrete?

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Answer the questions below

1) Two students scored close marks in a test. Student A scored 87.456 points, and Student B scored 87.654 points. Who scored higher?

_____

2) A grocery store sells apples at two different prices. Store A sells them for $1.234 per pound, and Store B sells them for $1.235 per pound. Which store sells apples at a lower price?

_____

Name: _____

Answer the questions below

1) Two students scored close marks in a test. Student A scored 87.456 points, and Student B scored 87.654 points. Who scored higher?

_____

2) A grocery store sells apples at two different prices. Store A sells them for $1.234 per pound, and Store B sells them for $1.235 per pound. Which store sells apples at a lower price?

_____

Name: _____ 44

Curriculum Connection
10

Place Value Quiz

Part 1 Fill in the place value charts below

5 231 363 635									
B	H M	T M	M	H Th	T Th	Th	H	T	O

Part 2 Which [illegible]e is the underlined number?

1) 452 132 516	[illegible]2 668	3) 458 342 658
4) 153 514 248	5) 1 654 [illegible]	6) 1 412 762 134
7) 3 150 427 205	8) 7 852 620 500	7 842 [illegible]41

Part 3 Fill in the below – how many are in the number?

	Number	Billions	Millions	Thousands	Ones
1)	5 218 245 842				
2)	7 610 304 220				
3)	3 497 584 752				

Part 4 Write the standard form of the numbers below?

1) 2 000 000 000 + 100 000 000 + 7 000 000 + 800 000 + 10 000 + 200 + 30 + 5

2) 4 000 000 000 + 500 000 000 + 80 000 000 + 900 000 + 70 000 + 6 000 + 500 + 30 + 2

Part 5 ...is the expanded form of the numbers below?

1) 2 85...30 000

2) 9 128 700 000

Part 6 Write the standard form of th...bers b...

1) Six-hundred four million, three hundred seventy-six thousand, two hundred twenty-two

2) Nine...orty m...two-thousand, s...dr...fi...

Part 7 Write the written form of the numbers below

1) 87 300 640

2) 500 160 500

3) 352 007 004

Curriculum Connection
TEK

Part 8 Write the standard form of the numbers below

1) 728.1252	2) 63.4212	3) 4 352.4127	4) 13.61288
5) 2.4[illegible]2	6) 1.73213	7) 24.32646	8) 7.925236

Part 9 Co[illegible] the [illegible]bers using >, <, and =

1)

0.012345		0.12345			0.0001

3)

123.456		12.3456

4)

98.7654[illegible]		[illegible]31

Part 10 Order the decimal number using the letters

Order the following numbers from least to greatest:

a) 2.5234

b) 2.1012

c) 2.02345

d) 2.523456

Answer (ex. a, b, c, d)

Name: _____ 49

Curriculum Connection
N6.3

Mental Math - Multiplication - Skip Counting

Directions:

1. Decide which number is easier to count by
2. Count by that number the other number amount of times

7 x 5 = ?

1 2 3 4 5 6 7

5, 10, 15, 20, 25, 30, 35

	6 x 4
7 x 5	4 x 3
9 x 6	8
8 x 7	9 x 9

Name: _____ 52

Curriculum Connection
N6.3

Mental Math - Multiplication – Doubling and Halving

Directions

1. Halve one of the numbers and double the other number (2 options)
2. Multiply the new numbers together

Example

14 x 4

Option 1: 28 x 2 or Option 2: 7 x 8

56 56

	16 x 6
18 x 6	18 x 4
20 x 8	16 x
14 x 8	18 x 5
19 x 3	17 x 4

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Multiplication – Doubling and Halving

1) 13 x

2) 18 x 6

Name: _____

Multiplication – Doubling and Halving

1) 13 x 10

2) 18 x 6

Name: _____

Multiplication – Doubling and Halving

1) 13 x 10

2) 18 x 6

Name: _____

Multiplication – D ing

1) 13 x 10

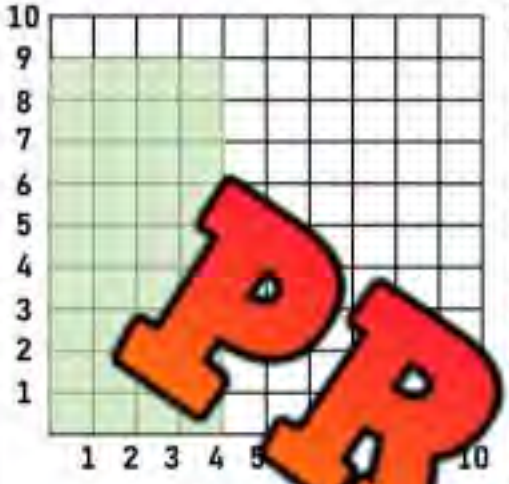
2) 18 x 6

Name: _____ 59

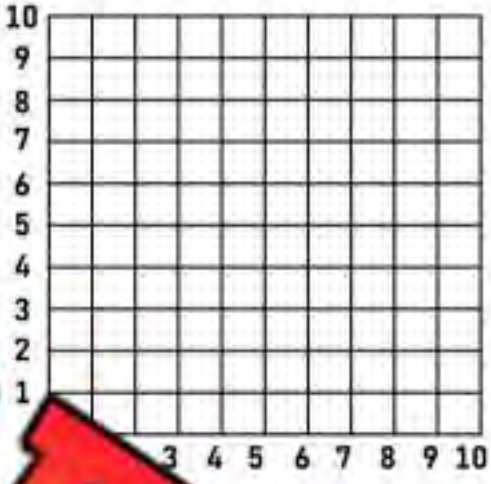
Curriculum Connection
N6.3

Division - Arrays

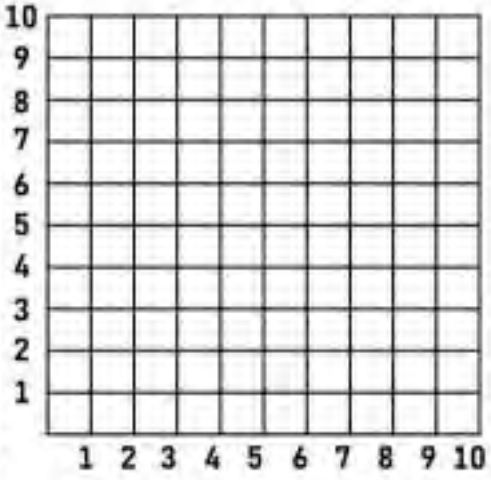
Instructions Shade in the arrays using the table. Answer the questions below



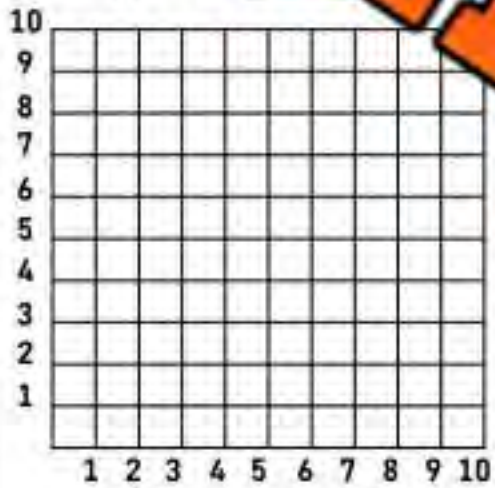
36 ÷ 4 = _____



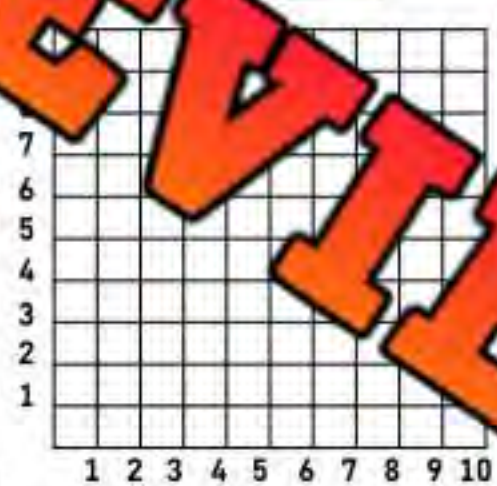
_____ = _____



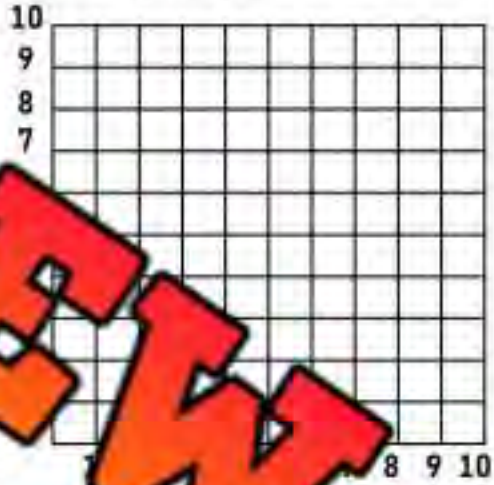
54 ÷ 6 = _____



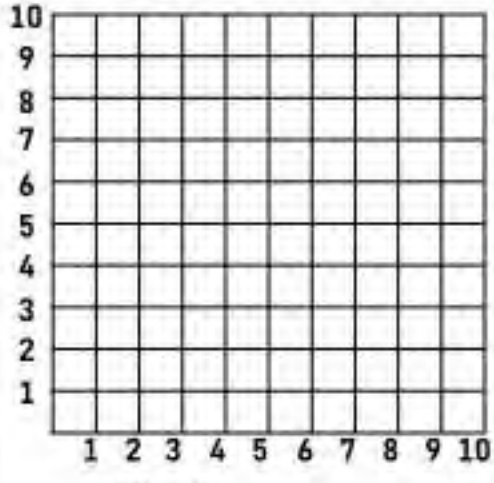
48 ÷ 8 = _____



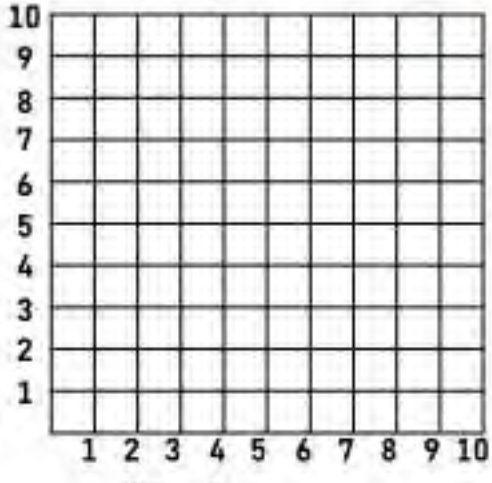
90 ÷ 10 = _____



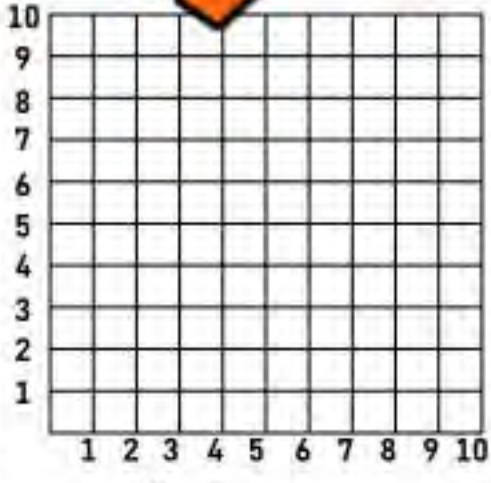
28 _____



18 ÷ 3 = _____



81 ÷ 9 = _____



40 ÷ 5 = _____

Name: _____ 65

Curriculum Connection
NA.3

Activity: Multiplication and Division Race

Objective What are we learning about?

Students will solve multiplication and division questions quickly and accurately in a race with their classmates.

Materials What you will need for the activity.

- Index cards
- Markers or pens
- Timer (optional)

Instructions How you will complete the activity.

1. Prepare a stack of index cards with multiplication and division questions.
2. Have students line up in a single file (or you can have students stay at their desk).
3. Call the first two students in line to the front. Explain that they will answer the multiplication/division question that the teacher pulls from the stack.
4. Pull a card from the stack and read the question aloud. The first student to answer correctly wins the round.
5. The student who answers correctly stays at the front to compete against the next student in line. The student who loses goes to the end of the line.
6. Optional: If a student wins five rounds in a row, they move to the back of the line to give others a chance to play.
7. Continue the game until all students have had a chance to compete multiple times or until the designated game time is up.

Name: _____ 66

Curriculum Connection
N6.3

Math Cards | Cut out the math cards below

2 x 150 300	140 ÷ 2 70
5 x 20 100	500 ÷ 5 100
10 x 100 1000	100 ÷ 10 10
2 x 175 350	360 ÷ 2 180
5 x 180 900	1000 ÷ 5 200

Name: _____ 67

Curriculum Connection
NA.3

Math Cards | Cut out the math cards below

10 x 120 1200	900 ÷ 10 90
2 x 240 480	480 ÷ 2 240
5 x 220 1100	550 ÷ 5 110
10 x 140 1400	800 ÷ 10 80
2 x 250 500	720 ÷ 2 360

Name: _____ 70

Curriculum Connection
NA.3

Math Cards | Cut out the math cards below

5 x 320 1600	100 ÷ 5 20
10 x 60 600	420 ÷ 10 42
2 x 550 1100	220 ÷ 2 110
5 x 350 1750	600 ÷ 5 120
10 x 280 2800	850 ÷ 10 85

Name: _____ 71

Curriculum Connection
N6.3

Mental Math – Division – Skip Counting

Directions:

1. Count up by the smaller number to the larger number.
2. The answer is how many times you counted.

91 ÷ 7 = ?

1 2 3 4 5 6 7 8 9 10 11 12 13

7, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84, 91

Answer = 13

3[illegible]	**85 ÷ 5**
72 ÷ 4	**84 ÷ 6**
105 ÷ 5	**1[illegible]**
112 ÷ 8	**114 ÷ 6**

Name: _____ 72

Curriculum Connection
N6.3

Mental Math – Division – Splitting Up The Dividend

Directions

1. Break up the larger number (dividend) into friendlier numbers
2. Find out how many times your smaller number (divisor) fits into the new dividends
3. Add up how many times your smaller number fits into your larger numbers

Example

144 ÷ 6 = 24

60 ÷ 6 = 10

60 ÷ 6 = 10

24 ÷ 6 = 4

72

68 ÷ 4

150 ÷ 6

120 ÷ 4

189 ÷ 7

208 ÷ 8

198 ÷ 6

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Division – Splitting Up The Dividend

1) 105 ÷ 5

2) 225 ÷ 9

Name: _____

Division – Splitting Up The Dividend

1) 105 ÷ 5

2) 225 ÷ 9

Name: _____

Division – Splitting Up The Dividend

1) 105 ÷ 5

2) 225 ÷ 9

Name: _____

Division – Splitting Up The Dividend

1) 105 ÷ 5

2) 225 ÷ 9

Name: _____ 74

Curriculum Connection
NS.3

Mixed Operations - BEDMAS

When solving an equation, you need to follow the order of operations. This means you have to solve the equation in the correct order, not just from left to right. Using BEDMAS helps us remember the order to solve.

1. Brackets 2. Exponents 3. Division or Multiplication (whichever is first)
4. Addition or Subtraction (whichever is first)

Example 2

$9 - 3 \div (3 \times 1) = ?$

$9 - 3 \div 3 =$

$9 - 1 = 8$

Instructions Solve the equations using BEDMAS

1) $3 + (4 \times 5) =$	2) $21 - [illegible]$	3) $(8 \times 4) + (4 \div 2) =$
4) $(12 \div 6) \times 3 =$	5) $12 + (2 + 10) =$	6) $8 \div [illegible] + 3) =$
7) $24 \div 6 + (4 + 10) =$	8) $17 - 2 \times 5 =$	9) $25 + (5 \times 5) =$
10) $25 - 15 \div 5 =$	11) $22 - 6 + 5 =$	12) $18 - 5 + (6 \times 8) =$

Name: _____ 78

Curriculum Connection
NS.3

Mixed Operations - BEDMAS

Instructions Find out the value of the variables using BEDMAS

1) 1 x (2 + 8) =	2) 3 x (6 - 4) =	3) 8 x 4 + (13 + 8) =
4) (7 +	5) 9 - 4 + (4 x 9) =	6) 5 x (4 + 5) =
7) 36 ÷ (3 + 3) =	- 8 =	9) 28 + (9 ÷ 3) =
10) 2 x (28 ÷ 7) =	11) 42 + (3 x 4 x 2	45 ÷ 9 x (2 + 1) =

Word Problems Answer the word problems below

1) Lindsay ordered two slices of pizza and soda for lunch. A slice of pizza is $2.50, and a soda is $2.00. Lindsay did the math below. What did she do wrong?

$2.50 + $2.00 x 2 = ?
$4.50 x 2 = $9.00

2) John bought 2 pieces of bubble gum for 20 cents each and 3 chocolate bars for 70 cents each. How many cents did he spend? Write the equation.

Name: _____ 79

Curriculum Connection
N6.3

Order of Operations – Who's Right?

Questions Sophia and Aiden both answered the questions below. Circle who's right

	Question	Sophia's Answer	Aiden's Answer
1	2 + 6 x 4 + 12	44	38
2	x 3	4	24
3	x (2	0	18
4	5 x 3 + 8 ÷	19	11
5	12 ÷ 3 x (5 + 5)	25	40
6	20 + (8 – 3) x 2	30	
7	10 x 3 – (2 x 5) – 2	22	18
8	25 ÷ 5 + 6 x 3	23	33
9	48 ÷ 6 – (2 + 3)	48	3
10	3 + 6 x 7 + 11 – 6 ÷ 2	53	34

Name: _____ 80

Curriculum Connection
NS.3

Order of Operations – Candy Shop

Word Problems Write the equation for the situations below and answer the question

A candy shops sells gum, gummies, and candies. The prices are displayed in the table below.

Candy	Price in Cents
Gum	25
Gummies	5
Candies	10

Example

Miranda bought 2 pi[illegible] gummies, and 5 candies. How many cents did she spend?

Ans[illegible] x [illegible] (5 x 10) =

50 [illegible] = 1[illegible]

1) Ava bought 3 pieces of gum, 8 gummies [illegible] cand[illegible] many cents did she spend?

2) Neil had 100 cents. He bought 5 gummies and 6 candies. H[illegible]oes he have left?

3) Dan purchased 4 pieces of gum, 9 gummies, and 3 candies. How many cents did he spend?

4) Claire had 150 cents. She bought 3 pieces of gum, 3 candies, and 6 gummies. How much does she have left?

Name: _____ 84

Curriculum Connection
NF.2

Composing a Product in Multiple Ways

Instructions How many ways can you represent a product?. The first one is done for you

1)	Product	60
1 x 3 x 20 x 10 x 3 x		

2)	Product	40

3)	Product	

	Product	30

5)	Product	120

6)	Product	200

Name: _____ 86

Curriculum Connection
N6.2

Introduction to Multiples

Instructions List the first 5 multiples for each number

Example	
2	2, 4, 6, 8, 10

1) _____

2) 10 _____

3) 3 _____

4) 4 _____

5) 7 _____

6) 9 _____

7) 6 _____

8) 8 _____

Name: _____ 87

Curriculum Connection
NA.2

Introduction to Factors

Instructions List all of the factors for the numbers below

1) 12 _____, _____, _____, _____, _____, _____

2) _____, _____, _____

3) 21 _____, _____, _____

4) 16 _____, _____, _____, _____

5) 43 _____, _____

6) 29 _____, _____

7) 6 _____, _____, _____, _____

8) 10 _____, _____, _____, _____

9) 15 _____, _____, _____, _____

10) 20 _____, _____, _____, _____, _____, _____

Name: _____ 89

Curriculum Connection
NA.2

Prime or Composite Number?

Instructions 1) Write the factors 2) Is the number a prime or composite number?

1) 27 Factors: _____ Prime or Composite	2) 12 Factors: _____ Prime or Composite
3) 7 Factors: _____ Prime or Composite	4) 17 Factors: _____ Prime or Composite
5) 28 Factors: _____ Prime or Composite	6) 41 Factors: _____ Prime or Composite
7) 33 Factors: _____ Prime or Composite	8) 35 Factors: _____ Prime or Composite
9) 73 Factors: _____ Prime or Composite	10) 81 Factors: _____ Prime or Composite

Name: _____ 90

Curriculum Connection
NF.2

Finding Prime and Composite Numbers

Part 1 Follow the directions below

1) Circle the prime numbers below

11	15	7	18	3	5
13	19	33	49	52	45
		67	90	81	74

2) Circle the ite n below

6	12	20	13	19	25
50	43	41	4	55	21
47	54	62			63

Part 2 Write the numbers from the pair under the ec

	Pairs of Numbers	Prime	C ite
1)	22, 5		
2)	12, 17		
3)	23, 25		
4)	41, 49		
5)	59, 52		
6)	67, 16		
7)	73, 81		
8)	89, 95		

Name: _____ 91

Curriculum Connection
NA.2

Prime vs Composite Numbers

Instructions Colour prime numbers one colour and composite numbers a different colour

Type of Number	Colour
Composite Number	
Prime Number	

1	2	4	5	6	7	8	9	10
11	12			16	17	18	19	20
21	22	23			27	28	29	30
31	32	33	34				39	40
41	42	43	44	45	46			50
51	52	53	54	55	56	57		60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Name: _____ 93

Curriculum Connection
NA.2

Composite Number Maze

Instructions Help Angela get to school by colouring a composite number path

7	19	29	37	67	71	61	83		
97		51	32	45	46	25	10		
79	92	1	29	97	83	53	43	13	
5	50	76	9		5	2	11	5	
3	7	41	23		29	11	41	6	7
74	55	52	92	95	13		67	13	17
98	17	61	41	89	23	59	71		59
100	70	39	40	68	65	79	83	29	89
2	19	83	67				61	59	73
11	59	73	59				53	67	61

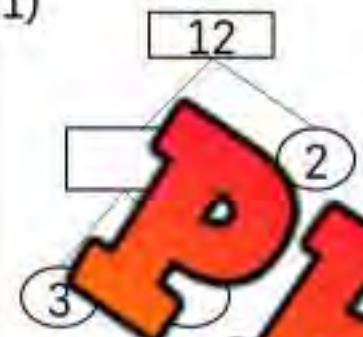
Name: _____ 94

Curriculum Connection
NA.2

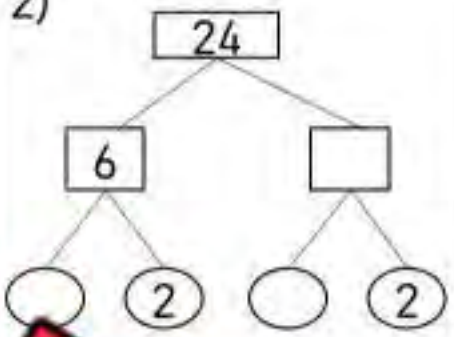
Prime Factor Trees

Instructions Fill in the factor trees below

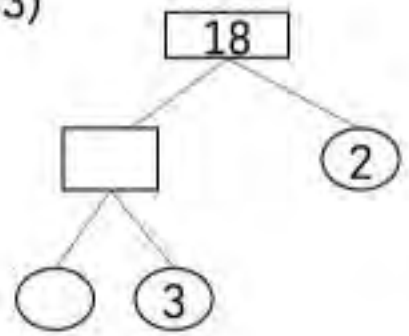
1)



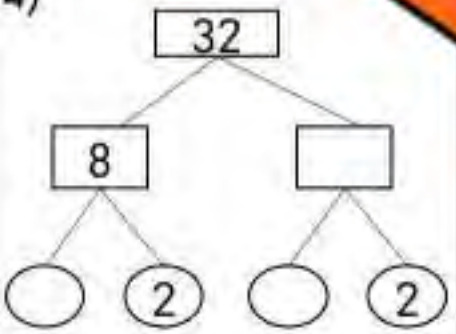
2)



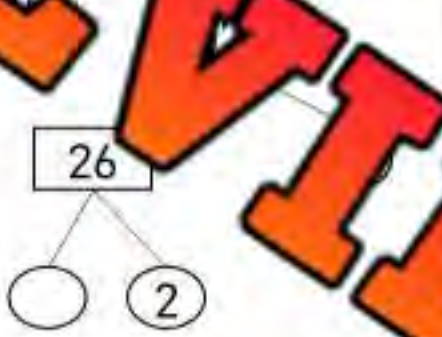
3)



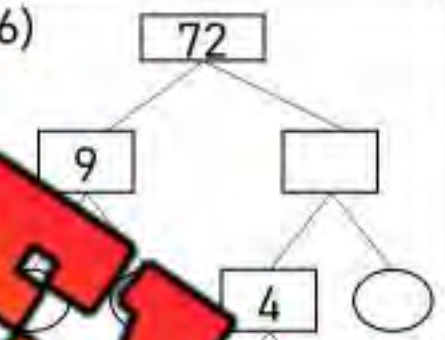
4)



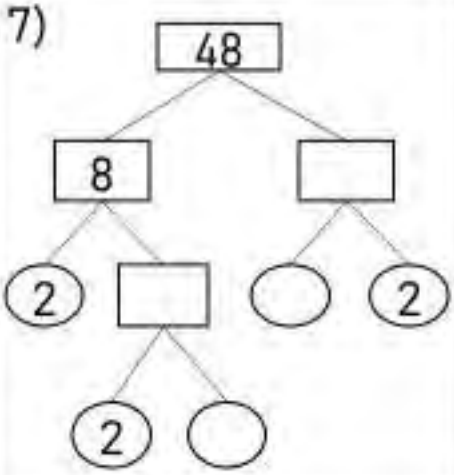
5)



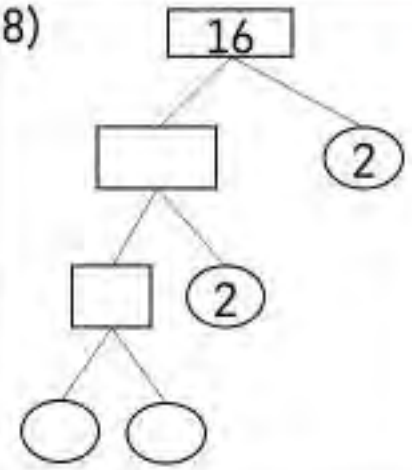
6)



7)



8)



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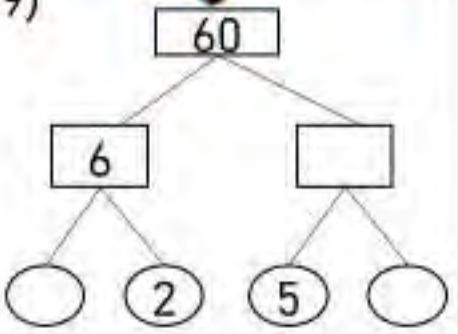


Name: _____ 95

Curriculum Connection
NA.2

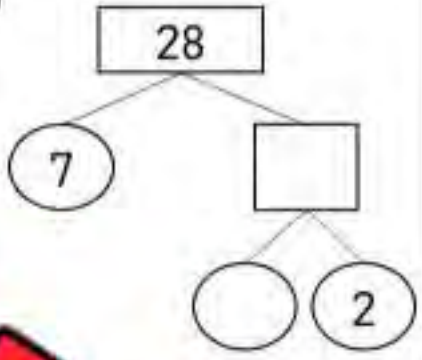
Prime Factor Trees

Instructions Fill in the factor trees below

1)

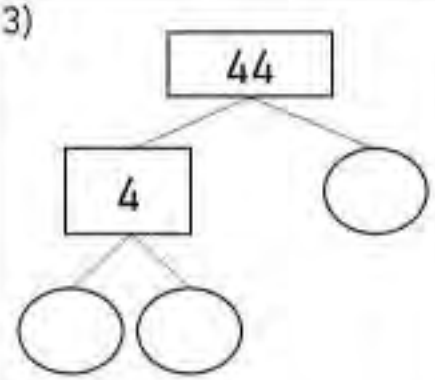
15 = ____ x ____

2)



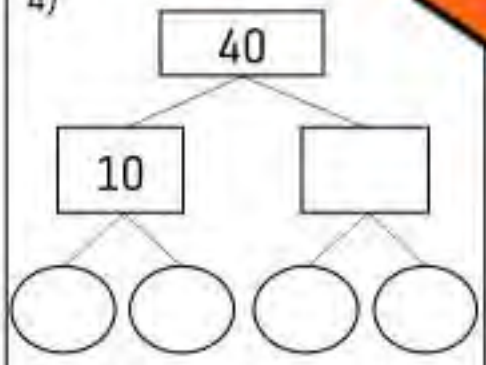
____ x ____ x ____

3)

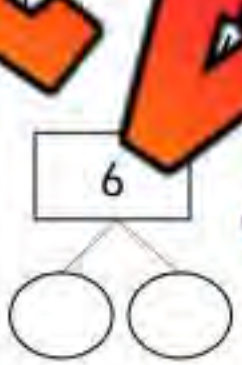


44 = ____ x ____ x ____

4)

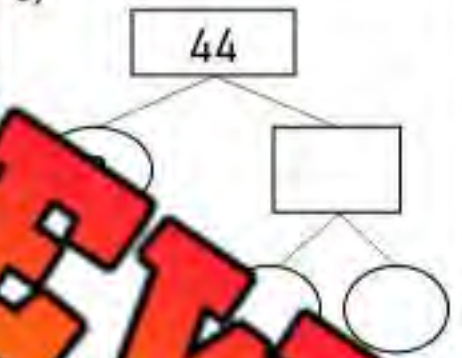


40 = ___ x ___ x ___ x ___



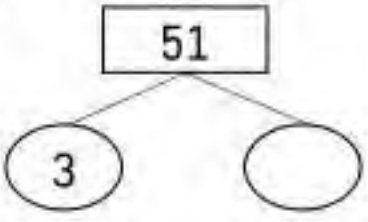
49 = ____ x ____ x ____

6)



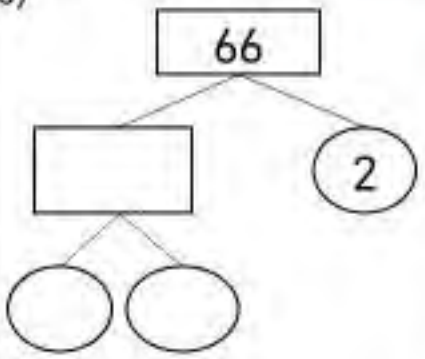
44 = ___ x ___ x ___

7)



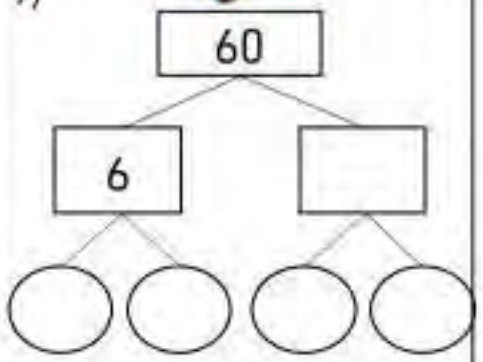
51 = ____ x ____

8)



66 = ____ x ____ x ____

9)



60 = ___ x ___ x ___ x ___

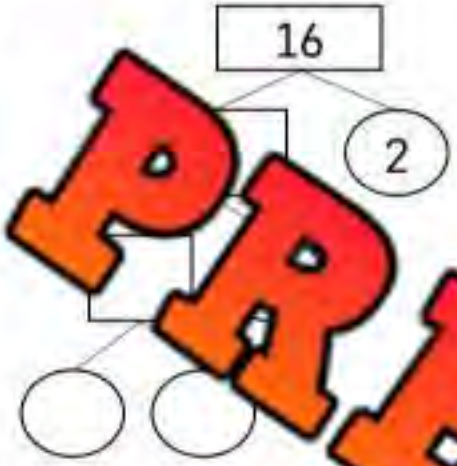
Name: _____ 96

Curriculum Connection
NA.2

Prime Factor Trees

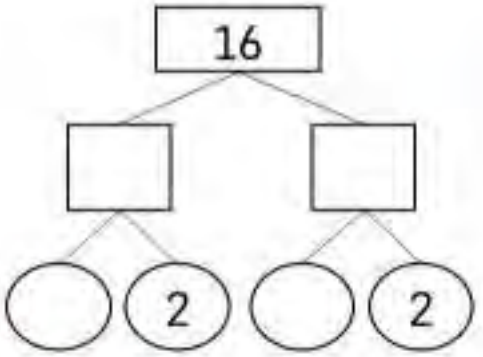
Instructions Fill in the factor trees differently for the same number

1)



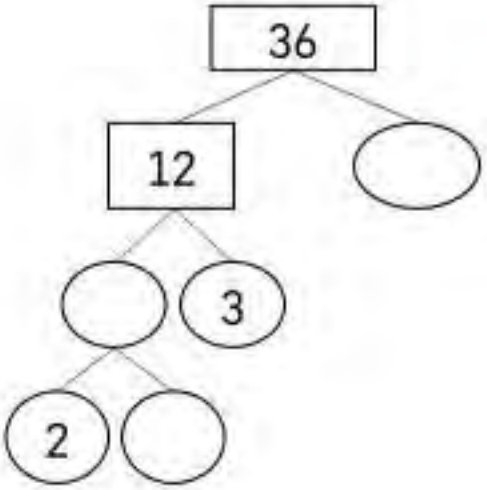
Equation

2)



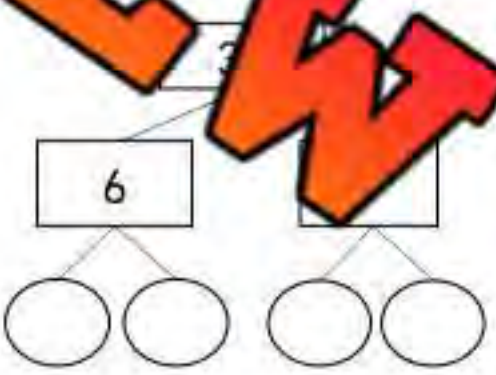
Equation

3)



Equation

4)



Equation

Name: _____ 100

Curriculum Connection
NF.2

Greatest Common Factor

Instructions List the factors and write the greatest common factor (GCF)

1)
12 _____
18 _____
GCF = ☐

2)
15 _____
25 _____
GCF = ☐

3)
35 _____
28 _____
GCF = ☐

4)
16 _____
4 _____
GCF = ☐

5)
32 _____
48 _____
GCF = ☐

6)
24 _____
18 _____
GCF = ☐

7)
16 _____
48 _____
GCF = ☐

8)
27 _____
9 _____
GCF = ☐

9)
54 _____
36 _____
GCF = ☐

10)
64 _____
56 _____
GCF = ☐

Name: _____ 102

Curriculum Connection
NS.2

Greatest Common Factor - Riddle

Questions Find the GCF and match the letter to the numbers above. Notice there are 2 0's, T's and S's! You'll need to decide where to place the letter.

The more you take, the more you leave behind. What am I?								
4			12	24	3	15	25	5

S (15, [illegible])	(48, 56)	P (50, 75)
T (48, 36)	F (16, 28)	[illegible] 14)
S (48, 72)	T (9, 15)	E (60, 45)

Name: _____ 103

Curriculum Connection
V6.2

Lowest Common Multiple (LCM)

The lowest common multiple (LCM) is simply the smallest of the common multiples.

Steps:

1) List all the multiples of the set of numbers until you get a match
2) The LCM is the lowest number that fits into all numbers in the set

Exampl
(3, 10) –
3 – 3, … 21, 24, 27, (30), …
10 … **Answer - The LCM is 30**

Instructions …e low…mon multiple (LCM) of the numbers below

1) (4, 10)	2) (3, 8	3) (2, 5)
4) (6, 8)	5) (5, 6)	(8
7) (9, 4)	8) (9, 6)	9) (10, 6)

Name: _____ 104

Curriculum Connection
NA.2

Lowest Common Multiple - Riddle

Instructions Write the letters above the answers at the bottom to solve the riddle

U LCM of 3 and 4	R LCM of 9 and 21
[illegible] LCM [illegible] 3	Y LCM of 7 and 6
O LCM of 4 and 10	[illegible] CM of 4 and 14
N LCM of 6 and 8	A LCM of [illegible]

What belongs to you but is used more by your friends

___	___	___	___		___	___	___	___
42	20	12	63		24	18	21	28

Name: _____ 106

Curriculum Connection
NF.A

Front-End Estimation

Front-end estimation is when we keep the first number the same and change the other numbers to 0. This form of estimation always underestimates the number.

Examples 1) 37 → 30 2) 164 → 100 3) 2.35 → 2.00 4) 26.5624 → 26.0000

Part 1 Use front-end estimation to round the 3-digit numbers below

1) 324		6) 212	
2)		7) 363	
3) 438		8) 745	
4) 614		9) 913	
5) 962		10) 867	

Part 2 Use front-end estimation [illegible] 4-digit numbers below

1) 4375		[illegible]067	
2) 7265		7) [illegible]	
3) 8485		8) 408[illegible]	
4) 6214		9) 9582	
5) 1971		10) 8485	

Part 3 Use front-end estimation to round to the nearest whole number

1) 4.27		6) 17.9312	
2) 7.1		7) 13.57284	
3) 8.285		8) 24.13214	
4) 6.078		9) 39.64825	
5) 1.512		10) 48.73126	

Name: _____ 108

Curriculum Connection
N6.4

Front-End Estimation – Multiple Choice

Questions Which estimate is the best? Use front-end estimation to make your choice

1) 8.34 x 7 a) 48 b) 56 c) 70 d) 55	2) 5.52 x 5 a) 30 b) 55 c) 25 d) 32
3) 6.72 a) 48 b) 50 c) 52 d) 55	4) 4.25 x 3 a) 11 b) 15 c) d)
5) 7.64 x 7 a) 49 b) 52 c) 59 d) 45	6) 10.1 a) 8 b) c) 80 d) 78
7) 11.37 x 4 a) 48 b) 44 c) 52 d) 40	8) 24.54 x 4 a) 99 b) 96 c) 100 d) 90
9) 12.84 x 2 a) 24 b) 28 c) 30 d) 20	10) 21.34 x 3 a) 50 b) 60 c) 68 d) 63

Name: _____ 109

Curriculum Connection
NS 4

Multiplying Decimals – Placing The Decimal

Instructions Use front-end estimation to determine where to put the decimal

1) 7.334 x 7	2) 3.152 x 5
a) 513.38	a) 157.6
b) 51.338	b) 1.576
c) 5.1338	c) 15.76
d) 51[illegible]	d) 0.1576
3) 6.74[illegible]	4) 5.31 x 3
a) 53.936	a) 159.3
b) 5.3936	b) 1593.0
c) 539.36	c) [illegible]593
d) 5393.6	d) [illegible]
5) 9.422 x 7	6) 6.32[illegible]
a) 65.954	a) 5[illegible]
b) 6.5954	b) [illegible]2
c) 659.54	c) 50.59[illegible]
d) 6595.4	d) 5059.2
7) 9.325 x 4	8) 4.627 x 4
a) 37.3	a) 185.08
b) 3.73	b) 18.508
c) 0.373	c) 1850.8
d) 373.0	d) 1.8508
9) 11.624 x 2	10) 10.334 x 3
a) 232.48	a) 310.02
b) 23.248	b) 3.1002
c) 2.3248	c) 3100.2
d) 2324.8	d) 31.002

Name: _____ 110

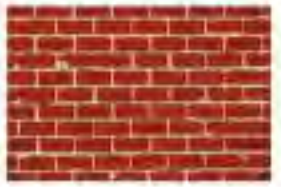
Curriculum Connection
N6.A

Front-End Estimation – Multiplication Using Decimals

Questions | Use front-end estimation to estimate the answers

1) Jen earns $22.53 each time she washes a car. She washed 6 cars today. Approximately how much money did she earn?

2) Be[illegible]s 9 bri[illegible] driveway. Each brick is 12.23cm long. Approximately how long are al[illegible] if l[illegible]puts them together?



3) Steve ran a route around his neig[illegible]od fo[illegible]ys straight. His route is 11.25km. Approximately how many k[illegible]d Stev[illegible]m [illegible]7 days?

4) Julia worked 7 hours yesterday and made $18.55 per hour. [illegible]ow much money did she earn yesterday?

5) Henry bought 4 bags of soil. Each bag weighs 18.75kg. Approximately how much did all the bags weigh in total?

Name: _____ 113

Curriculum Connection
N/A

Multiplication - 2 x 1 Digits

Questions Use the standard algorithm to solve the multiplication problems below

1) 36 x _____	2) 41 x 3	3) 50 x 6	4) 47 x 5	5) 85 x 0
6) 61 x 4	7) [illegible]	8) 46 x 5	9) 31 x 9	10) 24 x 8
11) 86 x 7	12) 90 x 2	13) 6[illegible] x [illegible]7	14) [illegible]	15) 89 x 3
16) 63 x 1	17) 24 x 0	18) 32 x 8	19) 47 x 7	20) 54 x 6
21) 41 x 2	22) 63 x 4	23) 86 x 8	24) 97 x 4	25) 81 x 2

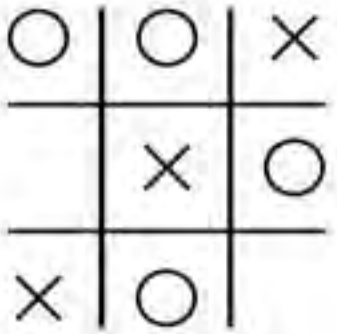
Name: _____ 114

Curriculum Connection
N/A

Math Tic-Tac-Toe: 2 x 1 Digit Multiplication

Objective What are we learning about?

To help students practice solving 2 x 1-digit multiplication problems in a fun and interactive way through a Tic-Tac-Toe game.



Materials What you will need for the activity.

- Wh[illegible]oard [illegible]er
- Markers [illegible]
- Math Tic-Ta[illegible]d tem[illegible] be drawn on the whiteboard or printed on paper)

Instructions How you wi[illegible]

1. Find a partner to play the game with.
2. The goal is to solve 2 x 1 digit multiplicatio[illegible]are to place your marker (X or O).
3. One player will be "X" and the other will be "O".
4. Take turns choosing a square and solving the problem in that s[illegible].
5. Write down the solution below the equation and place your marker (X or O) in the square.
6. If a player chooses a square and solves the equation incorrectly, they do not get to place their marker in that square. The other player gets a chance to solve it correctly and place their marker.
7. The first player to get three markers in a row (horizontally, vertically, and diagonally) wins the game. Continue playing with different tic-tac-toe grids on the sheet.

Name: _____ 115

Curriculum Connection
N/A

Tic-Tac-Toe Use the following tic-tac-toe grids for the game.

12 x 4	45 x 7	23 x 6
78 x 2	34 x 5	56 x 3
67 x	89 x	45 x 4

24 x 5	36 x 7	29 x 8
49 x 7	57 x 8	68 x 9
78 x 9	35 x 6	47 x 7

15 x 6	x	9
39 x 8	48 x 9	6 x 9
27 x 8	58 x 9	37 x 6

18 x 9	49 x 8	39 x 9
x	56 7	48 x 9
x 8		57 9

21 x 2	43 x 4	25 x 6
47 x 8	59 x 5	68 x 7
36 x 9	47 x 6	58 x 7

13 x 4	25 x 6	37 x 8
49 x 6	57 x 5	68 x 9
28 x 9	35 x 7	46 x 8

Name: _____ 117

Curriculum Connection
N/A

Multiplication – 2 x 2 Digits

Questions Use the standard algorithm to solve the multiplication problems below

1)

	6	1
x		

2)

	7	2
x	1	4

3)

	4	3
x	7	1

4)

	2	6
x	2	8

5)

	6	1
x	3	7

6)

	6	
x	2	3

8)

	9	8
x	6	2

9)

	8	3
x	4	6

10)

	2	9
x	3	7

11)

	3	5
x	8	2

12)

	3	3
x	7	2

Name: _____ 118

Curriculum Connection
NA

Multiplication – 2 x 2 Digits

Part 1 Use the standard algorithm to solve the multiplication problems below

1) 63 x 42	2) 35 x 73	3) 55 x 10	4) 29 x 65	5) 68 x 40
6) 38 x 74	7) [illegible]	8) 26 x 64	9) 88 x 23	10) 25 x 41
11) 66 x 22	12) 92 x 81	13) [illegible]	14) [illegible]	15) 78 x 53

Part 2 Solve the word problems below

1) A brick layer is building a brick retaining wall. They are using 34 rows of bricks that are 42 bricks tall. How many bricks do they need?

2) A football arena has 58 rows and 74 columns of seating. How many seats does the arena have in total?

Name: _____ 119

Curriculum Connection
NA.A

Multiplication – 2 x 2 Digits

Step 1: Setup up the Area Model

32 x 17= _____

	30	2
10		
7		

Step 2: Multiply

32 x 17= _____

	30	2
10	30 x 10 = 300	10 x 2 = 20
7	30 x 7 = 210	7 x 2 = 14

Step 3: Add

32 x 17= 544

	30	2
10	300	20
7	210	14

300 + 210 + 20 + 14 = 544

Questi ...rea model to solve the multiplication problems below

1) 32 x ... = _____

2) 27 x 23 = _____

3) 45 x 24 = _____

5) 82 x 44 = _____

6) 94 x 72 = _____

Name: _____ 123

Curriculum Connection
N6.A

Multiplication – 1-Digit Multiplier - Wages

Questions | Solve the word problems below

Four friends work at a farm in the summer. They each earn different wages because they have difference job experience. The wages they earn and the hours they worked y[illegible]day are listed below.

Fr[illegible]	Ava	Mia	Charlotte	Emma
[illegible]es	[illegible].35	15.75	13.40	17.65
Hours	[illegible]	7	8	6
Earnings				

a) Who made the most [illegible]ste[illegible] much did each friend earn? Fill in the table above

b) How much did all 4 friends earn combined?

Name: _____ 124

Curriculum Connection
N/A

Multiplication Word Problems

Questions | Solve the word problems below

1) Brian bought his four children each a new backpack for school. Each backpack was $28.55. How much did he spend on the backpacks?

2) Jade boug dog player on her soccer team. The hot dogs cost $2.75 a 9 soccer players. How much did she spend on hot do

3) Bella's dog is having a birthday soon. B t her 7 dog toys that cost $5.65 each. How much did she spend to

4) Gavin has been paying for a video game subscription for the last 9 months. Each month costs him $19.99. How much has he spent?

Curriculum Connection
N/A

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Solve the word problems below

Ethan bought 3 video games. Each video game cost $49.99. How much did he spend on video games?

Name: _____

Solve the word problems below

Ethan bought 3 video games. Each video game cost $49.99. How much did he spend on video games?

Name: _____

Solve the word problems below

Ethan bought 3 video games. Each video game cost $49.99. How much did he spend on video games?

Name: _____

Solve the word problems below

Ethan bought 3 video games. Each video game cost $49.99. How much did he spend on video games?

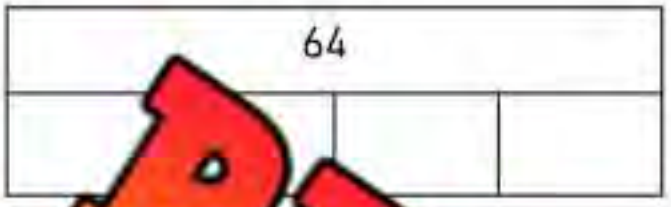
Name: _____ 129

Curriculum Connection
N6.A

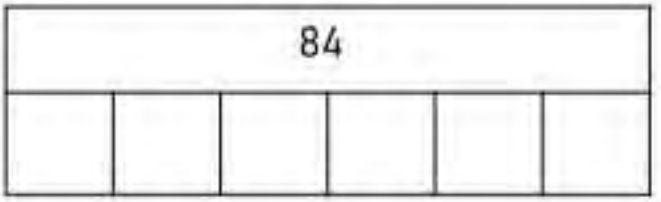
Division – Bar Model

Questions Use the bar model to answer the division questions below

1) 64 ÷ 4

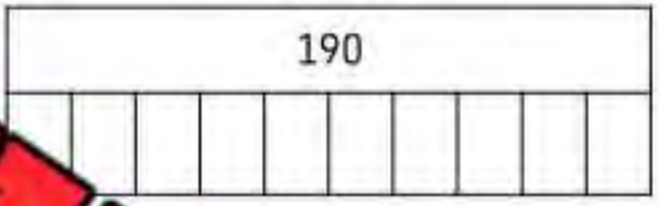


2) 84 ÷ 6

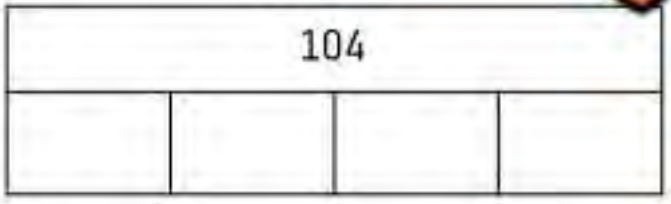


3)

4) 190 ÷ 10

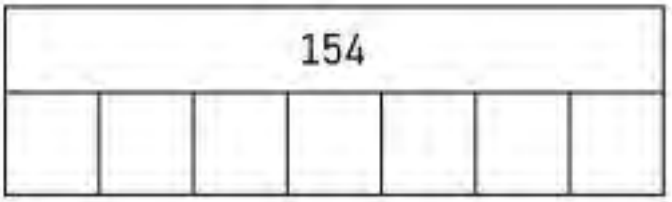


5) 104 ÷ 4

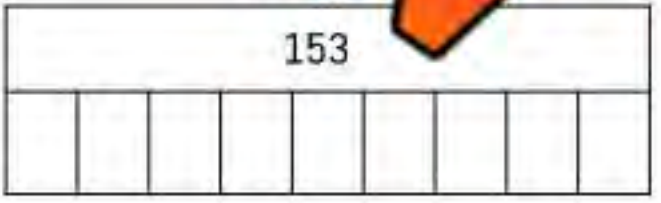


6) 96 ÷ 6

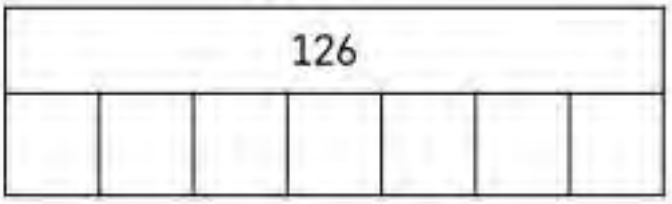
7) 154 ÷ 7



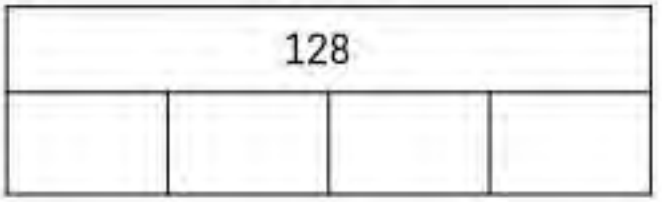
8) 153



9) 126 ÷ 7



10) 128 ÷ 4



Name: _____ 130

Curriculum Connection
N4.A

Division – Area Model

Questions Use the area model to answer the division questions below

1) 243 ÷ 6 = 40r3 (16+4)

33 7 0

6	200	40	3
	19[illegible]	42	r3

2) 284 ÷ 4

4	200	80	4

3) 513 ÷ 2

2	500	10	3

428 ÷ 6

6	[illegible]	20	8

5) 636 ÷ 6

6	600	30	6

6) 778 ÷ 5

5	700	70	8

Name: _____ 136

Curriculum Connection: N6.A

Dividing Decimals – Removing Decimal

When dividing a decimal, we can remove the decimal and treat it as a whole number. We can do this as long as we add the decimal at the end.

Steps:

1) Remove the decimal
2) Calculate how many times the smaller number (divisor) fits into the dividend
3) Use front-end estimation to determine an estimated answer and add the decimal back to your final answer

Instructions: Follow the steps above to calculate the answer

1) Question	3.30 ÷ 2 = ?
Step 1 and 2	330 ÷ 2 = 165
Step 3	3.00 ÷ 2 = 1.5 so therefore, put the decimal between the 1 and 6
Answer	1.65

2) Question	2 = ?
Step 1 and 2	
Step 3	
Answer	

3) Question	4.24 ÷ 4 =
Step 1 and 2	
Step 3	
Answer	

4) Question	3.39 ÷ 3 = ?
Step 1 and 2	
Step 3	
Answer	

Name: _____ 138

Curriculum Connection
N6.4

Front-End Estimation – Multiple Choice

Questions Which estimate is the best? Use front-end estimation to make your choice

1) 21.25 ÷ 7 a) 4 b) 3 c) 6 d) 5	2) 25.32 ÷ 5 a) 5 b) 4 c) 6 d) 7
3) 64.7[illegible] a) 7 b) 9 c) 8 d) 6	4) 27.55 ÷ 3 a) 7 b) 8 [illegible]
5) 49.64 ÷ 7 a) 8 b) 6 c) 7 d) 9	[illegible] 32.[illegible] a) [illegible] b) [illegible] c) 5 d) 4
7) 44.85 ÷ 4 a) 10 b) 11 c) 12 d) 9	8) 50.92 ÷ 5 a) 10 b) 9 c) 11 d) 12
9) 26.42 ÷ 2 a) 11 b) 12 c) 13 d) 14	10) 24.73 ÷ 3 a) 8 b) 6 c) 7 d) 9

Name: _____ 143

Curriculum Connection
NF.A

Dividing Decimals by Whole Numbers

Questions Use the area model to answer the division questions below. #1 is done for you

1) 0.844 ÷ 4

0.844 is really 844 thousandths

4	80	40	4
			1

Therefore, 0.8[illegible] into 4 [illegible] thousan[illegible] 0.2

2) 0.224 ÷ 2

2	200	20	4

3) 0.363 ÷ 3

3	300	60	3

0.396 ÷ 4

4	[illegible]	90	6

5) 0.455 ÷ 5

5	400	50	5

6) 0.488 ÷ 8

8	400	80	8

Name: _____ 151

Curriculum Connection
TG

Unit Test – Factors and Operations

Part 1 Which estimate is the best? Use front-end estimation to make your choice

1) 6.34 x 7 a) 42 b) 49 c) 50 d) 47	2) 7.26 x 5 a) 40 b) 30 c) 35 d) 38
3) 9.44 x [illegible] a) 50 b) 62 c) 54 d) 64	4) 27.21 ÷ 3 a) 7 b) 8 c) [illegible] d) [illegible]
5) 24.25 ÷ 3 a) 5 b) 7 c) 8 d) 4	6) 30 [illegible] a) [illegible] b) 4 c) 6 d) 7

Part 2 Use the standard algorithm to solve the multiplication problems below

1)					
		7	.	2	5
x					2

2)					
		5	.	6	3
x					5

3)					
	1	5	.	4	6
x					6

Curriculum Connection
10

Part 3 Solve the word problems below

1) Carter bought 6 bags of chips for a camping trip. Each bag cost him $3.39. How much did he spend on chips?

2) L[illegible] inks for her and her friends. How much did each drink cost?

3) A car drives 1.5 kilometres per minute. If [illegible] driv[illegible] minutes, how many kilometres will it travel?

4) Maria has 2.5 kilograms of tomatoes. She wants to divide them equally into 5 bags. How many kilograms of tomatoes will each bag have?

Part 4 — Follow the directions below

1) Circle the prime numbers below

90	55	49	18	81	5
74	19	33	7	52	45
15	59	67	11	3	13

2) Circle the composite numbers below

		54	13	62	75
		41	51	55	21
12			25	51	43

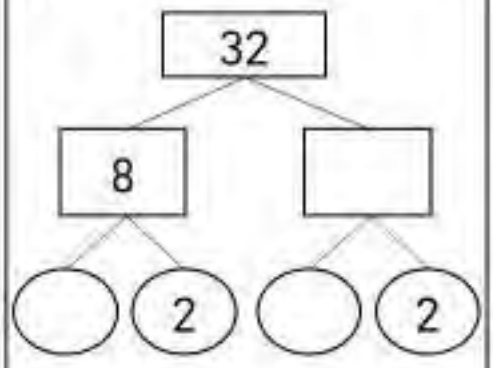
Part 5 — List all th[illegible] for t[illegible]ers below

1) 12 _____, _____, _____, _____, _____

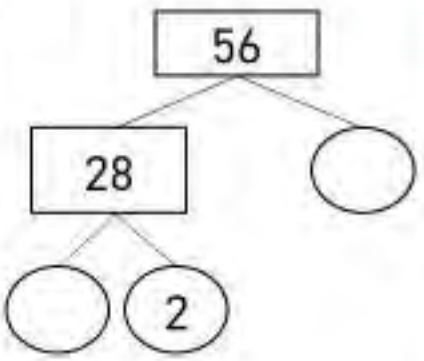
2) 25 _____, _____, _____

Part 6 — Fill in the factor trees below

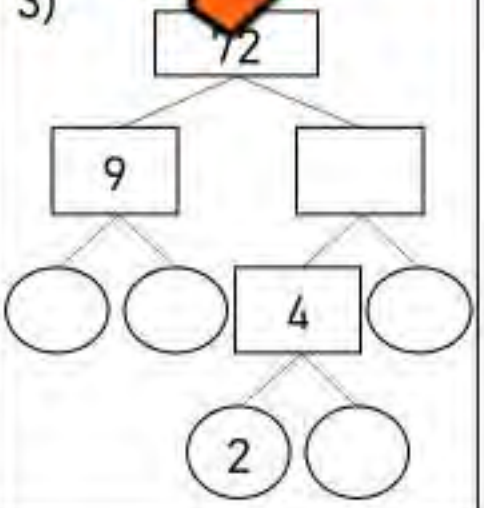
1)



2)



3)



Name: _____ 155

Curriculum Connection
NA 5

Fractions, Decimals, and Percents

Part 1 Fill in the table with the converted decimal, fraction, and percent

Fraction	Decimal	Percent
100/1000		10.0%
200/1000		20.0%
	0.300	%
400/1000		40.0%
500/1000		%
		60.0%
	0.700	%
	0.800	%
900/1000		%
	1.000	%

Part 2 Convert the following fractions, decimals and percents

138/1000 = %	536/1000 = 0.	42.4% = /1000	798/1000 = %
56.2% = /1000	161/1000 = %	871/1000 = 0.	0.938 = %
0.356 = %	0.682 = %	71.4% = 0.	782/1000 = 0.

Name: _____ 157

Curriculum Connection
NA.5

Fraction/Decimal/Percent Bottle Flip Challenge

Objective What are we learning about?

To practice and reinforce understanding of converting between fractions, decimals, and percents through the engaging and physically active bottle flip game.

Materials What you will need for the activity.

- P[illegible] ([illegible] pair/group) filled to approximately one-third with water (or us[illegible]s witho[illegible]a
- Set of fracti[illegible]and [illegible]cent conversion question cards
- Answer sh[illegible] grou[illegible]

Instructions How y[illegible]mple[illegible]tivity

1. Start with a short lesson on con[illegible]etw[illegible]actions, decimals, and percents.
2. Arrange the students into pairs or smal[illegible]s an[illegible]te a bottle and a set of question cards to each.
3. Each pair or group receives an answer sheet t[illegible]r their [illegible]rs.
4. Explain the rules: One student draws a question ca[illegible]d tr[illegible] conversion problem between fractions, decimals, or perce[illegible]
5. Once they believe they have the correct answer, they write it do[illegible] their answer sheet.
6. The student then gets to attempt a bottle flip. A successful flip means they get a point; an unsuccessful flip means they need to try to solve another question card before flipping again.
7. Alternate turns within each group or pair until they have completed all the question cards.
8. Groups or pairs tally their successful flips and compare with the rest of the class to determine the winning team.
9. Go through the answer sheet with the class to ensure understanding and correct any misconceptions.

Name: _____ 158

Curriculum Connection
NA 5

Questions Cut out the questions below and use for the game

1. 372/1000 = ____ %	2. 655/1000 = 0.____	3. 981/1000 = ____ %	4. 768/1000 = 0.____
5. 0.245 = ____ %	6. 0.789 = ____ %	7. 0.061 = ____ %	8. 0.437 = ____ %
9. 19.4% = 0.____	10. 5.6% = ____/1000	11. 71.4% = 0.____	12.94.9% = ____/1000
13. 859/1000 = ____	14. 469/1000 = ____	15. 912/1000 = ____	16. 7/1000 = ____
17. Out of students the a the f decim and perc of students in th club?	18. In a class of 30 students, 18 are ls. What is the n, decimal, rc for the ber in e cla	19. Out of 1200 votes, 720 were in favor. What is the fraction, decimal, and percent of votes in favor?	20. A car traveled 90 kilometers out of a 150-kilometer journey. What is the fraction, decimal, and percent for the distance traveled?
21. A recipe requires 250 grams of sugar out of 1000 grams of total ingredients. What is the fraction, decimal, and percent of sugar in the recipe?	22. as 80 out of els completed. Wha the fraction, dec and percent for th completed levels?	Out of 75 ees, 45 work epart hat is the fr n, d al, ar ent fo st pplo	24. A shipment contains 250 items, and 60 of them are defective. What is the fraction, decimal, and percent of ective items?
25. In a survey, 150 out of 300 people said they prefer tea over coffee. What is the fraction, decimal, and percent for tea preference?	26. A factory produced 480 units, and 120 were rejected. What is the fraction, decimal, and percent of rejected units?	27. A tra d 180 miles o 300-mile journe What is the fraction, decimal, and percent for the distance traveled?	of 500 survey were the mal, and nt for positive responses?
29. A library has 1200 books, and 480 are fiction. What is the fraction, decimal, and percent of fiction books?	30. A batch of cookies made 240 cookies, and 180 were sold. What is the fraction, decimal, and percent for the cookies sold?	31. A tank holds 800 liters of water, and 600 liters are used. What is the fraction, decimal, and percent for the water used?	32. A survey found that 45 out of 150 people prefer reading books over watching movies. What is the fraction, decimal, and percent for people who prefer reading books?

Name: _____ 159

Curriculum Connection
NA 5

Decimal Bottle Flip Challenge

Answers | Record your answers below

1		9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8		16	

Name: _____ 160

Curriculum Connection
NA 5

Decimal Bottle Flip Challenge

Answers | Record your answers below

17	
18	
19	
20	
21	
22	
23	
24	

25	
26	
27	
28	
29	
30	
31	
32	

Successful Flips Tally	
# of Wrong Answers	
Final Score: Successful Flips – Wrong Answers	

Name: _____ 167

Curriculum Connection
N6.5

Mental Math – Calculating Percentages – 1%, 10%

Percentages represent a rate out of 100 in relation to a whole. Therefore, we can represent 1% as 0.01 and 10% as 0.1.

Example – 150 x 0.01 = 1.5 (1% of 150 is 1.5)
150 x 0.10 = 15.0 (10% of 150 is 15)

Instructio Fill in the table below

		x0.01	1%	x0.10	10%
1)					
2)	200				
3)	300				
4)	150				
5)	250				
6)	275				
7)	375				
8)	411				
9)	537				
10)	672				

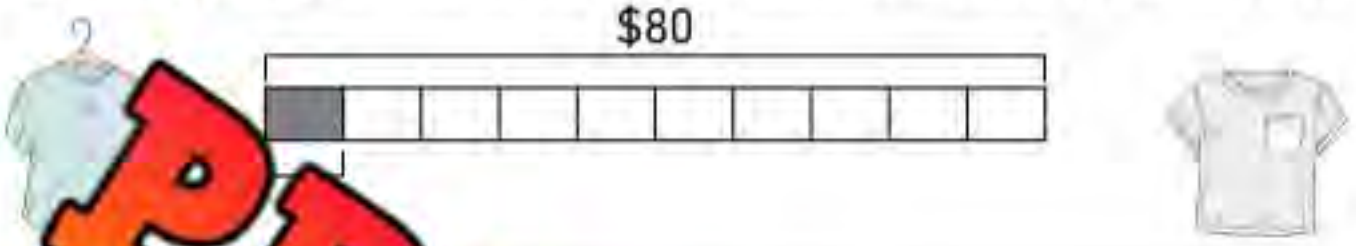
Name: _____ 171

Curriculum Connection
N6.5

Mental Math – Calculating Percentages – Visuals

When we want to find the percent of a number, scaling up and down is a great strategy.

For example, a shirt costs $80 at regular price. To calculate a sale price, we can scale 10% up and down. First, 10% of 80 is 8 which means 20% is 16 and 30% is 24.



Practice Solve the problems below

1) Tom is shopping for [illegible]. He finds a pair he likes for $70.00 that are on sale for 15% off. How much [illegible] before tax?

2) Lindsay is out shopping for a new winter coat. She sees a coat for $90.00 plus an additional 20% off. How much will the coat cost [illegible]?

3) Joe brings $100 to the mall to buy some new speakers. He finds some for $78.00 with an additional 35% off.

a) How much will the speakers cost before tax?

b) With tax costing 15%, how much will the speakers cost?

c) How much of the $100 will Joe have when he leaves the mall?

Name: _____ 172

Curriculum Connection
M4.5

Estimating Sales Tax

When we pay for something, we need to pay tax. **Tax** is an extra cost placed on a good or service that goes to the government. In BC, we pay 12% sales tax on almost everything we buy.

When we purchase something, we should add 12% to the total price so we know if we can afford it. We can do this by using a calculator or by estimating. Follow these steps to estimate the sales tax:

Estimating Tax

1) Divide by 10 (example – $32.00 ÷ 10 = $3.20) to determine 10% of the cost
2) Write number in half to find another 5% (example = $3.20 ÷ 2 = $1.60)
3) Add those numbers together to determine what a 15% sales tax would cost ($3.20 + $1.60 = $4.80). Therefore, a $32.00 product would cost a total of $36.80.

Instructions Divide the price by 10 and then divide that answer by 2

#	Product Price		10%)	Total Tax	Total Price
1	$20.00	$2.00	$1.0	$3.00	$23.00
2	$10.00				
3	$30.00				
4	$40.00				
5	$50.00				
6	$60.00				
7	$25.00				
8	$100.00				
9	$42.00				
10	$88.00				

Name: _____ 174

Curriculum Connection
NS.9

Determining Sales Tax – Word Problems

Questions	Answer the word problems below

1) Kayden has a $10 bill and wants to know if he can afford a burger and fry meal that costs $8.00 before taxes. Calculate the total cost of the meal after adding 12% tax. Can he afford the meal?

Bonus: How much money does he have left?

2) Dexter wants to buy a new game. He has $100 and the game costs $65.00 before tax. How much will the game cost after 12% tax?

Bonus: How much money will he have left if he buys the game?

3) Mya is thinking of purchasing a new pair of headphones that cost $59.00. She only has $65.00. Does she have enough money to buy them after a 12% tax is added? Explain.

Name: _____ 179

Curriculum Connection
NA 5

Class List – Decimal, Fraction, Percent

Mrs. Hansen just finished marking a math test. Her class list with the results of the test are below. She has simplified some of the fractions, and some students wrote a different test, meaning they are out of a different total.

Grades
A = 80% and up
B = 70%-79%
C = 60% – 69%
D = 50% – 59%
F = 49% or less

Questions Fill in the class list

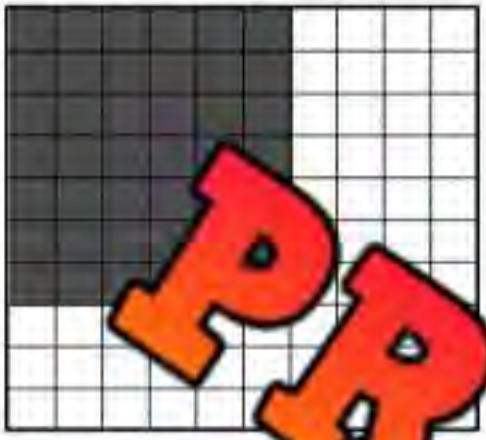
Stude	Mark	Decimal	Percent	Grade
Madis				
Stella	/100			
Matthew				
Eli	7/10			
John	1/2			
Kai	1/4			
Ivy	4/4			
Everly	1/5			
Bella	75/100			
Skylar	95/100			
Leah	8/10			
Roman	1/8			
Adrian	1/10			
Easton	4/5			
Savannah	77/100			

Name: _____ 180

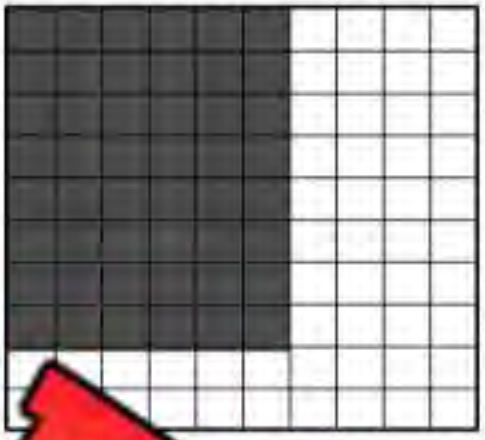
Curriculum Connection
TD

Quiz – Decimals, Fractions and Percent

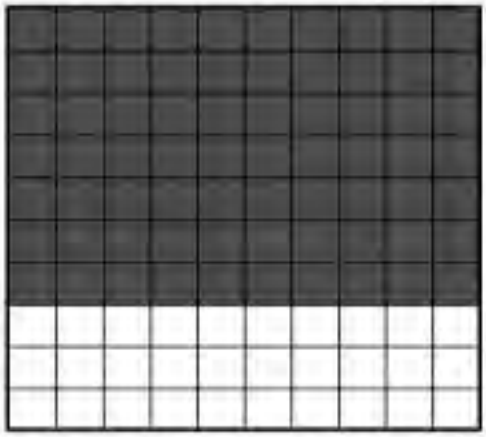
Part 1 What fraction, decimal and percent of the array is shaded in?



Fraction	Decimal	Percent

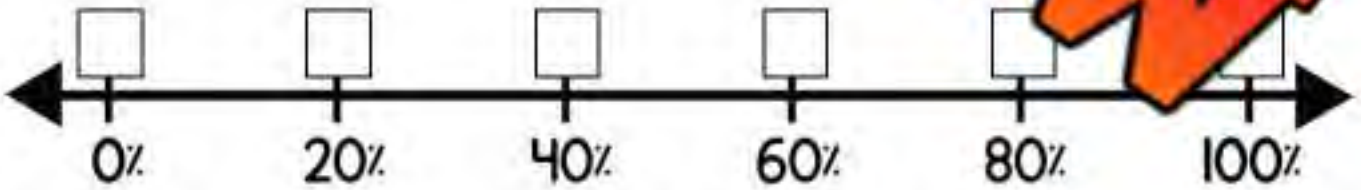


Fraction	Decimal	Percent

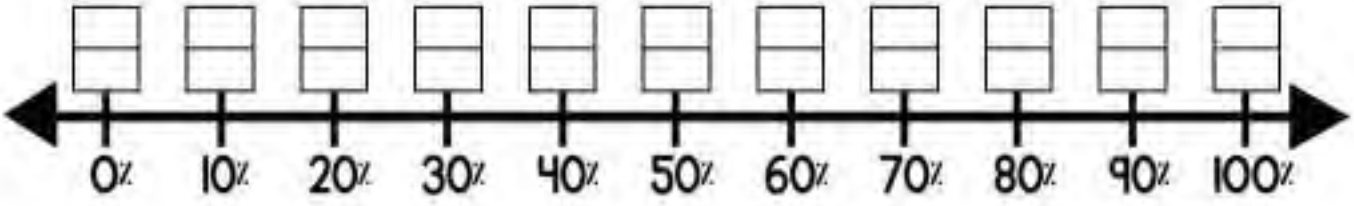


Fraction	Decimal	Percent

Part 2 Write the decimal abo perce



Part 3 Write the fraction above the percent



Part 4 — Solve the problem below

4 friends competed in a 3-point shooting contest in basketball. They each took 50 shots. Their results are below.

Valentina	Claire	Dylan	Xavier
12/25	0.439	0.44	43%

a) Who[illegible] the best shooter?

b) Ra[illegible] the f[illegible] order of best shooter to worst shooter.

Part 5 — Answer the word pr[illegible] belo[illegible]

1) The grade 6's voted for their favourite fo[illegible] re w[illegible] ns and students had to vote for one option. The results are bel[illegible]

Past[illegible]	15%
Ha[illegible]	21%
C[illegible]	[illegible]%
Pi[illegible]	
Other	22%

a) What percentage chose pizza?

b) If there were 100 grade 6 students surveyed, how many chose pizza?

2) On a science test, the percentage of grade 6's who scored A, B, C, D, and F is listed below.

A	17%
B	38%
C	21%
D	14%
F	

a) What percentage of students received an F?

b) If there were 50 students who wrote the test, how many kids got an F?

Name: _____ 182

Curriculum Connection
NA 6

Graphing Integers & Opposite Integers

Part 1 Graph each integer by writing the letter on the number line

a) 0	e) -18	i) 3	m) -6
b) 6	f) -17	j) 15	n) -7
c) 1	g) 20	k) -20	o) -10
d) 18	h) 7	L) -3	p) 17

Part 2 Which letter pairs [illegible] (hint: an opposite integer is [illegible] negative pair – ex. 3 and -3)

1) _____	5) _____
2) _____	6) _____
3) _____	7) _____
4) _____	8) _____

Part 3 Write the opposite integer below

1) 8		4) 14	
2) 12		5) -4	
3) -18		6) -10	

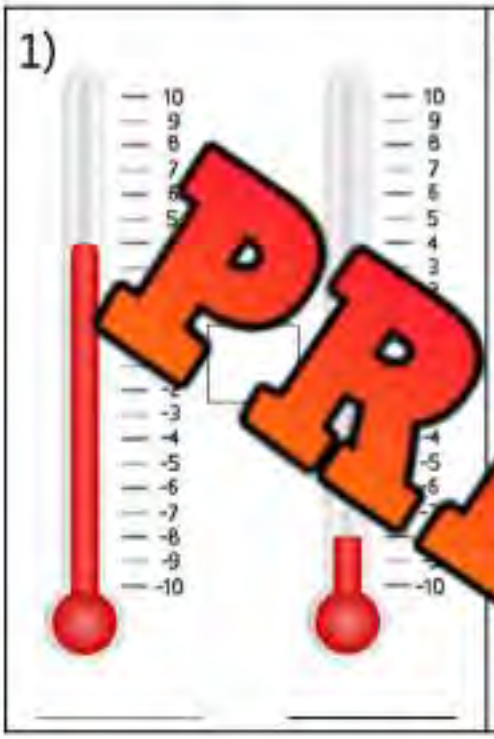
Name: _____ 188

Curriculum Connection
N6.6

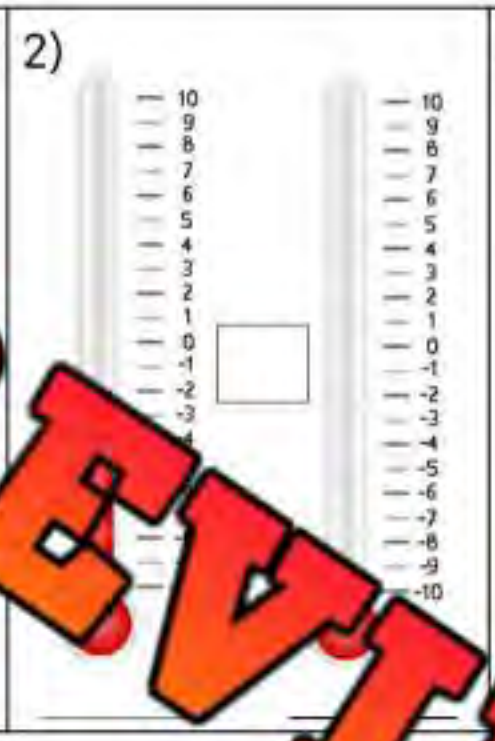
Integers – Comparing Temperatures

Instructions Use the <, >, = to compare that temperatures. Which temperature is higher?

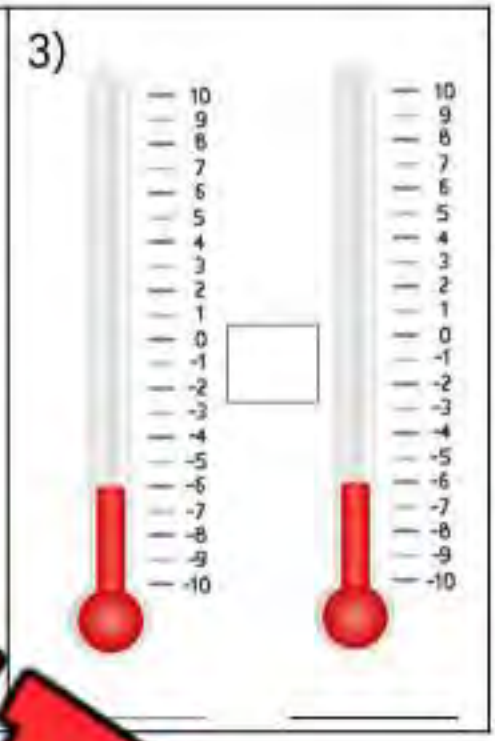
1)



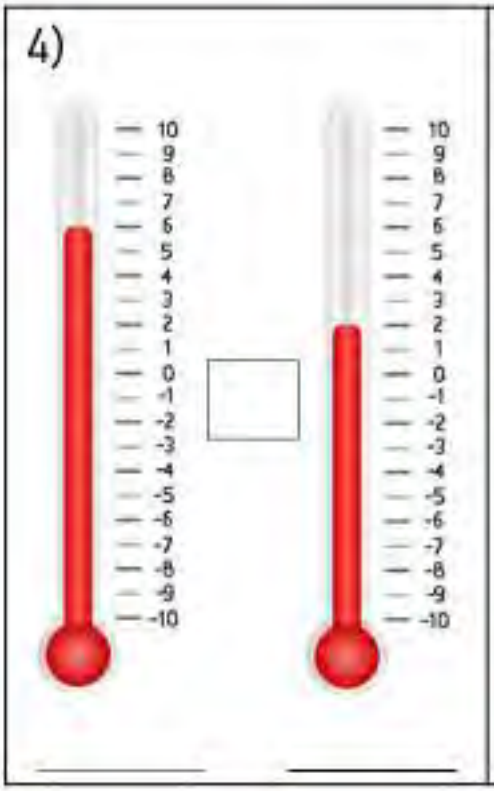
2)



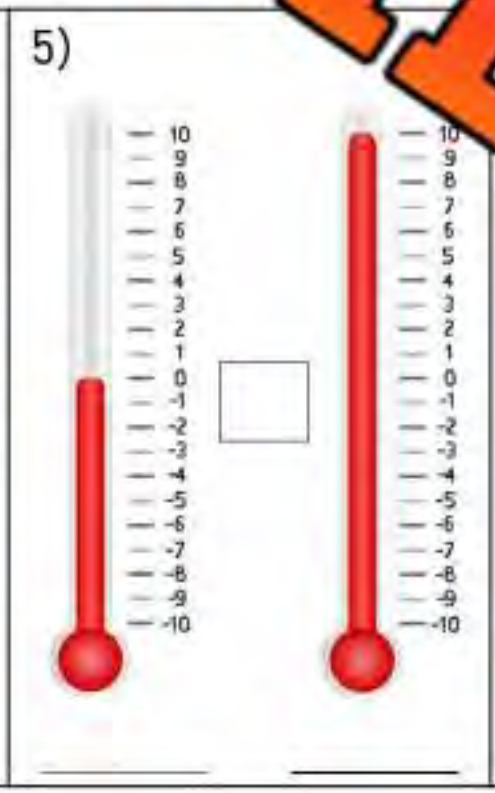
3)



4)



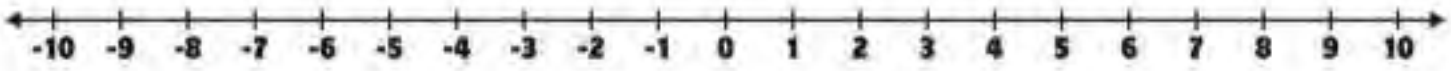
5)



Name: _____ 190

Curriculum Connection
NA 6

Ordering Integers – Least to Greatest



Part 1 — Arrange the integers from least to greatest

1) 5, 3, -6, -9, 7	2) -4, 4, 8, 2, -9
3) 4, -5	4) -5, -4, -6, -2, -7
5) 5, -3, -8,	-5, -1, 6, 0, 2
7) 4, 0, -2, -9, -6	8) 1, -3, -5
9) 15, -23, -12, -16, 7	10) -15, -11,

Part 2 — Answer the word problem below

The average temperatures for the first 5 months of the year are recorded below. Arrange the months in order of coldest to warmest.

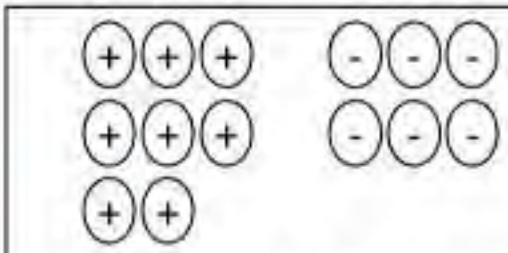
January = -5°C February = -8°C March = -3°C April = 2°C May = 10°C

_____, _____, _____, _____, _____

Name: _____ 192

Curriculum Connection
VA 6

Adding Integers - Visuals



8 + (-6) = 2

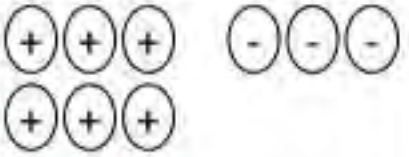
Instru[illegible] the equations below. What is the difference?

1) 

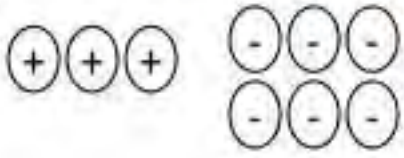
___ + ___ = ___

2) 

___ + ___ = ___

3) 

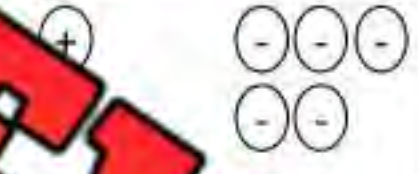
___ + ___ = ___

4) 

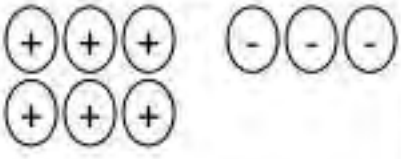
___ + ___ = ___

5) 

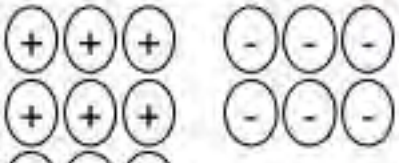
___ + ___ = ___

6) 

___ + ___ = ___

7) 

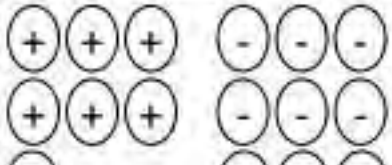
___ + ___ = ___

8) 

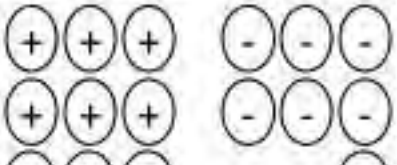
___ + ___ = ___

9) 

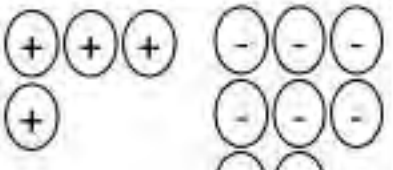
___ + ___ = ___

10) 

___ + ___ = ___

11) 

___ + ___ = ___

12) 

___ + ___ = ___

Name: _____ 194

Curriculum Connection
NA 6

Golf – Adding Integers – Zero Pairs

Word Problems | Solve the word problems below using counter chips

1) Alice played 2 rounds of golf. Her final scores for both rounds are on the scorecard. What is the total score for the two rounds?

Round	Score
1	-7
2	+10
Total Score	

Equation: _____ + _____ = _____

2) Theo played [illegible] rounds of golf. His final scores for all three rounds are on the scorecard. What is his total score?

Round	Score
1	-4
2	-2
3	+4
[illegible] Score	

Equation: _____ + _____ + _____ + _____ = _____

3) Leah played 4 rounds of golf. Her final scores are written on the scorecard. What is her total score?

R1	R2	R3	[illegible]	[illegible]
-5	3	-3	-4	

Equation: _____ + _____ + _____ + _____ = _____

4) Miles played 4 rounds of golf. His final scores are written on the scorecard. What is his total score?

R1	R2	R3	R4	Total Score
7	2	-7	-3	

Equation: _____ + _____ + _____ + _____ = _____

Name: _____ 196

Curriculum Connection
NF.6

Adding Integers – Using Number Lines

Part 1 Use the number lines to solve the questions

1) 7 + (-4) =

2) -9 + 10 =

3) -5 + [illegible] =

4) -7 + 11 =

5) 8 + (-12) =

6) -10 + 15 =

Part 2 Answer the word problems below. Write the eq[illegible]

1) A football team loses 6 yards on one play and then loses 5 yards on the next play. How many total yards did they lose?

_____ + _____ = _____

2) In golf, Roger played two rounds. He scored a +4 and a -6. What was his total score?

_____ + _____ = _____

Name: _____ 198

Curriculum Connection
NA 6

Adding Integers – Using Number Lines

-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Part 1 — Solve the questions below

1) 5 + (-	6) -15 + 11 + (-5) =
2) 18 + -6) =	7) 17 + (-6) + (-8) =
3) -12 + 5 + (-6) =	8) -15 + (-5) + 11 =
4) 13 + (-6) + (-4) =	9) 11 + (-7) =
5) -11 + 4 + (-2) =	10) + (-

Part 2 — Answer the word problems below. Write the equation

1) You take 9 steps forwards, 7 steps backwards, another 5 steps forwards, and another 4 steps forwards. How far have you moved in steps?

2) The Big Dipper rollercoaster climbs straight up 30m above ground level before it drops 18m. Next, it climbs another 22m before it drops 17m. When the ride is over, the participants are how much higher than ground level?

Name: _____ 200

Curriculum Connection
NA 6

Adding Integers - Rules

Adding Integers Rules

(+) + (+) = (+) Adding 2 positive integers will always give a positive answer

(-) + (-) = (-) Adding 2 negative integers will always give a negative answer

(+) + (-) = (-) Adding integers with different signs → use the larger number

(+) + (-) = (-) Adding integers with different signs → use the larger number

*** If the integers have the same sign, add them and keep the sign

*** If the integers have different signs, subtract them and use the sign of the larger number

Directions Use the rules above to answer the 1-step questions below

1) 42 + (-13) =	5) 17 + (-12) =
2) 57 + (-66) =	6) (-151) + (-136) =
3) -132 + (-112) =	7) 213 + (-158) =
4) (+33) + (+86) =	8) -328 + (+113) =

Name: _____ 208

Curriculum Connection
NF.7

Mixed Numbers and Improper Fractions

Instructions Shade in the fractions and write the mixed number

1) 

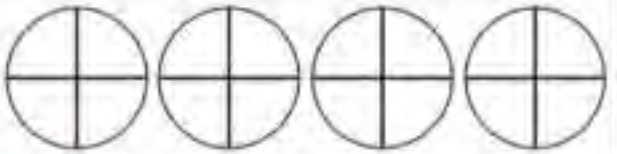
$= 2\frac{1}{3}$

2) 

$\frac{9}{2} =$

3) 

$\frac{6}{4} =$

4) 

$\frac{14}{4} =$

5) 

$\frac{17}{5} =$

6) 

$=$

7) 

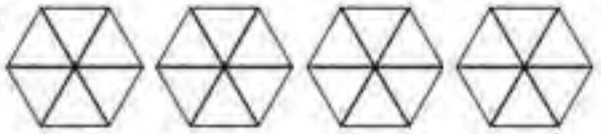
$\frac{13}{3} =$

8) 

$\frac{15}{4} =$

9) 

$\frac{8}{3} =$

10) 

$\frac{19}{6} =$

Name: _____ 210

Curriculum Connection
NF.7

Converting Mixed Numbers to Improper Fractions

Instructions Convert the mixed numbers to improper fractions

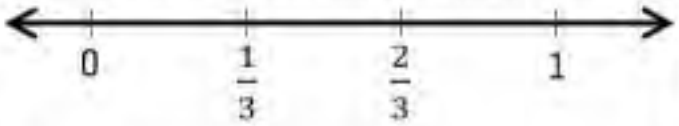
1) $5\frac{3}{4}$ =	2) $4\frac{1}{5}$ =	3) $5\frac{4}{5}$ =
4) =	5) $3\frac{4}{7}$ =	6) $6\frac{2}{4}$ =
7) $4\frac{2}{4}$ =	8) 5 =	9) $2\frac{3}{7}$ =
10) $5\frac{2}{3}$ =	11) $3\frac{4}{8}$ =	12) 2 =
13) $4\frac{1}{5}$ =	14) $2\frac{2}{7}$ =	15) 4 =
16) $7\frac{1}{2}$ =	17) $6\frac{2}{4}$ =	18) $8\frac{3}{4}$ =
19) $4\frac{1}{2}$ =	20) $3\frac{4}{5}$ =	21) $5\frac{4}{5}$ =

Name: _____ 215

Curriculum Connection
N6.7

Proper Fractions – Number Line

A **proper fraction** has a numerator (top number) smaller than the denominator (bottom number). When we place a proper fraction on a number line, it will always fall between 0 and 1.



Example

1) The denominator tells us how many equal parts are between 0 and 1
2) The numerator tells us how many parts starting from zero we move to plot our fraction

Practice Plot the proper fractions on the number lines below

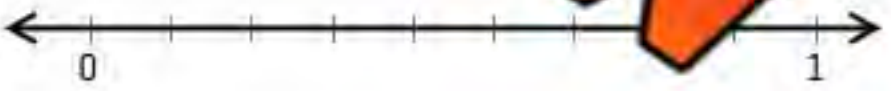
1) $\frac{2}{5}$, $\frac{4}{5}$

Put in order from least to greatest: _____

2) $\frac{3}{7}$, $\frac{1}{7}$, $\frac{5}{7}$, $\frac{4}{7}$

Put in order from least to greatest: _____

3) $\frac{5}{9}$, $\frac{3}{9}$, $\frac{8}{9}$, $\frac{7}{9}$



Put in order from least to greatest: _____

4) $\frac{4}{10}$, $\frac{8}{10}$, $\frac{2}{10}$, $\frac{5}{10}$

Put in order from least to greatest: _____

Name: _____ 216

Curriculum Connection
NF.7

Equivalent Fractions

Instructions Fill in the blanks to find equivalent fractions

1)	$\frac{1}{2}$	=	$\frac{2}{}$	=	$\frac{}{6}$	=	$\frac{4}{}$	=	$\frac{}{10}$	=	$\frac{6}{}$	=	$\frac{}{14}$
2)	$\frac{}{}$	=	$\frac{}{9}$	=	$\frac{4}{}$	=	$\frac{}{15}$	=	$\frac{6}{}$	=	$\frac{}{21}$		
3)	$\frac{1}{4}$	=	$\frac{}{}$	=	$\frac{}{}$	=	$\frac{}{20}$	=	$\frac{6}{}$	=	$\frac{}{28}$		
4)	$\frac{1}{5}$	=	$\frac{2}{}$	=	$\frac{}{15}$	=	$\frac{}{20}$	=	$\frac{}{}$	=	$\frac{6}{}$	=	$\frac{7}{}$
5)	$\frac{1}{6}$	=	$\frac{}{12}$	=	$\frac{3}{}$	=	$\frac{4}{}$	=	$\frac{}{}$	=	$\frac{}{}$	=	$\frac{}{42}$
6)	$\frac{1}{7}$	=	$\frac{}{14}$	=	$\frac{}{21}$	=	$\frac{4}{}$	=	$\frac{5}{}$	=	$\frac{}{42}$	=	$\frac{}{49}$
7)	$\frac{1}{8}$	=	$\frac{}{16}$	=	$\frac{3}{}$	=	$\frac{4}{}$	=	$\frac{5}{}$	=	$\frac{}{48}$	=	$\frac{}{56}$
8)	$\frac{1}{9}$	=	$\frac{}{18}$	=	$\frac{3}{}$	=	$\frac{}{36}$	=	$\frac{}{45}$	=	$\frac{6}{}$	=	$\frac{7}{}$

Name: _____ 220

Curriculum Connection
N6.7

Proper Fractions – Number Line

Practice Plot the fractions on the number line

1) $\frac{2}{8}, \frac{1}{8}, \frac{5}{8}, \frac{3}{8}, \frac{7}{8}, \frac{6}{8}$

2) $\frac{3}{10}, \frac{8}{10}, \frac{9}{10}, \frac{6}{10}$

3) $\frac{7}{8}, \frac{5}{8}, \frac{1}{4}, \frac{1}{2}, \frac{2}{2}$

4) $\frac{11}{12}, \frac{9}{12}, \frac{7}{12}, \frac{5}{6}, \frac{3}{6}, \frac{1}{6}, \frac{1}{3}, \frac{3}{3}$

Name: _____ 224

Curriculum Connection
NF.7

Comparing and Ordering Fractions

Part 1 Use the <, >, = to compare the fractions below

1) $\frac{6}{8}$ ☐ $\frac{5}{4}$	4) $\frac{3}{6}$ ☐ $\frac{5}{10}$	7) $\frac{6}{2}$ ☐ $\frac{9}{4}$
2) $\frac{3}{}$	5) $\frac{9}{1}$ ☐ $\frac{8}{1}$	8) $\frac{2}{10}$ ☐ $\frac{10}{2}$
3) $\frac{5}{9}$ ☐ $\frac{}{18}$	$\frac{}{6}$ ☐ $\frac{5}{4}$	9) $\frac{6}{1}$ ☐ $\frac{5}{1}$

Part 2 Arrange the fractions [illegible] least t[illegible]e

1) $\frac{6}{2}$, 5, $\frac{12}{2}$, $\frac{16}{4}$, 2, 7

2) $\frac{9}{2}$, 4, $\frac{11}{2}$, $\frac{15}{5}$, $\frac{5}{1}$, 6

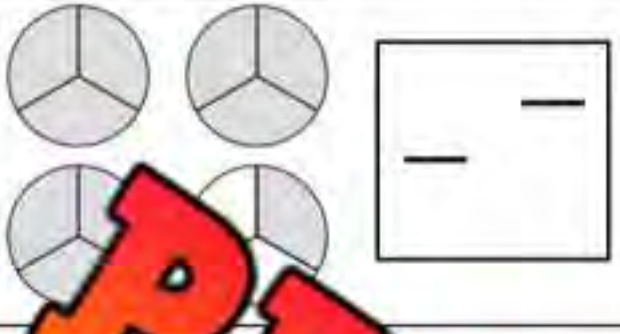
3) $\frac{14}{3}$, 4, $\frac{15}{4}$, $\frac{20}{4}$, 3, $\frac{20}{10}$, 8

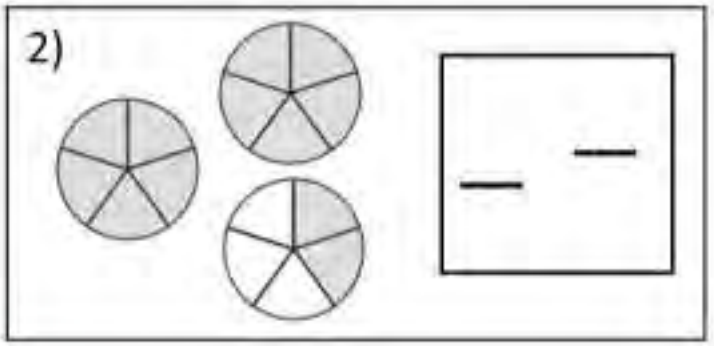
Name: _____ 226

Curriculum Connection
TO

Quiz - Fractions

Part 1 Write the fraction beside the visual fractions

1) 

2) 

Part 2 Con… op… fractions to mixed numbers

1) $\frac{13}{5}$ =		3) $\frac{11}{3}$ =

Part 3 Convert the mixed numbe… mprop… …

1) $5\frac{3}{4}$ =	2) $4\frac{1}{5}$ =

Part 4 Put the mixed numbers in order from least to greatest

1) $4\frac{2}{4}$ $2\frac{3}{7}$ $5\frac{3}{5}$ $2\frac{1}{7}$ $2\frac{6}{7}$

_____

2) $3\frac{2}{4}$ $1\frac{2}{5}$ $4\frac{2}{6}$ $7\frac{3}{7}$ $4\frac{5}{6}$

_____

Curriculum Connection
TO

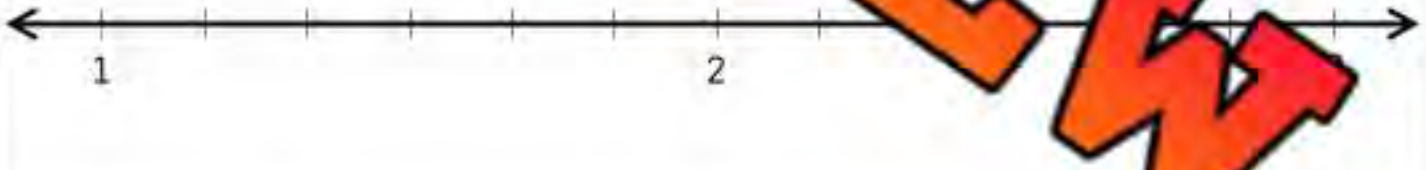
Part 5 Put the improper fractions in order from least to greatest

$\frac{16}{5}$ $\frac{13}{5}$ $\frac{9}{5}$ $\frac{21}{4}$ $\frac{16}{4}$ $\frac{21}{5}$

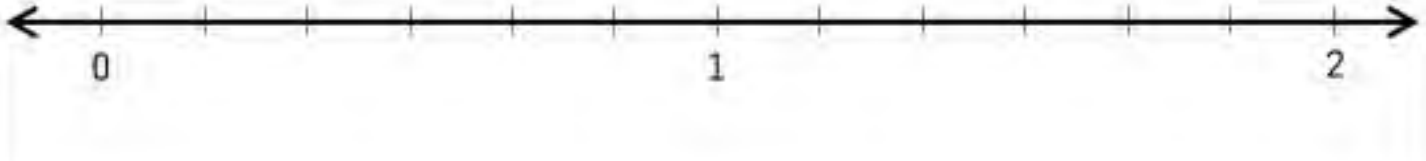
Part 6 Plot the fractions on the number line

1) $\frac{}{8}$, $\frac{}{8}$, $\frac{7}{8}$, $\frac{6}{8}$

2) $2\frac{3}{6}$, $1\frac{2}{6}$, $2\frac{5}{6}$, $1\frac{4}{6}$, $2\frac{1}{6}$,



3) $\frac{4}{6}$, $\frac{10}{6}$, $\frac{10}{12}$, $1\frac{3}{6}$, $\frac{8}{6}$, $1\frac{1}{6}$



Name: _____ 229

Curriculum Connection
NS 8

Ratio In 3 Ways

Part 1 Write the ratios for the questions below

1) Ratio of 35 balls to 78 strikes.	Words: _____ Ratio: _____ Fraction: _____	5) Ratio of sitting for 30 minutes to standing for 60	Words: _____ Ratio: _____ Fraction: _____
2) R... dunks ... three pointers	...s: _____ ...tion: _____	6) Ratio of 1 grade 8 to 1 grade 7	Words: _____ Ratio: _____ Fraction: _____
3) Ratio of 10 cars to 3 trucks	Wor... Ratio: _____ Fraction: _____	...io of 3 ... 1 shot	Words: _____ Ratio: _____ Fraction: _____
4) Ratio of 2 coffees to 6 waters	Words: _____ Ratio: _____ Fraction: _____	8) ... treat t... healthy sn...	...s: _____ R... _____ ...

Part 2 Answer the word problems below

1) A baseball pitcher threw a ratio of 1 ball to 3 strikes. The pitcher threw 75 strikes. How many balls did they throw?

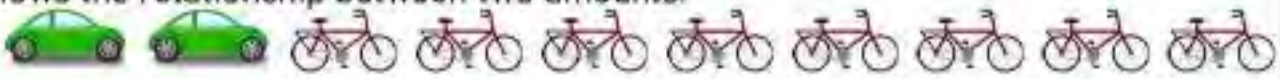
2) A hockey player has a ratio of 1 goal for every 8 shots they took. The player scored 5 goals today. How many shots did they take?

Name: _____ 232

Curriculum Connection
NS.8

Equivalent Ratios – Scaling Up and Down

A **ratio** shows the relationship between two amounts.

Example 

The ratio of cars to bikes is 2:8. There are four times as many bikes as cars. You could also say there are four times less cars than bikes. We can scale down the ratio and say the ratio of cars to bikes is 1:4. We can also scale up by saying the ratio of cars to bikes is 4:16. These are equivalent ratios.

Instructions Write the ratio of the images. Then write a scaled up and down equivalent ratio

The ratio of skates to pucks is: _____:_____.

Scaled Up	Scaled Down

The ratio of laptops to televisions is: _____:_____.

Scaled Up	Scaled Down

The ratio of erasers to pencils is: _____:_____.

Scaled Up	Scaled Down

The ratio of juice to chips is: _____:_____.

Scaled Up	Scaled Down

The ratio of basketballs to soccer balls is: _____:_____.

Scaled Up	Scaled Down

Name: _____ 233

Curriculum Connection
NS.9

Equivalent Ratios – Scaling Up and Down

Instructions Circle two equivalent ratios for each of the questions below

1) 2:8	2:6	4:8	4:16	1:4	1:2
2) 2:12	1:8	4:22	1:6	1:4	4:24
3) 6:8	[illegible]:14	12:18	12:16	3:8	
4) 2:4	4:6	4:7	4:8	1:4	1:2
5) 10:12	20:24	5:16	[illegible]	10:24	5:6
6) 5:10	1:2	5:20	10:[illegible]	10:[illegible]	10:30
7) 4:14	2:10	8:28	2:7	7:2	8:24
8) 10:30	10:60	20:15	5:15	20:60	20:10
9) 2:20	6:60	6:80	1:20	1:30	1:10
10) 4:8	8:12	8:16	8:14	2:4	2:6

Name: _____ 234

Curriculum Connection
NS.8

Memory Game: Matching Equivalent Ratios

Objective What are we learning about?

Students will learn to identify and match equivalent ratios through a fun and interactive game.

Materials What you will need for the activity.

- Mem y gam ach card will have a different r an be d to another equivalent ratio
- A small table or clear the

Instructions How you will compl e activ

1. Divide the class into groups of 3 or 4. Give h g amory Game cards. (provided)
2. Have each group lay all the cards face down in a grid n a
3. The students take turns flipping over two cards at a time, trying d a matching equivalent ratio.
4. If a student finds a match, they remove those cards from the grid and keep them.
5. If the cards do not match, they are turned back over, and the next student takes a turn.
6. The game continues until all the cards have been matched.
7. After the game, review the equivalent fractions with the class.

Name: _____ 235

Curriculum Connection
№ 8

Cards | Memory Game Cards

10:30	5:15
1:24	6:12
8:32	2:8
14:28	7:14
16:40	4:10

Name: _____ 238

Curriculum Connection
NS.8

Cards | Memory Game Cards

45:90	5:10
4:4	6:12
48:96	6:12
54:108	9:18
60:90	4:6

Name: _____ 241

Curriculum Connection
TQ

Quiz - Ratios

Part 1 Write the ratios for the questions below

1) Ratio of 41 balls to 67 strikes.	Words: _____ Ratio: _____ Fraction: _____
2) Ratio of 10 green apples to 15 red apples.	Words: _____ Ratio: _____ Fraction: _____
3) Ratio of 27 cars to 12 trucks.	Words: _____ Ratio: _____ Fraction: _____
4) Ratio of 25 students to 1 teacher.	Words: _____ Ratio: _____ Fraction: _____

Part 2 Fill in the ratio table below to answer the questions

1) A store sells sugar by the kilogram. If a 3kg bag costs $7.50, how much would a 1kg bag cost? Use the ratio table to help find the answer.

(kg)	Cost $
3	7.50

2) Sam drives 550 kilometres in 5 hours. How fast did he drive per hour? Use the ratio table.

Hours	Distance
1	
2	
3	
4	
5	550

Curriculum Connection
TQ

Part 3 Answer the word problems below

1) At the zoo, the ratio of gorillas to monkeys is 1:5. There are 5 gorillas in the zoo. How many monkeys are there?

2) At the z atio of snakes to lizards is 1:10. There are 20 lizards. How many snakes are there

3) At the zoo, the ratio to be 2:6. One of the lions is released back into the wild. How many should

Part 4 Circle two equivalent ratios for each stion ow

1) 2:8	2:6	4:8	4:16	1:4	1:2
2) 2:12	1:8	4:22	1:6	1:4	4:24
3) 6:8	3:4	12:14	12:18	12:16	3:8
4) 2:4	4:6	4:7	4:8	1:4	1:2

Grade 6

Patterns and Relationships

	Curriculum Expectations	Pages
P6.1	Extend understanding of patterns and relationships in tables of values and graphs.	5 – 47
P		
P6.3	Extend understanding of patterns and relationships by using expressions and equations involving variables.	51-129
TQ	Tests and quizzes	48-50, 133-135

Name: _____ 7

Curriculum Connection
P6.1

Pattern Rule – Input/Output Tables

Rule: add 10	
In	Out
20	30
30	40
50	60
90	100

Instr[illegible] input/output tables below

Rule: [illegible]	
In	[illegible]
43	
	72
	91
113	

Rule: add 3	
In	Out
	24
	41
	87

Rule: add 8	
In	Out
71	
	94
113	
	149

Rule: subtract 7	
In	Out
	58
96	
	131
164	

Rule: subtract [illegible]	
In	Out
112	
153	
	177
	193

R[illegible]tract 12	
[illegible]	Out
	141
	168
199	

Rule: subtract 11	
In	Out
	215
	268
292	
305	

Rule: add 13	
In	Out
	326
361	
385	
	400

Rule: add 15	
In	Out
412	
436	
	468
	497

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Fill in the input/output tables below

Rule: add 7	
In	Out
49	
	91

Rule: add 9	
In	Out
189	
	207

Rule: subtract 8	
In	Out
17	
	53

Rule: subtract 5	
In	Out
217	
	356

Name: _____

Fill in the input/output tables below

Rule: add 7 | In | Out | 49 | | | 91

Rule: add 9 | In | Out | 189 | | | 207

Rule: subtract 8 | In | Out | 17 | | | 53

Rule: subtract 5 | In | Out | 217 | | | 356

Name: _____ 9

Curriculum Connection
P6.1

Input/Output Table – Multiplication

Rule: multiply by 2	
In	Out
3	6
5	10
7	14
9	18

Instr[illegible] input/output tables below

Rule: mult[illegible]	
In	
5	
10	
20	
50	

[illegible]: multiply by 6	
	Out
3	
7	
10	
12	

Rule: multiply by 5	
In	Out
5	
10	
20	
50	

Rule: multiply by 4	
In	Out
7	
12	
15	
25	

Rule: multiply by [illegible]	
In	Out
21	
33	
50	
110	

Ru[illegible]iply by 7	
[illegible]	Out
[illegible]	
[illegible]	
12	
20	

Rule: multiply by 8	
In	Out
5	
10	
20	
100	

Rule: multiply by 10	
In	Out
8	
11	
16	
31	

Rule: multiply by 11	
In	Out
6	
8	
10	
20	

Name: _____ 10

Curriculum Connection P6.1

Input/Output Table – Division

Rule: divide by 2	
In	Out
10	5
8	4
6	3
4	2

Instr[illegible] input/output tables below

Rule: div[illegible]	
In	
10	
25	
78	
98	

[illegible]le: divide by 2	
	Out
14	
30	
46	
72	

Rule: divide by 5	
In	Out
25	
65	
80	
100	

Rule: divide by 3	
In	Out
12	
24	
39	
45	

Rule: divide by [illegible]	
In	Out
16	
36	
48	
64	

R[illegible]ide by 6	
[illegible]	Out
[illegible]	
54	
78	

Rule: divide by 9	
In	Out
18	
45	
72	
108	

Rule: divide by 10	
In	Out
20	
70	
120	
180	

Rule: divide by 8	
In	Out
16	
40	
72	
104	

Name: _____ 11

Curriculum Connection
P6.1

Pattern Rule – Input/Output Tables

Instructions Fill in the input/output tables below

Rule: Subtract 16	
In	Out
49	
	82
	101

Rule: add 14	
In	Out
81	
127	
	174
	201

Ru	2
In	
15	
42	
	120
	164

Rule: Multiply by 3	
In	Out
12	
31	
	120
	183

Rule: Divide by 2	
In	Out
28	
42	
	36
	51

	5
20	
45	
	12
	18

Rule: Subtract by 19	
In	Out
147	
182	
	240
	276

Rule: Add 21	
In	Out
305	
328	
	364
	378

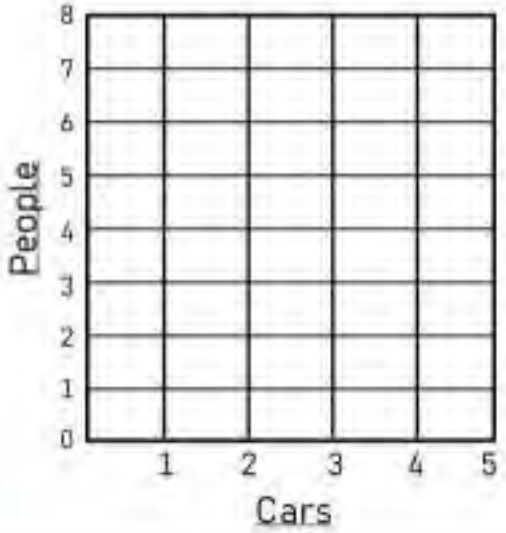
Name: _____ 12

Curriculum Connection
P6.3

Graphing Patterns – Table of Values

Instructions Translate the increasing pattern into a table of values and a graph

A train has the following people in each train car.



Term Number (Cars)	1	2	3	4	5	8
Term Value (People)						

1) What is the pattern rule? Start at ____, ____ h tim

2) How many people would be in train car 10?

3) Is the line on the graph straight or curved? Why do you think that is?

4) How many people would be in train car 20?

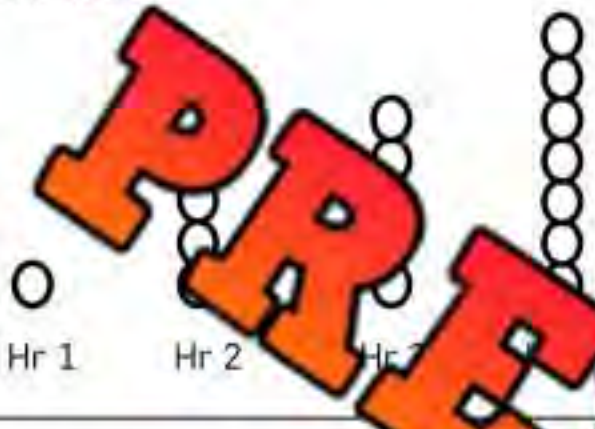
Name: _____ 13

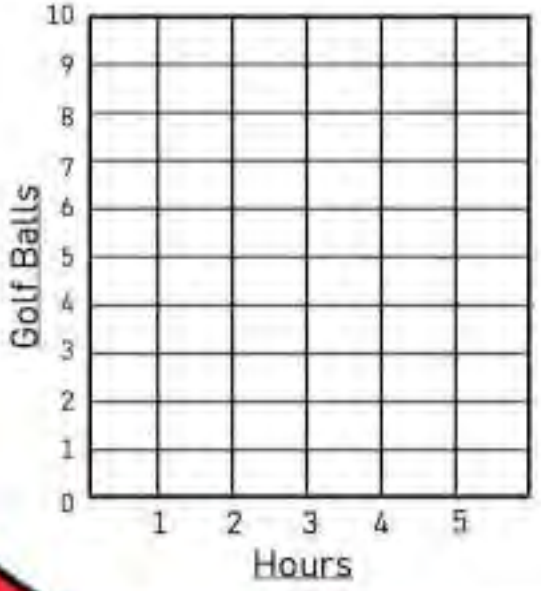
Curriculum Connections Pg.1

Graphing Patterns – Table of Values

Instructions Translate the increasing pattern into a table of values and a graph

Steven is looking for golf balls in the woods. He finds the following balls each hour.





Term Number (Hour)	1	2	3	4	5	9
Term Value (Golf Balls)						

1) What is the pattern rule? Start at ____, _____ ti

2) How many golf balls would Steven find in his 12th hour of looking

3) If the graph continued, could a straight line that continued tell you a future term number? Explain.

4) What hour would Steven find 27 golf balls?

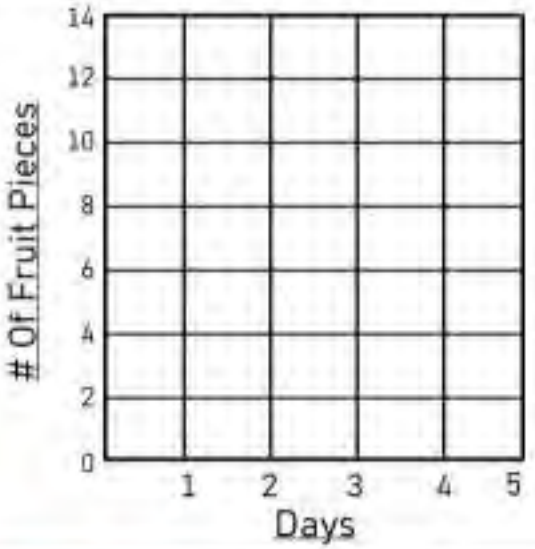
Name: _____ 14

Curriculum Connection P6.1

Graphing Patterns – Table of Values

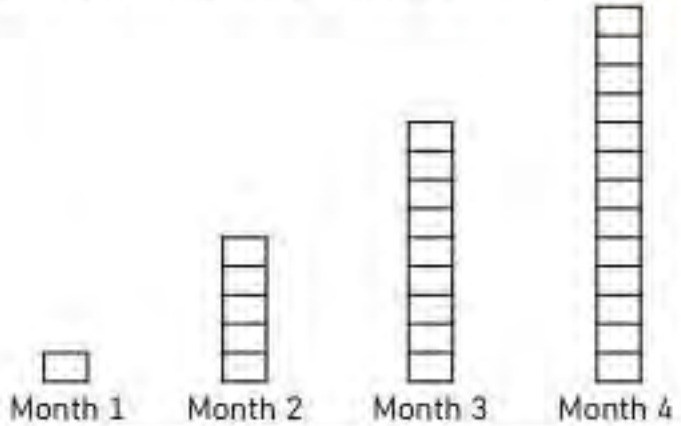
Instructions Translate the increasing patterns into a table of values and a graph

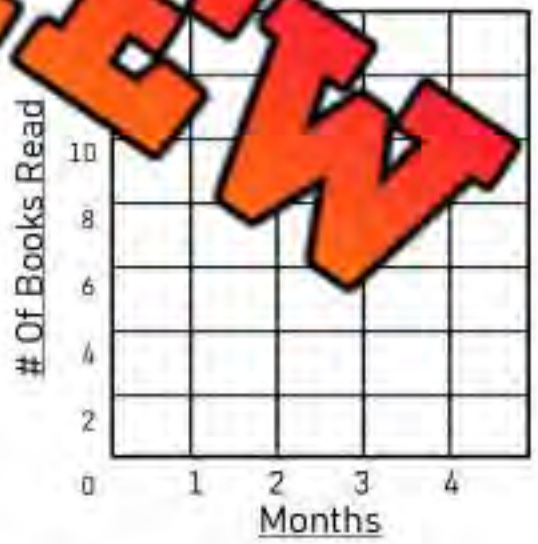
1) Stacy marks an x each day for how many pieces of fruit she eats.



Term Number (Day)	1			4	5	6	10
Term Value (Fruit Pieces)							

2) Chris puts a rectangle for every book he reads in the first 5 months of school.





Term Number (Month)					5	9
Term Value (Books Read)						

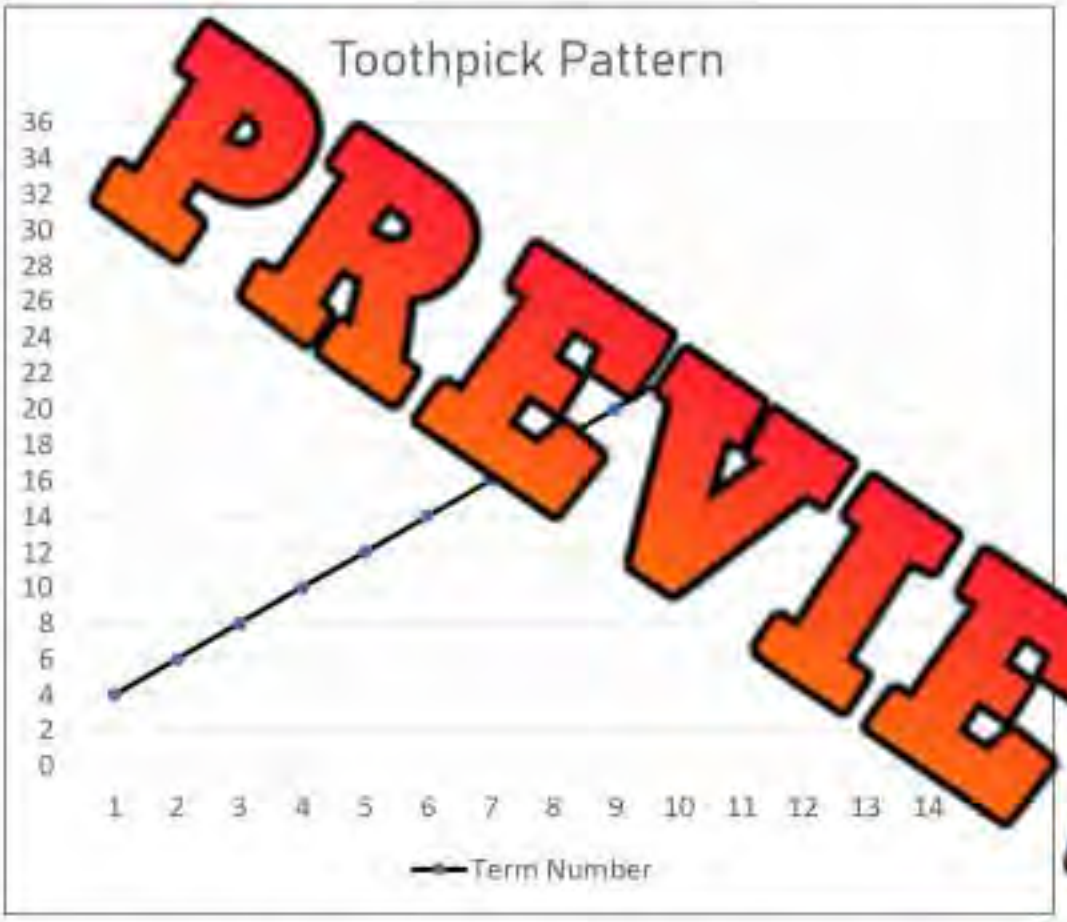
Name: _____ 15

Curriculum Connection
P6.3

Reading a Linear Pattern - Graph

A **linear** pattern is a pattern that increases or decreases by a value that remains the same. Linear patterns can be plotted as a straight line on a graph.

Instructions Continue the line on the graph and fill in the table of values



Term Number	Term Value
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

1) Draw the toothpick pattern below for the graph/table of values. Use any design you'd like.

Term 1	Term 2	Term 3	Term 4	Term 5

2) Why is this graph a linear pattern?

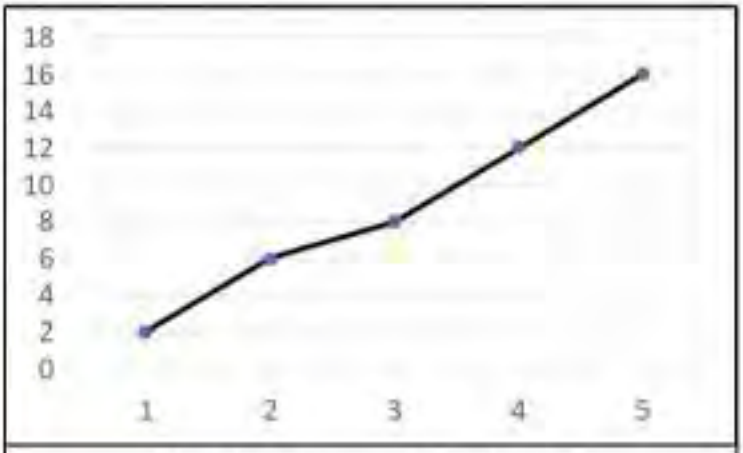
Name: _____ 16

Curriculum Connection
P6.1

Increasing Linear Patterns – Yes or No?

Instructions Circle if the pattern displayed on the graph is linear or not

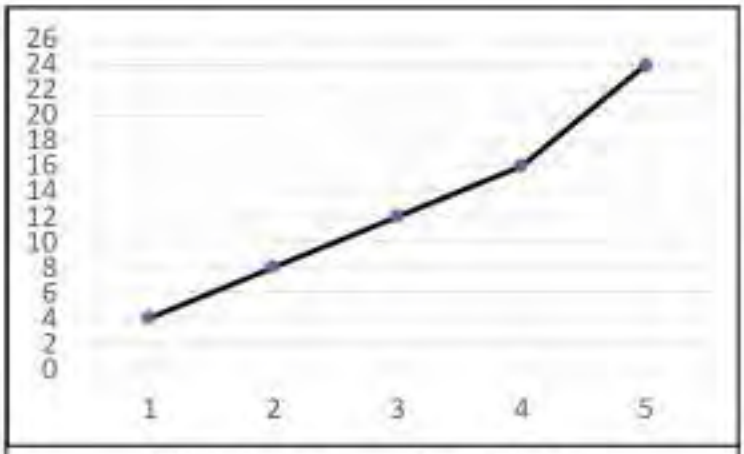
1) Linear Non-Linear



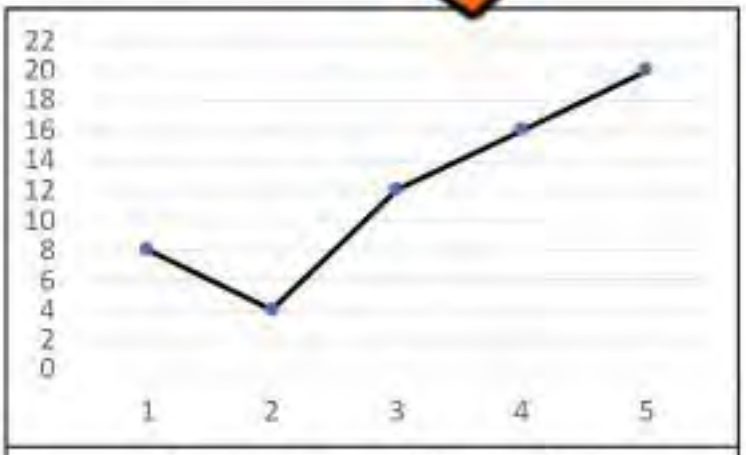
2) Linear Non-Linear

3) Linear Non-Linear

4) Linear N ar



5) Linear Non-Linear



6) Linear Non-Linear

Name: _____ 18

Curriculum Connection
PA.3

Increasing Linear Patterns – Yes or No?

Instructions Circle if the pattern is linear or not, based on the table of values

Term Number	Term Value
1	2
2	6
3	10
4	
5	
Linear	Non-Linear

Term Number	Term Value
1	10
2	16
3	20
4	26
5	32
Linear	Non-Linear

Term Number	Term Value
1	15
2	18
3	21
4	25
5	28
Linear	Non-Linear

Term Number	Term Value
1	14
2	19
3	24
4	29
5	34
Linear	Non-Linear

Term Number	Term Value
1	
2	
3	
4	60
5	74
Linear	Non-Linear

Term Number	Term Value
1	25
2	75
3	125
4	175
5	
	n-Linear

Term Number	Term Value
1	112
2	126
3	138
4	152
5	166
Linear	Non-Linear

Term Number	Term Value
1	210
2	260
3	310
4	360
5	410
Linear	Non-Linear

Term Number	Term Value
1	500
2	650
3	700
4	850
5	1000
Linear	Non-Linear

Name: _____ 20

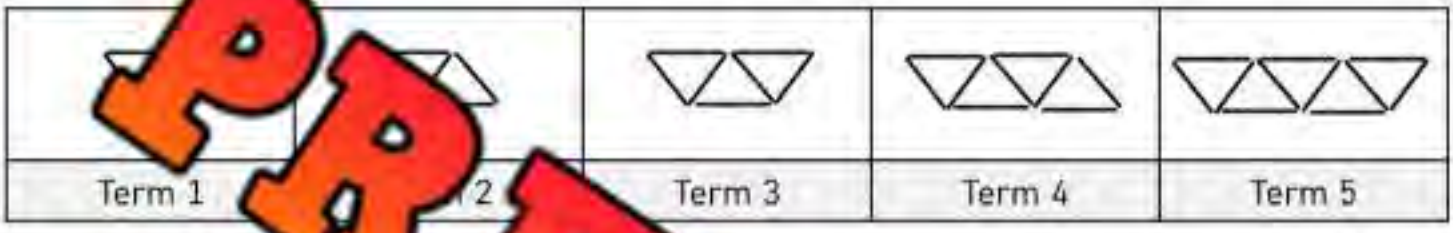
Curriculum Connections
P6.1

Toothpick Linear Patterns

A **linear** pattern is a pattern that increases or decreases by a value that remains the same. Linear patterns can be plotted as a straight line on a graph.

Instructions Answer the questions below using a table of values and a graph

Kelly has made a pattern using toothpicks. She has displayed her pattern below.



Term Number	Term Value

1) Why is this a linear pattern?

2) Extend the line on the graph. What will be the 7th and 10th term value?

7th term _____ 10th term _____

Name: _____ 21

Curriculum Connection
PA.3

Recursive vs Functional Relationships

In a linear pattern, we can have a recursive or functional relationship between variables. A **recursive relationship** describes the pattern between successive numbers in one of the rows/columns of a table of values.

A **functional relationship** is a general rule to describe the relationship between the dependent and independent variable in a table of values. To find the **function**, we look across the table instead of beside.

Part 1

Jeffrey describing the recursive or functional relationship?

						Jeffrey's Description	Recursive or Functional
1)	x	1	2	3	4	The pattern goes up by 3 each time.	
	y	5	8	11	14		
2)	x	10	20	30	40	term number is lied by 10	
	y	100	200	300	400		
3)	x	1	2	3	4	m n is tiplied e then 1 ded	
	y	5	9	13	17		
4)	x	1	2	3	4	The patter 4 each ti	
	y	8	12	16	20		
5)	x	1	2	3	4	$7x + 11$	
	y	18	25	32	39		

Part 2

Provide a recursive and functional description of the patterns

	Pattern					Recursive	
1)	x	1	2	3	4		
	y	3	9	15	21	Functional	

	Pattern					Recursive	
2)	x	1	2	3	4		
	y	12	20	28	36	Functional	

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: ______________________

Provide a recursive and functional description of the pattern.

[illegible]	1	[illegible]	[illegible]	4
y	10	[illegible]	[illegible]	[illegible]

Recursive	
Functional	

Name: ______________________

Provide a recursive and functional description of the pattern.

x	1	2	3	4
y	10	18	26	34

Recursive	
Functional	

Name: ______________________

Provide a recursive and functional description of the pattern.

x	1	2	3	4
y	10	18	26	34

Recursive	
Functional	

Name: ______________________

Provide a recursive and functional description of the pattern.

x	1	2	3	4
y	10	18	26	34

Recursive	
Functional	

Name: _____ 23

Curriculum Connection
P6.3

Functions – Finding Term N

When finding a random term in a pattern, we can use a variable. Often *n* is used to take the place of the term number. When we use *n*, we can change the value to find the term value for any term number.

We can find the value for *n* by looking at the pattern between the independent and dependent variable. To do this, we look across the table from the term number to the term value.

Tip: To find the function, determine how many is added from one term value to the next. Try using this number as multiplication in your expression. If it doesn't work, you may need to add or subtract in addition to using multiplication to find the function.

Practice Find the function by determining the pattern between the variables

Term Number	Term Value
1	3
2	6
3	9
4	12
5	15
8	

3n

Term Number	Term Value
1	1
2	3
3	5
4	7
5	9
9	

2n-1

Term Number	Term Value
1	4
2	5
3	6
4	7
5	8

_____

Term Number	Term Value
1	3
2	5
3	7
4	9
5	11
9	

_____

Term Number	Term Value
1	4
2	7
3	10
4	13
5	16
10	

_____

Term Number	Term Value
1	16
2	22
3	28
4	34
5	40
11	

_____

Name: _____ 25

Curriculum Connection
P6.3

Using Algebraic Expressions

In the expression $6y + 5$, the 6 is the **numerical coefficient** of the variable and the 5 is the **constant term**. The **variable** is the y, which represents the changing value.

Part 1 Use the algebraic expression to fill in the tables

Term Number	Term Value
1	
3	
4	
5	
8	

$3n + 1$

Term Number	Term Value
1	
2	
3	
9	

Term Number	Term Value
1	
2	
3	
4	
5	
11	

$n + 7$

Term Number	Term Value
1	
2	
3	
4	
5	
11	

$5n - 5$

Term Number	Term Value
1	
2	
4	
5	
10	
20	

$2n + 11$

Term Number	Term Value
5	
11	

$9n - 4$

Part 2 Write 4 algebraic expressions using:
Variable = n Constant term = 6 Numerical coefficient = 3

1	
2	

3	
4	

Name: _____ 26

Curriculum Connection
P6.1

Pattern Rule – Input/Output Tables

Instructions Use the function to fill in the table

In n	Out $2n$
1	2
2	
	6
4	
5	

In n	Out $2n + 5$
1	
2	
3	
4	

In n	Out $5n - 2$
1	
2	
3	
4	
5	

In x	Out $2x - 3$
10	
20	
30	
40	
50	

In x	Out x
4	
6	
8	
10	

In x	Out $4x + 8$
1	

In p	Out $2p + 10$
20	
40	
60	
80	
100	

In p	Out $10p - 8$
3	
6	
9	
12	
15	

In p	Out $5p - 20$
5	
10	
15	
20	
25	

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Use the function to fill in the table.

In h	Out $8h - 8 + 3$
2	
4	
6	
8	
10	

Name: _____

Use the function to fill in the table.

In h	Out $8h - 8 + 3$
2	
4	
6	
8	
10	

Name: _____

Use the function to fill in the table.

In h	Out $8h - 8 + 3$
2	
4	
6	
8	
10	

Name: _____

Use the function to fill in the table.

In h	$8h - 8 + 3$
2	
4	
6	
8	
10	

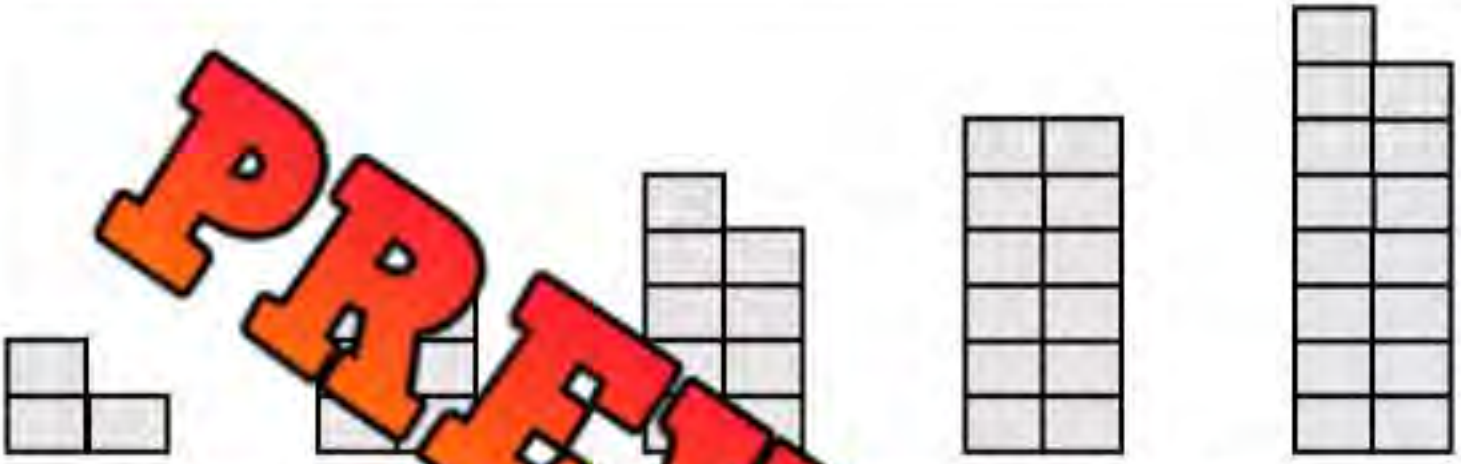
Name: _____ 28

Curriculum Connection
P6.1

Growing Pattern Challenge

Instructions Answer the question below using a table of values and a graph

Joel has created a pattern using his blocks. Translate the pattern using the table of values and graph.



Term Number	Term Value

1) How many blocks would Joel use in his 10th shape if he continued his pattern?

2) Write an expression that represents the function

3) Which shape would use 63 blocks?

Name: _____ 29

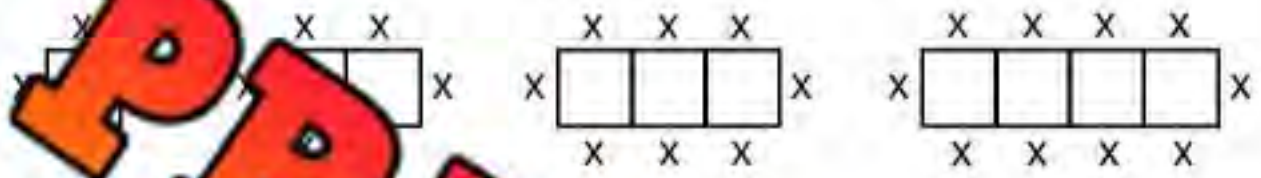
Curriculum Connection
P6.3

Picnic Word Problem – T-Tables

Challenge Answer the word problem below. Use the T-Table to help.

You have been put in charge of organizing the end of the year banquet for your baseball team. You want to have as many seats as you can.

The diagram below shows how many people can sit at the tables.



a) Fill in the t-table to learn the pattern of how many people can attend the banquet.

Tables	1			4	5
# of Seats					

b) Write an algebraic expression that represents the

c) How many people could you seat if you had...

i) 10 tables: _____

ii) 15 tables: _____

d) What if you didn't put the tables together? Would 8 tables together fit more or less than 8 tables apart?

Name: _____ 30

Curriculum Connection
P6.1

Patterning – Growing Baby

Challenge Answer the question below. Show your thinking!

A baby grows much faster than an adult. Babies can gain 3 grams of weight every hour!

a) If a b[illegible]was born weighing 4000 grams, how much would it weigh after 5 days? [illegible] table of values.

b) Write an algebraic expression that repre[illegible]th

c) How much would the baby weigh in kilograms after 10 days?
Remember, 1000g = 1kg

Name: _____ 31

Curriculum Connection
PA.1

Finding Term N – Word Problems

Word Problem	Use a table of values and find the n^{th} term

Colton has been saving money since he was 5 years old. He is now 15. He saved $25 when he was 1, $45 when he was 2, $65 when he was 3 and $85 when he was 4.

a) Write a table of values to represent the situation.

b) Write an algebraic expression for the function.

c) How much will he save when he is 10?

d) How much will he save when he is 20?

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: ____________________

Lucas collects art supplies and adds 4 new it[illegible] his collection every month. [illegible]d with 20 items.

1) [illegible] expression [illegible] represe[illegible]tal number of [illegible] sup[illegible]

2) How many art [illegible] Lucas have after 2 [illegible]

Name: ____________________

Lucas collects art supplies and adds 4 new items to his collection every month. He started with 20 items.

1) Write an algebraic expression that represents the total number of art supplies.

2) How many art supplies will Lucas have after 2 years?

Name: ____________________

Lucas collects art supplies and adds 4 new items to his collection every month. He started with 20 items.

1) Write an algebraic expression that represents the total number of art supplies.

2) How many art supplies will Lucas have after 2 years?

Name[illegible] ____________________

Lucas colle[illegible] art [illegible] [illegible]ds 4 new items to his [illegible] month. He started with [illegible] [illegible]s.

1) Write an algebraic e[illegible]pression that represents the total number of art supplies.

2) How many art supplies will Lucas have after 2 years?

Name: _____ 34

Curriculum Connections
PS.1

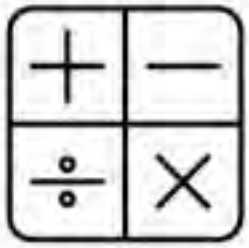
Task Cards: Patterning – All Operations

Objective	What are we learning about?

To recognize and create patterns using the four basic mathematical operations.

Materials	What you will need for the activity.

- 24 t
- [illegible] for answers
- Pen



Instructions	[illegible] the activity

1. Introduce the concept of p[illegible]s i[illegible]erations and their relevance to problem-solving in everyday life.
2. Organize the students into pairs and provide [illegible] pair [illegible] sets of task cards.
3. Give each pair an answer recording sheet to [illegible]
4. Encourage teamwork by having students collaborate [illegible] ding solutions.
5. Allow students to select any task card to begin with, emphasizing th[illegible] can complete the cards in any order they prefer.
6. Instruct students to write their answer on the recording sheet.
7. Consider using a timer to create a dynamic challenge, adjusting the duration to fit the lesson's objectives and complexity.
8. After the activity, review the answers collectively, discussing any challenging patterns and strategies used to solve them.
9. Have students reflect on the activity, sharing the methods they applied and obstacles they overcame.

Name: _____ 35

Curriculum Connection
PS.1

Task Cards | Cut out the task cards below

Card 1

Alex saves $1 in week 1, $2 in week 2, $4 in week 3, and $8 in week 4. How much will he save in week 7?

Card 2

A savings account starts with $200. Each month, $50 is deposited and $10 is withdrawn. What will the balance be after 1 year?

Card 4

A movie theater has 50 seats in the first row, 55 in the second row, 60 in the third row. How many seats are there in the sixth row?

Card 5

The number of visitors to a park is 100 in the first week, 150 in the second week, 200 in the third week. How many visitors are expected in the 52nd week?

Card 7

A tree is 1 meter tall. Each year, it grows 0.5 meters. How tall will the tree be in the 15th year?

Card 8

A worker earns $100 per day but spends $30 on transportation and food. How much will the worker save after 30 days?

Name: _____ 36

Curriculum Connection PS.1

Task Cards | Cut out the task cards below

Card 9

A sequence starts at 6 and is multiplied by 4 each term. What is the 4th term?

Card 10

A runner jogs 3 km on the first day, 6 km on the second day, 9 km on the third day. How many kilometers will the runner jog on the twelve day?

Card 12

A plant grows 2 cm every day for a week, [illegible] doubles its growth rate every week. [illegible] is its growth on the fourth week?

Card 13

A factory produces 250 units but 50 are defective and removed each day. How many units will be produced in total after 15 days?

Card 15

A gardener plants 12 seeds but 3 seeds do not sprout each week. How many seeds will sprout after 8 weeks?

Card 16

A sequence starts at 68 and decreases by 2, then by 4, then by 6. What is the value of the 7th term?

Name: _____ 37

Curriculum Connection PK-1

Task Cards | Cut out the task cards below

Card 17

Becky saved $50 in January, $75 in February, and $100 in March. How much will she save in June?

Card 18

A pattern starts at 4 and doubles every month. What is the value of the pattern in the 5th month?

Card 20

Sarah collects 5 shells in the first week, 8 shells in the second week, and 11 in the third week. How many shells will she collect in the sixth week?

Card 21

A runner jogs 2 km on the first day, 4 km on the second day, and 8 km on the third day. How many kilometers will the runner jog on the seventh day?

Card 23

If a sequence starts at 5 and triples each time, what is the 4th term?

Card 24

A student completes 10 math problems but makes 2 mistakes each day. How many correct problems will the student complete in 25 days?

Name: _____ 38

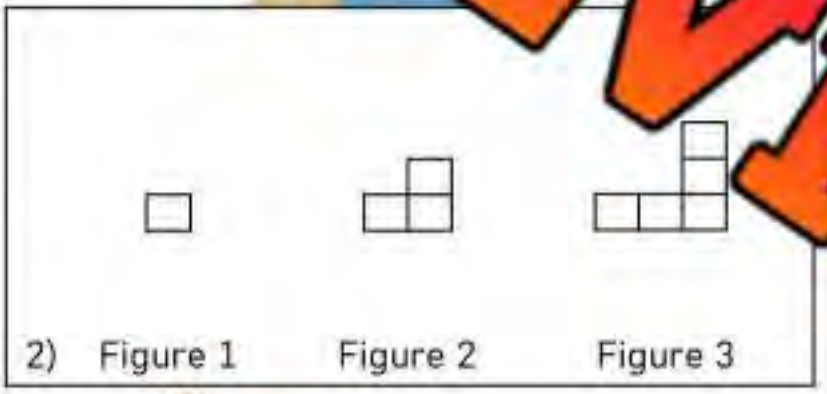
Curriculum Connection
P6.1

T-Tables – Finding Patterns

Instructions Fill in the T-Tables by counting the lines in each figure

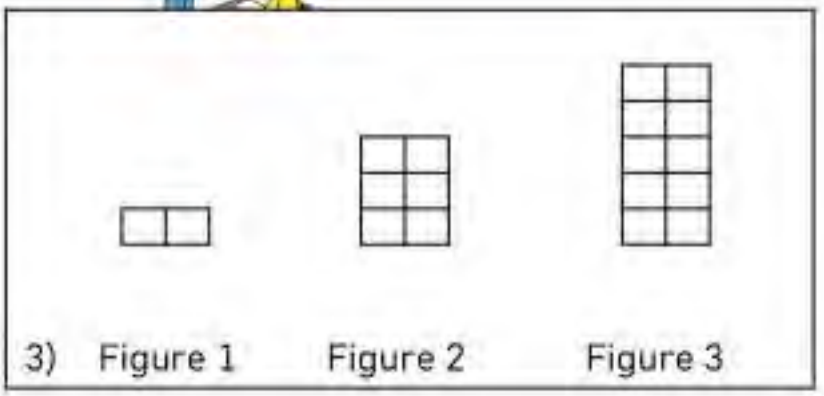
1) Figure 1 Figure 2 Figure 3

Algebraic Expression	
Figure	**Lines**
1	7
2	
3	
5	



2) Figure 1 Figure 2 Figure 3

Algebraic Expression	
Figure	**Lines**
2	
3	
10	



3) Figure 1 Figure 2 Figure 3

Algebraic Expression	
Figure	**Lines**
1	
2	
3	
10	

Name: _____ 39

Curriculum Connection
P6.1

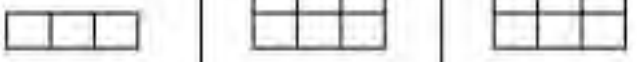
Growing Patterns

Instructions How many blocks are in each term. Sketch the next 3 terms

1)

a) Represent the function using an algebraic expression:	
b) How many blocks will the 10th term have?	
c) How many blocks will the 30th term have?	

2)



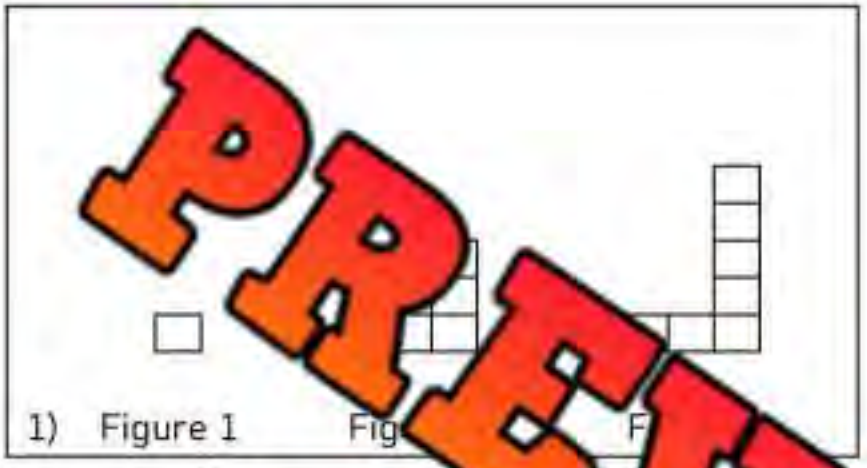
a) Represent the function using an algebraic expression:	
b) How many blocks will the 20th term have?	
c) How many blocks will the 30th term have?	

Name: _____ 40

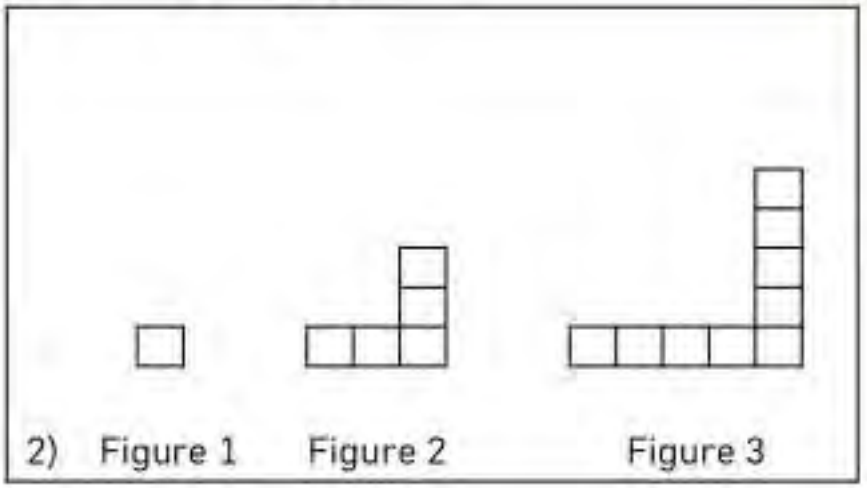
Curriculum Connection
P6.1

T-Tables – Finding Patterns

Instructions Fill in the T-Tables by counting the lines in each figure



1) Figure 1 Fig F



2) Figure 1 Figure 2 Figure 3

Algebraic Expression	
Figure	**Lines**
1	
2	
3	
5	
8	
	94

Alge Expression	
Figure	**Lines**
1	
2	
3	
	52
	100
	112

Name: _____ 41

Curriculum Connection
PA.1

T-Tables – Drawing Blocks

Instructions Fill in the T-Tables and draw figure 4

1) Figure 1 Figure 2 Figure 3 Figure 4

Algebraic Expression	
Figure	**Lines**
1	
2	
3	
4	
	46
	118

2) Figure 1 Figure 2 Figure 3 Figure 4

Algebraic Expression	
Figure	**Lines**
1	
2	
3	
4	
	47
	77

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

a) Draw the next figure.

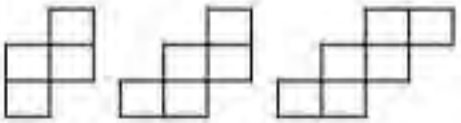
b) Write the algebraic expression:

c) Write the number of lines that represents the figure sequence.

Figure	Lines
1	_____
4	_____
8	_____

Name: _____

a) Draw the next figure.



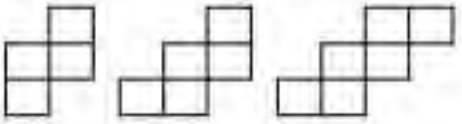
b) Write the algebraic expression:

c) Write the number of lines that represents the figure sequence.

Figure	Lines
8	_____

Name: _____

a) Draw the next figure.



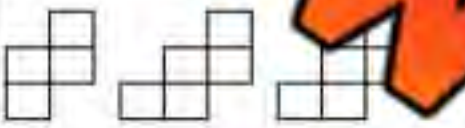
b) Write the algebraic expression:

c) Write the number of lines that represents the figure sequence.

Figure	Lines
1	_____
4	_____
8	_____

Name: _____

a) Draw the next figure.



b) Write the algebraic expression:

c) Write the number of lines that represents the figure sequence.

Figure	Lines
1	_____
4	_____
8	_____

Name: _____ 43

Quadratic Connections P6.1

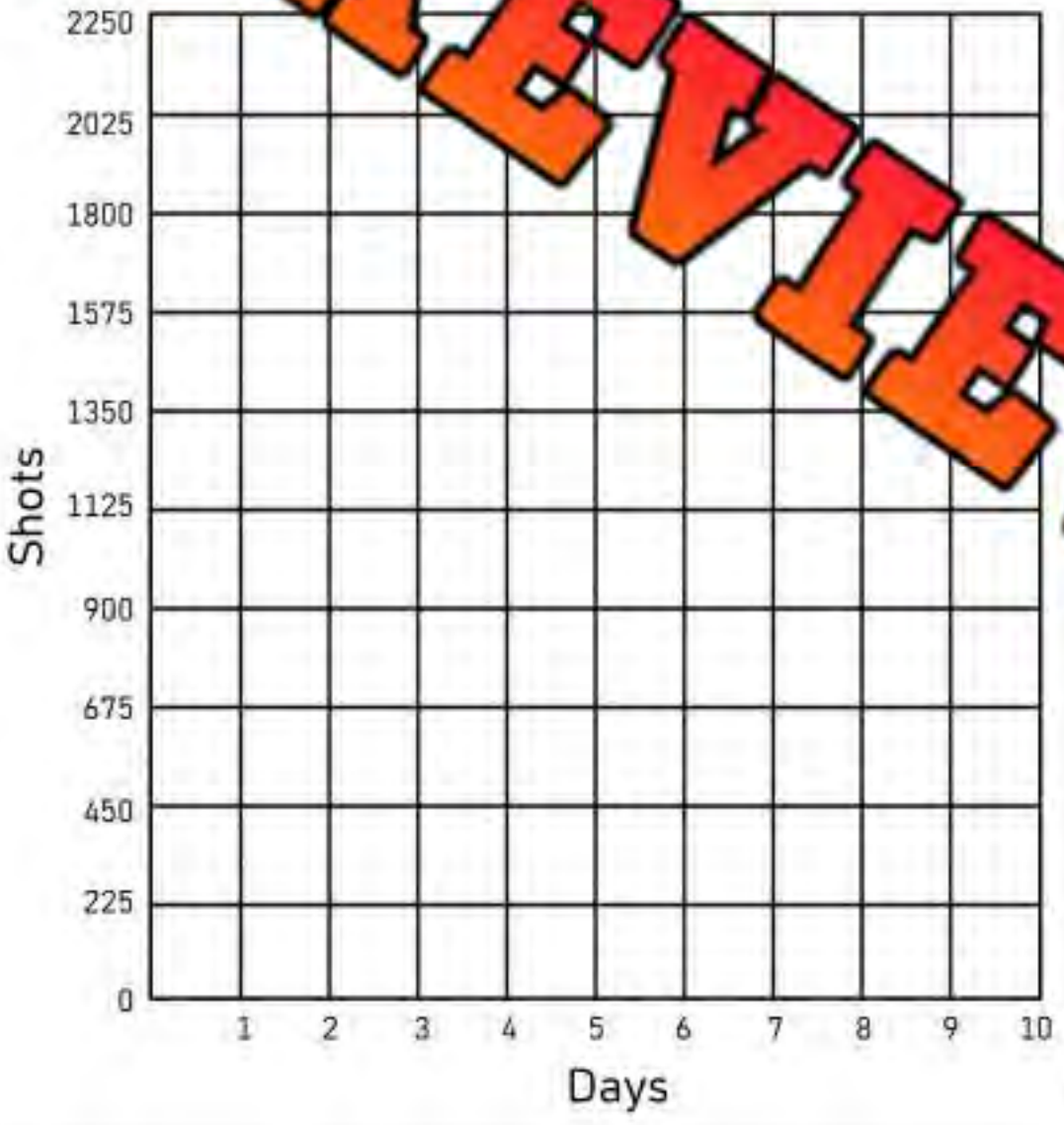
Basketball Skills Challenge

Instructions Complete the table of values and graph the results

Connor is practicing his shooting skills in basketball. He decides to take 225 shots each day for 10 days.

Term Number (Day	1	2	3	4	5	6	7	8	9	10
Term										

Functi	ssion



Questions

1. Which day did Connor finish 1500 shots?

_____

2. ...many shots ...nnor take in ...

_____

3. If ...s friend took 300 shots for 7 days, who would have taken more? Explain.

_____

_____

_____

Name: _____ 45

Curriculum Connection
P6.1

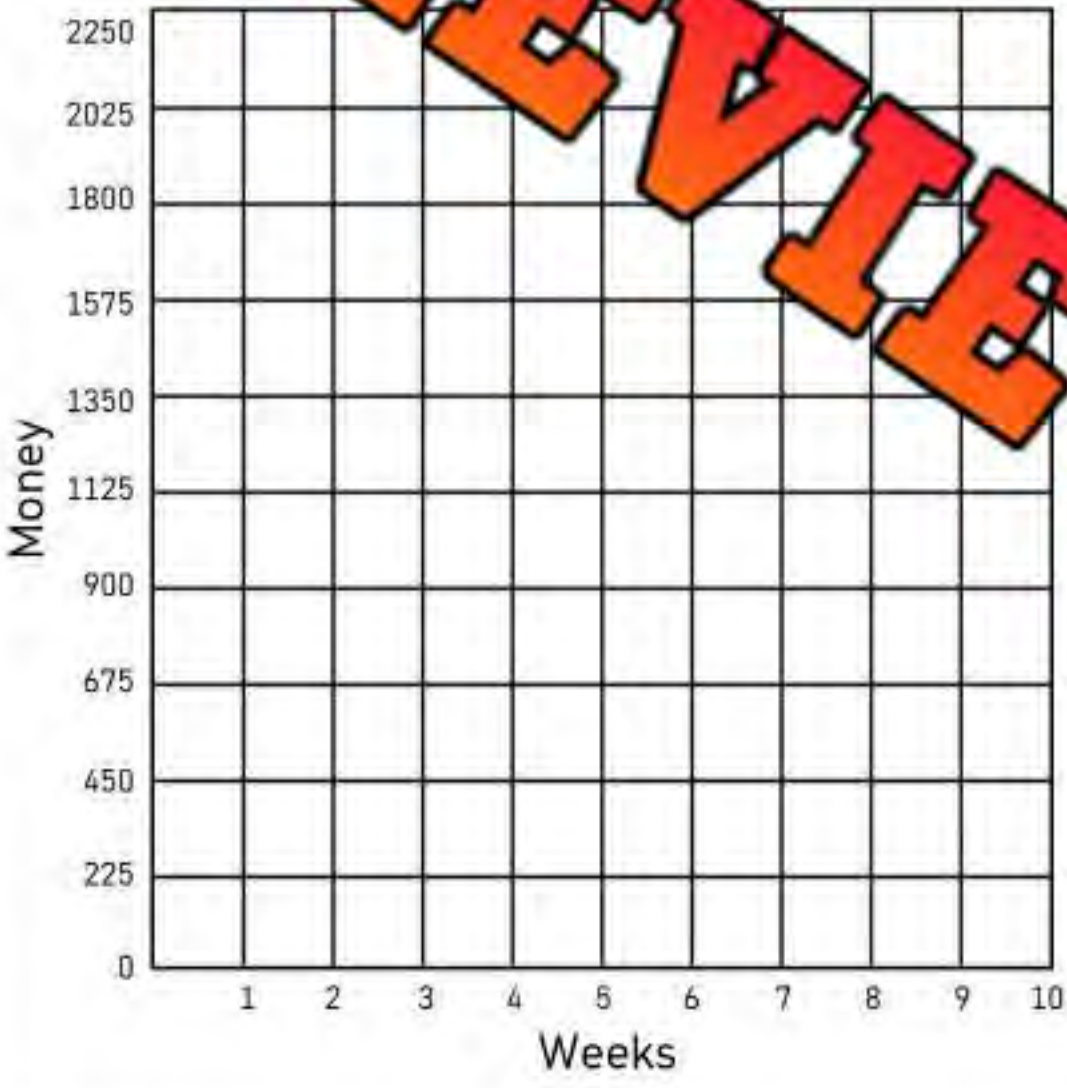
Saving Money

Instructions Complete the table of values and graph the results

Jesse is saving her pay cheques from work each week for 10 weeks. She makes $450 each week. She is hoping she can buy a new bike for $4 000. Fill in the table below to find out.

Term Nu (Wee	1	2	3	4	5	6	7	8	9	10
Ter										

Func	raic E on	



Questions

1. Can Jesse buy her new bike after week 10?

_____

2. How much did she save in 10 weeks?

_____

3. If she kept saving, how many weeks would she need to save $6750.

_____

4. How much money would she have after 13 weeks?

_____

Name: _____ 47

Curriculum Connection
P&A

Patterning Word Problems - Blocks

Challenge | Answer the problems below

Matt is building a structure using blocks. The construction of his structure will be completed in 5 phases.

a) Matt decided to add the same number of blocks during each of the 5 phases. He ha[illegible] different design ideas. Fill in the tables below.

Pha[illegible]	[illegible]
1	[illegible]
2	[illegible]
3	[illegible]
4	22
5	

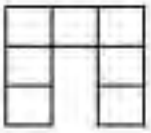
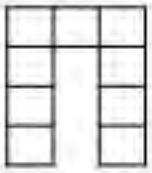
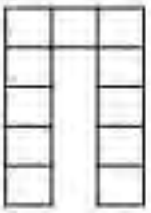
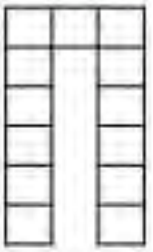
Phases	Blocks
1	
2	12
3	
4	[illegible]
5	[illegible]

Phases	Blocks
1	8
2	
3	
4	
5	36

b) Whoops, Matt made a mistake when he co[illegible]ed [illegible]ble. His structure was supposed to add the same number[illegible]ks d[illegible] phase. Find his error and correct it.

Phases	1	2	3	[illegible]	[illegible]
Blocks	12	17	21		

c) You want to build a house out of blocks, but each block costs $[illegible] have created 4 different design plans. You have $70 to spend. Which design will you choose?

Design	Blocks	$
1		
2		
3		
4		

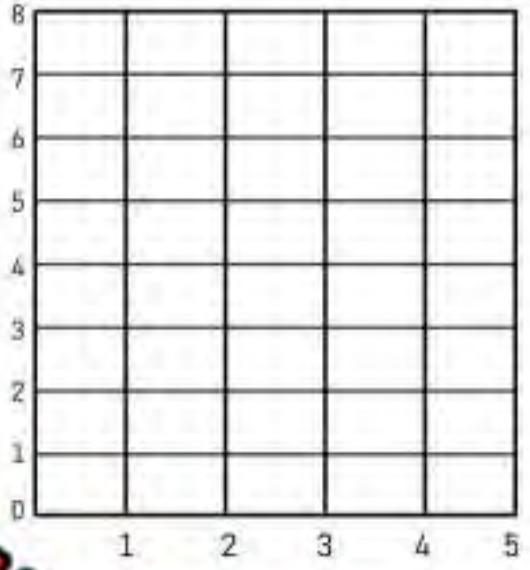
Name: _____ 48

Curriculum Connection TD

Unit Test - Patterning

Part 1 Translate the increasing pattern into a table of values and a graph

Fill in the table of values and the graph by translating the growing pattern below.



Term Number	1	2	3	5	8
Term Value					

Pattern rule: _____

1) How many circles would term 20 have?	
2) Which term number will use 100 circles?	
3) Why is this graph a straight line?	

Curriculum Connection
TG

Part 2 Write an algebraic expression that represents the function

Term Number	Term Value
1	4
2	5
3	6
4	7
5	

Term Number	Term Value
1	3
2	6
3	9
4	12
5	
20	

Term Number	Term Value
1	4
2	9
3	14
4	19
5	
50	

Part 3 Answ[illegible] about the pattern. Draw the 4th figure

Draw Figu[illegible]4

Figure 1

Figure 2

Figure 3

Figure 4

Figure	Term Value
1	

1) What is the pattern rule? Start at ____, _____ each time.

2) How many rectangles would figure 25 have?

3) Write an expression that represents the pattern

Curriculum Connection
TO

Part 4 Answer the question below. Show your thinking!

Steven has $20 in his bank account. He earns $10 for every lawn he mows.

a) How much money does he have after mowing one lawn?

b) How much money does he have after mowing two lawns?

c) [illegible] that represents the number of lawns he cuts and his earnings.

d) Write an algebraic expression that rep[illegible] the

e) After cutting 20 lawns, how much money will Steven have?

f) How much will he have after cutting 52 lawns?

Name: _____ 51

Curriculum Connection P6.3

Equation or Expression?

An **equation** is a mathematical sentence which states that one or more quantities are equal. Equations have an equal sign with values on both sides to show they are equal. An **expression** is a mathematical sentence that does not have an equal sign.

Equation = 3 + n = 21 or 32 ÷ 4 = 8

Expression = 3y + 2 or 49 ÷ n

Think the number sentence an expression or an equation?

1) 2 35 Expressi Eq	2) 42 + y Expression Equation
3) 5y + 9 Expression Equation	4) 1n + 5 E sion Equation
5) 10 – 3 + n = 10 Expression Equation	6) 7 + n Exp uation
7) 12 ÷ 4 = 3 Expression Equation	8) 64 Expression Equation
9) 100 ÷ n + 15 Expression Equation	10) $\frac{25}{n}$ + 20 = 25 Expression Equation
11) $\frac{40}{n}$ – 5 Expression Equation	12) 67 + 3 – n ÷ 5 Expression Equation

Name: _____ 52

Curriculum Connection
P&S

Equation or Expression?

Instructions Is the number sentence an expression or equation?

1) Paul has 20 cookies but needs 30 for his class. $20 + c = 30$	Equation	Expression
2) The pa… the following function: …$n - 1$	Equation	Expression
3) Maria want… …eek. She has already run 22km. 22…	Equation	Expression
4) The cost to enter an am… pa… …r ticket. $25t$	Equation	Expression
5) Jeff works at a garden centre and earns $… …hour. He can figure out his pay by using the follow… $18h$	…n	Expression
6) Bailey made $400 last week working with her mom. She worked 20 hours. $20w = 400$	Eq…	…sion
7) Jane had 200 candies to give away on Halloween. She has 25 left. $200 - c = 25$	Equation	Expression
8) Ashley had 300 candies to give away on Halloween. She will give 3 candies to each kid. How many kids can she give candy to? $300 \div 3 = k$	Equation	Expression
9) Candy bags come in 20 packs. The total number of candies is represented below: $20b$	Equation	Expression

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Is the number sentence an expression or equation? Circle the answer

1) The function representing the growth of a population of rabbits is: $5n - 4$

Expression Equation

2) Sophie is halfway through reading a 300-page book. How many pages does she have left to read?

$150 + p = 300$

Expression Equation

Name: _____

Is the number sentence an expression or equation? Circle the answer

1) The function representing the growth of a population of rabbits is: $5n - 4$

Expression Equation

2) Sophie is halfway through reading a 300-page book. How many pages does she have left to read?

$150 + p = 300$

Expression Equation

Name: _____

Is the number sentence an expression or equation? Circle the answer

1) The function representing the growth of a population of rabbits is: $5n - 4$

Expression Equation

2) Sophie is halfway through reading a 300-page book. How many pages does she have left to read?

$150 + p = 300$

Expression Equation

Name: _____ 54

Curriculum Connection
P6.3

Writing Algebraic Expressions

Using algebraic expressions helps us understand mathematical situations. We can use a variable to replace a changing number, like how many tickets are sold to a game: 10t

Part 1

Write each algebraic expression in words.
Use the words, "a number" in place of the variable

1) $9 - t$

Nine sub[illegible]

2) n[illegible]

3) $6 + b$

4) $12r$

5) $\frac{y}{8} + 5$

Part 2

Write an algebraic expression for each [illegible]

1) Twelve times a number subtract eight

2) Divide a number by seven and multiply it by a different number

3) A number is subtracted by fourteen divided by five

4) Triple a number subtracted by double a different number

5) Divide eighty by a number, then multiply by four

Name: _____ 55

Correlation Expression P6.3

Algebraic Expression - Terms

An **expression** is simply numbers and at least one operation put together without an equal sign. For example, 8 + 2 is an expression.

An **algebraic expression** is when we use a variable in an expression. The **variable** represents an unknown value. We use algebraic expressions to help us solve mathematical situations.

For example, if you were selling lemonade for $2, you could use the following algebraic expression where the variable *c* represents cups sold: $2c$

In an algebraic expression, we have at least one term. A term could be a constant and/or a variable. It could also include a coefficient.

Terms	
Variable	An unknown value that is represented by a letter. We use a letter because the value could change.
Constant	A number on its own. It does not include any variables. Therefore, the number is always the same.
Coefficient	A number used to multiply a variable
Term	Is either a single number or a variable, or numbers and variables multiplied together

Instructions Answer the questions below about the expression provided

Expression	5n – 3y – 8 + 4
List the variables	
List the constants	
List the coefficients	
How many terms are there?	

Name: _____ 56

Curriculum Connection P63

Algebraic Expression - Terms

Part 1 Answer the questions below about the expression provided

Expression	$9 - 3n + 30t - (2y + 7x) - 5$
List the variables	
List the c nts	
List the	
How terms ?	

Expre	$\frac{32}{n} + 7m + 125 + 3b - 75 + 2 \times 5$
List the variables	
List the constants	
List the coefficients	
How many terms are there?	

Part 2 Write your own expressions by following th str

1) Write an expression that has 4 terms, 3 coefficients, 3 variables, constant
2) Write an expression that has 5 terms, 3 coefficients, 4 variables, and 1 constant
3) Write an expression that has 6 terms, 2 coefficients, 3 variables, and 3 constants

Name: _____ 57

Curriculum Connections
P6.3

Writing Algebraic Expressions - Treats

A mathematical expression is similar to an equation, but it does not have an equal sign. We use expressions to describe a mathematical situation.

Instructions Write the expressions for the situations below

1) Lindsay ... *y* amount of cookies. She gives 32 cookies away to the students in her class.

Expression: _____

2) Co... cuts ... ies into *b* pieces. She eats 2 brownies.

Expression: _____

3) Alyse makes *c* ... kes ... lly with her 4 friends.

Expression: _____

4) Hani gives 2 freezies to eac... his ... nds.

Expression: _____

5) Scott has 11 sodas in his fridge and buys ... sod...

Expression: _____

6) Dan buys 2 dozen donuts and eats *d* number of don... bro...

Expression: _____

7) Steve buys *x* number of cookies and gives 15 to his staff.

Expression: _____

8) Alexa has 35 suckers that she shares equally with her *f* number of friends.

Expression: _____

9) Brian has 200 gummy worms and takes *n* number of gummies from his brother.

Expression: _____

10) Howard gives 3 books each to *s* number of students.

Expression: _____

Name: _____ 58

Curriculum Connection
P6.3

Finger Signals Quiz - Understanding Algebraic Expressions

Objective What are we learning about?

Students will reinforce their understanding of algebraic expressions through an interactive finger signals quiz.

Materials ...ou will need for the activity.

- A list of q...

Instructions How ... ...mple... ...ctivity

1. Prepare a list of questions with ...swer ... labeled A, B, C, and D.
2. Explain the finger signals for each answ... ...ice: ... for A, two fingers for B, three fingers for C, and four finger... D.
3. Inform the students they will show their answer ... fi... ...n... when you read each question.
4. Read the first question aloud clearly and repeat if necessary.
5. Give students a few moments to think about their answer and decide independently.
6. After a countdown (e.g., "3, 2, 1"), have all students show their answer simultaneously by raising the appropriate number of fingers.
7. Reveal the correct answer and explain why it is correct.
8. Repeat with different questions to reinforce understanding of algebraic expressions.

Name: _____ 59

Question	A	B	C	D
A musician practices m hours each day for 7 days. What is the total practice time?	7+m	7−m	7m	m ÷ 7
A cyclist rides d kilometers per day for 5 days. What is the total distance?	5+d	5−d	5d	d ÷ 5
A library has b books and gives away 3. How many books are left?	b+3	b−3	3b	b ÷ 3
Mia collects s stamps every month. How many [illegible] does she collect in 3 months?	3+s	3−s	3s	s ÷ 3
Ben [illegible] for a week (7 da[illegible] [illegible]tance?	7+r	7−r	7r	r ÷ 7
A factory [illegible]oduce[illegible] ev[illegible] hour for 8 hou[illegible] pro[illegible] in total?	8+p	8−p	8p	p ÷ 8
Lily has t toys and give[illegible] friends. How many toys do [illegible]e left?	[illegible]	t−4	4t	t ÷ 4
David collects c coins every day. How many coins does he collect in 10 days?	10+c	10−c	10c	c ÷ 10
Olivia reads p pages every day. How many pages does she read in a week (7 days)?	[illegible]	[illegible]	7p	p ÷ 7
James has b balloons and gives 3 away. How many balloons are left?	b+3	[illegible]	[illegible]	b ÷ 3
Emma writes p pages of her book each day for 5 days and then tears out 3 pages. How many pages are left?	5p−3	5p+3	[illegible]	5 x p ÷ 3
Alex has q quarters. He buys a toy that costs $2 (8 quarters). How many quarters does he have left?	q ÷ 8	q+8	q x 8	q−8
A pizza is cut into s slices. Tom eats 3 slices. How many slices are left?	s+3	s−3	3s	s ÷ 3
Kate has m marbles. She buys 7 more and then loses 2. How many marbles does she have now?	m x 7	m+2−7	m+7−2	m ÷ 2
John has t toys. He gives 5 to his friend and then buys 3 more. How many toys does he have now?	t−5+3	t+5−3	5t + 3	t ÷5 + 3

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Write the expressions for the situations below

1) Emma collects c coins each day. She starts with 20 coins. Write an expression for the total number of coins she has after 4 days.

2) Jack has b books. He buys 5 books every month. Write an expression for the total number of books he has after 6 months.

Name: _____

Write the expressions for the situations below

1) Emma collects c coins each day. She starts with 20 coins. Write an expression for the total number of coins she has after 4 days.

2) Jack has b books. He buys 5 books every month. Write an expression for the total number of books he has after 6 months.

Name: _____

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Name: _____

Write the expressions for the situations below

1) Emma collects c coins each day. She starts with 20 coins. Write an expression for the total number of coins she has after 4 days.

2) Jack has b books. He buys 5 books every month. Write an expression for the total number of books he has after 6 months.

Name: _____ 61

Curriculum Connection P6.3

Evaluating Algebraic Expressions

Part 1 Evaluate the following expressions for x = 4

1) $x + 16$	2) $10x$	3) $63 - x$	4) $x \div 2$
5) $16 \div$	6) $12x$	7) $4x - x$	8) $12 \div x + 8$

Part 2 E the xpressions for y = 7 and n = 5

1) $y - n + 22$	2) 5	$- y + n$	4) $y \div 7 + n$
5) $35 \div y + 5$	6) $11n - y$	+ 1	$60 \div n + y$

Part 3 Evaluate the following expressions for x = 9 and p = 3

1) $x + p - 10$	2) $10x + (2p)$	3) $54 \div x - p$	4) $x + 9 + (3p)$
5) $18 \div x + (5p)$	6) $9x - (18 - p)$	7) $6x - 5p$	8) $8p + 3x$

Name: _____ 62

Curriculum Connection
P6.3

Evaluating Algebraic Expressions

When solving an equation, you need to follow the order of operations. This means you have to solve the equation in the correct order, not just from left to right. Using BEDMAS helps us remember the order to solve.

1. Brackets 2. Exponents 3. Division or Multiplication (whichever is first) 4. Addition or Subtraction (whichever is first)

Example 2
2 + (
2
2 +
24

Example 2 $y = 5$
$y - (1 + 2)$
$5 - (1 + 2)$
$5 - 3$

Example 3 $y = 3$
$10 - 3 \times y$
$10 - 3 \times 3$
$10 - 9$
1

Part 1 Evaluate the following expressions for x = 4

1) $x + 15 - 3$	2) 4 +	3) $42 - 2x$
4) $4 \times 9 \div x$	5) $11x - (5 + 5)$	x

Part 2 Evaluate the following expressions for y = 6

1) $y + 7 - 2 \times 5$	2) $6 + 7y - 4$	3) $100 - 2y \times 2$

Name: _____ 63

Curriculum Connection
P6.3

Order of Operations – Who's Right?

Instructions Ben and Dan both answered the questions below. Circle Who's right

	Question	Ben's Answer	Dan's Answer
1	$y = 3$ $2 + (y + 5)$	10	8
2	$y = 5$ $5y$	10	0
3	$y = 3$ $y + 3 \times 4$	15	11
4	$y = 6$ $3y + 5$	23	33
5	$y = 8$ $y - 4 \div 2$	2	
6	$y = 4$ $y + (8 - 3) \times 2$	14	18
7	$y = 7$ $y - 2 \times (5 - 2)$	1	15
8	$y = 20$ $100 \div (5 + y)$	40	4

Name: _____ 65

Curriculum Connection
P6.3

Evaluating Algebraic Expressions

Part 1 Evaluate the following expressions for x = 4

1) $x + 16$	2) $10x$	3) $63 - x$	4) $x \div 2$
5) $16 \div$	6) $12x$	7) $4x - x$	8) $12 \div x + 8$

Part 2 Ev the f pressions for y = 7 and n = 5

1) $y - n + 22$	2)	8 – y + n	4) $y \div 7 + n$
5) $35 \div y + 5$	6) $11n - y$	+ 15	60 ÷ n + y

Part 3 Evaluate the following expressions for x = 9 and

1) $x + p - 10$	2) $10x + (2p)$	3) $54 \div x - p$	4) $x + 9 + (3p)$
5) $18 \div x + (5p)$	6) $9x - (18 - p)$	7) $6x - 5p$	8) $8p + 3x$

Name: _____ 66

Curriculum Connection
P6.3

Writing Expressions

There are an endless number of expressions that represent the same number.
For example, both of the expressions below equal 10

when $y = 5$			
Equation 1	$y + 5$	**Equation 2**	$4y - 10$

Part 1 Write four different expressions that represent the number 8. Use $y = 3$.

1)	2)
3)	

Part 2 Write four different expressions using more than one operation that represents the number 6. Use $y = 10$

1)	2)
3)	4)

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Write four different expressions using more than one operation that represent the number 12. Use y = 8

1) _____

2) _____

3) _____

4) _____

Name: _____

Write four different expressions using more than one operation that represent the number 12. Use y = 8

1) _____

2) _____

3) _____

4) _____

Name: _____

Write four different expressions using more than one operation that represent the number 12. Use y = 8

1) _____

2) _____

3) _____

4) _____

Name: _____

Write four different expressions using more than one operation that represent the number 12. Use y = 8

1) _____

2) _____

3) _____

4) _____

Name: _____ 68

Curriculum Connection P63

Addition – Are They Equal?

Are the equations equal? Put a slash through the equal sign for any equations that are not equal.

8 + 4 = 12 23 + 15 ≠ 36 47 + 13 = 50

Instructions Put a slash through the equal sign (≠) if it is not balanced

[illegible]	2) 43 + 10 = 63	3) 41 + 13 = 55
4) 58 + 12 = 6[illegible]	5) [illegible] = 77	6) 82 + 15 = 98
7) 92 + 5 = 97	8) 1[illegible] + 13 = [illegible]	9) 114 + 7 = 122
10) 125 + 15 = 150	11) 137 + 11 = 149	12) [illegible] 58
13) 12 + 144 = 158	14) 171 + 14 = 185	15) 166 + 20 = 186
16) 192 + 8 = 200	17) 180 + 13 = 193	18) 155 + 26 = 181
19) 210 + 50 = 250	20) 212 + 12 = 224	21) 255 + 40 = 285

Name: _____ 69

Curriculum Connection
P6.3

Pre-Algebra – Balancing Addition Equations

Balancing equations means both sides of the equal sign must be the same.

Examples:

$37 + 15 = \boxed{52}$ (52 above 37 + 15)

$46 + 32 = \boxed{78}$ (78 above 46 + 32)

Instructions: Fill in the missing number to balance the equation

1) 4[illegible] = [ ]	2) 53 + 9 = [ ]	3) 67 + 12 = [ ]
4) 15 + [ ] = 30	[illegible] + [ ] = 57	6) 68 + [ ] = 81
7) [ ] + 12 = 95	8) [ ] + 25 = [illegible]	[ ] + 59 = 66
10) 72 + 14 = [ ]	11) 64 + [ ] = 80	[illegible] 65
13) 68 + [ ] = 82	14) 83 + 15 = [ ]	15) 89 + [ ] = 102
16) 105 + [ ] = 116	17) 121 + 14 = [ ]	18) 145 + [ ] = 160
19) 177 + [ ] = 198	20) 215 + 41 = [ ]	21) 217 + [ ] = 229

Name: _____ 70

Curriculum Connection
P6.3

Addition – Find the Variable

A **variable** is a letter that represents an unknown number. When we don't know a number, we can use a letter to take the place of the unknown number.

Example: 15 + n = 35

We can figure out the unknown number by balancing the equation. In this equation, n = 20.

Part 1 Find out the value of the variable

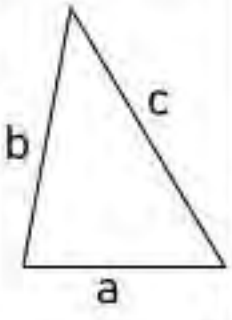
n =	n + 13 = 20 n =	27 + n = 35 n =
41 + 1 p =	+ p = 51	p + 48 = 79 p =
85 + y = 101 y =	y	124 + 15 = y y =
165 + t = 181 t =	190 + t = t =	205 + t = 220 t =
231 + a = 245 a =	256 + a = 271 a =	2 = 285
281 + 9 = s s =	290 + n = 300 s =	s + 1 300 s =

Part 2 The formula for calculating the perimeter of a shape is to add the side lengths

Find the perimeter with the measurements given for the 3 side lengths.

1) a=4 b=7 c=10	P=
2) a=7 b=12 c=16	P=
3) a=9 b=17 c=23	P=

4) a=12 b=25 c=30	P=
5) a=19 b=31 c=45	P=
6) a=15 b=23 c=36	P=



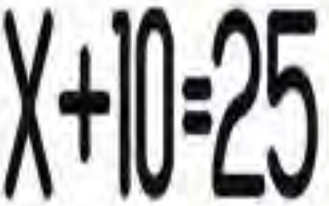
Name: _____ 71

Curriculum Connection
PK-3

Activity – Math Hot Seat: Addition Challenge

Objective What are we learning about?

Students will practice solving addition problems to find unknown values by participating in a fun and interactive game, enhancing their arithmetic skills and quick thinking.



Material What you will need for the activity.

- Index cards with addition problems
- Chairs arranged in a circle
- Stopwatch
- Whiteboard and marker

Instructions How you will complete the activity.

1. Prepare a stack of index cards with various addition problems. Ensure some problems require finding a missing number.
2. Arrange chairs in a circle with one "hot seat" in front.
3. Explain the rules of the game to the students. One student will sit in the hot seat while the rest sit in the surrounding chairs.
4. The teacher will read an addition problem from the stack. The student in the hot seat has a limited time (e.g., 30 seconds) to solve the problem.
5. If the student in the hot seat answers correctly within the time limit, they stay in the hot seat for the next round. If they answer incorrectly or run out of time, they switch places with another student from the circle.
6. Continue the game until each student has had the opportunity to sit in the hot seat multiple times, or until the designated game time is up.
7. Keep track of the number of correct answers each student provides while in the hot seat. The student with the most correct answers at the end of the game wins.

Name: _____ 72

Curriculum Connection
1.NBT.4

Index Cards | Use the math problems below

4 + b = 22
15 + ___ = 32
80 + k = 123
___ + 125 = 218
Sam has 5 apples and buys more apples so he has 26 apples. How many apples did he buy?
Jane has [illegible]es and receives more from her friend, totaling 35 candies. How many d[illegible]ive?
75 + p = 149
150 + ___ = 232
[illegible] + a = 222
[illegible] = 240
31[illegible]
14[illegible]
[illegible] = 270
___ + 150 = [illegible]
220 + h = [illegible]
230 + ___ = 256
Mike has 195 books and buys some more, ending up w[illegible] b[illegible] books did he buy?
Emma has 160 dolls and gets some more for her birthday, totaling [illegible]lls. How many did she get?
Tim has 80 marbles and finds some more, ending up with 196 marbles. How many marbles did he find?
Ben has 190 pencils and buys some more to have 360 pencils. How many did he buy?
160 + g = 310
___ + 100 = 420
170 + z = 330
135 + ___ = 210

Name: _____ 73

Curriculum Connection
1N.3

140 + u = 418
150 + ___ = 328
o + 185 = 425
253 + n = 375
___ + 333 = 450
p + 228 = 325
Lucy has 80 crayons and gets more from her mom, totaling 130 crayons. How many did she get?
John has [illegible]s and gets some more from his dad, ending up with 150 toys. How many to[illegible]get?
Ann[illegible] buys some more, so she has 312 balls in total. How many did sh[illegible]y?
Paul has 270 [illegible]d ge[illegible]e more from school, ending up with 400 markers. How [illegible]arker[illegible]t?
[illegible]87
55[illegible]
a[illegible]
[illegible]g = 515
James has 250 keychains and gets some mo[illegible] his [illegible]totaling 330 keychains. How many did he get?
Noah has 400 cards and buys some more, so he h[illegible]rds in[illegible]How many did he buy?
Sarah has 50 stickers and gets some more, so she has 15[illegible] stic[illegible]w many did she get?
Alex has 160 stamps and buys some more, ending up with 250 stam[illegible]How many did he buy?
260 + k = 480
___ + 301 = 428
Jake has 190 coins and buys some more, so he has 319 coins in total. How many did he buy?
Tom has 170 erasers and finds some more, so he has 310 erasers in total. How many erasers did he find?
Mia has 140 ribbons and gets more from her friend, totaling 214 ribbons. How many did she get?

Name: _____ 74

Curriculum Connection
P6.3

Using Variables to Solve Addition Equations

There are some instances where we know the values of variables and need to plug them into an equation. For example:

a + b + c = ? a = 7 b = 9 c = 11

7 + 9 + 11 = 27

Instruct. Solve the equations

a + b = 10 c = 8 _____ + _____ = _____	n + y + t = n = 6 y = 14 t = 8 _____ + _____ + _____ = _____
c + r + p = c = 9 p = 8 _____ + _____ + _____ = _____	+ k = g = 15 h = 9 k = 7 _____ + _____ = _____
e + c + g = e = 9 c = 6 g = 14 _____ + _____ + _____ = _____	c = b = 15 c = 8 _____ + _____ = _____
a + b + c = a = 14 b = 12 c = 11 _____ + _____ + _____ = _____	n + y + t = n = t = 12 _____ + _____ + _____ = _____
c + r + p = c = 19 r = 10 p = 8 _____ + _____ + _____ = _____	g + h + k = g = 25 h = 20 k = 15 _____ + _____ + _____ = _____
e + c + g = e = 30 c = 13 g = 17 _____ + _____ + _____ = _____	a + b + c = a = 22 b = 31 c = 21 _____ + _____ + _____ = _____

Name: _____ 75

Curriculum Connection
P6.3

Adding Decimals – Solve the Variable

Practice Find the value of the variables below

1) 3.5 + n = 5 n =	2) n + 2.5 = 5 n =	3) s + 3.7 = 4 s =
4) [illegible] = p	5) 8.2 + p = 10 p =	6) 9.1 + r = 10.5 r =
7) 14.7 [illegible] n =	[illegible] + 16.5 = 18.5 n =	9) t + 11.4 = 15 t =
10) 22.2 + n = 23.1 n =	11) [illegible]	12) 31.6 + 5 = p p =
13) 42.6 + n = 44.1 n =	14) 52.8 + [illegible].2 n =	[illegible]3.4 + s = 68.5 [illegible]
16) 77.5 + s = 81.5 s =	17) 85.4 + 2.2 = s s =	18) [illegible]

Word Problem Solve the questions below

1) Jake has 2.5 pizzas left over from last night. His friend brings over some more pizza. They now have 4.5 pizzas. How much pizza did his friend bring?

2) Kelly is 1.2 meters tall. She hopes to grow to be 1.7 metres tall. How much will she have to grow?

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Solve the questions below.

Chloe has a rope that is 9.6 meters long. She attaches a small rope to it. It is now 13.3 metres long. How long was the small rope?

Name: _____

Solve the questions below.

Chloe has a rope that is 9.6 meters long. She attaches a small rope to it. It is now 13.3 metres long. How long was the small rope?

Name: _____

Solve the questions below.

Chloe has a rope that is 9.6 meters long. She attaches a small rope to it. It is now 13.3 metres long. How long was the small rope?

Name: _____

Solve the questions below.

Chloe has a rope that is 9.6 meters long. She attaches a small rope to it. It is now 13.3 metres long. How long was the small rope?

Name: _____ 77

Curriculum Connection P6.3

Equation Pairs - Addition

When we add numbers or variables (letters) together, we can change the order of the numbers/letters without affecting the answer. This is called the **communitive property.**

Directions: Isaac works at a fast-food truck. He sells burgers (b) and fries (f). His job is to calculate how much the customer owes in total (t) for their order.

Instructi Write 2 equations for the orders below

#	Fri…	…ur…r	Equation 1 (f + b = t)	Equation 2 (b + f = t)
1	3		3 + 8 = 11	8 + 3 = 11
2	5			
3	3	6		
4	7	8		
5	5	9		
6	7	6		
7	3	4		
8	5	7		
9	7	9		
10	5	8		

Name: _____ 78

Curriculum Connection P6.3

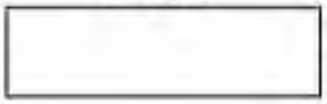
Addition Equations – Perimeter of a Rectangle

When we calculate the perimeter of a rectangle, we need to add all the sides together. The order of how we decide to add the sides together will not affect the answer due to the communitive property of addition.

Formula 1: $p = a + b + a + b$

$p = 12 + 4 + 12 + 4$

$p = 32$



Formula 2

$p = 2(a + b)$

$p = 2 \times (12 + 4) = 32$

Part 1 Write 2 equations for the side lengths below

#	Side length A	Length B	Equation 1	Equation 2
1	7			
2	5			
3	9			
4	11	8		
5	13	16		
6	20	17		
7	17	11		
8	22	14		
9	19	22		
10	27	14		

Part 2 Using multiplication and addition, write two equations for the side lengths

#	Side length A	Side Length B	Equation 1	Equation 2
1	7	3	2(7 + 3) = 20	2(3 + 7) = 20
2	5	4		
3	9	5		
4	6	8		

Name: _____ 79

Curriculum Connection
P6.3

Writing Addition Equations – Candy Shop

Alice works at a candy shop. She sells suckers (s), gum (g), and chocolate bars (b). Her job is to calculate how much their order costs (c).

Instructions Write the equation and find the answer

#	tomers Order ($)	Equation	Answer
1	g = 5 b = 8 s = 9	c = g + b + s c = 5 + 8 + 9	22
2	g = b =		
3	g = 7 s = 15		
4	g = 9 b = 8 s = 5		
5	b = 15 s = 12		
6	g = 31 b = 16		
7	g = 24 b = 18 s = 16		
8	g = 38 s = 24		

Name: _____ 80

Curriculum Connection P6.3

Word Problems – Writing Addition Equations

Instructions | Answer the questions below

1) Alex and Ryan had 37 points together in a basketball game. Ryan had 21 points. Which equation will tell us how many points Alex had?

a + 21 = 37	37 + 21 = a
21 + a = 37	21 – a = 37

2) B... $75 together at work. Bruce can't remember how much he ma... Ha... made $39. Which equation will tell us how much Bruce made?

... + 39	39 + b = 75
...	75 + 39 = b

3) Mary and Brianna found 121 ... Mary found 65. Which equation will tell us how many Bria... ...nd?

121 + b = 65	65 ...
b + 65 = 121	... 65

4) Brad scored 38 points in a basketball game. He had 12 point... Which equation will tell us how many points he had in the seco... ha...

p + 38 = 12	38 + 12 = p
38 + p = 12	12 + p = 38

5) It snowed 31cm in two days. The first day it snowed 14cm. Which equation will tell us how much it snowed the second day?

s + 14 = 31	31 + 14 = s
14 + s = 31	31 + s = 14

Name: _____ 81

Curriculum Connection P6.3

Word Problems – Solving Addition Equations

Questions | Write the algebraic equations and answer the question

1) Luna drove 321km to get to a friend's house and then they drove to the mall. When they got to the mall, she had driven 418 km in total. How many km did she drive to the mall (m)?

2) Carte[illegible]ints for beating level 1 in a video game. He got 238 more poin[illegible]. How many total points (t) did he have after level 2?

Bonus – He h[illegible]al poi[illegible] beating level 3. How many points did he get in level 3 (L)?

3) The Lakers scored 122 tota[illegible]oints [illegible]ost the Toronto Raptors. Kobe Bryant had 81 points for the Lakers [illegible]any p[illegible]) did the rest of the team have?

4) Wyatt's boat can hold 500 litres of gas. He went out boating [illegible]en he docked the boat after he was done, the tank had 128 litres [illegible]y litres (L) did he use?

5) Leo had $736 in his bank account. He deposited some more money after gardening for a summer. Now he has $980. How much money (m) did he make gardening?

Name: _____ 83

Curriculum Connection P6.3

Math Basketball: Addition Equations Challenge

Objective What are we learning about?

To reinforce students' understanding and application of addition through engaging word problems and a fun basketball shooting game.

Materials What you will need for the activity.

- [illegible] ball (e.g. [illegible]m ball)
- Trash can or [illegible] serve as the hoop
- Index car[illegible] with [illegible] word problems
- Marker or pe[illegible]
- Timer or stopwa[illegible]

Instructions How you wi[illegible]mple[illegible]

1. Divide the class into two teams (or more de[illegible]ng o[illegible] preference).
2. Prepare a stack of index cards with addi[illegible]rd p[illegible] [illegible]range the students so they are seated in two groups, with the tr[illegible]d a[illegible]nable shooting distance.
3. Explain the rules: The teacher will read a word proble[illegible]our[illegible]am to raise their hand gets to answer.
4. If the team answers correctly, they earn a point and get a chance [illegible]t the ball into the trash can for an extra point.
5. If they make the basket, they earn an extra point for their team. If they miss, no extra point is awarded.
6. Alternate turns between the teams, ensuring that each student gets a chance to answer and shoot.
7. Continue the game until all word problems have been answered or the designated game time is up.
8. Tally the points to determine the winning team.
9. Conclude by discussing the strategies used to solve the word problems and reinforcing the concept of addition.

Name: _____ B4

Curriculum Connections
P63

Index Cards | Use the following table for the game.

Maria has 24 apples in total. She picked 10 apples from one tree and 8 apples from another. How many apples did she pick from the third tree (a)?
Jason collected 50 marbles in total. He found 20 marbles in the park and 15 marbles at home. How many marbles did he find at school (m)?
Emily rea ges of her book in total. She read 40 pages on Monday and 30 pages o ow many pages did she read on Wednesday (p)?
Danie 60 toy tal. He received 20 toy cars for his birthday and 25 toy cars from his ma y cars did he already have (c)?
Sarah saw 71 bird he p 20 sparrows and 15 robins. How many pigeons did she see (b)?
Liam built 105 Lego structures in tot uses and 40 cars. How many towers did he build (t)?
Olivia has 28 books. She has 10 novels and t bo any picture books does she have (p)?
Noah drew 77 pictures in total. He drew 30 landscapes 2 p many animal pictures did he draw (a)?
Ava has 33 school supplies. She has 15 pencils and 12 pens. How m erasers does she have (e)?
James collected 200 stamps in total. He collected 123 stamps from his travels and 50 stamps from friends. How many stamps did he buy (s)?
Mia baked 80 cookies. She baked 33 chocolate chip cookies and 25 oatmeal cookies. How many sugar cookies did she bake (c)?
Ethan has 150 toy soldiers in total. He has 75 green soldiers and 54 red soldiers. How many blue soldiers does he have (b)?

Name: _____ 85

Curriculum Connection P63

Index Cards | Use the following table for the game.

Emma has 43 stickers in total. She received 15 stickers from her friend and 10 stickers from her teacher. How many stickers did she already have (s)?
Lucas collected 115 seashells in total. He found 40 seashells on the beach and 35 seashells in the sand. How many seashells did he find in the water (w)?
Sophia b[illegible]andcastles in total. She built 27 sandcastles on Monday and 25 sandcas[illegible]day. How many sandcastles did she build on Wednesday (s)?
Jack [illegible]2 toy t[illegible]tal. He got 13 toy trains for Christmas and 9 toy trains for his birthd[illegible] to[illegible]ins did he already have (t)?
Ella saw 65 anima[illegible] the [illegible]23 monkeys and 19 lions. How many giraffes did she see (a)?
Ryan has 90 blocks. He has 3[illegible]d bl[illegible] blocks. How many green blocks does he have (b)?
Lily has 57 crayons. She has 20 red crayons[illegible]5 blu[illegible] How many yellow crayons does she have (c)?
Oliver drew 80 pictures in total. He drew 37 animals a[illegible]ar[illegible] houses did he draw (h)?
Chloe has 47 balloons. She has 18 red balloons and 15 blue balloon[illegible]w many yellow balloons does she have (b)?
Mason collected 120 baseball cards in total. He got 53 cards from his dad and 48 cards from his friend. How many cards did he already have (c)?
Grace read 154 pages in total. She read 68 pages in the morning and 52 pages in the afternoon. How many pages did she read at night (p)?
Benjamin has 77 cars. He has 22 toy cars and 25 model cars. How many remote control cars does he have (r)?

Name: _____ 86

Curriculum Connection
P63

Subtraction – Are They Equal?

Are the equations equal? Put a slash through the equal sign for any equations that are not equal

16 - 8 = 8 95 - 11 ≠ 86 105 - 12 = 93

Instructi Put a slash through the equal sign (≠) if it is not balanced

- 6 =	2) 46 - 4 = 42	3) 57 - 6 = 51
4) 68 - 10 = 57	5) - 57	6) 75 - 13 = 63
7) 84 - 14 = 70	8) 92 - 16 =	108 - 12 = 95
10) 135 - 15 = 110	11) 126 - 20 = 109	12
13) 168 - 22 = 144	14) 174 - 13 = 161	15) 157 - 16 = 142
16) 189 - 0 = 0	17) 192 - 11 = 180	18) 181 - 15 = 166
19) 195 - 30 = 165	20) 197 - 16 = 182	21) 171 - 26 = 155

Name: _____ 88

Curriculum Connection
P6.3

Subtraction – Find the Variable

A **variable** is a letter that represents an unknown number. When we don't know a number, we can use a letter to take the place of the unknown number.

Example: 39 - n = 25

We can figure out the unknown number by balancing the equation. In this equation, n = 14.

Part 1 Find out the value of the variable

n =	2) n - 15 = 20 n =	3) 47 - n = 35 n =
4) 68 - 18 = p p =	5) 74 - p = 53	6) p - 16 = 50 p =
7) 76 - y = 61 y =	8) [illegible] y =	9) 92 - 13 = y y =
10) 105 - t = 91 t =	11) 114 - [illegible] t =	131 - t = 119 =
13) 153 - a = 137 a =	14) 168 - a = 145 a =	15) [illegible]

Part 2 Calculate the change a customer gets when they buy something

When a customer buys something, the formula for calculating their change (c) is money given (m) subtract the price (p) of the item. Therefore, c = m - p

m = 20 p = 15	c = 20 - 15	c = 5
m = 30 p = 19	c = ___ - ___	c =
m = 50 p = 27	c = ___ - ___	c =

m = 60 p = 51	c = ___ - ___	c =
m = 100 p = 77	c = ___ - ___	c =
m = 100 p = 61	c = ___ - ___	c =

Name: _____ 90

Curriculum Connection
P6.3

Subtracting Decimals – Solve the Variable

Practice Find the value of the variables below

1) 6.5 – n = 3 n =	2) n – 2.5 = 4 n =	3) s – 3.2 = 2 s =
4) [illegible] = p	5) 9.1 – p = 7 p =	6) 12.1 – r = 10.5 r =
7) 16.3 [illegible] n =	[illegible] n – 3.5 = 11.5 n =	9) t – 4.4 = 15 t =
10) 22.7 – n = 20.1 n =	11) [illegible] t	12) 34.6 – 6 = p p =
13) 47.6 – n = 44.4 n =	14) 58.8 – [illegible].4 n =	67.2 – s = 62.4 s =
16) 75.5 – s = 71.4 s =	17) 88.4 – 2.3 = s s =	18) [illegible]

Word Problem Solve the questions below

1) Zara has 1.5 birthday cakes leftover from her party. She eats some the next morning and now there is only 0.9 of the cake left. How much did she eat?

2) Randy works for 7.5 hours today. He only has 2 hours left to work. How much time has elapsed?

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Solve the questions below.

Noah ha[illegible] of flour. He now has 3.4 kg after baking bread. How much flour did he use?

Name: _____

Solve the questions below.

Noah had 8.9 kg of flour. He now has 3.4 kg after baking bread. How much flour did he use?

Name: _____

Solve the questions below.

Noah had 8.9 kg of flour. He now has 3.4 kg after baking bread. How much flour did he use?

Name: _____

Solve the questions below.

Noah had 8.9 kg of flour. He now has 3.4 kg after baking bread. How much flour did he use?

Name: _____ 92

Curriculum Connection
P6.3

Writing Subtraction Equations - Bakery

Alice works at a bakery. Her job is to provide change (c) to customers when they pay for their baked goods (g). She must subtract their order from their payment (p).

Instructions Write the equations and find the answer

#	Payment	Baked Goods	Equation	Answer
1	50	32	c = p - g c = 50 - 32	c = 18
2	80			
3	100	72		
4	120	103		
5	100	86		
6	150	94		
7	200	118		
8	150	137		

Name: _____ 93

Curriculum Connection
P6.3

Word Problems – Writing Subtraction Equations

Questions | Answer the questions below

1) Harry bought 24 donuts. Him and a friend ate 9 of them. Which equation will tell us how many donuts there are left?

d - 9 = 24	24 - 9 = d
d - 24 = 9	24 - d = 9

2) S[illegible] doing [illegible]on challenge. She needs to run 42km in 5 days. It is the last day [illegible]nd sh[illegible]km [illegible]ft to run. Which equation will tell us how many km she has run [illegible] [illegible]ast d[illegible]

[illegible]2 -	8 - r = 42
42 [illegible]	r - 8 = 42

3) Tom collected 142 shells on the b[illegible] gav[illegible]e to his sister. Now he has 94 shells left. Which equation tells [illegible] many [illegible] gave to his sister?

142 - 94 = s	142 [illegible]
s - 94 = 142	s [illegible] 94

4) Courtney saved 125 dollars to buy new shoes. She now has [illegible] equation tells us how much the shoes cost?

s - 45 = 125	125 - 45 = s
45 + s = 125	125 - s = 45

5) The movie is 118 minutes long. They have watched 31 minutes. Which equation tells us how many minutes are left?

m - 31 = 118	118 - 31 = m
31 + m = 118	31 - m = 118

Name: _____ 94

Curriculum Connection
P6.3

Word Problems – Solving Subtraction Equations

Instructions Write the equation using the variable and then solve the equation

1) Sofia started the weekend with $421 in her bank account. She went shopping (s) at the mall and now has $76. How much did she spend at the mall?

2) C[illegible] running [illegible]m race. She has run 2931m already. How many metres does sh[illegible] have l[illegible] r[illegible]e?

3) Michael is driving to an amuseme[illegible] oday[illegible] ark is 573km away. He will need to stop for gas at the 350km m[illegible] low m[illegible] [illegible] he have left (L) after he stops?

4) Jacob is climbing Mount Everest to Base Camp. It is 5,464m [illegible] r a break with 1,650m left. How many metres has he climbed (c) ahead

5) Willow is driving to her cottage in northern Saskatchewan. The total distance is 801km. She has driven 427km already. How much more distance (d) does she need to drive?

Name: _____ 95

Curriculum Connection
P6.3

Solving Subtraction Equations - Vacation

Questions Solve the problems below. The first one is done for you

1) Ron is driving 1,350km (x) to a resort with his family. They drive 415km on the first (f) day and 480km on the second (s) day. How many km do they have left (L)?

Equation : L = x – f – s or x – f – s = L

L = 1350 – 415 – 480

L = 455 Therefore, Ron and his family have 455km remaining to drive.

2) The family decide to budget $400 on dinner out for 3 nights. They spent $95 on the first (f) dinner and $1 on the second (s) dinner. How much do they have left for the third dinner (t)?

Equation : _____

_____

_____ Therefore, _____

3) The family heads to the waterslide p ey brin total (t). The two adults (a) cost $48 each. The two kids (k) cost $25 ch. How do ave left (L)?

Equation : _____

_____

_____ Therefore, _____

4) The family buys a 50 pack of gummies (g). Ron (r) has 6 and his The kids (k) eat 26 together. How many gummies are left (L)?

Equation : _____

_____

_____ Therefore, _____

5) On the drive home, they take a short cut. The drive is 981km (d). They drive 311km the first day (f) and 511km the second (s) day. How many km do they have left (L)?

Equation : _____

_____

_____ Therefore, _____

Name: _____ 96

Curriculum Connection
P6.3

Math Activity Title: Algebraic Bottle Flip Challenge

Objective What are we learning about?

To practice and reinforce understanding of basic one-step and two-step subtraction algebra problems through the engaging and physically active bottle flip game.

Materials What you will need for the activity.

- [illegible] pair/group) filled to approximately one-third with water (or [illegible] cups)
- Set of sub[illegible]bra[illegible]ion cards
- Answer she[illegible]ch gr[illegible]

Instructions How yo[illegible]ple[illegible]ivity

1. Start with a short lesson on one-[illegible]btract[illegible]ebra problems, using examples like x - 3 = 4.
2. Arrange the students into pairs or small [illegible] and [illegible] bottle and a set of question cards to each.
3. Each pair or group receives an answer sheet to [illegible]eir an[illegible]
4. Explain the rules: One student draws a question ca[illegible]ies[illegible] the subtraction algebra problem.
5. Once they believe they have the correct answer, they write it [illegible] answer sheet.
6. The student then gets to attempt a bottle flip. After answering eac[illegible]estion, the student gets only one flip. After they flip their bottle, they should keep track of successful flips and unsuccessful flips.
7. Alternate turns within each group or pair until they have completed all the question cards.
8. Groups or pairs tally their successful flips and compare with the rest of the class to determine the winning team (team with the most successful flips/correct answers). For incorrect answers, deduct a point from their successful bottle flips.
9. Go through the answer sheet with the class to ensure understanding and correct any misconceptions.
10. Discuss the strategies used to solve the subtraction problems and how this type of algebra is used in real-life situations.

Questions | Cut out the questions below and use for the game

x - 15 = 85	b - 20 = 50	200 - d - 10 = 162	190 - 30 - 54 = w
122 - g = 75	b - 33 = 67	180 - 25 - k = 110	e - 144 - 30 =82
150 - 10 = p	150 - c = 100	170 - j - 30 = 98	193 - t - 40 = 122
Dylan ha candies gave aw has 5 how many did h give away?	Eva had 93 crayons and some. has e bre	Sarah had 210 stickers, she gave 52 to one friend and 36 to another. How many stickers does she have left?	Sara set aside $400 for school supplies. She spent $90 on notebooks, $125 on textbooks, and some amount on art supplies. She has $125 left for pens and pencils. How much did she spend on art supplies?
Max had 158 marbles and lost some. Now he has 92. How many did he lose?	Ben had 187 pencils and gave some to his friends. Now he has 139. How many did he give away?	Jane had ooks She sold nd donated 86. many books does s have left?	Emma saved $515 for a She spent $285 on a ht, $110 on acc lation, and ome nt on food. She ow mu on
Lily had 139 stickers and used some. Now she has 91. How many did she use?	Charlie had 183 toys and gave some to charity. Now he has 126. How many did he give away?	Mike had 255 coins, he spent 71 and lost 53. How many coins does he have left?	Jack set aside $625 for a new computer. He spent $312 on the computer, $126 on accessories, and some amount on software. He has $55 left. How much did he spend on software?

Name: _____ 98

Curriculum Connection
P6.3

Algebraic Bottle Flip Challenge

Answers | Record your answers below

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	

Name: _____ 99

Curriculum Connection
P6.3

Multiplication – Are They Equal?

Are the equations equal? Put a slash through the equal sign for any equations that are not equal.

6 x 3 ≠ 16 3 x 8 = 24 7 x 6 ≠ 49

Instructi Put a slash through the equal sign (≠) if it is not balanced

x 4 =	2) 5 x 4 = 25	3) 8 x 3 = 21
4) 7 x 5 = 35	5) = 18	6) 7 x 4 = 21
7) 10 x 3 = 30	8) x 5 = 4	9) 9 x 4 = 38
10) 9 x 10 = 90	11) 2 x 7 = 16	1
13) 6 x 4 = 24	14) 6 x 6 = 42	15) 5 x 9 = 40
16) 6 x 7 = 42	17) 4 x 9 = 36	18) 3 x 10 = 30
19) 8 x 7 = 57	20) 7 x 7 = 49	21) 8 x 4 = 31

Name: ____________________ 100

Curriculum Connection P6.3

Pre-Algebra – Balancing Multiplication Equations

Balancing equations means both sides of the equal sign must be the same.

Examples:

$\overset{24}{8 \times 3} = 24$ $\overset{42}{7 \times 6} = 42$

Instructions: Fill in the missing number to balance the equation

1) 6 x [illegible]	2) 5 x 7 = ☐	3) 4 x 5 = ☐
4) 8 x ☐ = 16	5) [illegible] x ☐ [illegible] 18	6) 4 x ☐ = 28
7) ☐ x 5 = 25	8) ☐ x 6 = [illegible]	9) ☐ x 3 = 18
10) 9 x 4 = ☐	11) 7 x ☐ = 56	12) [illegible]
13) 3 x ☐ = 33	14) 10 x 9 = ☐	15) 6 x ☐ = 54
16) 8 x ☐ = 48	17) 20 x 3 = ☐	18) 4 x ☐ = 44
19) 12 x ☐ = 48	20) 14 x 4 = ☐	21) 11 x ☐ = 110

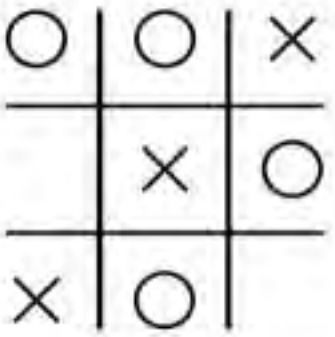
Name: _____ 102

Curriculum Connection
P.63

Math Tic-Tac-Toe: Solving Variables

Objective What are we learning about?

To help students practice solving multiplication equations involving variables in a fun and interactive way through a -Toe game.



Mate will need for the activity.

- Tic-Tac-Toe boards

Instructions How you

1. Find a partner to play the game wi
2. The goal is to solve the algebraic equation ach your marker (X or O).
3. One player will be "X" and the other will be "O".
4. Take turns choosing a square and solving the equation in that squ nd the value of the variable.
5. Write down the solution below the equation and place your marker (X or O) in the square.
6. If a player chooses a square and solves the equation incorrectly, they do not get to place their marker in that square. The other player gets a chance to solve it correctly and place their marker.
7. The first player to get three markers in a row (horizontally, vertically, or diagonally) wins the game. Continue playing with different tic-tac-toe grids on the sheet.

Name: _____ 103

Curriculum Connection
P6.3

Tic-Tac-Toe Use the following tic-tac-toe grids for the game.

4p = 32	6 × 10 = q	5n = 20
8s = 48	3 × 9 = g	7k = 56
9q = 8	× 16 = t	10r = 80

3p = 24	7 × 9 = x	6m = 18
5t = 25	4 × 10 = e	8n = 48
2k = 16	9 × 7 = l	10b = 60

5p = 35		
8s = 64	3 × 14 = z	4m = 3
9r = 63	2 × 15 = f	10a = 30

7p = 28	5 × 9 = m	6m = 30
9s	4 × 12 = c	8n = 72
		10r = 100

4p = 16	6 × 11 = h	5n = 15
8s = 56	3 × 8 = l	7k = 49
9q = 72	2 × 14 = d	10b = 90

3p = 27	7 × 10 =	6m = 24
5t = 50	4 × 13 = b	8n = 40
2k = 18	9 × 6 = y	10r = 70

Name: _____ 104

Curriculum Connection
P6.3

Tic-Tac-Toe Use the following tic-tac-toe grids for the game.

5p + 3 = 43	6 × 9 = g	7n – 5 = 16
8s = 64	3 × 12 = f	4m = 28
9r + 6 =	15 = x	10a – 1 = 19

7p + 9 = 44	5 × 8 = w	6m + 6 = 42
9s = 63	4 × 11 = c	8n = 56
2t – 7 = 7	3 × 14 = z	10b - 8 = 72

4p + 7 = 35		
8s = 72	3 × 10 = m	7k = 4
9q + 8 = 62	2 × 16 = v	10r – 8 = 82

3p + 2 = 23	7 × 11 = q	6m - 15 = 3
5	4 × 9 = j	8n = 64
2k		10a + 9 = 79

2p + 27 = 41	5 × 10 = d	7n - 15 = 34
9s = 81	3 × 13 = e	4m = 32
8r – 8 = 32	6 × 7 = y	6b + 14 = 86

6p – 15 = 15	4 × 12 =	9s + 8 = 35
5k = 25	3 × 14 = r	7m = 21
8q – 13 = 51	2 × 15 = b	10a + 11 = 61

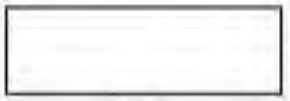
Name: _____ 105

Curriculum Connection
P6.3

Equation Pairs – Area of a Rectangle - Multiplication

Liam believes you can find the area of a rectangle in two different ways. Can you write the two equations you could use to solve the area of a rectangle?

Remember – a = l x w



Option 1	Option 2
a = 7 x 3 a = 21cm²	a = 3 x 7 a = 21cm²

Instruct — Write two equations that represent the area of a rectangle

#	Length	Width	Equation 1	Equation 2
1	[illegible]			
2	5cm			
3	9km	6km		
4	10cm	8cm		
5	7m	4m		
6	9m	5m		
7	6cm	12cm		
8	8km	11km		
9	4cm	9cm		
10	7m	6m		

Name: _____ 106

Curriculum Connection
P6.3

Writing Multiplication Equations – Lottery Tickets

Amelia is selling lottery tickets for $15 a ticket. She needs to calculate how much money her customers owe her for her tickets.

Part 1 Use a multiplication equation to fill in the table

#	# of Tickets (t)	Equation
1	6	
2		
3		
4	8	
5	7	

Part 2 Amelia sells tickets to t[illegible]ferent[illegible] in the same transaction

#	# of Tickets Person 1	# of Tickets Per[illegible]2	[illegible]tion
1	5	3	15 [illegible] 15 120
2	4	7	
3	9	2	
4	2	5	
5	6	6	
6	12	3	
7	8	11	
8	10	10	

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Solve the questions below.

a) Jason sells bags of buns at his bakery. Each bag has 6 buns. Write a multiplication expression that represents his sales.

_____

b) Jason sells 4 packs of buns and 8 packs of buns in the same transaction. Write the equation.

_____

Name: _____

Solve the questions below.

a) Jason sells bags of buns at his bakery. Each bag has 6 buns. Write a multiplication expression that represents his sales.

_____

b) Jason sells 4 packs of buns and 8 packs of buns in the same transaction. Write the equation.

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Name: _____

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Name: _____

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a) Jason sells bags of buns at his bakery. Each bag has 6 buns. Write a multiplication expression that represents his sales.

_____

b) Jason sells 4 packs of buns and 8 packs of buns in the same transaction. Write the equation.

_____

Name: _____ 108

Curriculum Connection
P6.3

Using Variables to Solve Multiplication Equations

There are some instances where we know the values of variables and need to plug them into an equation. For example:

ab = c a = 6 b = 8

6 x 8 = c

c = 48

Instruct[illegible] Find out the value of the variable

ab = c a [illegible] 4 _____ x _____ = c c =	en = f e = 3 n = 6 _____ x _____ = f f =
ry = p r = 5 y [illegible] _____ x _____ = p p =	[illegible] t = 3 g = 7 _____ = h h =
ab = c a = 6 b = 8 _____ x _____ = c c =	[illegible] = 8 _____ = f f =
ry = k r = 4 y = 9 _____ x _____ = k k =	tg = h t = 3 [illegible] _____ x _____ = h h =
ab = c a = 6 b = 7 _____ x _____ = c c =	en = f e = 3 n = 8 _____ x _____ = f f =
ry = p r = 4 y = 12 _____ x _____ = p p =	tg = h t = 11 g = 4 _____ x _____ = h h =

Name: _____ 109

Curriculum Connection
P6.3

Multiplying Decimals – Solve the Variable

Practice Find the value of the variables below

1) 1.5n = 3 n =	2) n x 2.5 = 5 n =	3) s x 2.2 = 6.6 s =
4) [illegible] = p	5) 5.3p = 15.9 p =	6) 12.1r = 48.4 r =
7) [illegible]3n = [illegible] n =	8) n x 3.5 = 17.5 n =	9) t x 4.4 = 22 t =
10) 6.7n = 20.1 n =	11) [illegible] = t	12) 3.4 x 2 = p p =
13) 7.6n = 38 n =	14) [illegible]5n = 45 n =	15) 10.1s = 50.5 s =
16) 7.5s = 45 s =	17) 4.2 x 3 = s s =	18) [illegible] x 4 = n

Word Problem Solve the questions below

1) Rylan has grown 32.5cm since she was born. She grew 6.5cm each year. How many years has she been alive?

2) It rained 3.3mm every hour. In total, it rained 26.4mm. How many hours did it rain?

Name: _____ 110

Curriculum Connection
P6.3

Activity: Multiplication Race

Objective What are we learning about?

Students will practice multiplication algebra questions by racing to solve equations quickly and accurately.

Materials What you will need for the activity.

- I
- M s or pe
- Timer (opt

Instructions Ho activity

1. Prepare a stack of index c wi and one-step algebraic equation questions. Include a mix tems re variety.
2. Have students line up in a single file.
3. Call the first two students in line to the fro ol ace to answer the multiplication algebraic equation question t cher om the stack.
4. Pull a card from the stack and read the question aloud.
5. The first student to answer correctly wins the round. If a student s he wrong answer, they are out and go to the end of the line.
6. The student who answers correctly stays at the front to compete against the next student in line.
7. The student who loses goes to the end of the line.
8. Optional: If a student wins five rounds in a row, they move to the back of the line to give others a chance to play.
9. Continue the game until all students have had a chance to compete multiple times or until the designated game time is up.

Name: _____ 111

Curriculum Connection
P6.3

Multiplication Equations | Use these for the race

5x = 25	4y = 16	3z = 9
2.5a = 10	7b = 49	0.5c = 1
[illegible]	6y = 36	1.5z = 6
8x = [illegible]	[illegible] = 16.5	2c = 20
10x = 50	3[illegible]	6z = 18
4x = 12	2.2y = [illegible]	[illegible]c = 9
1.5x = 7.5	9y = 27	
5x = 45	7.5y = 22.5	3.5c = 7
2x = 10	6.5y = 32.5	8z = 32
0.6x = 3	5.2y = 36.4	2.5z = 15

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Solve the questions below.

Emma saved $60.50. She saves $5.50 every week. How many weeks did it take her to save this amount?

Name: _____

Solve the questions below.

Emma saved $60.50. She saves $5.50 every week. How many weeks did it take her to save this amount?

Name: _____

Solve the questions below.

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Name: _____

Solve the questions below.

Emma saved $60.50. She saves $5.50 every week. How many weeks did it take her to save this amount?

Solving Multiplication Equations

Questions Solve the problems below. The first one is done for you

1) The Mighty Bears play 3 games (g) a week for 7 weeks (w). How many games in total did they play (p)?

Equation : p = g x w or g x w = p

p = 3 x 7

p = 21 [illegible]fore, the Mighty Bears played 21 games in total.

2) J[illegible] 6 [illegible]) from each tree at an apple orchard. He picked 72 apples [illegible] total ([illegible]ny [illegible]ees (t) did he pick apples from?

Equation : ____________________

____

____________________ [illegible]fore, ____________________

3) Kai puts 8 small chlorine pu[illegible]ks (p[illegible] [illegible]oo[illegible] [illegible]week. He went through 96 total (t) chlorine pucks last summer[illegible] many [illegible] did he have the pool running last summer?

Equation : ____________________

____

____________________ Therefore, ____________________

4) Isaiah invests (i) 225 each week for 10 weeks (w). How muc[illegible] [illegible]es he have invested after 10 weeks?

Equation : ____________________

____

____________________ Therefore, ____________________

5) Ivy paid (p) $525 for her lawn to be cut for the summer. She was charged $25 per time (t). How many times was her lawn cut (c)?

Equation : ____________________

____

____________________ Therefore, ____________________

Name: _____ 115

Curriculum Connection
P6.3

Matching Game: Do The Variables Match

Objective What are we learning about?

To enhance students' understanding of equality within addition, subtraction, and multiplication equations. Students will identify and match pairs of equations that yield the same result, fostering critical thinking and problem-solving skills in a collaborative group setting.

Materials What you will need for the activity.

- Pre-prepared pre-cut matching game cards
- Small bags or envelopes to hold the cards for each group

Instructions How you will complete the activity

1. Preparation: Before the class, the teacher will create pre-prepared matching game cards. Each card will have an equation with the variable to solve for.
2. Setup: Divide the students into small groups and give each group a bag or envelope containing a set of the matching cards.
3. Gameplay: In their groups, students will spread out the cards face down on their table. Each person takes a turn to try to match two cards. They will need to solve both equations to see if they match (equal the same value for the variable). If they find a correct match, they keep the cards out and continue with their next turn. If the cards don't match, they turn them back over in the same place, and the next player takes a turn.
4. The activity continues until all pairs are correctly matched within each group.

Name: _____ 116

Curriculum Connection
P6.3

Cards | Matching Game Cards

$2x + 4 = 20$	$5x = 40$
$3 \cdot 11$	$15 - n = 7$
$5p = 25$	$p \cdot 10 = 25$
$18 - r = 2$	$r + 8 = 4$
$8 + a = 14$	$2a + 2 = 14$

Name: _____ 117

Curriculum Connection
P6.3

Cards | Matching Game Cards

7c = 21	3c + 6 = 15
m[illegible]12	20 - m = 12
4y + 2 = 18	2y[illegible]6 = 14
6 + z = 14	3z = 2[illegible]
9b - 3 = 24	5b = 15

Name: _____ 118

Curriculum Connection
P6.3

Cards | Matching Game Cards

5 + k = 17	20 – k = 8
3[illegible]	2h + 3 = 21
4 + q = 16	q [illegible] = 21
2w + 3 = 13	w + 7 = [illegible]2
10 – t = 3	2t + 1 = 15

Name: _____ 119

Curriculum Connection
P6.3

Cards | Matching Game Cards

6d - 2 = 16	d + 8 = 11
4[illegible]12	3f - 2 = 22
7v + 1 = 29	v[illegible]8 = 12
5 + u = 11	3u - 2 = [illegible]6
3 + g = 18	2g + 1 = 31

Name: _____ 120

Curriculum Connection
P6.3

Division – Are They Equal?

Are the equations equal? Put a slash through the equal sign for any equations that are not equal.

$8 \div 2 \neq 5$ $9 \div 3 = 3$ $15 \div 3 \neq 3$

Instructi Put a slash through the equal sign (≠) if it is not balanced

1) 16 ÷	2) 25 ÷ 5 = 4	3) 32 ÷ 4 = 8
4) 36 ÷ 6 = 6	5)	6) 28 ÷ 4 = 8
7) 50 ÷ 5 = 10	8) 48 ÷	36 ÷ 4 = 8
10) 99 ÷ 11 = 10	11) 35 ÷ 7 = 5	
13) 24 ÷ 4 = 8	14) 49 ÷ 7 = 6	15) 45 ÷ 9 = 5
16) 72 ÷ 8 = 8	17) 81 ÷ 9 = 9	18) 36 ÷ 3 = 12
19) 56 ÷ 7 = 9	20) 48 ÷ 12 = 3	21) 63 ÷ 9 = 7

Name: _____ 121

Curriculum Connection
P6.3

Pre-Algebra – Balancing Division Equations

Balancing equations means both sides of the equal sign must be the same.

Examples

$25 \div 5 = \boxed{5}$ (5 is the quotient)

$18 \div \boxed{3} = 6$ (3 is the divisor)

Instructi Fill in the missing number to balance the equation

1) 36 ÷ ☐ =	2) 35 ÷ 7 = ☐	3) 20 ÷ 5 = ☐
4) 24 ÷ ☐ = 8	5) 8 ÷ ☐ = 3	6) 35 ÷ ☐ = 7
7) ☐ ÷ 5 = 4	8) ☐ ÷ 6 = ☐	☐ ÷ 3 = 9
10) 36 ÷ 4 = ☐	11) 56 ÷ ☐ = 8	☐
13) 24 ÷ ☐ = 3	14) 99 ÷ 9 = ☐	15) 64 ÷ ☐ = 8
16) 48 ÷ ☐ = 6	17) 20 ÷ 4 = ☐	18) 48 ÷ ☐ = 12
19) 49 ÷ ☐ = 7	20) 36 ÷ 3 = ☐	21) 72 ÷ 6 = ☐

Name: _____ 122

Curriculum Connection
P6.3

Division – Find the Variable

A **variable** is a letter that represents an unknown number. When we don't know a number, we can use a letter to take the place of the unknown number.

Example: 27 ÷ n = 3

We can figure out the unknown number by balancing the equation: n = 9.

Part 1 Find out the value of the variable.

n =	2) n ÷ 9 = 3 n =	3) s ÷ 5 = 3 s =
4) 24 ÷ p =	24 ÷ p = 6 =	6) 48 ÷ r = 8 r =
7) 36 ÷ n = 6 n =	8)	9) t ÷ 11 = 5 t =
10) 90 ÷ n = 9 n =	1 ÷ 8 = t =	12) 81 ÷ 9 = p p =
13) 64 ÷ n = 8 n =	14) 77 ÷ n n =	÷ s = 11
16) 48 ÷ s = 4 s =	17) 42 ÷ 7 = s s =	

Part 2 Solve the question below.

Servers at a restaurant share tips (t) equally at the end of the day. The number of people that share the tips depends on how many servers (s) were working. We can use a formula to find out how much money (m) each server takes home: m = t ÷ s

t = 150 s = 5	m = 150 ÷ 5	m = 30
t = 180 s = 3	m = ÷	m =
t = 250 s = 5	m = ÷	m =

t = 120 s = 3	m = ÷	m =
t = 210 s = 7	m = ÷	m =
t = 320 s = 4	m = ÷	m =

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Solve the questions below.

Workers at a construction site share their daily earnings (e) equally at the end of the day. The number of workers that share the earnings depends on how many workers (w) were working. We can use a formula to find out how much money (m) each worker takes home: s = e ÷ w

e = 300 w = 6	s =	s =
e = 480 w = 8	s = ÷	s =
e = 360 w = 4	s = ÷	s =

Name: _____

Solve the questions below.

Workers at a construction site share their daily earnings (e) equally at the end of the day. The number of workers that share the earnings depends on how many workers (w) were working. We can use a formula to find out how much money (m) each worker takes home: s = e ÷ w

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e = 480 w = 8	s = ÷	s =
e = 360 w = 4	s = ÷	s =

Name: _____

Solve the questions below.

Workers at a construction site share their daily earnings (e) equally at the end of the day. The number of workers that share the earnings depends on how many workers (w) were working. We can use a formula to find out how much money (m) each worker takes home: s = e ÷ w

e = 300 w = 6	s = ÷	s =
e = 480 w = 8	s = ÷	s =
e = 360 w = 4	s = ÷	s =

Name: _____ 124

Curriculum Connection P6.3

Writing Division Equations - Sharing

Riley is the best boss! Every week, she brings in treats for her staff to share. Each week, there are different treats and a different number of staff members working at the office.

Instructions Use a formula to find out how many treats (t) each person gets

#		# of Staff (s)	Formula	Answer
1	[illegible] donut	8	d ÷ s = t	16 ÷ 8 = 2
2	12 c[illegible]		c ÷ s = t	
3	20 muffins (m)	5		
4	16 slices of pizza (p)	4		
5	10 bagels (b)	10		
6	15 donuts (d)	5		
7	24 cookies (c)	8		
8	18 muffins (m)	6		
9	28 pastries (p)	4		
10	32 cookies (c)	8		
11	36 slices of pizza (p)	9		
12	24 bagels (b)	3		
13	25 muffins (m)	5		

Name: _____ 128

Curriculum Connections
P&S

Algebra Jeopardy

Objective What are we learning about?

To reinforce students' understanding of basic algebraic concepts and their application to solve simple equations and word problems in a fun and competitive game for

Mat will need for the activity.

- Jeopardy the ne
- Buzzer or bell

Instructions How you will comp acti

1. Print the Jeopardy board on the next p
2. Divide the class into two teams.
3. Ask one team to go first by selecting a point value.
4. Read the question aloud from the point value.
5. The first team to ring the bell or buzzer gets to answer.
6. If they answer correctly, award them the points. If not, another team can answer.
7. Continue the game until all questions have been answered.
8. Tally the points to determine the winning team.
9. Conclude by discussing what they learned about the topic in the questions.

Name: _____ 129

Curriculum Connection
P6.3

Jeopardy Questions | Ask students the questions below

$100	$200	$300	$400	$500
45 ÷ n = 5	1.5x = 7.5	4x - 5 = 15. Find x.	If 5 apples cost $20, what is the cost of one apple?	Sarah is 4 years older than twice her sister's age. If Sarah is 28, how old is her sister?
n ÷ 6 = 8	n + 7 = 35	24 = 3x + 18. Find x.	If 3 muffins cost $18, how much does each muffin cost?	Tom has 3 times as many books as Jerry. Together they have 44 books. How many books does each have?
n ÷ 4 + 3 = 13	12 = 0.5	51.	Sarah bought 3 books for $15. How much did each book cost?	Sarah has 5 times as many marbles as Ben. Together they have 42 marbles. How many marbles does each have?
74 - p = 53	8.2 + p = 10	21n + 7 Solve for n?	ught 4 pens and ck. H did cas	A triangle's perimeter is 30 cm. One side is twice e other, and the third is 6 cm. Find the of the sides.
85 + y = 101	Ryan has 90 blocks. He has 38 red blocks and 42 blue blocks. How many green blocks does he have (b)?	12r - 4 = 32. What is r?	If a book cos $8 and a notebook costs $12, and you buy two of each, what is the total cost?	wo ece is 5 time ng as the other. Together, they are 72 meters long. How long is each piece?
5 = x - 3. What is x?	2x + 3 = 13. Find x.	4x - 5 = 15. Find x.	A box contains 32 candies. You eat 2 and then decide to give 6 to each friend, how many friends can you give candies to?	In a garden, the number of roses is 2 times the number of tulips. If there are 45 flowers in total, how many roses and tulips are there?

Name: _____ 130

Curriculum Connection
P6.2

Equivalent Forms of an Equation

When we add or subtract the same amount from both sides of an equal sign, the equation does not change. Investigate this theory below.

Instructions Draw circles to represent the equations

#	Original Equation	Change	New Equation
1	2n + 5 = 9 	Add 3	2n + 5 + 3 = 9 + 3 
2	5 + n		
3	12 - n = 7	Add 3	
4	3n + 4 = 13	Subtract 5	
5	3 + 4n = 15	Add 7	

Name: _____ 131

Curriculum Connection
P6.2

Equivalent Forms of an Equation

Instructions Write four equivalent forms of the equations below

#	Original Equation
1	4n = 20
	6 to each side
	each side
	ultipl by 2
	Divid de by

#	Original Equation
2	= 2
Add 8 to each side	
Subtract 13 from each side	
Multiply each side by 3	
Divide each side by 6	

#	Original Equation
3	5n - 5 = 25
Add 50 to each side	
Subtract 20 from each side	
Multiply each side by 4	
Divide each side by 5	

Name: _____ 132

Curriculum Connection
P6.2

Equivalent Forms of an Equation

When we change an equation by adding, subtracting, multiplying, and dividing the same amount from both sides, does the equation change? Investigate below!

Instructions Fill in the table below

#	Original Equation	Change	New Equation
1	5n = 20	Add 10 to each side	5n + 10 = 20 + 10 n = 4
2	8 –	Add 7 to each side	
3	15 + n = 2 n =	Subt from each	
4	6n = 12 n =	Mult y each s y 3	
5	2n = 16 n =	Divide each side	
6	52 – n = 34 n =	Subtract 15 from each side	
7	68 + n = 85 n =	Add 13 to each side	
8	5n = 50 n =	Multiply each side by 4	
9	3n = 27 n =	Divide each side by 3	

Name: _____ 133

Curriculum Connections TQ

Unit Test - Algebra

Part 1 Calculate the value of the variable

9 + n = 15 n =	124 + 15 = y y =	p + 48 = 79 p =
9[illegible] y	76 - y = 61 y =	p – 16 = 50 p =
3n n =	$\frac{36}{n}$ = 12	6s = 48 s =

Part 2 Solve th[illegible]quat[illegible]

a + b + c = d a = 9 b = 10 c = 8 _____ + _____ + _____ = d d =	t + [illegible] g = 6 _____ + [illegible] h =
r ÷ y = t r = 28 y = 7 _____ ÷ _____ = t t =	en = f e = 2 _____ x _____ = f f =
ab = c a = 6 b = 8 _____ x _____ = c c =	e + c + g = t e = 9 c = 6 g = 14 _____ + _____ + _____ = t t =
a - b = c a = 108 b = 11 _____ - _____ = c c =	e - n = f e = 125 n = 22 _____ - _____ = f f =

Curriculum Connection
TQ

Part 3 Solve the word problems below

1) Jacob picked 15 apples (a) from each row of apple trees. He picked 75 apples in total (t). How many apples did he pick in each row (r)?

Equation : _____

_____

_____ Therefore, _____

2) They de[illegible]o budget (b) $400 on dinner out for 4 nights. They spent $90 on the first (f) dinner, [illegible] the second (s) dinner and $85 on the third (t) dinner. How much do they hav[illegible]urth dinner (f)?

Equ[illegible]

_____

_____

3) A family of 6 (f) buy[illegible] [illegible]family member gets 4 donuts (d). How many donuts were there i[illegible]

Equation : _____

_____

_____ Therefore, _____

4) Hailey spent $475 total (t) at a sporting goods s[illegible] [illegible]tes (s) for $275, new gloves (g) for $130, and a new stick for (s) [illegible] dolla[illegible] much is s worth?

Equation : _____

_____

_____ Therefore, _____

Part 4 Use two different equations to find the area using the given measurements

#	Length	Width	Equation 1	Equation 2
1	10m	7m		
2	7cm	8cm		
3	9km	4km		

Curriculum Connection
TQ

Part 5 Evaluate the following expressions for x = 6

1) $x + 11 - 3$	2) $4 + 3x$	3) $40 - 2x$
4) $6 + 12$	5) $4x - (5 + 5)$	6) $x + 3 \times 6$

Part 6 Emma and [illegible] the questions below. Circle who's right

	Question	[illegible]wer	Savanna's Answer
1	$y = 4$ $3 + (y + 5)$	[illegible]	14
2	$y = 3$ $20 - 5y$	5	[illegible]
3	$y = 2$ $y + 3 \times 3$	15	11
4	$y = 4$ $y + 16 \div 2$	12	10
5	$y = 8$ $y - 4 \times 2$	0	8

Grade 6

Shape and Space

	Curriculum Expectations	Pages
SS6.1	Demonstrate understanding of angles including: · identifying examples · classifying angles · estimating the measure · determining angle measures in degrees · drawing angles · applying angle relationships in triangles and quadrilaterals.	18-53, 58-69
SS	Extend and apply understanding of perimeter of polygons, area of rectangles, and volume of right rectangular prisms	
SS6.3	including: · classifying types of triangles · comparing side lengths · comparing angle measures · differentiating between regular and irregular polygons · analyzing for congruence.	5-17, 54-57
SS6.4	Demonstrate understanding of the first quadrant of the Cartesian plane and ordered pairs with whole number coordinates	120-135
SS6.5	Demonstrate understanding of single, and combinations of, transformations of 2-D shapes (with and without the use of technology) including: · identifying · describing · performing	136-169
TQ	Tests and Quizzes	70-71, 117-119, 170-172

Name: _____ 6

Curriculum Connection SS6.3

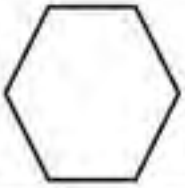
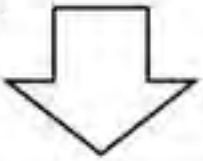
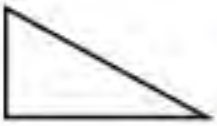
Regular vs Irregular Polygons

Regular

Regular Polygons
- All sides are the same length
- All angles are the same

Irregular

Part 1 Label the polygons regular or irregular

1. 	2. 	3. 	4. 	5. 
6. 	7. 	8. 	9. 	10. 

Part 2 Draw regular and irregular polygons

1)	2)	3)	4)	
Regular	Regular	Regular	Regular	Regular
6)	7)	8)	9)	10)
Irregular	Irregular	Irregular	Irregular	Irregular

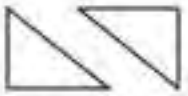
Name: _____ 7

Curriculum Connection
SS6.3

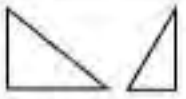
Congruent Shapes

Directions Use a protractor/ruler to check the congruency. Circle the congruent shapes.

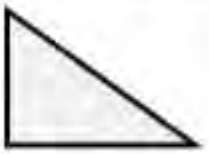
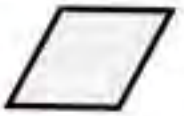
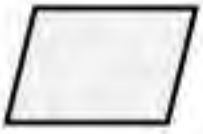
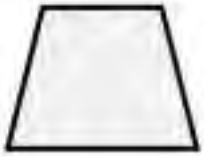
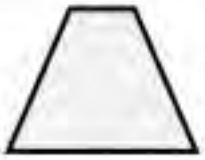
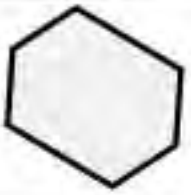
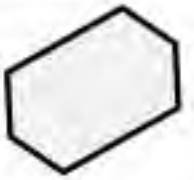
Congruent shapes have the same size and shape. This means that the side lengths and angles are the same. Location and orientation do not affect congruency.



Congruent



Not congruent

1)	a) 	b) 	c) 
2) 	a) 	b) 	c) 
3) 	a) 		c) 
4) 	a) 	b) 	
5) 	a) 	b) 	c) 
6) 	a) 	b) 	c) 
7) 	a) 	b) 	c) 

Name: _____ 9

Curriculum Connection
SS6.3

The Congruent House

Instructions Answer the que[illegible] below[illegible]k[illegible] at the house above

1) Which shape is congruent to A?	
2) Which shape is congruent to shape C?	
3) Which shapes are congruent to shape N?	
4) Which shape is congruent to shape B?	
5) Which shape is congruent to shape E?	
6) Which shapes are congruent to shape D?	
7) Which shape is congruent to shape T?	
8) Which shape is congruent to shape L?	

Name: _____ 10

Curriculum Connection
SS4.3

Matching Activity: Congruent Shapes

Objective What are we learning about?

Students will learn to identify and match congruent shapes through a fun and interactive activity.

Materials What you will need for the activity.

- Mat[illegible]g gar[illegible] each card will have a different s[illegible] can b[illegible]ed to another congruent shape
- A small table or clear [illegible]the

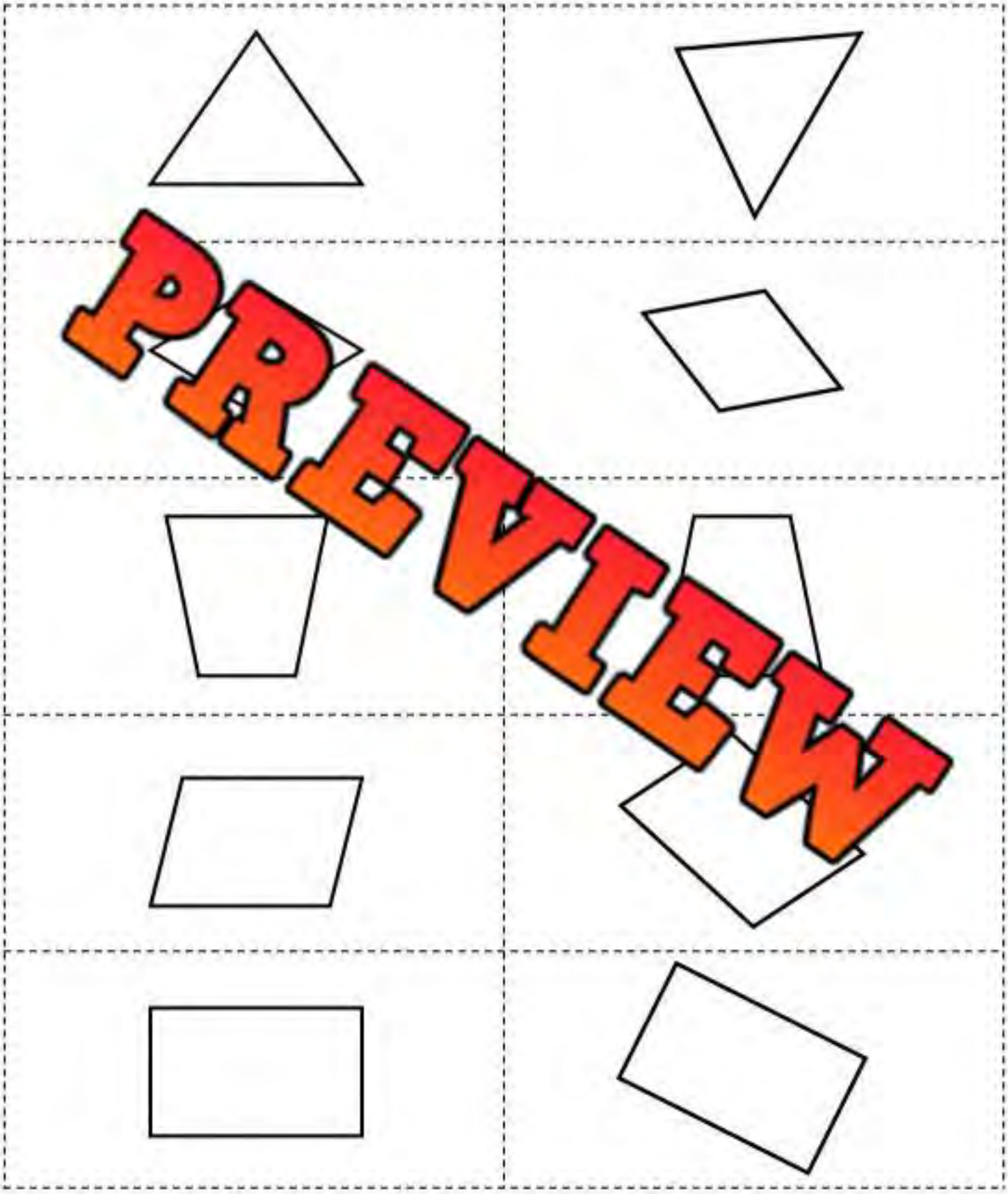
Instructions How you will compl[illegible]e activ[illegible]

1. Divide the class into groups of 3 or 4. Give [illegible]atching game cards. (Provided)
2. Have each group lay all the cards face down in a grid [illegible]n a [illegible]
3. The students take turns flipping over two cards at a time, trying [illegible]d a matching congruent shape.
4. If a student finds a match, they remove those cards from the grid and keep them.
5. If the cards do not match, they are turned back over, and the next student takes a turn.
6. The game continues until all the cards have been matched.
7. After the game, review the congruent shapes with the class.

Name: _____ 11

Curriculum Connection
SS6.3

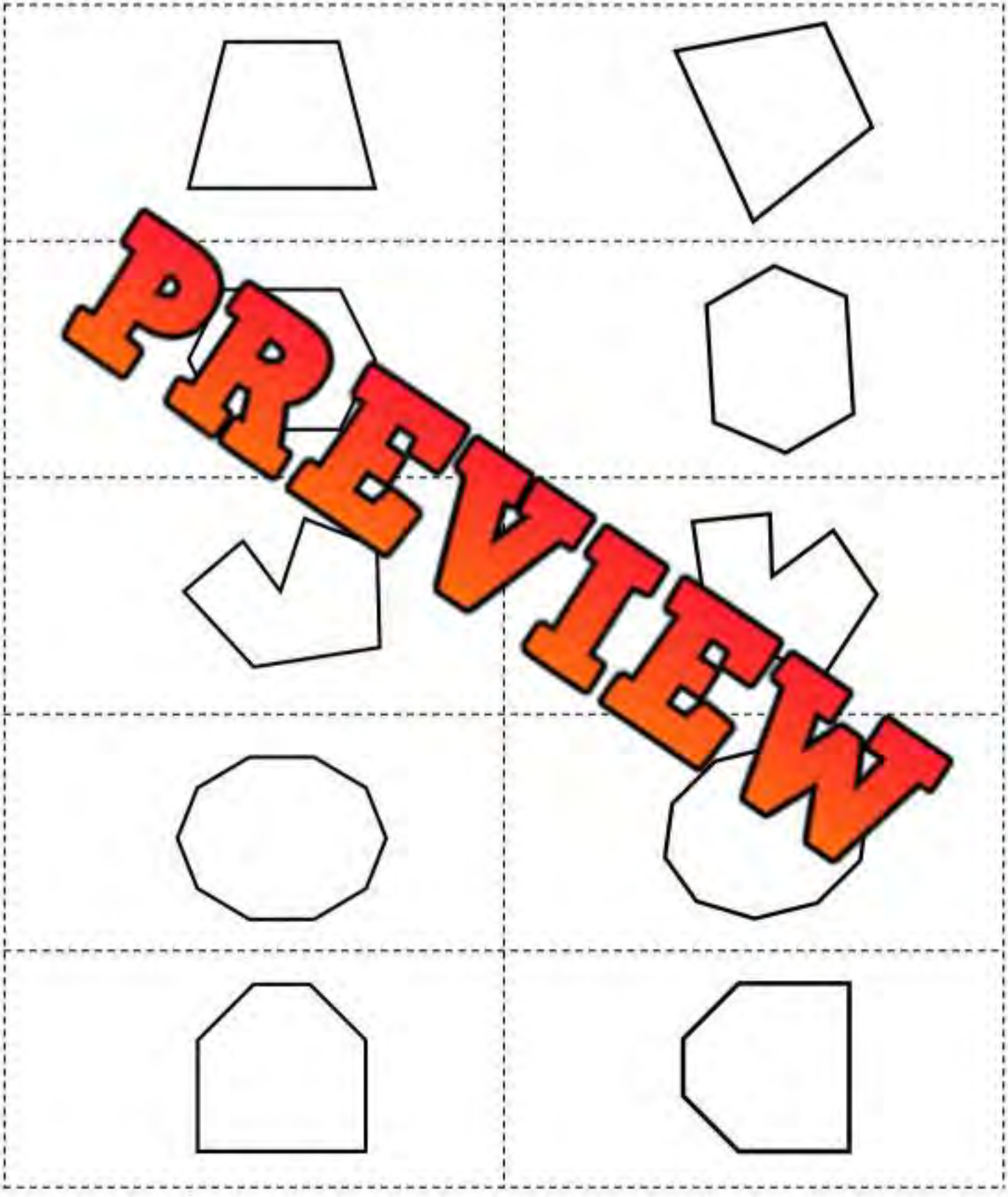
Cards | Memory Game Cards



Name: _____ 12

Curriculum Connection
SS6.3

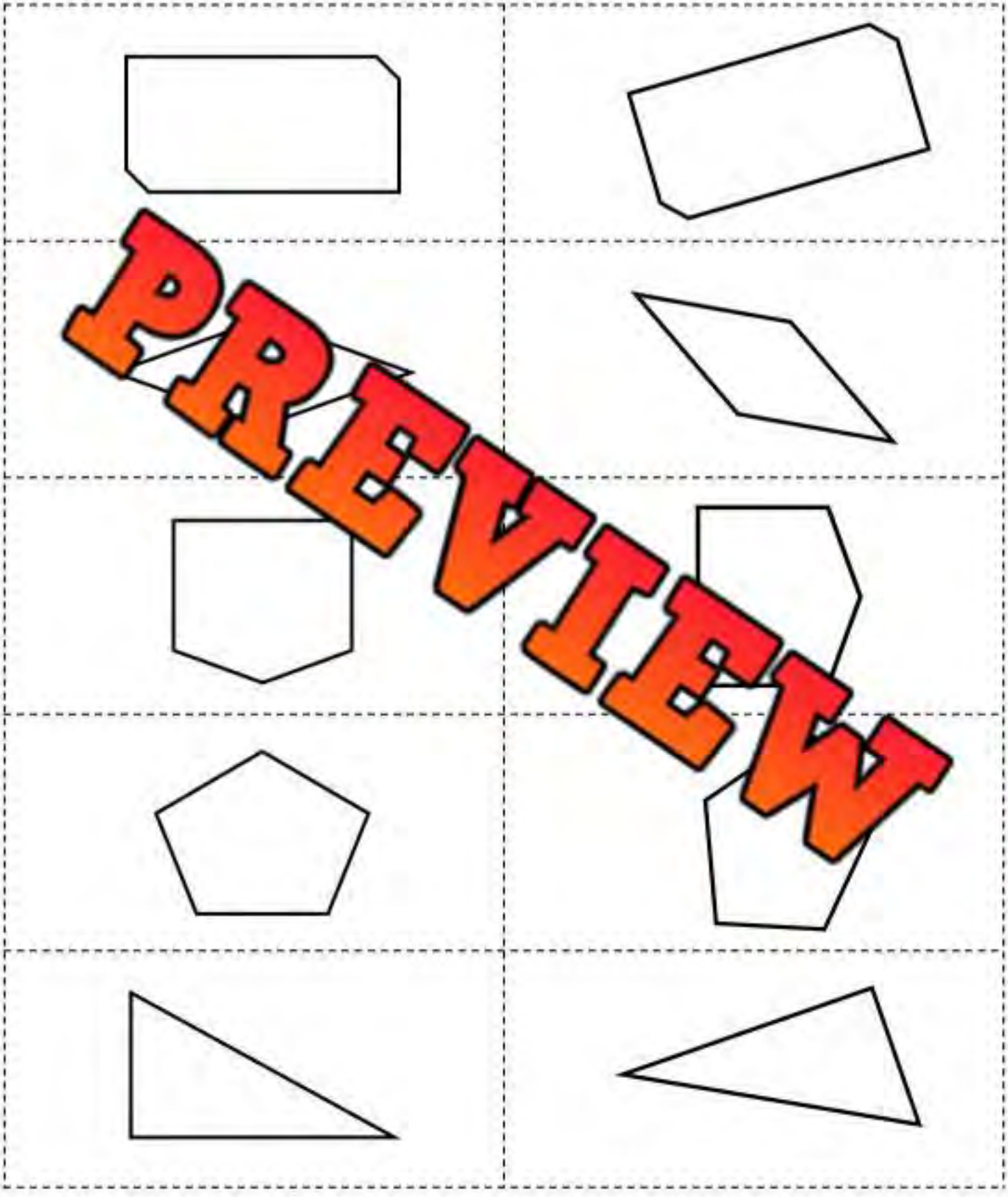
Cards | Memory Game Cards



Name: _____ 13

Curriculum Connection
SS6.3

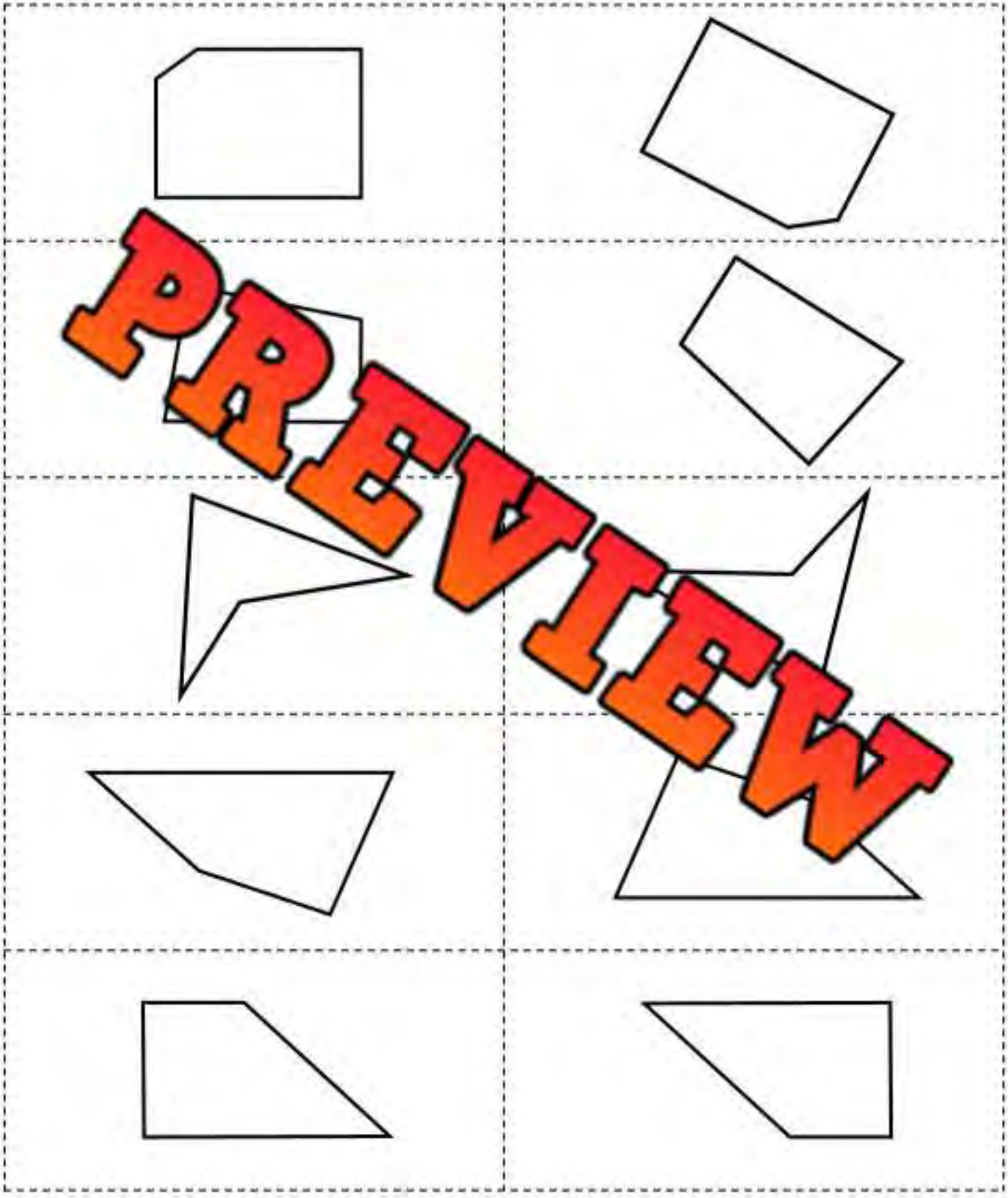
Cards | Memory Game Cards



Name: _____ 14

Curriculum Connection
SS6.3

Cards | Memory Game Cards

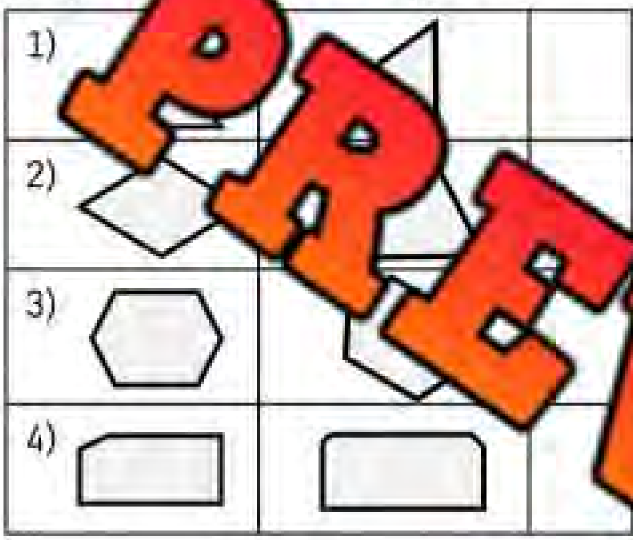


Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

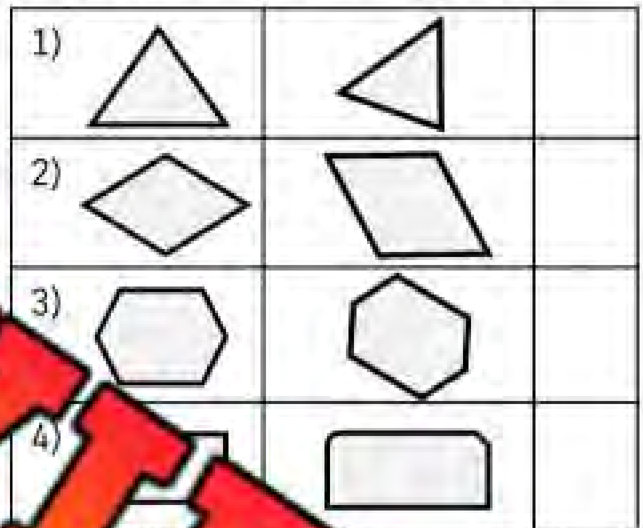
Name: ______________________

Put a check mark (✓) if the shapes are congruent and an **X** if they are not.



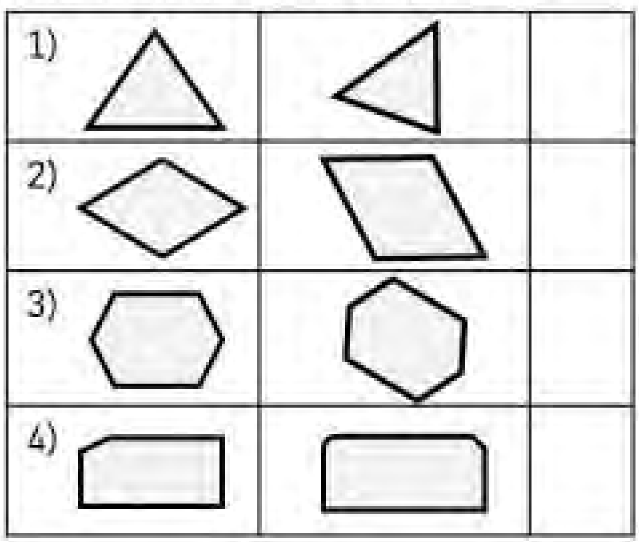
Name: ______________________

Put a check mark (✓) if the shapes are congruent and an **X** if they are not.



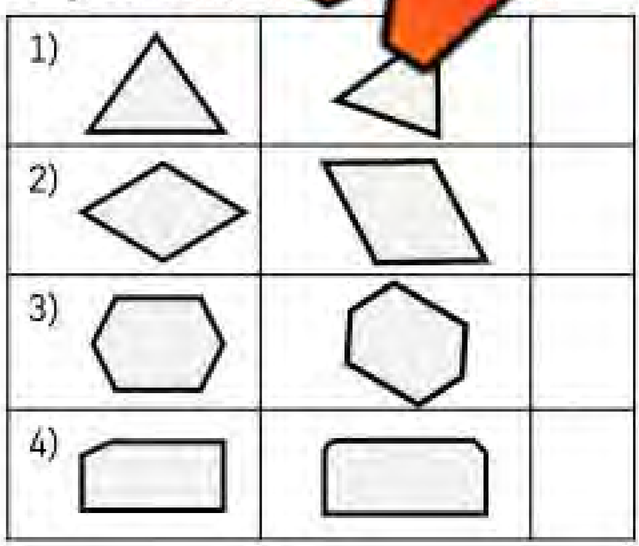
Name: ______________________

Put a check mark (✓) if the shapes are congruent and an **X** if they are not.



Name: ______________________

Put a check mark (✓) if the shapes are congruent and an **X** if they are not.

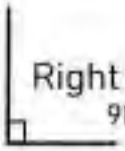


Name: _____ 18

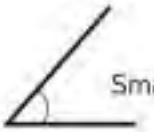
Curriculum Connection
5561

Naming Angles

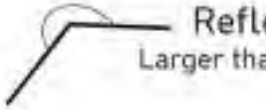
Obtuse
Larger than right angle



Right angle
90°

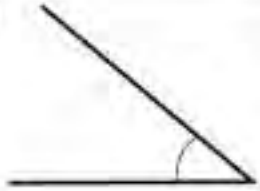
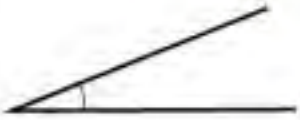
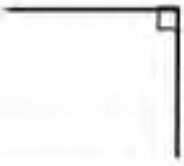
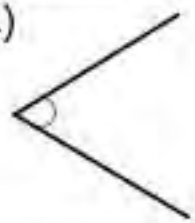
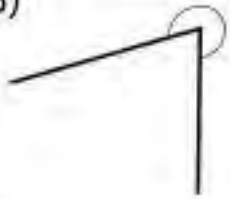


Acute
Smaller than right angle



Reflex
Larger than 180°

Instructions Label the angles acute, right, obtuse, or reflex

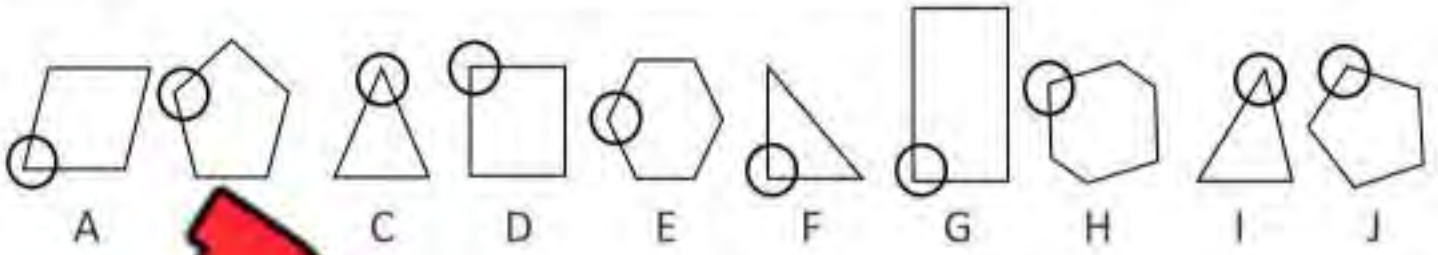
1) 	2)	3) 	4) 
5) 	6) 		8) 
9) 	10) 	11) 	
13) 	14) 	15) 	16) 

Name: _____ 19

Curriculum Connection
SSA 1

Sorting Angles

Part 1 Sort the angles into the categories below



Angles	Right Angle	Obtuse	Acute
Letters			

Part 2 Sort the angles below

Angles	Right Angle	Obtuse	
Letters			

Part 3 Circle the angles below

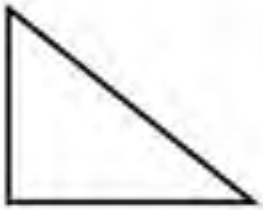
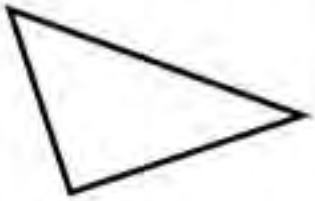
Drawings			
Angles	**Right Angle**	**Obtuse**	**Acute**

Name: _____ 20

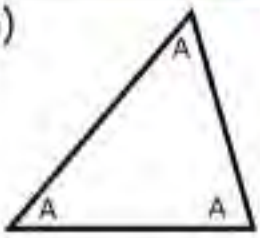
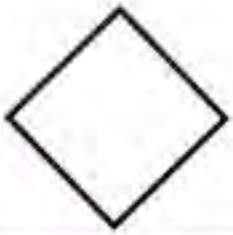
Curriculum Connection
SS6.1

Angles in Triangles and Rectangles

Part 1 Label the right angles with a small square and write how many right angles there are

1)	2)	3)	4)
			

Part 2 Label [illegible] obtuse (O) or right (R) inside the shapes below

5)	6)	7)	8)
			
Acute = 3	Acute =	[illegible]	cute =
Obtuse = 0	Obtuse =	Obtuse	=
Right = 0	Right =	Right =	

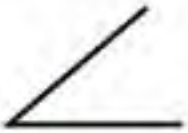
Part 3 Draw a picture of a shape with the number of angles it [illegible]

9)	10)	11)	12)
Triangle	**Triangle**	**Rectangle**	**Triangle**
Acute = 2	Acute = 3	Acute = 0	Acute = 2
Obtuse = 1	Obtuse = 0	Obtuse = 0	Obtuse = 0
Right = 0	Right = 0	Right = 4	Right = 1

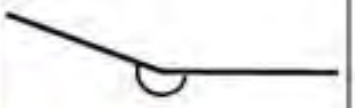
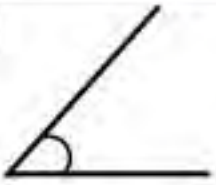
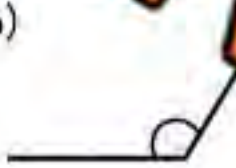
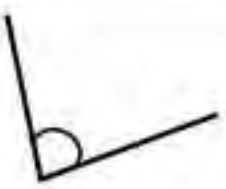
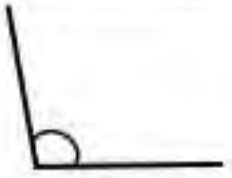
Name: _____ 21

Curriculum Connection
SS6.1

Naming Angles – Right, Obtuse, Acute, Straight, and Reflex

Right Angle – 90°	Acute Angle – smaller than 90°	Obtuse Angle – larger than 90°	Straight Angle – 180°	Reflex Angle – larger than 180°
				

Instruction Label the angle – straight, acute, obtuse, right, or reflex

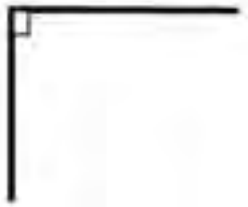
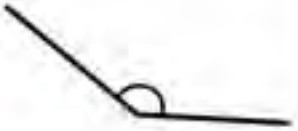
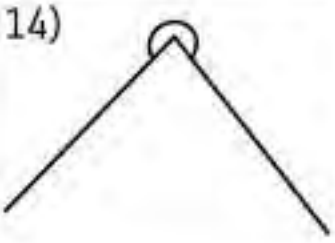
1) 		3) 	4) 
5) 	6) 		8) 
9) 	10) 	11) 	
13) 	14) 	15) 	16) 

Name: _____ 22

Curriculum Connection: SS4.1

Naming Angles – Right, Obtuse, Acute, Straight, and Reflex

Instructions Label the angle – acute, obtuse, right, or reflex

1) 	2) 	3) 	4) 
right acute obtuse reflex	right acute obtuse reflex	right acute obtuse reflex	right acute obtuse reflex
5) 	7) 	8) 	
right acute obtuse reflex	right acute obtuse reflex	right acute obtuse reflex	right acute obtuse reflex
9) 	10) 	11) 	
right acute obtuse reflex	right acute obtuse reflex	right acute obtuse reflex	right acute obtuse reflex
13) 	14) 	15) 	16) 
right acute obtuse reflex	right acute obtuse reflex	right acute obtuse reflex	right acute obtuse reflex

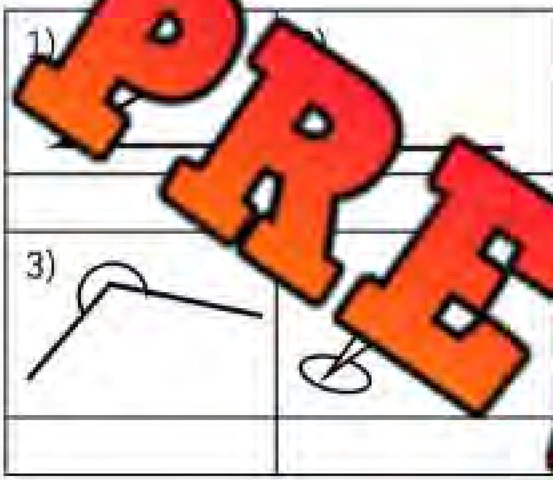
Curriculum Connection
SS6.1

Exit Cards

Cut Out | Cut out the exit cards below and have students complete them at the end of class

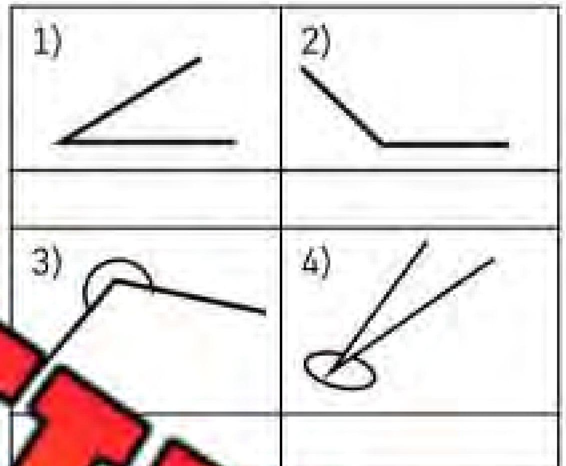
Name: ______________________

Label the angle – acute, obtuse or reflex



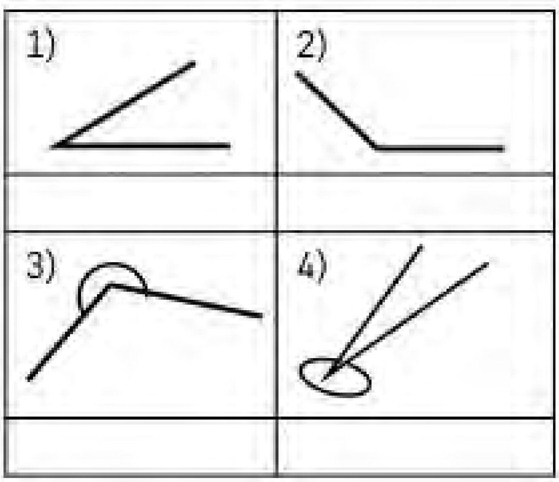
Name: ______________________

Label the angle – acute, obtuse or reflex



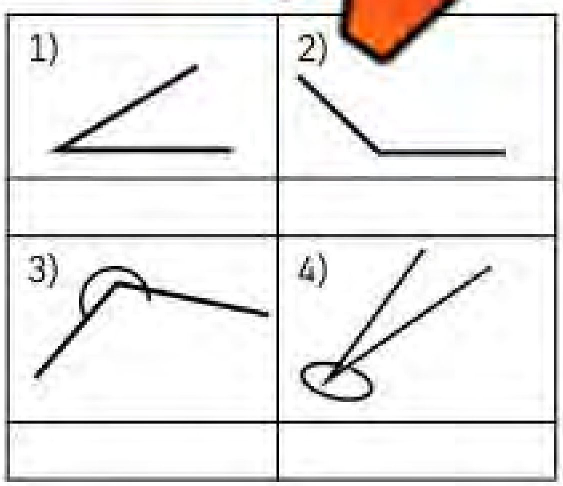
Name: ______________________

Label the angle – acute, obtuse or reflex



Name: ______________________

Label the angle – acute, obtuse or reflex



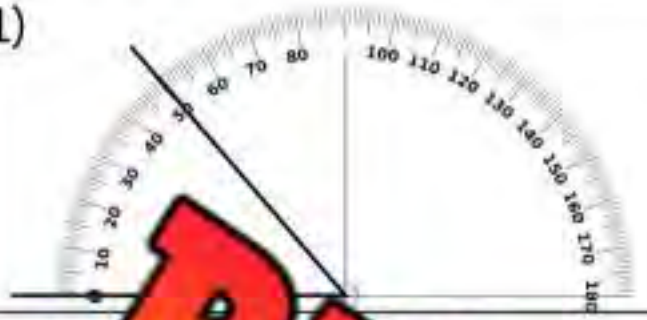
Name: _____ 25

Curriculum Connection
SS6.1

Measuring Angles - Printed Protractor

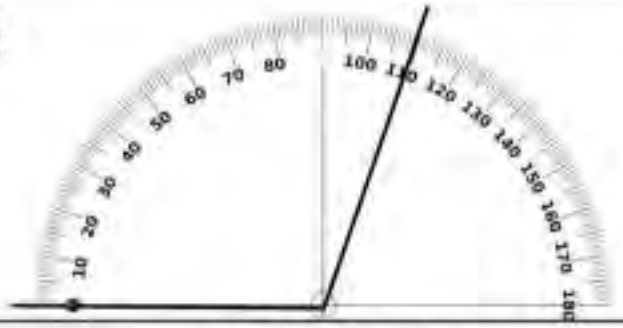
Instructions Measure the angles and label them acute, right or obtuse

1)



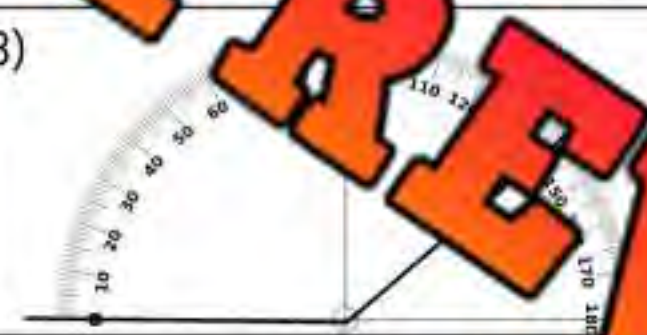
Angle = Type of Angle =

2)



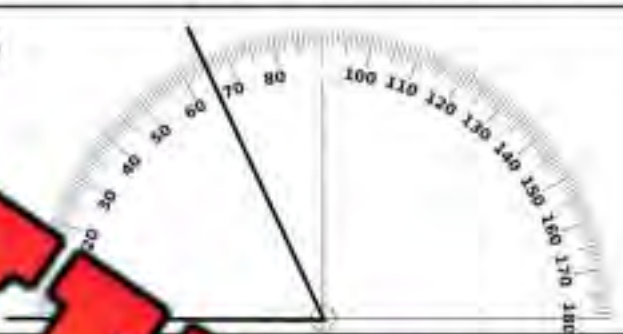
Angle = Type of Angle =

3)



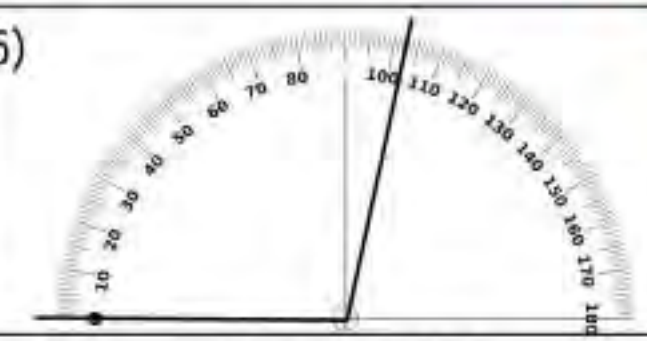
Angle = Type of Angle =

4)



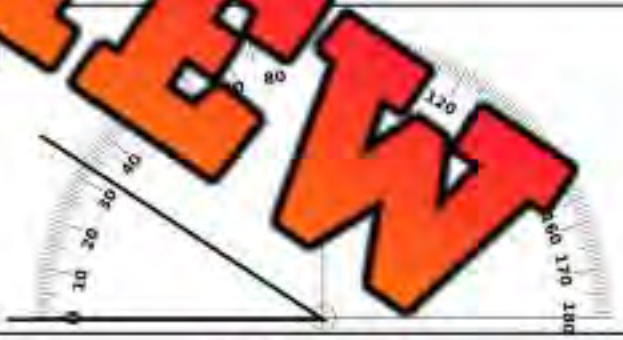
Angle = Type of Angle =

5)



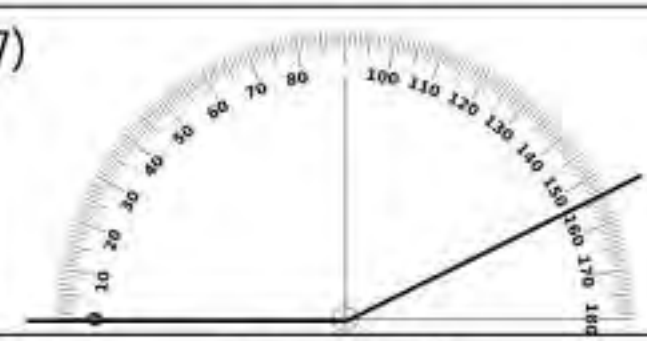
Angle = Type of Angle =

6)



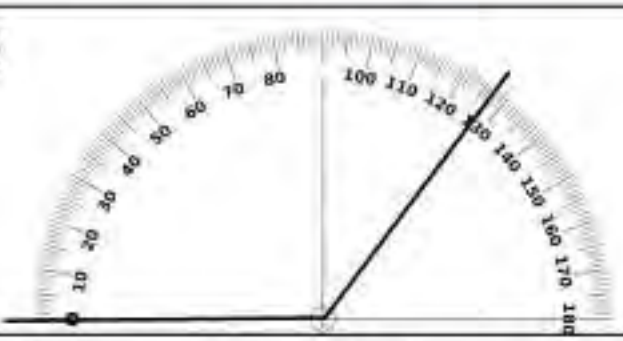
Angle = Type of Angle =

7)



Angle = Type of Angle =

8)



Angle = Type of Angle =

Name: _____ 27

Curriculum Connection
SS6.1

Measuring Angles Up To 180°

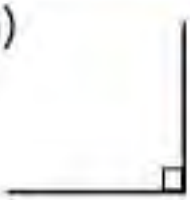
Instructions Measure the angles and label them acute, right or obtuse

1) 

2) 

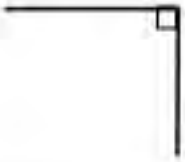
3) 

4) 

5) 

7) 

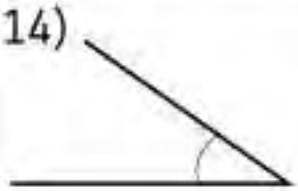
8) 

9) 

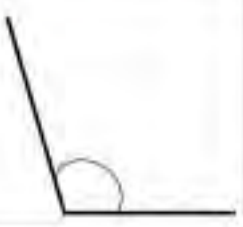
10) 

11) 

13) 

14) 

15) 

16) 

Name: _____ 28

Curriculum Connection
5.56.1

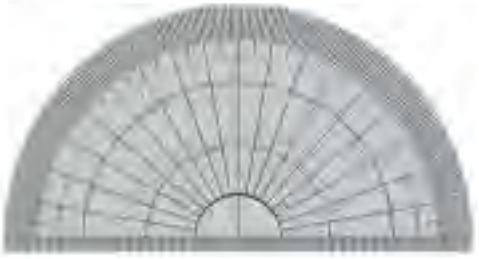
Activity: Angle Hunt

Objective — What are we learning about?

Students will learn to measure angles up to 180° and label them as right, obtuse, acute, straight, and reflex through a fun and engaging activity.

Materials — What you will need for the activity.

- [illegible]
- Rule[illegible]
- Angle Hu[illegible] (pr[illegible])
- Coloured pe[illegible] mar[illegible]



Instructions — How you will [illegible]

1. Begin by explaining the different types of [illegible]s: ri[illegible]use, acute, straight, and reflex. Show examples of each typ[illegible] a pr[illegible]d ruler.
2. Divide the students into pairs and give each p[illegible] protractor[illegible], and Angle Hunt worksheet.
3. Instruct students to search around the classroom for obje[illegible]at have angles. They should measure the angles they find using th[illegible]actor and ruler, then record their findings on the Angle Hunt worksh[illegible]
4. On the worksheet, students should label each angle they find as right, obtuse, acute, straight, or reflex. They should also draw the angle and write down the degree measurement.
5. Encourage students to use different colored pencils or markers to highlight the different types of angles they find.
6. Once all pairs have completed their Angle Hunt worksheets, gather the class together to review and discuss their findings. Ask each pair to share one example of an angle they found and how they labeled it.

Name: _____ 29

Curriculum Connection
SS6.1

Instruction Find and measure an angle that is less than 90°. Draw the angle and label it as acute.

Acute Angle

Name: _____ 31

Curriculum Connection
5.G.A.1

Instruction	Find and measure an angle that is greater than 90° but less than 180°. Draw the angle and label it as obtuse.

Obtuse Angle

Name: _____ 33

Curriculum Connection
5S6.1

Instruction	Find and measure an angle that is greater than 180°. Draw the angle and label it as reflex.

Reflex Angle

Name: _____ 35

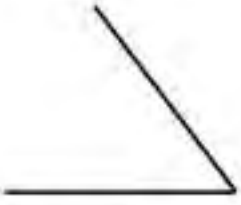
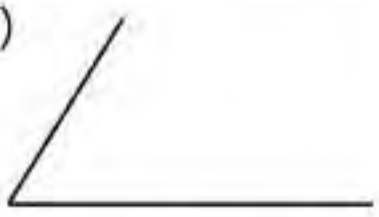
Curriculum Connection
SS6.1

Analyzing Angles – Estimating – Multiple Choice

Instructions Circle which angle you think it is. Do not use a protractor.

1) 	2) 	3) 
	a) ∠= 95°	a) ∠= 168°
	b) ∠= 100°	b) ∠= 50°
∠= 15	c) ∠= 80°	c) ∠= 120°
d) ∠=	∠= 120°	d) ∠= 12°

4) 	5) 	6) 
a) ∠= 74°	a) ∠= 3	∠= 50°
b) ∠= 170°	b) ∠= 30°	157°
c) ∠= 30°	c) ∠= 143°	
d) ∠= 106°	d) ∠= 170°	

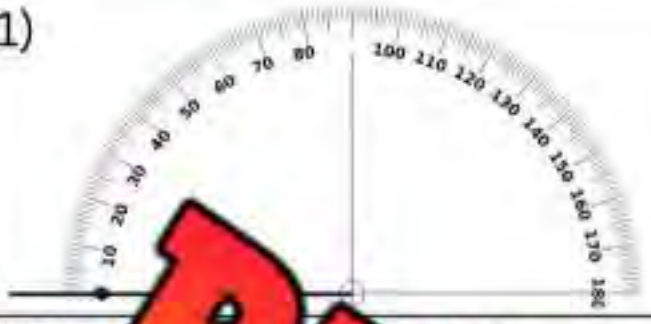
7) 	8) 	9) 
a) ∠= 95°	a) ∠= 60°	a) ∠= 171°
b) ∠= 54°	b) ∠= 120°	b) ∠= 9°
c) ∠= 110°	c) ∠= 10°	c) ∠= 50°
d) ∠= 160°	d) ∠= 160°	d) ∠= 85°

Name: _____ 36

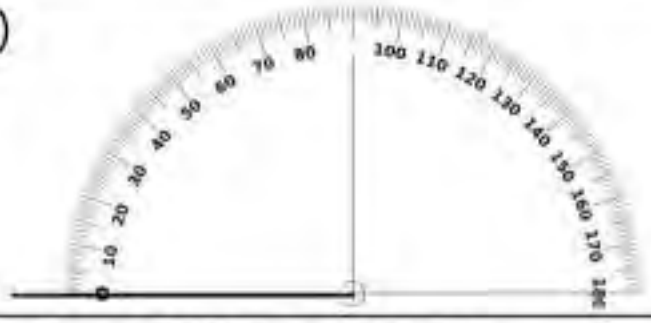
Curriculum Connection: SS6.1

Constructing Angles – Printed Protractor

Instructions Construct the angles and label them acute, right or obtuse

1) 

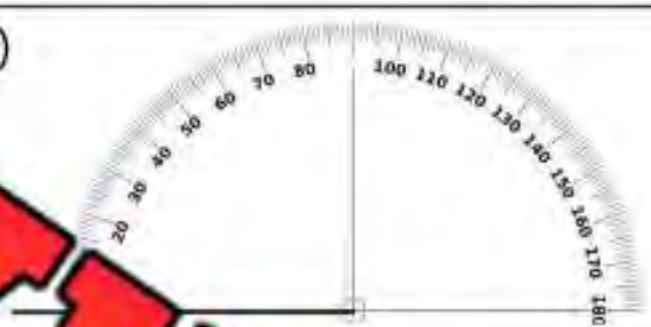
Angle = ∠= 90° Type of Angle = _____

2) 

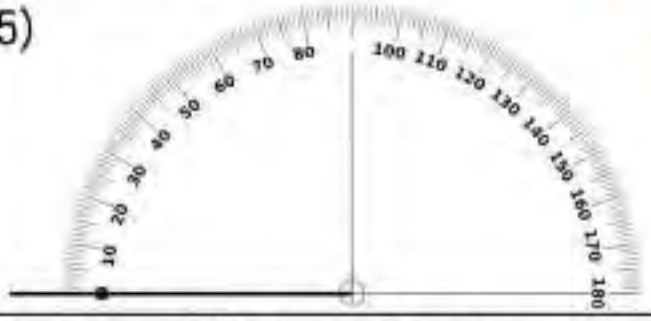
Angle = ∠= 110° Type of Angle = _____

3) 

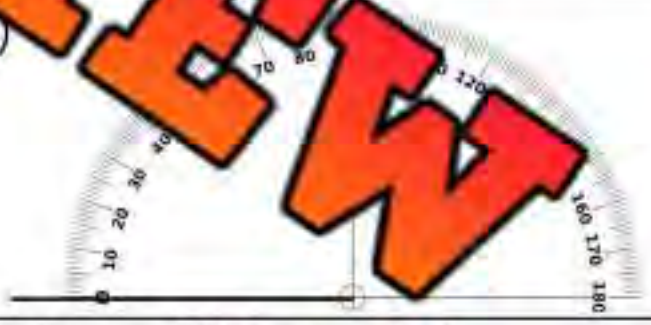
Angle = ∠= 42° Type of Angle = _____

4) 

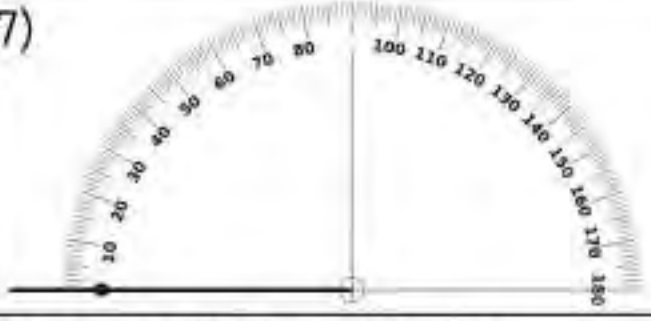
Angle = ∠= 5[illegible] Type of Angle = _____

5) 

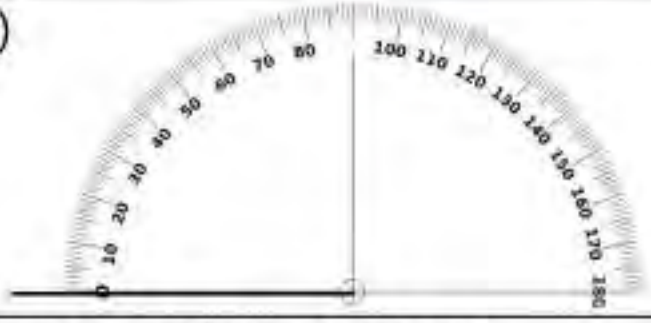
Angle = ∠= 124° Type of Angle = _____

6) 

Angle = ∠= 168° Type of Angle = _____

7) 

Angle = ∠= 49° Type of Angle = _____

8) 

Angle = ∠= 173° Type of Angle = _____

Curriculum Connection
S56.1

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Construct the angle and label it.

Angle = ∠= 175°

Type of Angle = _____

Name: _____

Construct the angle and label it.

Angle = ∠= 175°

Type of Angle = _____

Name: _____

Construct the angle and label it.

Angle = ∠= 175°

Type of Angle = _____

Name: _____

Construct the angle and label it.

Angle = ∠= 175°

Type of Angle = _____

Name: _____ 39

Curriculum Connections
SS6.1

Constructing Angles

Part 1 Use a protractor to draw the angles below using the line provided

1)	2)	3)
∠= [illegible]	∠= 70°	∠= 120°

Part 2 Use a protra[illegible]aw th[illegible]s below

1)	2)	3)
∠= 95°	∠= 115°	∠

4)	5)	6)
∠= 60°	∠= 25°	∠= 170°

Name: _____ 41

Curriculum Connection
SS6.1

Constructing Angles - Estimating

Use your knowledge of obtuse, acute, and right angles to help you estimate the angle measurements below. You can also use these angles to assist you with your estimations.

45° 90° 140° 180°

Part 1 Estimate the angles below using the line provided without a protractor

1)		3)
∠= 50°	∠= 75°	∠= 130°

Part 2 Draw the angles below without a protractor

1)	2)	3)
∠= 80°	∠= 70°	∠= 165°
4)	5)	6)
∠= 120°	∠= 30°	∠= 140°

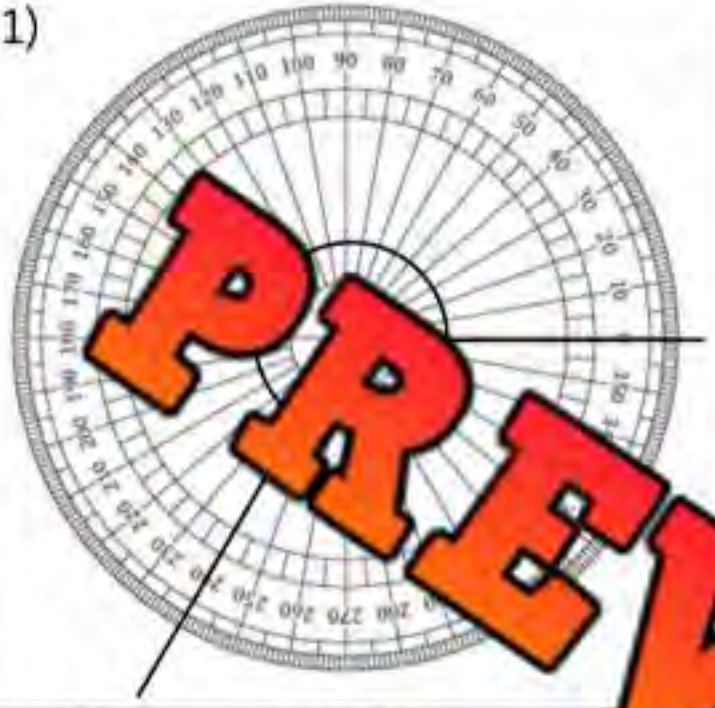
Name: _____ 42

Curriculum Connection
SS6.1

Using Printed Protractor – Angles Up To 360°

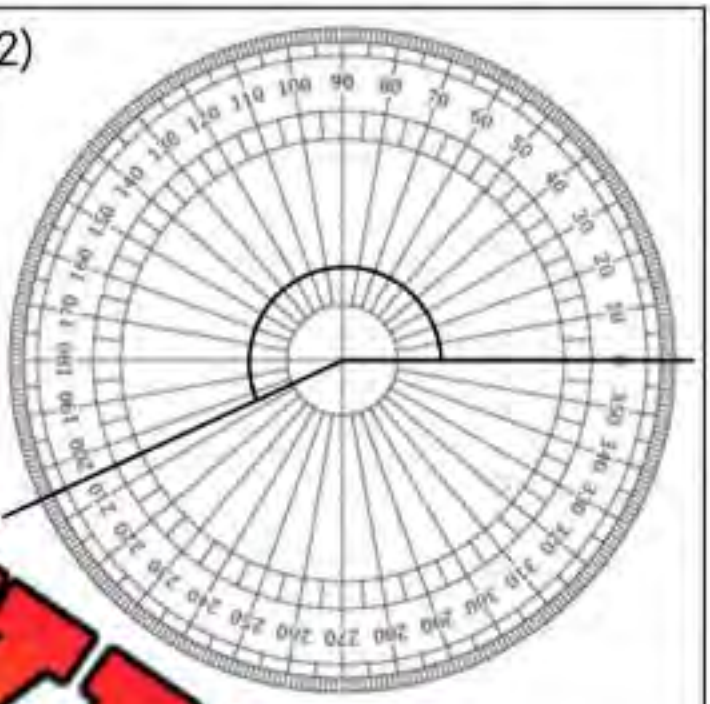
Instructions Measure the angles below using the circular protractor

1)



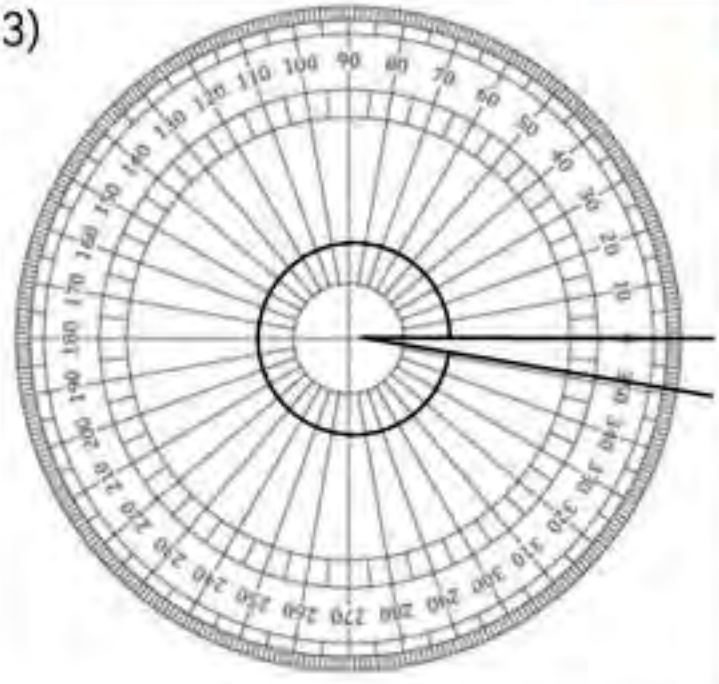
Angle = Type of Angle =

2)



Ang e of Angle =

3)



Angle = Type of Angle =

4)

Angle = Type of Angle =

Name: _____ 44

Curriculum Connection
SS6.1

Measuring Angles Up To 360°

We can measure reflex angles that are larger than 180° by using a circular protractor or a semi-circular protractor.

When using a semi-circular protractor, you can use one of two strategies:

1) Measure the angle starting with 180° and add 180°
2) Measure the remaining angle from 0° and subtract 360°

Solution

Strategy 1

180 + 100 = 280

Strategy 2

360 - 80 = 280

Instructions Measur… …lex … …w

1) Angle Size =

2) Angle Size =

3) Angle Size =

4) Angle Size =

Name: _____ 46

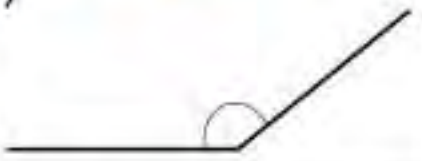
Curriculum Connection
SS6.1

Constructing Angles - Estimating – Multiple Choice

Instructions Circle which angle you think it is. Do not use a protractor

1) 	2) 	3) 
a) ∠= [illegible]°	a) ∠= 95°	a) ∠= 171°
b) ∠= [illegible]°	b) ∠= 100°	b) ∠= 9°
c) ∠= [illegible]°	c) ∠= 225°	c) ∠= 50°
d) ∠= [illegible]°	d) ∠= 290°	d) ∠= 85°

4) 	5) 	6) 
a) ∠= 168°	a) ∠= 6[illegible]°	∠= 90°
b) ∠= 50°	b) ∠= 120°	180°
c) ∠= 120°	c) ∠= 10°	
d) ∠= 10°	d) ∠= 160°	

7) 	8) 	9) 
a) ∠= 50°	a) ∠= 75°	a) ∠= 40°
b) ∠= 160°	b) ∠= 190°	b) ∠= 30°
c) ∠= 20°	c) ∠= 255°	c) ∠= 140°
d) ∠= 100°	d) ∠= 355°	d) ∠= 170°

Name: _____ 47

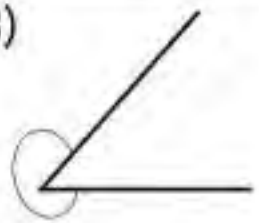
Curriculum Connection
SS6.1

Measuring Angles Up To 360°

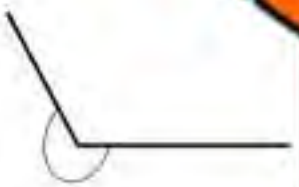
Instructions Measure the angles below

1) 

2) 

3) 

4) 

5) 

7) 

8) 

9) 

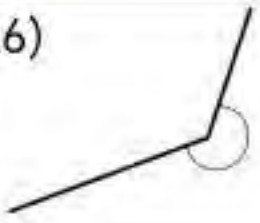
10) 

11) 

13) 

14) 

15) 

16) 

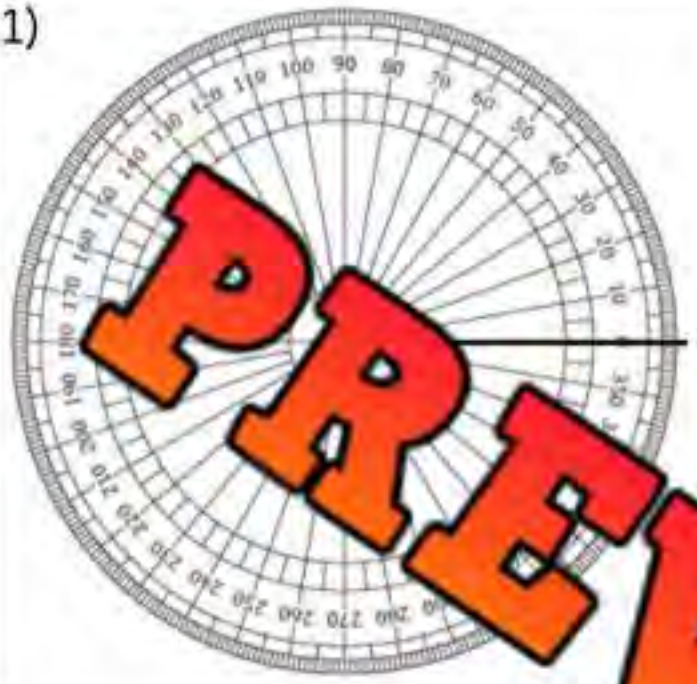
Name: _____ 49

Curriculum Connection
SS6.1

Constructing Angles Up To 360°

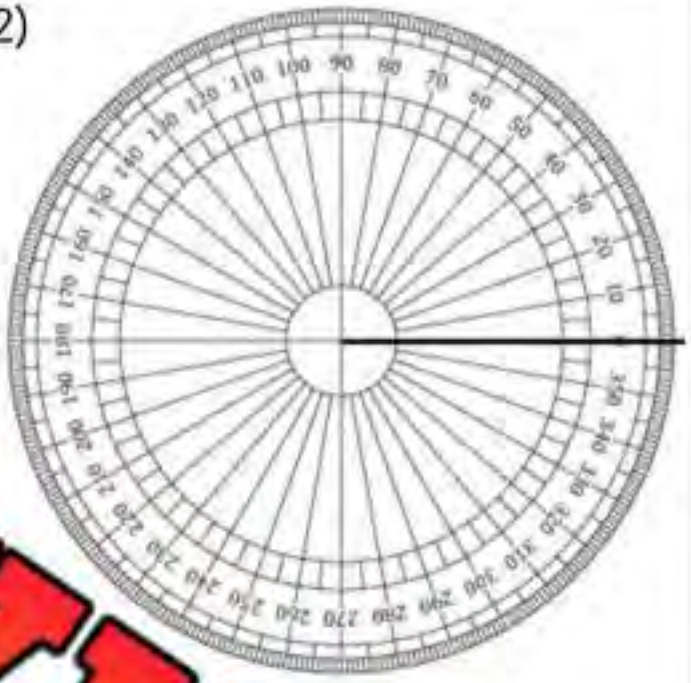
Instructions Construct the angles below

1)



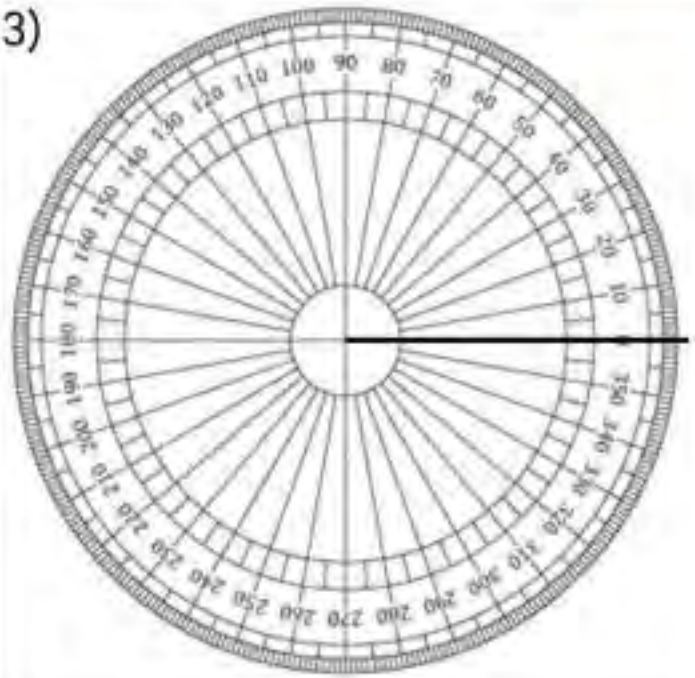
Angle = 195°

2)



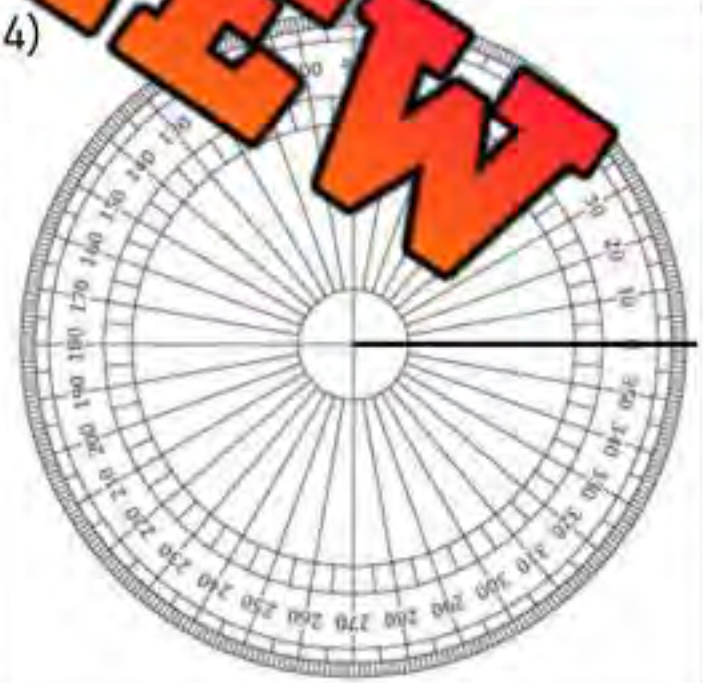
Angle = 292°

3)



Angle = 347°

4)



Angle = 262°

Name: _____ 50

Curriculum Connection
SS6.1

Constructing Angles Up To 360°

Part 1 Use a protractor to draw the angles below using the line provided

1)	2)	3)
∠= 2	∠= 275°	∠= 350°

Part 2 Use a pro draw les below

1)	2)	3)
∠= 287°	∠= 322°	∠=

4)	5)	6)
∠= 248°	∠= 318°	∠= 264°

Curriculum Connection
SS6.1

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

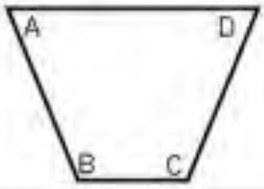
Name: _____

Measure the angles and label the quadrilateral.

∠A=
∠B=
∠C=
∠D=

Name: _____

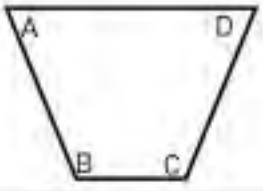
Measure the angles and label the quadrilateral.



∠A=
∠B=
∠C=

Name: _____

Measure the angles and label the quadrilateral.



∠A=
∠B=
∠C=
∠D=

Name: _____

Measure the angles and label the quadrilateral.

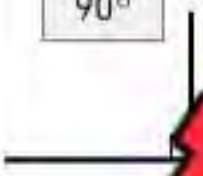
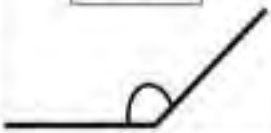
∠A=
∠B=
∠C=
∠D=

Name: _____ 53

Curriculum Connection
SS6.1

Constructing Angles - Estimating

Use your knowledge of obtuse, acute, right, and reflex angles to help you estimate the angle measurements below. You can also use these angles to assist you with your estimations.

Right Angle	Acute Angle	Obtuse Angle	Straight Angle	Reflex Angle
90°	45°	140°	180°	250°
				

Part 1 th[illegible] below using the line provided

1)	2)	3)	4)
∠= 75°	∠=35°	[illegible]	∠= 220°

Part 2 Draw the angles below

1)	2)	3)	
∠= 30°	∠= 110°	∠= 280°	∠= 350°

5)	6)	7)	8)
∠= 210°	∠= 310°	∠= 60°	∠= 130°

Name: _____ 54

Curriculum Connection
SS6.3

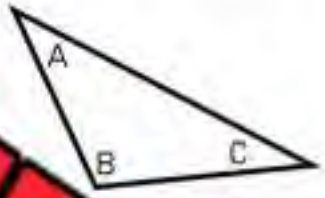
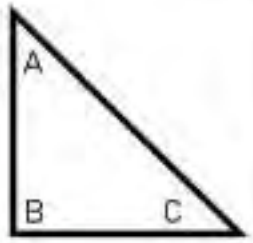
Measuring Angles

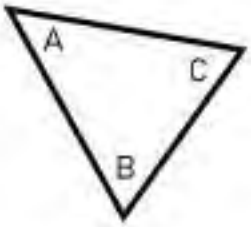
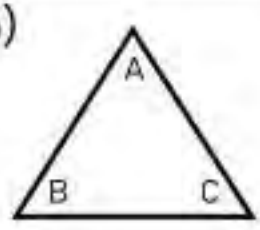
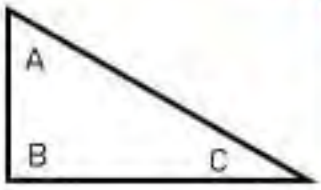
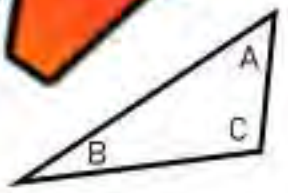
Acute Triangle – All angles are acute

Obtuse Triangle – One angle is obtuse

Right Triangle – One right angle

Instruction Measure the angles and label the triangles: Acute, Obtuse, or Right

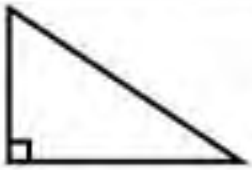
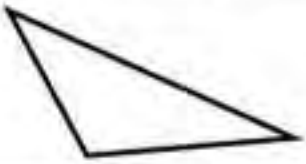
1) 		3) 	4) 
∠A=	∠A=		∠A=
∠B=	∠B=	∠B=	∠B=
∠C=	∠C=		C=
Obtuse Triangle			

5) 	6) 	7) 	
∠A=	∠A=	∠A=	∠A=
∠B=	∠B=	∠B=	∠B=
∠C=	∠C=	∠C=	∠C=

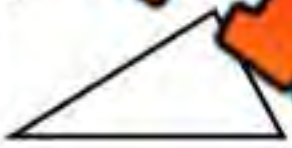
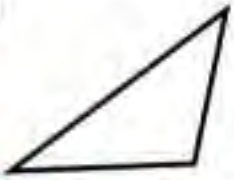
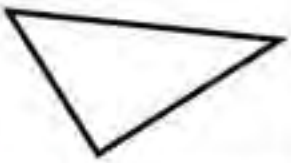
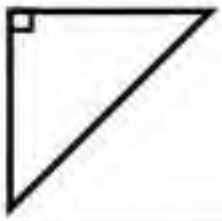
Name: _____ 55

Curriculum Connection
SS6.3

Acute, Obtuse, and Right Triangles

Acute Triangle	Right Triangle	Obtuse Triangle
		
All Angles Are Less Than 90°	1 Angle Is 90°	1 Angle Is Greater Than 90°

Part 1 Draw the angles below using the line provided

1) 		3) 	4) 
5) 	6) 	7) 	8) 

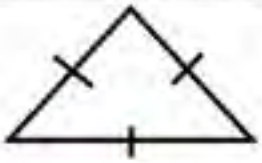
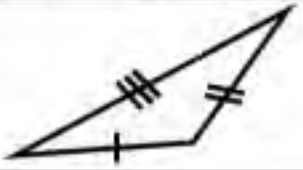
Part 2 Draw the angles below

9)	10)	11)
Acute Triangle	Obtuse Triangle	Right Triangle

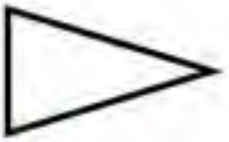
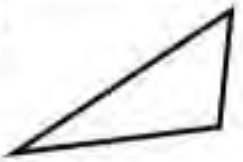
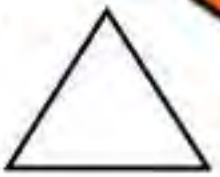
Name: _____ 57

Curriculum Connection: SS6.3

Types of Triangles – Equilateral, Scalene, Isosceles

Equilateral Triangle	Isosceles Triangle	Scalene Triangle
		
3 Equal Sides 3 Equal Angles	2 Equal Sides 2 Equal Angles	No Equal Sides No Equal Angles

Part 1 Classify the triangles equilateral, isosceles, or scalene

1) 		3) 	4) 
5) 	6) 	7)	8) 

Part 2 Draw a picture of the three different types of triangles

9)	10)	11)
Equilateral Triangle	**Isosceles Triangle**	**Scalene Triangle**

Name: _____ 58

Curriculum Connection
SS6.1

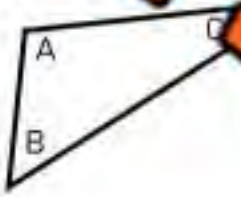
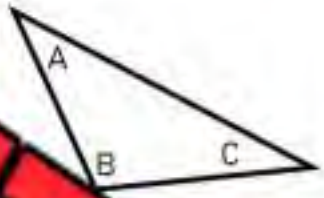
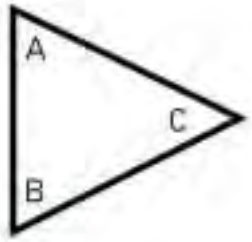
Measuring Angles

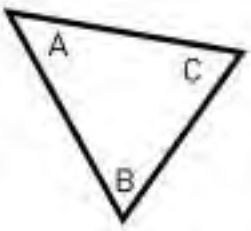
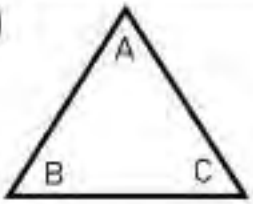
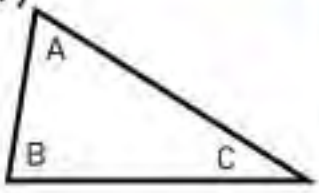
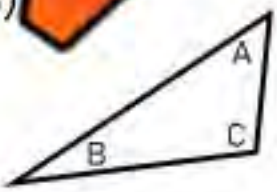
Equilateral Triangle – All sides lengths are equal

Isosceles Triangle – Two side lengths are equal

Scalene Triangle – All three side lengths are different

Instructions Measure the angles and label the triangles equilateral, isosceles, or scalene

1) 	2) 	3) 	4) 
∠A=	∠A=	∠A=	∠A=
∠B=	∠B=	∠B=	∠B=
∠C=	∠C=	∠C=	
Scalene			

5) 	6) 	7) 	8) 
∠A=	∠A=	∠A=	∠A=
∠B=	∠B=	∠B=	∠B=
∠C=	∠C=	∠C=	∠C=

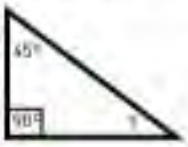
Name: _____ 59

Curriculum Connection: SS6.1

Finding Missing Angles In Triangles

When we add up all the angles inside a triangle, they will always add up to 180. Therefore, we can use this information to determine the missing angle inside a triangle.

Example:



Solution: 90 + 45 + ? = 180

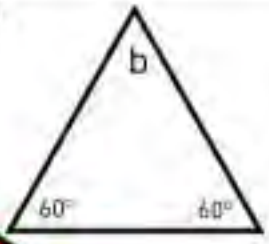
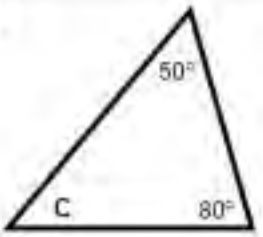
135 + ? = 180

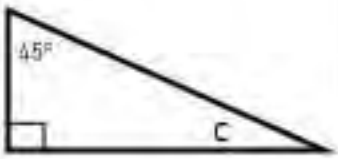
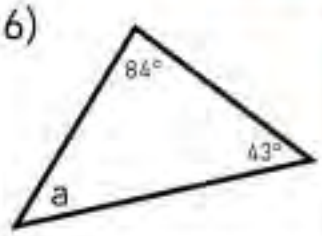
135 + 45 = 180

or 180 – 90 – 45 = 45

therefore, the missing angle is 45°

Part 1 — Find the missing angle in the triangles below

1)	3)	4)
		
c =	a =	=
		c =

5)	6)	7)
		
c =	a =	b =
		c =

Part 2 — Draw the triangle below and find the missing angle

Two of the angles in the triangle are acute, measuring at 35°. What is the measurement of the third angle? What type of angle is it?

Name: _____ 60

Curriculum Connection: SS6.1

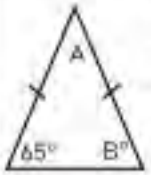
Interior Angles - Triangles

Interior angles are the angles inside a shape. The interior angles of a triangle will always equal 180°. We can use this information to solve for unknown angle measurements.

All angles are the same. Therefore, all angles = 60°

60 + 60 + 60 = 180

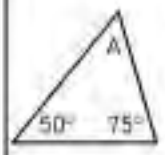
Equil… …gle



Two angles are the same. Therefore, angle A = 50°

65 + 65 + A = 180
A = 50°

Isosceles Triangle



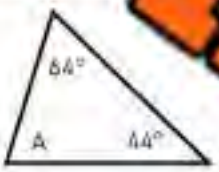
All angles are different. Therefore, angle A = 55°

50 + 75 + A = 180
A = 55°

Scalene Triangle

Instru… …values of the unknown angle measurements

1)

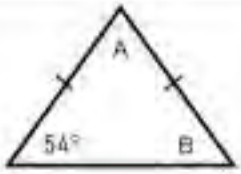


A =

2)

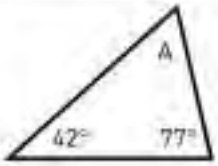
A =

3)



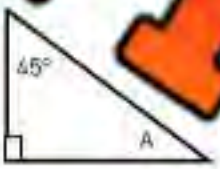
A =

4)



A =

5)



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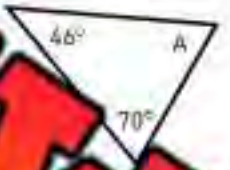
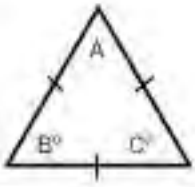


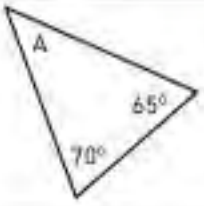
A =

7)



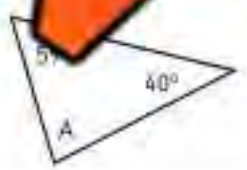
A =

8)



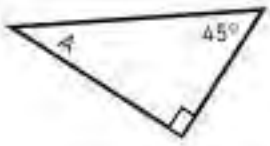
A =

9)



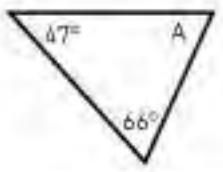
A =

10)



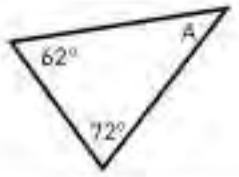
A =

11)



A =

12)



A =

Name: _____ 61

Curriculum Connection
3561

Interior Angles - Triangles - Word Problems

1) An isosceles triangle has two different angle measurements. Angle AB and AC are both 75°. What is the angle measurement of BC?

2) A scal triangle has angles of 66° and 72°. What is the third angle?

3) Liam cuts [illegible] tria[illegible]eces. He cuts 8 slices into equal sizes. The slices are iso[illegible] trian[illegible]wo angles of 52°. What is the third angle measurement?

4) Can an equilateral triangle have an angle s[illegible] 50[illegible]ain why or why not.

5) a) If two angles in a triangle equal 141°, what is the [illegible]alue[illegible]e?

b) Assuming all three angles are whole numbers, what type of triangle is it?

6) Sammy folds a paper into a right triangle for a paper airplane. One of the angles is 50°. What are the other two angles?

Curriculum Connection
5S6.1

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: ______________________

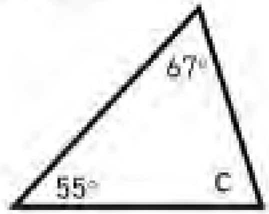
1) Find the missing angle in the triangles [illegible]

2) Maria cuts a ca[illegible] slices. Each isosceles [illegible]e slice has two angles of 35°. Wh[illegible] third angle?

____

Name: ______________________

1) Find the missing angle in the triangles below



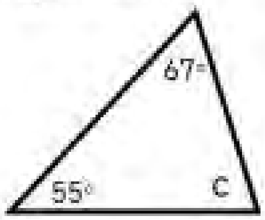
C = ________

2) Maria cuts a cake into 10 equal [illegible]ices. Each isosceles triangle slice [illegible]wo angles of 35°. What is the [illegible]e?

____

Name: ______________________

1) Find the missing angle in the triangles below



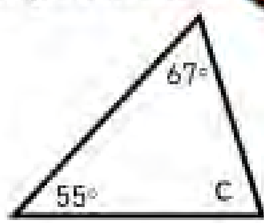
C = ________

2) Maria cuts a cake into 10 equal slices. Each isosceles triangle slice has two angles of 35°. What is the third angle?

____

Name: ______________________

1) Find the m[illegible]sing [illegible] triangles below



C = ________

2) Maria cuts a cake into 10 equal slices. Each isosceles triangle slice has two angles of 35°. What is the third angle?

____

Name: _____ 63

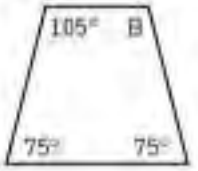
Curriculum Connection: SS6.1

Interior Angles - Quadrilaterals

Interior angles are the angles inside a shape. The interior angles of a quadrilateral will always equal 360°. We can use this information to solve for unknown angle measurements.

A rectangle has 4 equal angles that are 90°.

__ + __ + __ + __ = 360
90 + 90 + 90 + 90 = 360

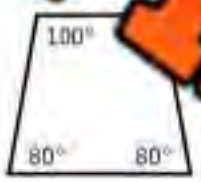


The trapezoid has 2 pairs of equal angles.

75 + 75 + 105 + B = 360
B = 105

Instructions: Find the values of the unknown angle measurements

1)



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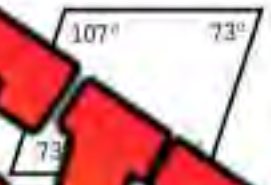
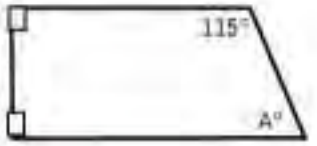


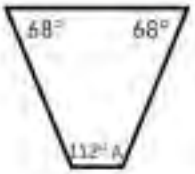
A =

3)



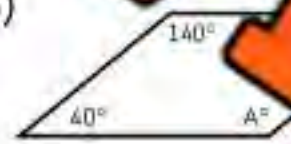
A =

4)

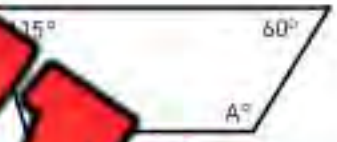


A =

5)



A =

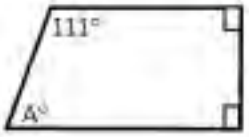


=

7)

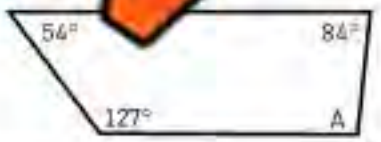
A =

8)



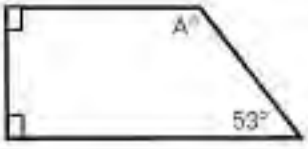
A =

9)



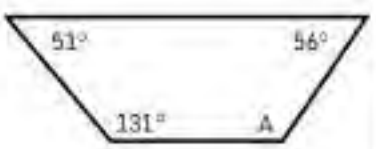
A =

10)



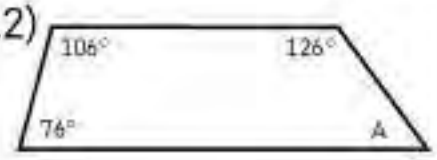
A =

11)



A =

12)



A =

Name: _____ 65

Curriculum Connection
5.G.4.1

Escape Room Math: Angle Adventures

Objective

What are we learning about?

Students will practice measuring and calculating the interior angles of quadrilaterals and triangles through a fun and interactive escape room game, enhancing their geometric skills and problem-solving abilities.

Materials

What you will need for the activity.

- I
- F tors
- Envelopes (f s)
- Small loc (or c tion locks)
- Boxes or sma ainer and keys)
- Markers or pens
- Timer (optional)

Instructions

How you will compl activ

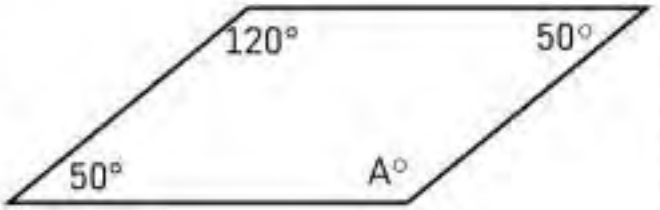
1. Prepare a series of math problems involv asuri culating the interior angles of quadrilaterals and triang Writ on a separate index card and place each card in an envelope.
2. Set up the classroom as an "escape room" with differ tati n will have a box or container with a lock, containing the next
3. Divide the students into small groups. Explain that they must solv e angle problems to find the keys or combinations to escape the room.
4. Give each group the first envelope with the initial problem. Once they solve the problem and measure or calculate the angles correctly, they will receive a key or combination to unlock the next box (they can come to you for verification or have a student helper).
5. Each group will move from station to station, solving problems and collecting keys or combinations. Use small locks and keys or combination locks to add a layer of challenge.
6. The first group to solve all the problems and "escape" from the room wins the game.

Name: _____ 66

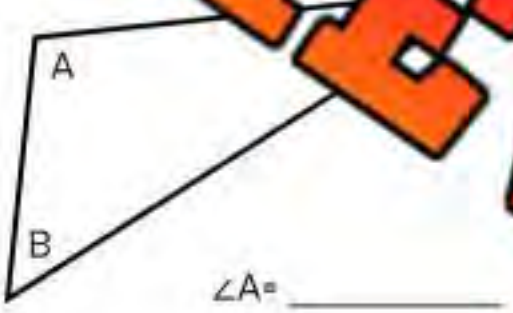
Curriculum Connection
SS6.1

Math Cards | Cut out the math cards below

A quadrilateral has interior angles of 90°, 85°, and 95°. Calc[illegible] the fourth angle.



A = _____

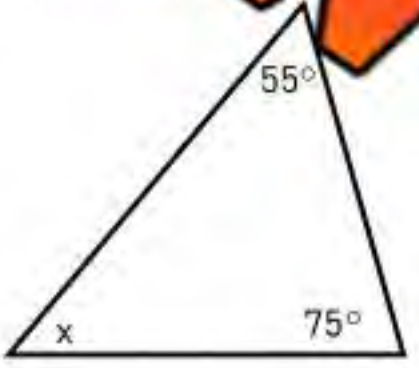


∠A= _____

∠B= _____

∠C= _____

Measure the angles of a triangle with one angle of 80° and another angle of 70°.



X = _____

Name: _____ 67

Curriculum Connection
SS6.1

Math Cards | Cut out the math cards below

An isosceles triangle has one angle measuring 80°. What are the measurements of the other two angles if the remaining angles are equal?

Measure the angles of a triangle with one angle of 50° and another angle of 60°.

∠A= _____

∠B= _____

∠C= _____

∠D= _____

Y = _____

A quadrilateral has one right angle and two angles of 110°. Calculate the fourth angle.

In a scalene triangle, one angle measures 35° and another angle measures 95°. What is the measurement of the third angle?

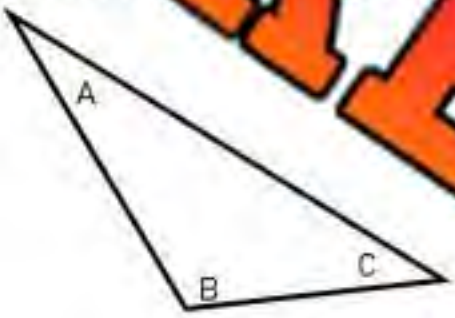
Name: _____ 68

Curriculum Connection
SS6.1

Math Cards | Cut out the math cards below

A carpenter is constructing a triangular frame. Two of the angles in the triangle measure 45° and 90°. What is the measurement of the third angle?

In a kite, two of the angles measure 65° and 115°. What are the measurements of the other two angles if they are equal?



∠A= _____

∠B= _____

∠C= _____

Z = _____

An architect is designing a triangular window with two equal angles measuring 50°. What is the measurement of the third angle in the window?

In a trapezoid, two of the angles measure 70° and 110°. If the other two angles are equal, what are their measurements?

Curriculum Connection
5S6.1

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: ______________________

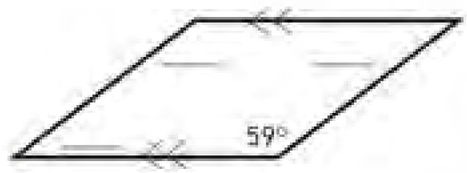
1) Find the values of the unknown angle measurements.

2) A trapezoid has angles of 80°, 100°, and 60°. What is the measurement of the fourth angle?

____

Name: ______________________

1) Find the values of the unknown angle measurements.



2) A trapezoid has angles of 80°, 100°, and 60°. What is the measurement of the fourth angle?

____

Name: ______________________

1) Find the values of the unknown angle measurements.

2) A trapezoid has angles of 80°, 100°, and 60°. What is the measurement of the fourth angle?

____

Name: ______________________

1) Find the values of the unknown angle measurements.

2) A trapezoid has angles of 80°, 100°, and 60°. What is the measurement of the fourth angle?

____

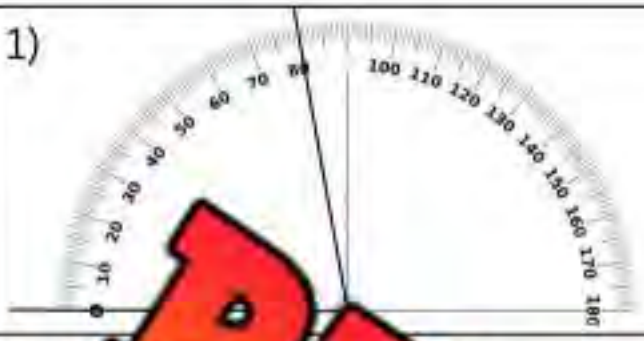
Name: _____ 70

Curriculum Connection
7G

Angles - Unit Quiz

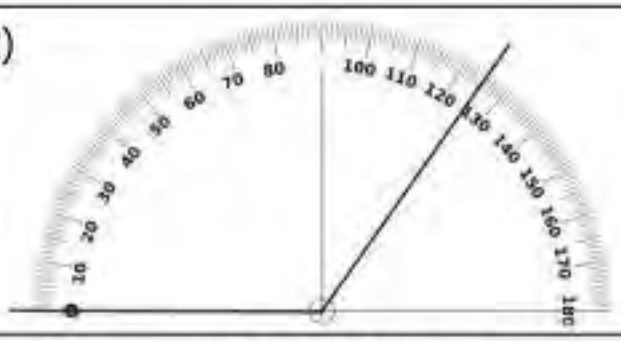
Part 1 Measure the angles and label them acute, right or obtuse

1)



Angle = Type of Angle =

2)



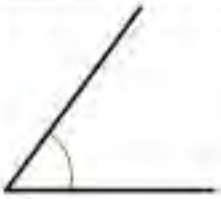
Angle = Type of Angle =

Part 2 Measure the angles and label them acute, right, or obtuse

1)

2)

4)



5)

6)

7)

Part 3 Use a protractor to draw the angles below using the line provided

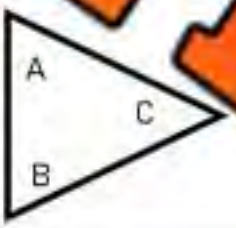
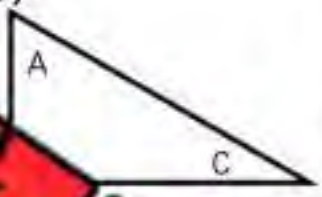
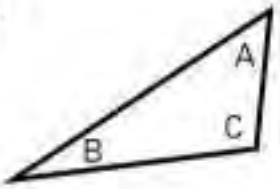
1)	2)	3)
∠= 60°	∠= 98°	∠= 147°

Curriculum Connection
TEK

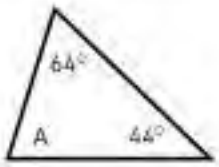
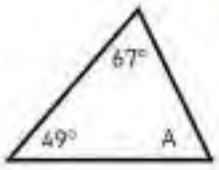
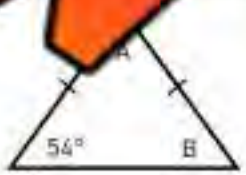
Part 4 Use a protractor to draw the angles below

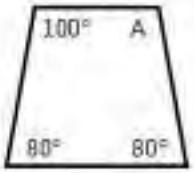
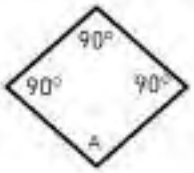
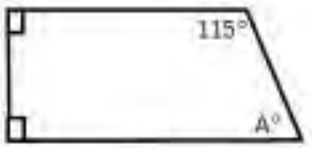
1)	2)	3)
[illegible]°	∠= 93°	∠= 145°

Part 5 [illegible]angles and label the triangles acute, obtuse, or right

1) 	2) 	3) 	4) 
∠A=	∠A=	∠A=	∠A=
∠B=	∠B=	∠B=	∠B=
∠C=	∠C=	∠C=	∠C=

Part 6 Find the values of the unknown angle measu[illegible]hen

1) 	2) 	3) 
A =	A =	A =

4) 	5) 	6) 
A =	A =	A =

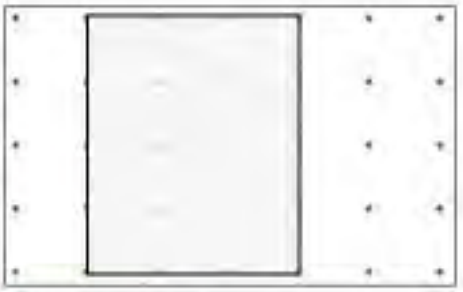
Name: _____ 72

Curriculum Connection
SS6.2

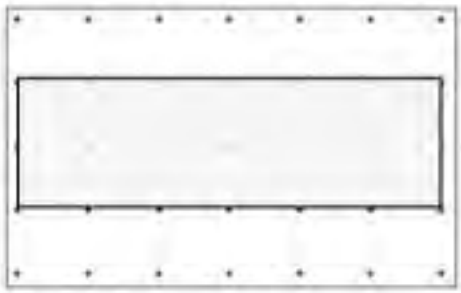
Perimeter of Regular and Irregular Polygons

Part 1 Find the perimeter of the rectangles below

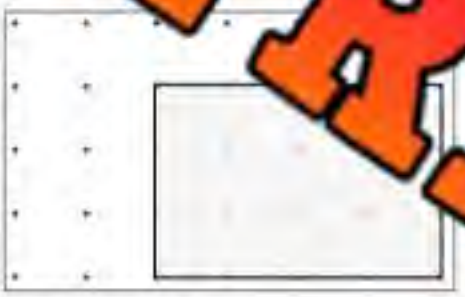
1) Pe



2) Perimeter= _____

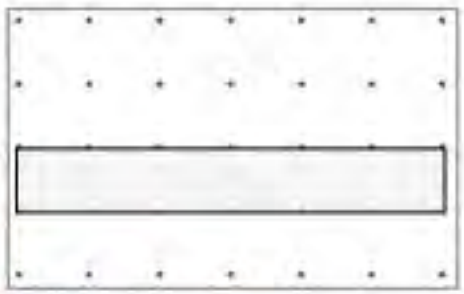


3) Perimeter= _____



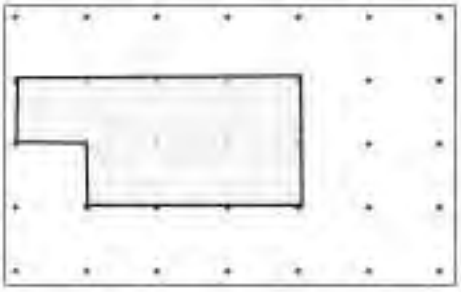
4) Perimeter= _____

5) Peri _____

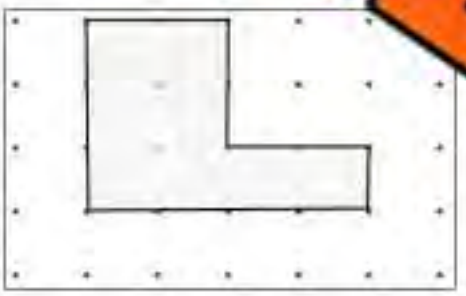


6) Perimeter= _____

Part 2 Find the perimeter of the poly elow

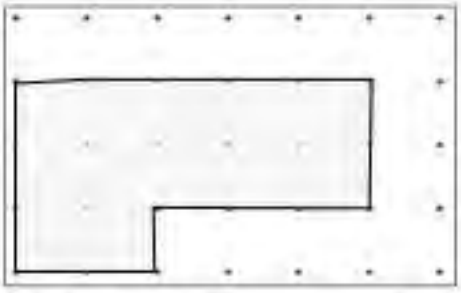


1) Perimeter= _____

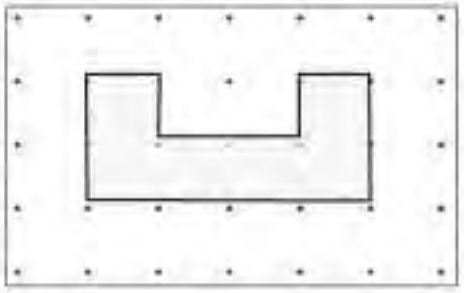


2) Perimeter= _____

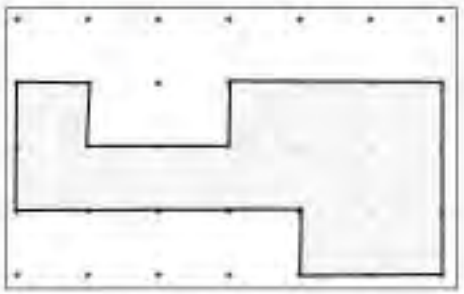
3) Perimeter= _____



4) Perimeter= _____



5) Perimeter= _____



6) Perimeter= _____

Name: _____ 73

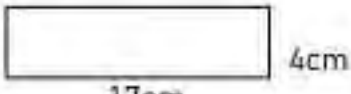
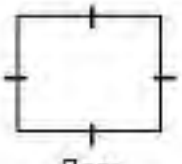
Curriculum Connection
SS6.2

Perimeter Formulas

Mathematicians use formulas to help them solve questions faster and easier. When finding the perimeter of a quadrilateral, we can use the following formulas.

Formula 1		Formula 2
a + b + a + b 9 + 3 + 9 + 3 = 24cm		(a + b) x 2 (9 + 3) x 2 = 24cm

Instruction Use both formulas to calculate the perimeter of the quadrilaterals

Shape	Formula 1	Formula 2
1) 		
2) 		
3) 		
4) 		
5) 		
6) 		

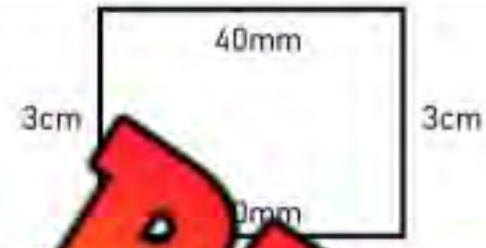
Name: _____ 75

Curriculum Connection
SS6.2

Perimeter of Irregular Polygons

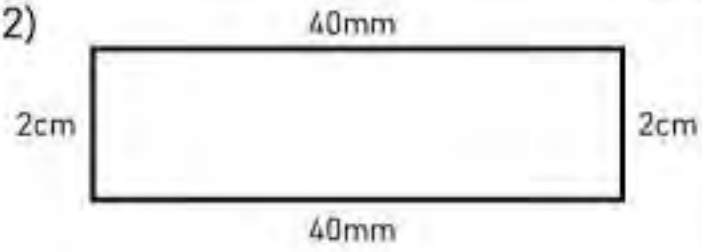
Part 1 Step 1 – Convert the units so they are all the same
Step 2 – Use a formula to calculate the perimeter

1)



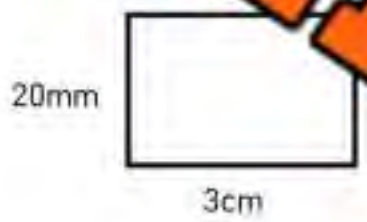
Perimeter = _____

2)



Perimeter = _____

3)



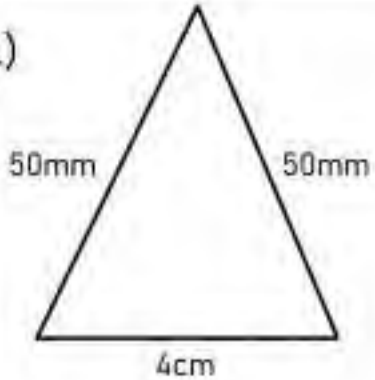
Perimeter = _____

4)

Perimeter = _____

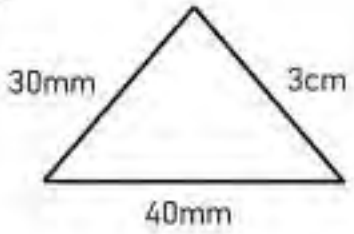
Part 2 Find the perimeter of the triangles below

1)



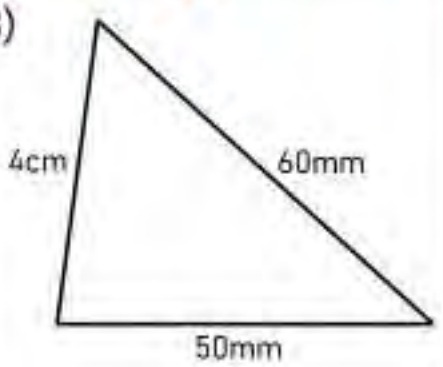
Perimeter = _____

2)



Perimeter = _____

3)



Perimeter = _____

Name: _____ 76

Curriculum Connection
SS6.2

Perimeter Word Problems

Instructions Draw a picture of the problem and then find the perimeter

1) A computer screen is 91cm by 42cm. What is the perimeter of the screen?

2) Pa[illegible] around his yard. His yard is 67m by 49m. What is the perimeter of his [illegible]

3) The school yard is a rectangle that [illegible] by [illegible] What is the perimeter of the yard?

4) A piece of paper is 153mm by 104mm. What is the perimeter

5) Mrs. Wilson is putting a border around her bulletin board. The board is 210cm by 1.32m. What is the perimeter of the bulletin board?

Name: _____ 77

Curriculum Connection
SS6.2

Regular and Irregular Polygons - Word Problems

Instructions Draw a picture of the problem and then find the perimeter

1) Henry built a fence using stones in his yard. The fence was shaped like a regular pentagon. The regular pentagon had side lengths of 13m. What is the perimeter of the shape?

2) Detective Carter tape[illegible]me s[illegible]an irregular shape. The irregular shape had 6 sides with the [illegible]g n[illegible]ts: 9m, 28m, 16m, 35m, 12m, and 47m. What is the distance of th[illegible]erim[illegible]

3) Jayden ran a perimeter around his neighbourhood. The perimeter [illegible]fan around was a regular hexagon. Each side was 415m long. What is the distance Jayden ran?

Name: _____ 78

Curriculum Connection
5562

Activity: Perimeter Race

Objective What are we learning about?

Students will practice calculating the perimeters of irregular and regular polygons by racing to answer questions quickly and accurately.

Materials What you will need for the activity.

- Index cards
- Markers
- Timer (optional)

Instructions How you will complete the activity

1. Prepare a stack of index cards with perimeter questions. Include a mix of regular polygons (e.g., squares, rectangles) and irregular polygons (e.g., shapes with various side lengths).
2. Have students line up in a single file (or you can keep students in their desk).
3. Call the first two students in line to the front. Explain that they will answer the perimeter question that the teacher pulls from the stack.
4. Pull a card from the stack and read the question aloud. The first student to answer correctly wins the round.
5. The student who answers correctly stays at the front to compete against the next student in line. The student who loses goes to the end of the line.
6. Optional: If a student wins five rounds in a row, they move to the back of the line to give others a chance to play.
7. Continue the game until all students have had a chance to compete multiple times or until the designated game time is up.

Name: _____ 79

Curriculum Connection
SS6.2

Index Cards | Cut out the Index cards below

A computer screen is 91cm by 42cm. What is the perimeter of the screen?

Paul is building a fence around his yard. His yard is 67m by 49m. What is the perimeter of his yard?

The school y[illegible]s a [illegible] that is 163m by [illegible]hat [illegible] the perimeter of t[illegible]d?

Mrs. Wilson is putting a border around her bulletin board. The [illegible]oard is 210cm by 1.32m. What [illegible]e perimeter of the bulletin board?

A rectangular garden is 12.5m by 10m. What is the perimeter of the garden?

The p[illegible]val[illegible]path is a rectangle [illegible]at [illegible]m. What is the p[illegible]the path?

The rectangular field measures 150m by 95m. What is the perimeter of the field?

The basketball court is 28m by 15m. What is the perimeter of the court?

Name: _____ 80

Curriculum Connection
SS6.2

Index Cards | Cut out the Index cards below

The garden path is 5.5m by 2.3m. What is the perimeter of the garden path?

A triangle has side lengths of 3m, 4m, and 5m. What is the perimeter of the triangle?

The sides of a triangle are 6m, 8m, and 10m. What is the perimeter of the triangle?

A triangle has sides of 2m, 300cm, and 2.5m. What is the perimeter of the triangle?

A picture frame is 0.5m by 0.7m. What is the perimeter

A triangle has sides of 15m, 20m, and 25m. What is the perimeter of the triangle?

The base of a triangle is 6cm, and the other two sides are each 8cm. What is the perimeter of the triangle?

The base of a triangle is 4m, and the other two sides are 450cm and 3.5m. What is the perimeter of the triangle?

Name: _____ 82

Curriculum Connection
SS6.2

Index Cards | Cut out the Index cards below

A farmer fenced his field in the shape of an irregular pentagon. The side lengths were 18m, 22m, 27m, 33m, and 35m. What is the perimeter of the fie

A town square was designed in the shape of an irregular hexagon. The side lengths were 10m, 15m, 20m, 25m, 30m, and 35m. What is the perimeter of the town square?

Sarah jogge a pa ned like a regular h n. E was 60m long. Wha stanc Sarah jogged?

Rachel created a kite with a frame in the shape of a regular quadrilateral. Each side of the quadrilateral was long. What is the perimeter of frame?

A school playground was designed in the shape of an irregular quadrilateral. The side lengths were 20m, 25m, 30m, and 35m. What is the perimeter of the playground?

A gard aid o he shape of an irreg ia le lengths were 12m What is the perime garden?

John built a birdhouse with a base in the shape of a regular pentagon. Each side was 5m long. What is the perimeter of the base?

A parking lot was built in the shape of a regular octagon. Each side of the octagon was 40m long. What is the perimeter of the parking lot?

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: ______________________

1) Convert the units so they are all the same and calculate the perimeter.

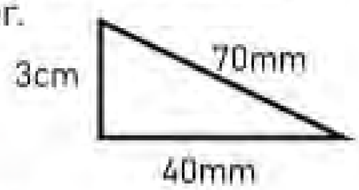
Perimeter = ______________

2) A rectangular swimming pool is 25m by 12m. What is the perimeter of the swimming pool?

____

Name: ______________________

1) Convert the units so they are all the same and calculate the perimeter.



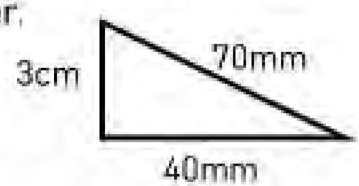
Perimeter = ______________

2) A rectangular swimming pool is 25m by 12m. What is the perimeter of the swimming pool?

____

Name: ______________________

1) Convert the units so they are all the same and calculate the perimeter.



Perimeter = ______________

2) A rectangular swimming pool is 25m by 12m. What is the perimeter of the swimming pool?

____

Name: ______________________

1) Convert the units so they are all the same and calculate the perimeter.

Perimeter = ______________

2) A rectangular swimming pool is 25m by 12m. What is the perimeter of the swimming pool?

____

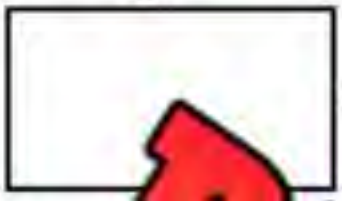
Name: _____ 84

Curriculum Connection
SS6.2

Same Area – Different Perimeter

Question Is it possible for a shape to have the same area and a different perimeter?

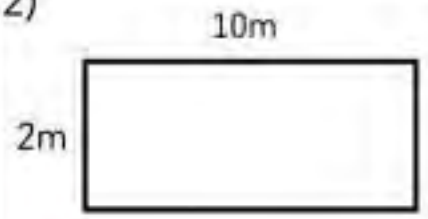
1)



Perim_____

Area: _____

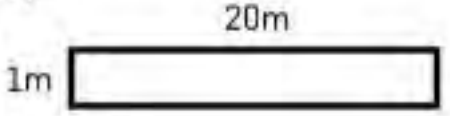
2)



Perimeter: _____m

Area: _____ m²

3)



Perimeter: _____m

Area: _____ m²

4)

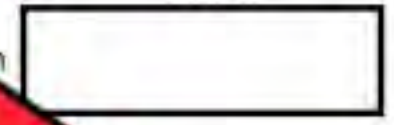
Perimeter: _____cm

Area: _____ cm²

Perimeter: _____cm

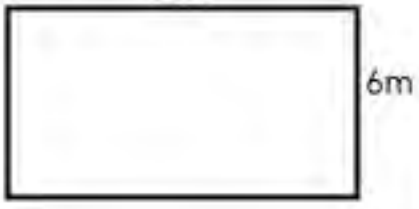
Area: _____ cm²

6)



Area: _____

7)



Perimeter: _____m

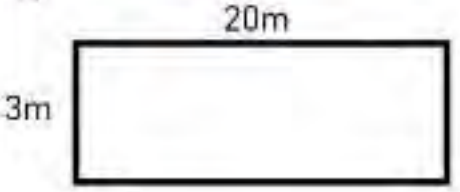
Area: _____ m²

8)

Perimeter: _____m

Area: _____ m²

9)



Perimeter: _____m

Area: _____ m²

Name: _____ 85

Curriculum Connection: SS6.2

Perimeter and Area

Questions Does a larger perimeter mean a larger area? Answer the questions below

1) School Garden: A school wants to create two rectangular gardens with different dimensions. Garden A measures 15 meters by 5 meters, while Garden B measures 10 meters by 7 meters.	
a) What is the perimeter of garden A?	
b) What is the perimeter of garden B?	
c) Which garden has a larger area to plant crops?	

2) Playground Fence: A neighborhood wants to build two rectangular playgrounds with different dimensions. Playground X has a length of 20 meters and a width of 8 meters, while Playground Y has a length of 18 meters and a width of 10 meters.	
a) What is the perimeter of playground X?	
a) What is the perimeter of playground Y?	
c) Which playground has a larger area to play in?	

3) Classroom Carpets: A school needs to buy carpets for two rectangular classrooms with different dimensions. Classroom 1 measures 12 meters by 4 meters, and Classroom 2 measures 9 meters by 6 meters.	
a) What is the perimeter of classroom 1?	
a) What is the perimeter of classroom 2?	
c) Which classroom will need the larger carpet?	

Name: _____ 86

Curriculum Connection
SS6.2

Metric System Units – Decimal Conversions

In Canada, we use the metric system. The metric system has 4 main units that we use to measure distances.

BENCHMARKS

Millimetre (mm)	Centimetre (cm)	Metre (m)	Kilometre (km)
15mm = 1.5cm 1500mm = 1.5m	150cm = 1.5m 1cm = 10mm	1.5m = 150cm 1500m = 1.5km	2.3km = 2300m

Part 1 Complete the tables below

mm	
5	
15	
	2.5
	3.5
45	
55	
	6.5
75	
85	
	9.5

cm	m
	0.5
	1.5
250	
350	
550	
650	
	7.5
850	
950	

m	km
1500	
	3.5
5500	
7500	
	9.5
500	
	15.5
	19.5

Part 2 Convert the units of measurement below

1) 1.1m	_____cm
2) 42mm	_____cm
3) 3.7cm	_____mm
4) 9.3cm	_____mm

5) 8.12m	_____cm
6) 515mm	_____cm
7) 426mm	_____cm
8) 7.5cm	_____mm

9) 831cm	_____m
10) 75mm	_____cm
11) 6.89m	_____cm
12) 562cm	_____m

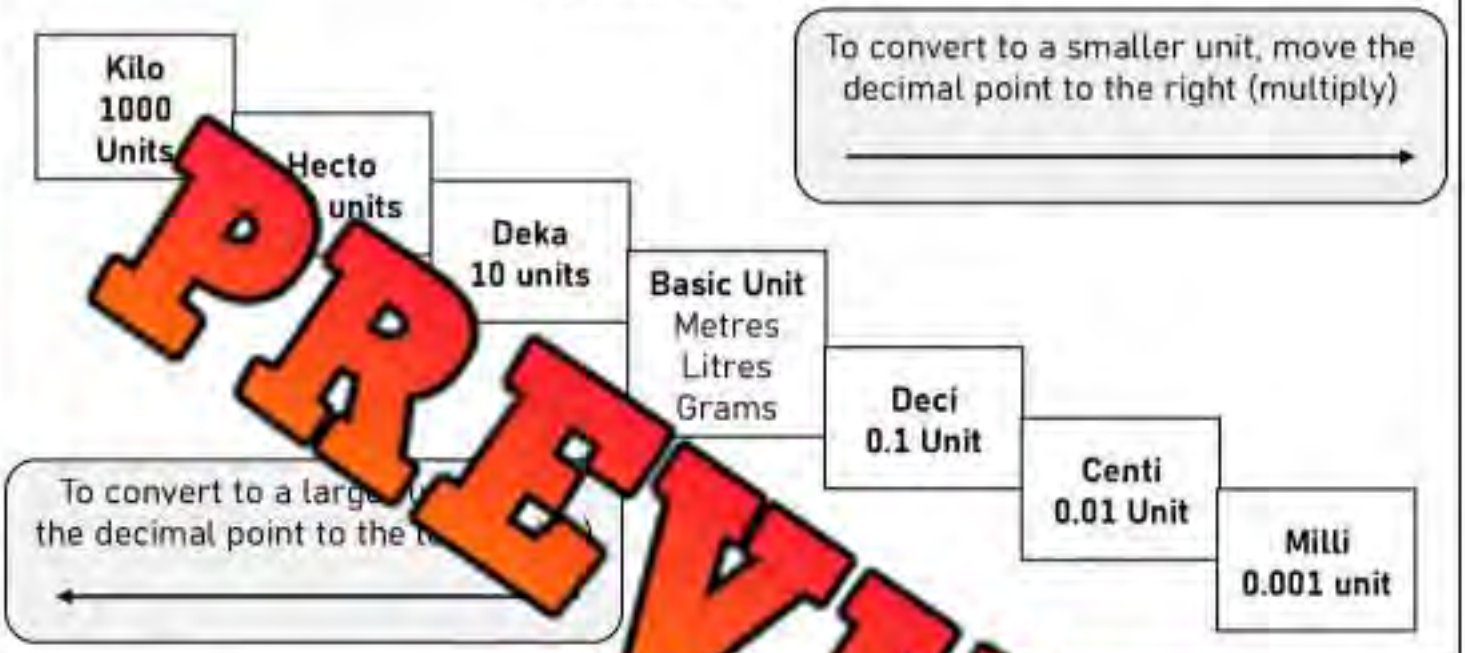
Name: _____ 87

Curriculum Connection
SS6.2

Converting Units - Ladder Method

We can use the ladder method to convert any metric unit of measurement to another simply by following the rules below.

Ladder Method



Instructions

1. Find your starting unit of measurement
2. Count the jumps to get to your ending unit of
3. Move the decimal the number of jumps up or dow
   Moving Up = Left and Moving Down = Right

EXAMPLE

_____ mm
(s down –
ecimal 3 right)
m

Practice Convert the units of measurement below

1) 2.8m	_____mm	5) 7.4km	_____m	9) 11 518m	_____km
2) 418mm	_____cm	6) 807m	_____km	10) 7921mm	_____m
3) 278cm	_____mm	7) 3045m	_____cm	11) 9.52m	_____mm
4) 277.5m	_____km	8) 5232cm	_____mm	12) 12cm	_____mm

Name: _____ 88

Curriculum Connection
SS6.2

Around the World Math Race: Converting L and ML

Objective What are we learning about?

Students will practice converting between millimetres, centimetres, metres, and kilometres by quickly answering conversion questions in a competitive and engaging game format.

Materials What you will need for the activity.

- [illegible] ions (e.g., converting millimetres [illegible] es and vice versa)
- Optional: [illegible]
- Chairs arran[illegible] circl[illegible]

Instructions How you [illegible] ple[illegible] ity

1. Setup: Arrange chairs in a circle, [illegible] ch st[illegible] d in a chair. One student stands behind a seated student to start the r[illegible]
2. Explain the Game: Explain to the students [illegible] hey [illegible] ating in a race around the circle by answering conversion qu[illegible] goal [illegible] ove around the entire circle and return to their original positi[illegible]
3. Start the Game: The teacher reads out a conversion qu[illegible] ion [illegible] centimetres are in 250 millimetres?").
4. Answering the Question: The standing student and the seated stud[illegible] front of them compete to answer the question first. The student who answers correctly first moves to stand behind the next seated student, while the other student remains seated.
5. Continue the Race: The teacher continues reading out questions, and the process repeats. The standing student continues to move around the circle, answering questions at each stop.
6. Winning the Game: The first student to make it around the entire circle and return to their original position wins the race.
7. Review: After the game, review some of the questions and answers with the class to reinforce the concepts and ensure understanding.

Name: _____ 89

Curriculum Connection
5562

Questions | Use the questions below for the game

Questions
A marathon runner completes 5 km. How many meters did they run?
How many centimeters are in 0.9 meters?
How many kilometers are in 3000 meters?
A pencil is 15 cm long. Express its length in meters.
How many centimeters are in 1.2 meters?
The distance between two cities is 120 km. Convert it to meters.
A rope is 2.5 meters long. How many centimeters is that?
How many kilometers are in 5000 meters?
How many centimeters are in 0.75 meters?
How many millimeters are in 1.1 centimeters?
A train travels 8500 m. Convert this distance to kilometers.
How many kilometers are in 6000 meters?
How many centimeters are in 2.5 meters?
How many millimeters are in 6.8 centimeters?
A cyclist covers 3.2 km. How many meters did they cycle?
How many kilometers are in 9000 meters?
A car travels 250 km. Convert this distance to meters.
A hiking trail is 2.5 km long. Convert this distance to centimetres.
The length of a football field is 100 m. Express it in kilometres.
How many kilometers are in 1500 meters?
How many centimeters are in 4.6 meters?
How many millimeters are in 9.7 centimeters?

Name: _____ 90

Curriculum Connection
SS62

Questions | Use the questions below for the game

Questions
A race track is 2.2 km long. Convert this distance to centimetres.
How many millimeters are in 3.7 meters?
How many meters are in 820 centimeters?
A piece [illegible]ing measures 85 cm. How many meters is that?
A road [illegible] 4520 m to the next town. Convert it to kilometers.
Ho[illegible] in 2.5 meters?
How many [illegible]imeters?
How many mete[illegible]rs?
A bicycle tire has a cir[illegible]ce o[illegible] Convert it to meters.
How many millimeters are in[illegible]
How many meters are in 150 centi[illegible]rs?
How many meters are in 2750 millimeters[illegible]
A bookshelf is 2.2 m wide. Express its width in m[illegible]
How many millimeters are in 4.7 meters?
How many meters are in 670 centimeters?
How many meters are in 5200 millimeters?
The perimeter of a square is 3.65 km. Express it in centimeters.
How many millimeters are in 2.1 meters?
How many meters are in 810 centimeters?
How many meters are in 4600 millimeters?
The height of a tree is 12000 mm. Express it in m.
How many millimeters are in 3.3 meters?

Name: _____ 91

Curriculum Connection
SS6.2

Which is Longer?

Part 1 Put the lengths in order from shortest to longest

1)	10.5m	200.2cm	10.5mm	0.14km
2)	2.5cm	3380mm	0.05km	300m
3)	520mm	525cm	5.5m	0.5km
4)	883cm	8.8m	8000mm	0.8km

Part 2 Read the problems and solve them below.

1. Fred and Norm both walk to school. Fred walks 1 m walks 1753m. Who walks further to school?

2. Nick and Ryan both competed in long jump at the track meet. Nick jumped 3.45m and Ryan jumped 329cm. Who jumped further?

3. Four friends measure the length of their feet. The results are: Cole (19cm), Ashton (0.22m), Ryker (210mm), and Xander (0.000205km). Rank the friend's feet in order from longest to shortest.

Curriculum Connection
SS6.2

Exit Cards

Cut Out — Cut out the exit cards below and have students complete them at the end of class

Name: ______________________

1) Conver[illegible] the units of measurement below.

a) [illegible] ______ m

b) [illegible] m

c) 649[illegible] m

2) Solve the pr[illegible] belo[illegible]

Sarah and Tom both r[illegible]e. Sarah ran 4.2 km and To[illegible]50 m. Who ran further?

____

Name: ______________________

1) Convert the units of measurement below.

a) 5.3km = ______ m

b) 425m = ______ cm

c) 6491cm = ______ mm

2) Solve the problem below

Sarah and Tom both ran in a race. [illegible]h ran 4.2 km and Tom ran 3850 [illegible]an further?

____

Name: ______________________

1) Convert the units of measurement below.

a) 5.3km = ______ m

b) 425m = ______ cm

c) 6491cm = ______ mm

2) Solve the problem below

Sarah and Tom both ran in a race. Sarah ran 4.2 km and Tom ran 3850 m. Who ran further?

____

Name: ______________________

1) Convert th[illegible] uni[illegible]nt below.

a) 5.3km = [illegible]

b) 425m = ______ cm

c) 6491cm = ______ mm

2) Solve the problem below

Sarah and Tom both ran in a race. Sarah ran 4.2 km and Tom ran 3850 m. Who ran further?

____

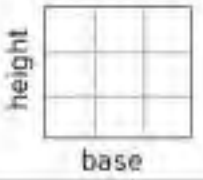
Name: _____ 93

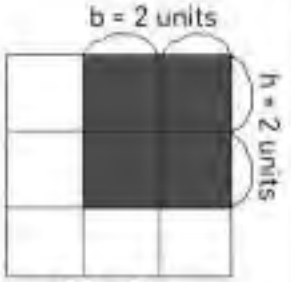
Curriculum Connection
SS6.2

Area – Units Squared

When we calculate the area of a shape, we can use the following formula

A = base (b) x height (h)



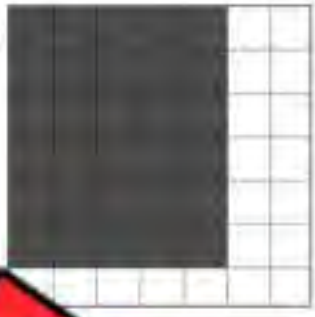


A= b x h
A = 2 x 2
A = 4 units²

Instruction Find the area of the shapes below

1) 

A= b x h
A = ___ x ___
A = ___ units²

2) 

A= b x h
A = ___ x ___
A = ___ units²

3) 

A= b x h
A = ___ x ___
A = ___ units²

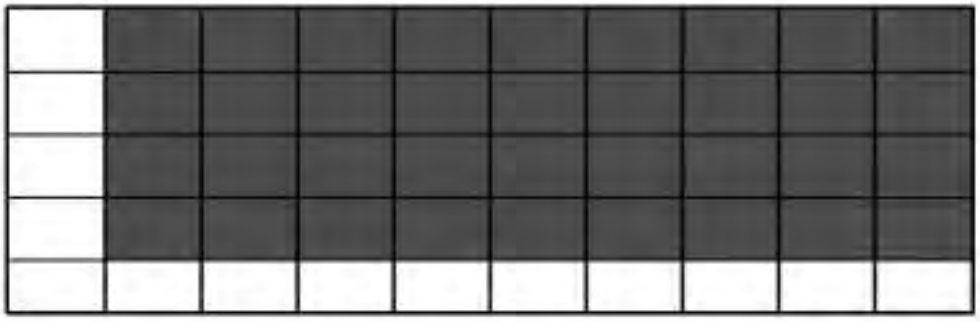
A= b x h
A = ___ x ___
___ units²

5) 

A= b x h
A = ___ x ___
A = ___ units²

6) 

A
A = ___ x ___
A = ___ units²

7) 

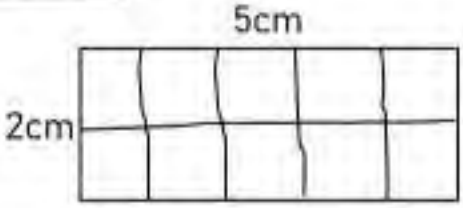
A= b x h
A = ___ x ___
A = ___ units²

Name: _____ 95

Curriculum Connection
SS6.2

Calculating Area Using CM

We can draw lines on shapes to segment them into cm squares. Try your best to make the squares equal.



Directions Draw lines in the shapes below to create cm squares. Then count the squares

1) 4cm, 3cm

Area = _____

2) 6cm, 2cm

Area = _____ cm²

3) 5cm, 3cm

Area = _____

6cm, 4cm

Area = _____

5) 10cm, 4cm

Area = _____

6) 5cm, 6cm

Area = _____

Name: _____ 96

Curriculum Connection
SS6.2

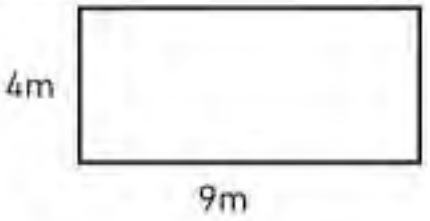
Finding the Area of Rectangles

Instructions | Find the area (A= b x h) | *Not to Scale

1)

Area = _____

2)



Area = _____

3)

Area = _____

4)

Area = _____

5)

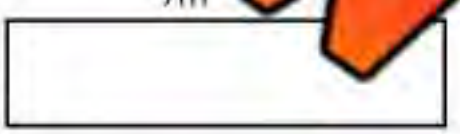
Area = _____

Area = _____

7)

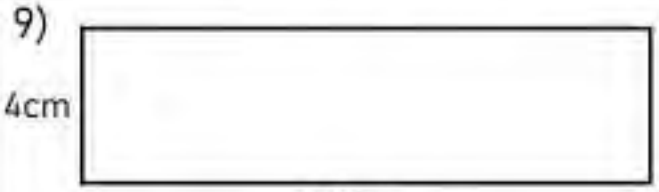
Area = _____

8)



Area = _____

9)



Area = _____

10)

Area = _____

Name: _____ 98

Curriculum Connection
SS6.2

Area Word Problems

Questions | Draw a picture of the problem and then find the area

1) A phone is 11cm by 60mm. What is the area of the phone?

2) A [illegible] by [illegible]. What is the area of the pool?

3) A candy wrapper is 40mm wide an[illegible]ong[illegible] is the area of the wrapper in cm?

4) The front of a square box is 12cm wide. What is the area of t[illegible]e box?

5) A door is 3m by 150cm. What is the area of the door?

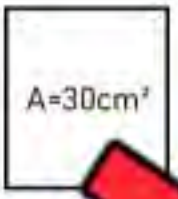
Name: _____ 99

Curriculum Connection
SS6.2

Finding the Missing Information

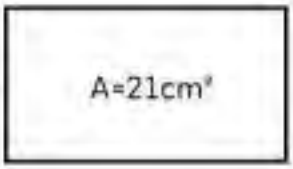
Instructions Find the missing value (A= b x h)

1)



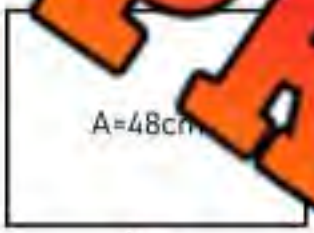
Base = _____
Height = _____
Area = _____

2)

3cm 

Base = _____
Height = _____
Area = _____

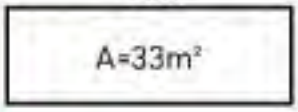
3)



Base = _____
Height = _____
Area = _____

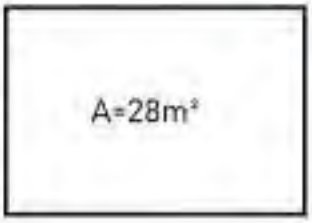
4)

11m



Base = _____
Height = _____
Area = _____

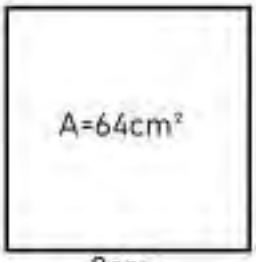
5)

4m 

Base = _____
Height = _____
Area = _____

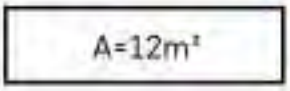
Base = _____
Height = _____
Area = _____

7)



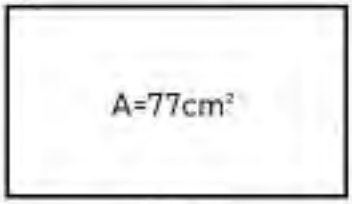
Base = _____
Height = _____
Area = _____

8)

1m 

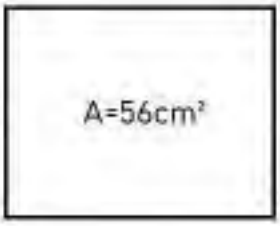
Base = _____
Height = _____
Area = _____

9)



Base = _____
Height = _____
Area = _____

10)

7cm 

Base = _____
Height = _____
Area = _____

Name: _____ 100

Curriculum Connection
SS6.2

Finding the Missing Information – Word Problems

Instructions Use the information you have to find the missing height or base

1) A piece of paper has an area of 63cm². The base of the paper is 7cm. What is the height of the paper?

2) Hu yard i r quadrilateral. It has an area of 81m². What are the side lengths?

3) A bus has an area of 24m². The hei e bu . What is the base?

4) A poster shaped like an irregular quadrilateral has a base o ea of 126cm². What is the height of the poster?

5) A cookie sheet has an area of 104cm². The base of the sheet is 8cm. What is the height of the cookie sheet?

Name: _____ 101

Curriculum Connection
5562

Task Cards: Area Calculation Expedition

Objective What are we learning about?

Students will develop their skills in determining the area of different shapes, enhancing their understanding of geometry through an interactive and engaging activity.

Materials What you will need for the activity.

- 24 t
- [illegible] for answers
- Pen

Instructions [illegible] the activity

1. Start by explaining the [illegible] area for both regular and irregular polygons. Highlight how this [illegible] various real-life contexts.
2. Pair up the students and provide each pair with [illegible] task cards.
3. Hand out an answer recording sheet to each [illegible] their solutions.
4. Foster teamwork by encouraging students to work [illegible] with [illegible] partner to solve the area problems.
5. Allow students to choose any task card to start with, and let them [illegible] can complete the cards in any order they prefer.
6. Instruct students to record the letter of their chosen answer (A, B, or C) on their answer sheet next to the task card's number.
7. Use a timer to create a dynamic and competitive environment, adjusting the duration to fit the lesson's objectives and complexity.
8. After the activity, review the answers as a class, discussing any challenging problems and the strategies used to solve them.
9. Encourage students to reflect on the activity by sharing the methods they used and any obstacles they encountered.

Name: _____ 102

Curriculum Connection
SS6.2

Task Cards | Cut out the task cards below

Card 1:

A rectangular pool has an area of 75,000cm². If the length is 3m, what is the width in cm?

Card 5:

Find the missing value (A= b x h). Base = 12cm, Height = 6cm, Area = _____

Card 2:

A rectangular [illegible] has [illegible] 25,000cm². If the width [illegible] what is the length in cm?

Card 6:

[illegible] square has a side length of 15cm. What is the area of the square?

Card 3:

A candy wrapper is 40mm wide and 0.10m long. What is the area of the wrapper in cm²?

Card [illegible]

A rectangle has an [illegible] the length is 20m, [illegible]th?

Card 4:

A rectangular basement has a length of 18m and a width of 12m. What is the area of the basement?

Card 8:

A rectangle has an area of 150cm². If the height is 15cm, what is the base?

Name: _____ 103

Curriculum Connection
SS6.2

Task Cards | Cut out the task cards below

Card 9:

A rectangular field has an area of 250m². If the width is 25m, what is the length?

Card 13:

A rectangular garden has a length of 16m and a width of 10m. What is the area of the garden?

Card 14:

A rectangular classroom has an area of 0,000cm². If the width is 15m, what is the length in m?

Card 11:

A rectangle has a length of 10m and a width of 6m. What is the area of the rectangle?

Card

A rectangular eet rea of 80cm². If the widt s the length in m

Card 12:

A square tile has a side length of 10cm. What is the area of the tile?

Card 16:

A rectangular piece of wood has an area of 36cm². If the height is 6cm, what is the base

Name: _____ 104

Curriculum Connection
S56.2

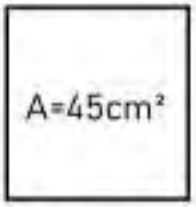
Task Cards | Cut out the task cards below

Card 17:

90mm

Area = _____

Card 21:



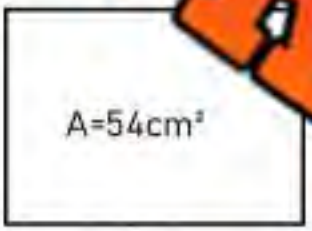
5cm

Base = _____

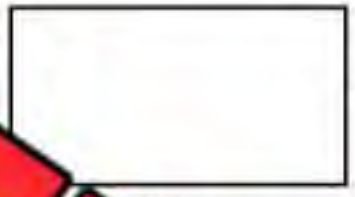
Height = _____

Area = _____

Card 22:



6cm



900cm

3m

Area = _____

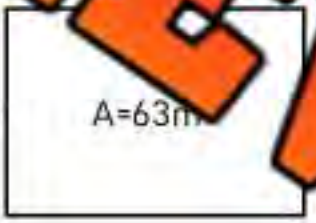
Card 19:

3000m

8km

Area = _____

Card 23:



7m

_____

_____

_____

Card 20:

11.5m

5.3cm

Area = _____

Card 24:

3m

5400cm

Area = _____

Name: _____ 105

Curriculum Connection
5562

Task Cards: Area Calculation

Answers | Record your answers below

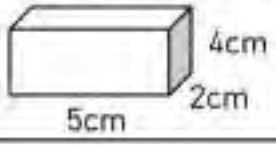
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	

Name: _____ 106

Curriculum Connection
SS6.2

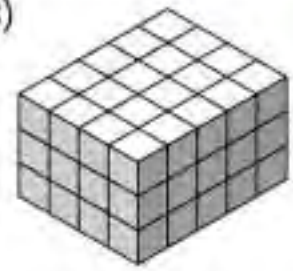
Calculating Volume - Blocks

Rectangular Prism - Calculating Volume		
To find the volume of a rectangular prism, multiply the length by the width by the height.		v = l x w x h v = 5cm x 2cm x 4cm v = 40cm³

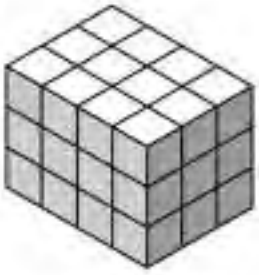
Instructions Label the rectangular prisms and then calculate the volume

1) 
l = _____
w = _____
h = _____
v = _____

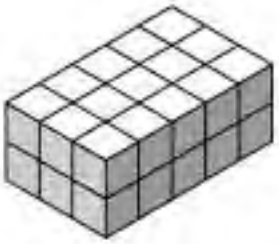
2) 
l = _____
w = _____
h = _____
v = _____

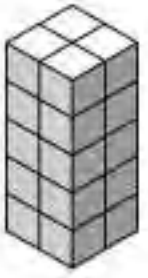
3) 
l = _____
w = _____
h = _____
v = _____

4) 
l = _____
w = _____
h = _____
v = _____

5) 
l = _____
w = _____
h = _____
v = _____

6) 
l = _____
w = _____
h = _____
v = _____

7) 
l = _____
w = _____
h = _____
v = _____

8) 
l = _____
w = _____
h = _____
v = _____

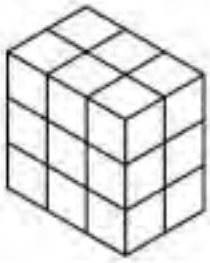
Name: _____ 107

Curriculum Connection
SS6.2

Calculating Volume - Blocks

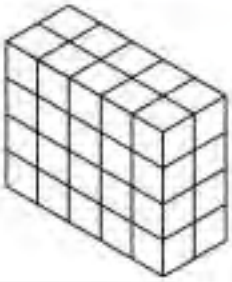
Instructions Calculate the volume of the rectangular prisms below – l x w x h

1) 

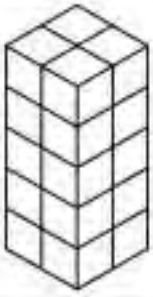
2) 

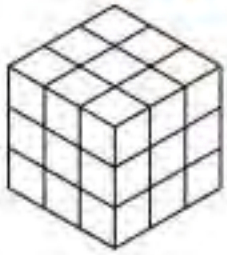
3) 

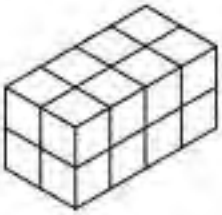
4) 

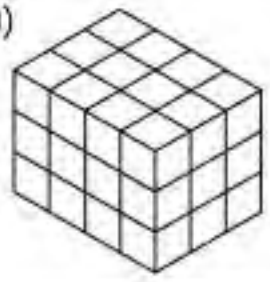
5) 

6) 

7) 

8) 

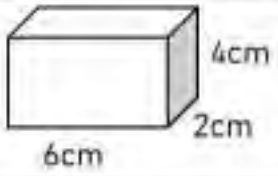
9) 

10) 

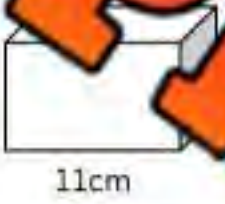
Name: _____ 108

Curriculum Connection
SS6.2

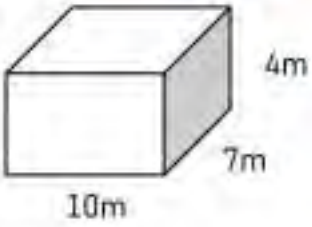
Calculating Volume of Rectangular Prisms

Rectangular Prism - Calculating Volume		
To find the volume of a rectangular prism, multiply the length by the width by the height.		$v = l \times w \times h$ $v = 6cm \times 2cm \times 4cm$ $v = 48cm^3$

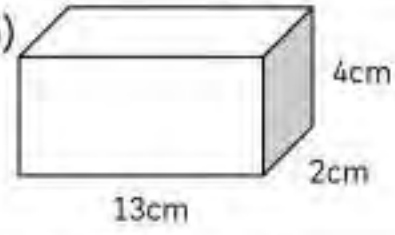
Instructio — Calculate the volume of the rectangular prisms

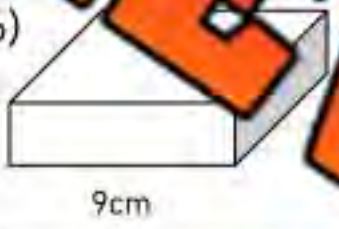
1) 

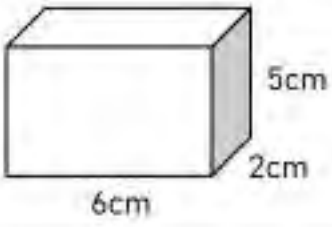
2) 

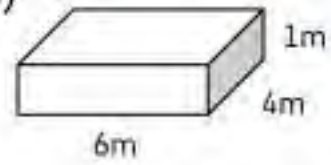
3) 

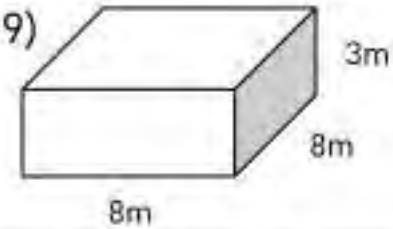
4) 

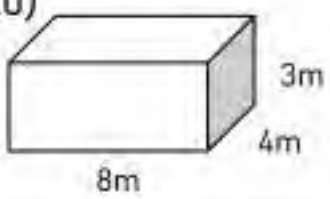
5) 

6) 

7) 

8) 

9) 

10) 

Name: _____ 109

Curriculum Connection
SS6.2

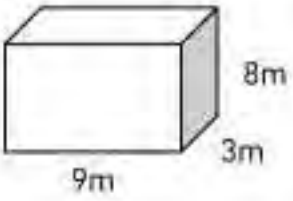
Calculating Volume of Rectangular Prisms

Part 1 A variety of small boxes are used for packaging. Find the volume of each box

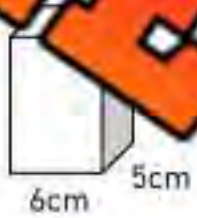
Box Type	Length	Width	Height	Volume
Box 1	9cm	6cm	2cm	
Box 2	7cm	5cm	10cm	
Box	cm	8cm	3cm	
Bo		9cm	3cm	
Box 5	m	8cm	6cm	
Box 6			8cm	
Box 7	7cm		4cm	

Part 2 Calculate the volume of the rectangular pris

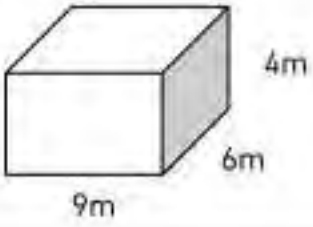
1)



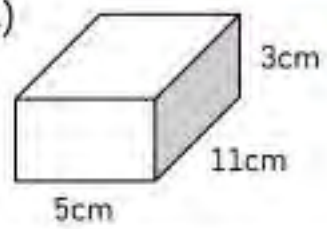
2)



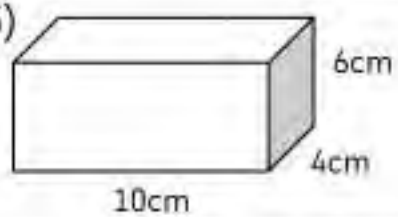
3)



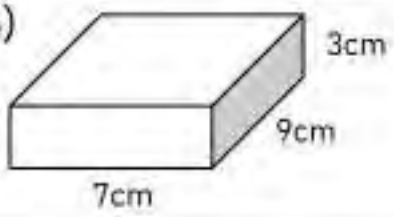
4)



5)



6)



Name: _____ 110

Curriculum Connection
SS6.2

Calculating Volume of Rectangular Prisms

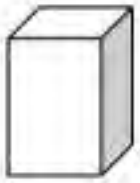
Instructions Label the rectangular prisms and then calculate the volume

1)

l = 6cm
w = 4cm
h = 3cm

v = _____

2)



l = 5m
w = 3m
h = 9m

v = _____

3)

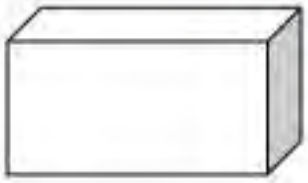
8
w =
h =
v = _____

4)

l = 4cm
w = 12cm
h = 3cm

v = _____

5)



l = 11cm
w = 2cm
h = 5cm

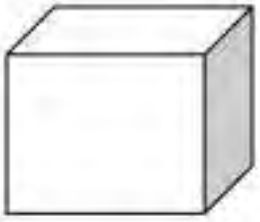
v = _____

6)

l = 6m
w = 8m
= 2m

_____

7)



l = 7m
w = 3m
h = 5m

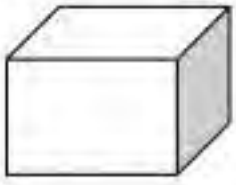
v = _____

8)

3cm
h = 1cm

v = _____

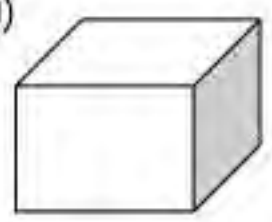
9)



l = 10cm
w = 6cm
h = 4cm

v = _____

10)



l = 9m
w = 8m
h = 4m

v = _____

Name: _____ 111

Curriculum Connection
SS6.2

Calculating Volume of Rectangular Prisms

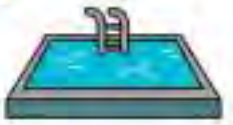
Instructions | Solve the word problems below

1) A classroom has a width of 12m, height of 2m, and a length of 10m. What is the volume of the classroom?

2) An elevator is 7m wide, 3m deep, and 4m long. What is the volume of the elevator?

3) A block has a height of 7cm, width of 10cm, and length of 10cm. What is the volume of the block?

4) A pool is 9m long, 6m wide, and 3m deep. What is the volume?



5) A lunchbox is 12cm wide, 7cm tall, and 10cm deep. What is the volume of the lunchbox?

Name: _____ 112

Curriculum Connection
SS6.2

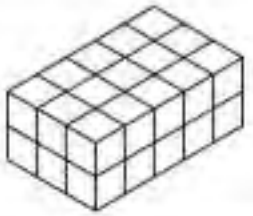
Calculating Volume Using the Base

Instructions Fill in the blanks to investigate the area of the base and the height

1)

Area of Base	Height	Volume
		18

2)

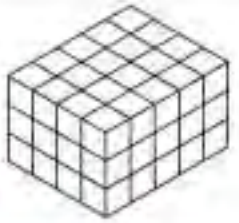


Area of Base	Height	Volume

3)

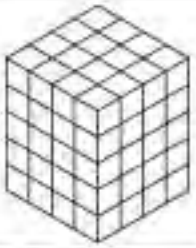
Area of Base	Height	Volume

4)



Area of Base	Height	Volume

5)

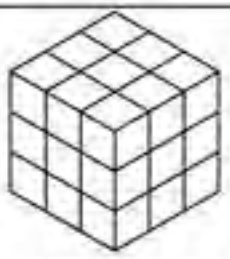


Area of Base	Height	Volume

6)

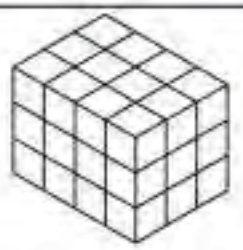
Area of Base	Height	Volume

7)



Area of Base	Height	Volume

8)



Area of Base	Height	Volume

Name: _____ 113

Curriculum Connection
SS6.2

Calculating Volume Using the Base

Part 1 Fill in the blanks to investigate the area of the base and the height

	Area of Base	Height	Volume
1)	10 cm^2		80 cm^3
2)	13 mm^2	6 mm	
3)		5 cm	75 cm^3
4)		8 mm	96 mm^3
5)		9 m	
6)	18		144 mm^3
7)		m	132 km^3
8)	15 m^2		210 m^3

Part 2 Answer the questions below

1) A box of cereal has a base with a length of 12cm and a width of [illegible]. The height of the box is 22cm. What is the volume of the box?

2) A juice box is 9cm wide and 5cm long. The height of the juice box is 12cm. What is the volume of the juice box?

3) A railway car is 6.5m long and 2.2m wide. The railway car is 3.1m tall. What is the volume of the railway car?

Name: _____ 114

Curriculum Connection
5562

Volume Jeopardy

Objective What are we learning about?

To reinforce students' understanding of calculating the volume of rectangular prisms by solving problems in a fun and competitive game format.

Mate ...u will need for the activity.

- Jeopardy ... ne...
- Buzzer or bell

Instructions How you will comp... acti...

1. Print the Jeopardy board on the next p...
2. Divide the class into two teams.
3. Ask one team to go first by selecting a point value.
4. Read the question aloud from the point value.
5. The first team to ring the bell or buzzer gets to answer.
6. If they answer correctly, award them the points. If not, another team can answer.
7. Continue the game until all questions have been answered.
8. Tally the points to determine the winning team.
9. Conclude by discussing what they learned about the topic in the questions.

Name: _____ 115

Curriculum Connection
5562

Jeopardy Questions | Ask students the questions below

$100	$200	$300	$400	$500
L=2m, W=5m, H=4m, V=?	The base is 12 cm² and the height is 6 cm. What is the volume?	The volume is 240 cm³ and the height is 6 cm. What is the base area?	L=2, W= H=3, V=48. Find W	The volume is 400 cm³ and the height is 8 cm. What is the base area?
L=3c… W… H=2c…?	…e volume is …² and the …cm².	The base is 20 cm² and the height is 5 cm. What is the volume?	The volume is 300 cm³ and the height is 10 cm. What is the base area?	The volume is 500 cm³ and the height is 10 cm. What is the base area?
L=4cm, W=5cm, H=3cm, V=?	…e is … cm² … height is … What is the volume?	L=4… …10…	The base is 30 cm² and the height is 4 cm. What is the …lume?	The volume is 180 cm³ and the base is 15 cm². What is the height?
L=2m, W=8m, H=3m, V=?	The volume is 400 cm³ and the height is 10 cm. What is the base area?	L=15cm, W=20cm, H=10cm, V=?	The …00… …0 cm²… …he …ht?	The volume is …40 cm³ and the …ght is 15 cm. …t i… …he base …
L=5m, W=5m, H=3m, V=?	The volume is 240 cm³ and the base is 20 cm². What is the height?	The volume is 360 cm³ and the base is 12 cm². What is the height?	The volume is 600 cm³ and the base is 50 cm². What is the height?	…olume is 72… cm³ and the base is 24 cm². What is the height?
L=7cm, W=5cm, H=3cm, V=?	The volume is 300 cm³ and the height is 10 cm. What is the base area?	L=70m, W=40m, H=20m, V=?	The volume is 450 cm³ and the height is 9 cm. What is the base area?	The volume is 600 cm³ and the height is 15 cm. What is the base area?

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

1) What is the volume of the rectangular prism?

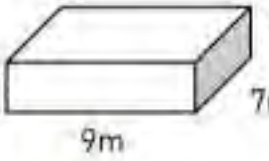
V = _____

2) A swimming pool is 10m long, 5m wide, and 2.5m deep. What is the volume of the swimming pool?

_____

Name: _____

1) What is the volume of the rectangular prism?



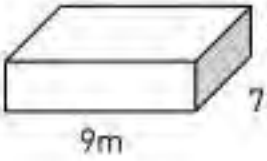
V = _____

2) A swimming pool is 10m long, 5m wide, and 2.5m deep. What is the volume of the swimming pool?

_____

Name: _____

1) What is the volume of the rectangular prism?



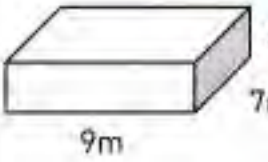
V = _____

2) A swimming pool is 10m long, 5m wide, and 2.5m deep. What is the volume of the swimming pool?

_____

Name: _____

1) What is the volume of the rectangular prism?



V = _____

2) A swimming pool is 10m long, 5m wide, and 2.5m deep. What is the volume of the swimming pool?

_____

Name: _____ 117

Curriculum Connection: TQ

Unit Quiz – Perimeter, Area, Volume

Part 1 Use a formula to find the perimeter and area of the rectangles below

Shape	Perimeter	Area
1) 		
2)		
3) 		

Part 2 Answer the word problems bel

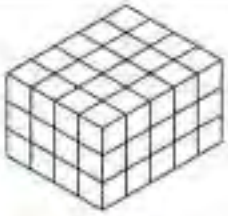
1) Lucas built a wood fence in his yard. The fenc ...d like ...ular pentagon. The regular pentagon had side lengths o ...at is ...ength of the fence?

2) Detective Roberts taped off a crime scene in an irregular shape. The irregular shape had 7 sides with the following measurements: 14m, 9m, 27m, 15m, 32m, 12m, and 47m. What is the distance of the perimeter the detective taped off?

Curriculum Connection
TG

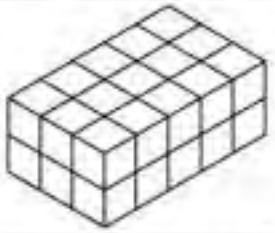
Part 3 Fill in the blanks to investigate the area of the base and the volume

1)



Area of Base	Height	Volume

2)



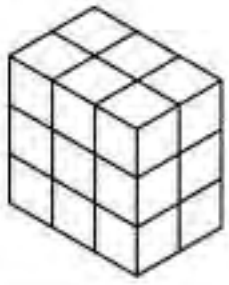
Area of Base	Height	Volume

Part 4 ks to investigate the area of the base and the volume

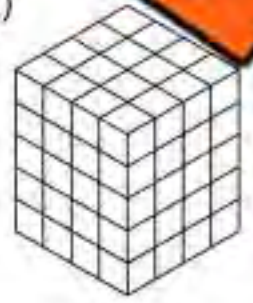
		Height	Volume
1)			110 cm^3
2)	15 mm	mm	
3)			96 cm^3
4)		1 mm	132 mm^3

Part 5 Calculate the volume of the rec r pr

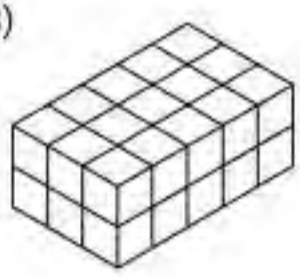
1)



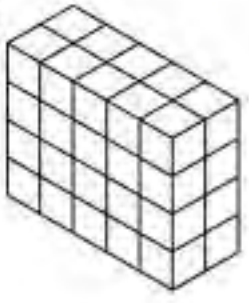
2)



3)



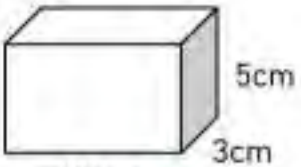
4)



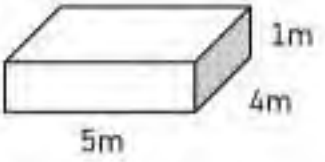
Curriculum Connection
TG

Part 6 Calculate the volume of the rectangular prisms

1)

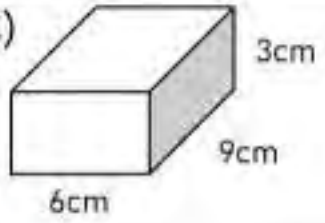


2)

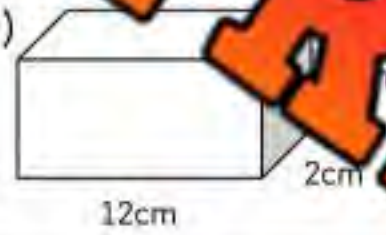


3)

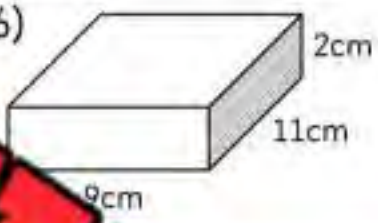
4)



5)



6)



Part 7 Answer the word prob[illegible] below

1) A closet has a height of 2m, a length of 3m, a [illegible] is the volume of the closet?

2) A block is 9cm wide, 6cm tall, and 11cm long. What is the volume of the block?

Name: _____ 121

Curriculum Connection
SS6.4

Using a Coordinate Grid - Challenge

Instructions Write the letters on the grid according to its

Letter	Coordinates (x, y)
A	(25, 55)
B	(65, 45)
C	(65, 80)
D	(25, 70)
E	(30, 55)

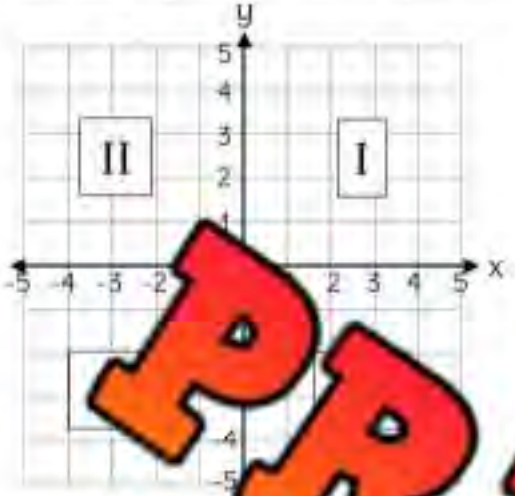
Letter	Coordinates (x, y)
F	(85, 25)
G	(75, 75)
H	(95, 15)
I	(55, 95)
J	(75, 5)

Name: _____ 122

Curriculum Connection: SS6.4

Four Quadrants - Cartesian Plane

Part 1 Write which quadrant the points would be found



Coordinates (x, y)	Quadrant
(2, -4)	
(5, 4)	
(-4, -5)	
(-2, 3)	
(5, 2)	

Part 2 Write yo[illegible] coo[illegible] point that could be found in the quadrant

Quadrant	Coordinates (x, y)
Quadrant I	
Quadrant II	
Quadrant III	
Quadrant IV	
Quadrant III	
Quadrant II	
Quadrant IV	
Quadrant I	

Part 3 Which quadrant number is associated with the descriptions below

	Description	Quadrant
1)	Both positive values	
2)	Both negative values	
3)	An x positive value and y negative value	
4)	An x negative value and y positive value	

Name: _____ 123

Curriculum Connection
SS6.4

Using 4 Quadrants on a Cartesian Plane

Instructions Write the coordinates for each object

Symbol	Coordinates (x, y)
	(8, -4)
	(_____, _____)
	(_____, _____)
	(_____, _____)
	(_____, _____)

Symbol	Coordinates (x, y)
	(_____, _____)
	(_____, _____)
	(_____, _____)
	(_____, _____)
	(_____, _____)

Name: _____ 124

Curriculum Connection
SS6.4

Using 4 Quadrants on a Cartesian Plane

Instructions Write the letters on the grid according to the co

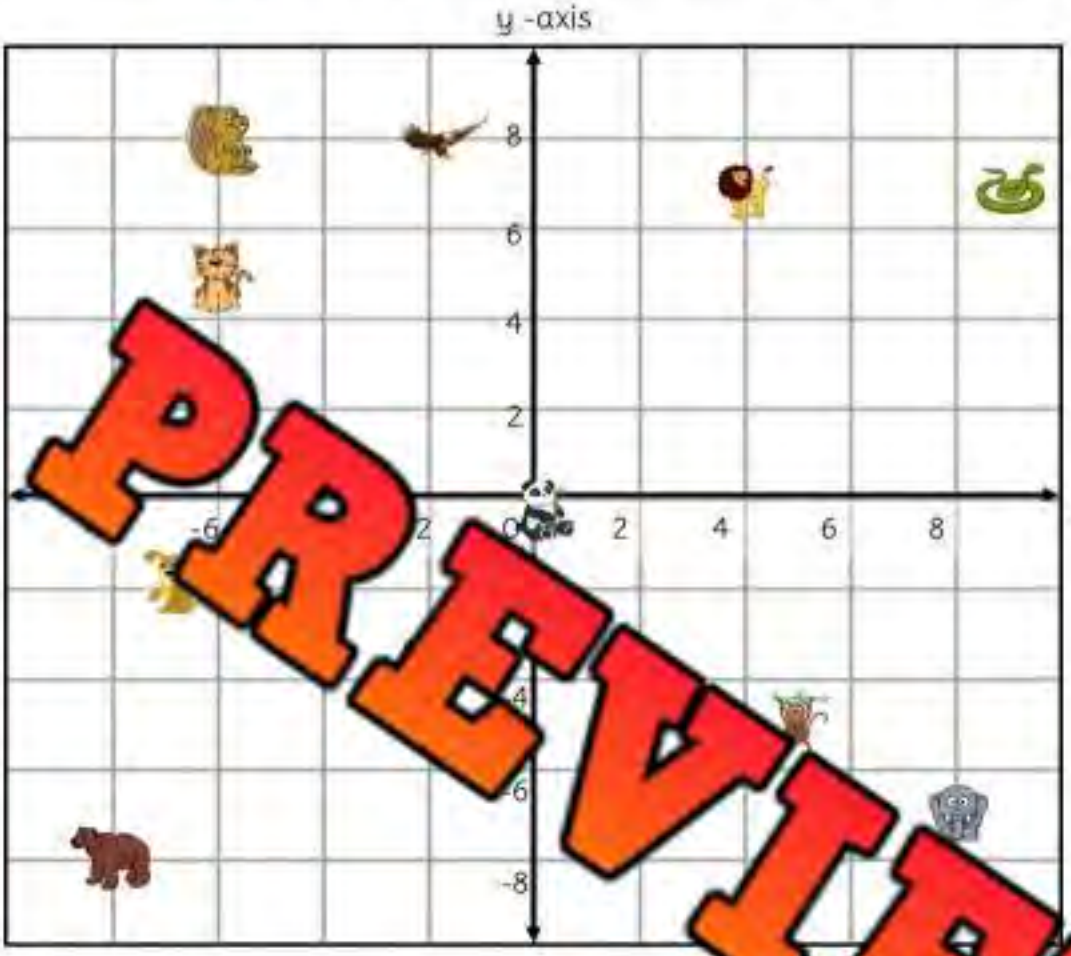
Letter	Coordinates (x, y)
A	(-2, 4)
B	(-6, 6)
C	(8, -4)
D	(7, 4)
E	(-2, -2)

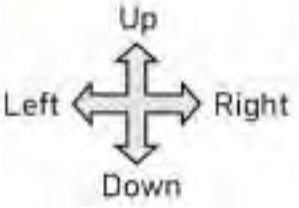
Letter	Coordinates (x, y)
F	(-5, 3)
G	(8, 8)
H	(-6, 1)
I	(3, -8)
J	(0, -7)

Name: _____ 126

Curriculum Connection
SS6.4

Using a Coordinate System





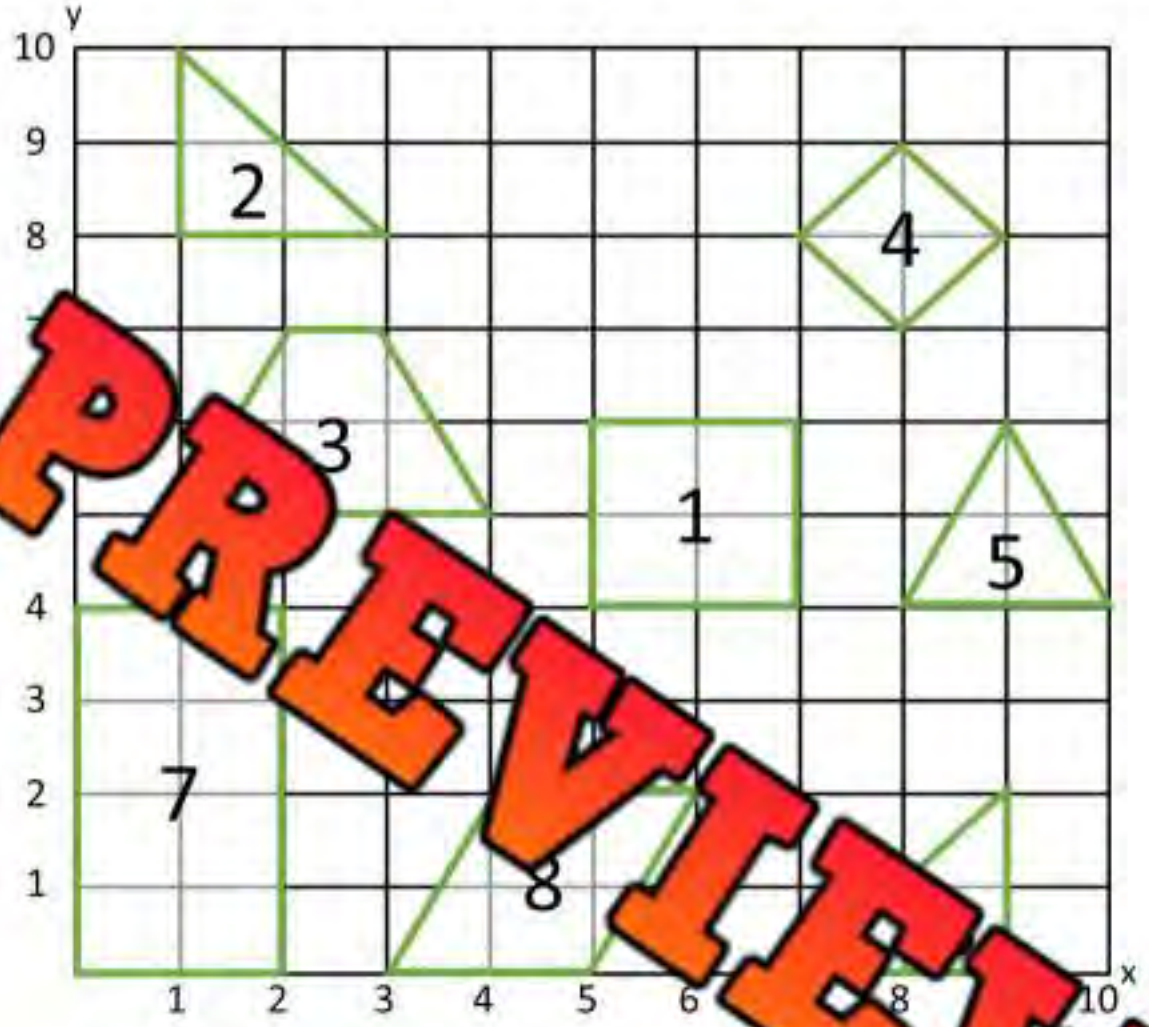
Instructions Explain the translation from the ... hol t... econd

Symbols	Coordinates	
→	(___, ___) → (___, ___)	
→	(___, ___) → (___, ___)	
→	(___, ___) → (___, ___)	
→	(___, ___) → (___, ___)	
→	(___, ___) → (___, ___)	
→	(___, ___) → (___, ___)	

Name: _____ 131

Curriculum Connection
SSA.4

Plotting Polygons on a Coordinate Grid



Instructions Write the coordinates for the vertices of each

Polygon	Coordinates (x, y)
1	
2	
3	
4	

Polygon	Coordinates (x, y)
5	
6	
7	
8	

Name: _____ 132

Curriculum Connection
SS6 A

Drawing With Coordinates

Instructions Plot and connect the dots with the coordinates below

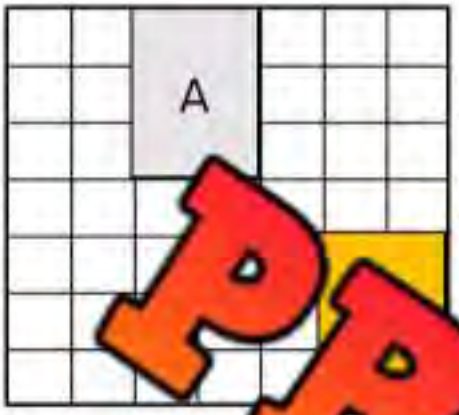
(8, 11),	(9, 2),	(6, 3),	(5, 8),	(6, 13).
(9, 11),	(9, 4),	(5, 4),	(5, 11),	
(9, 8),	(8, 3),	(5, 2),	(6, 13),	
(11, 5),	(8, 2),	(3, 2),	(7, 14),	
, 2),	(6, 2),	(3, 5),	(8, 13),	

Name: _____ 136

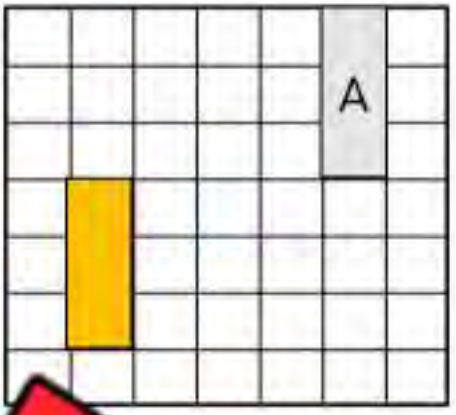
Curriculum Connection
SS6.5

Describing Translations

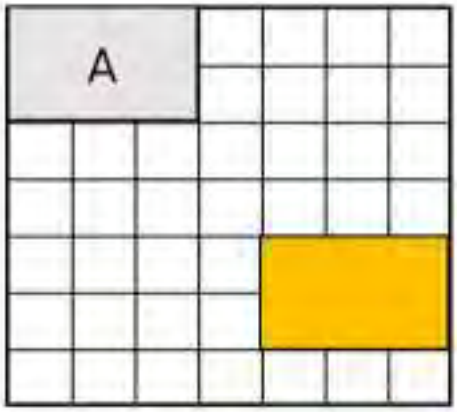
Instructions Describe the translations below. Shape A is the original object



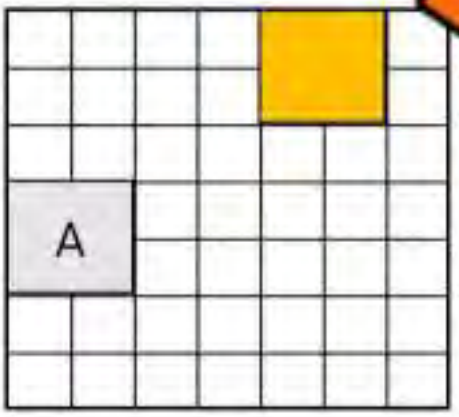
1) down 4, [illegible] _____



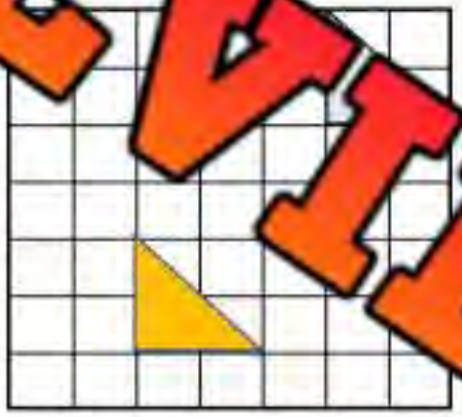
_____



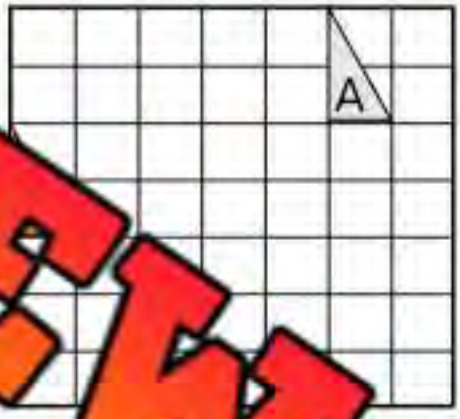
3) _____



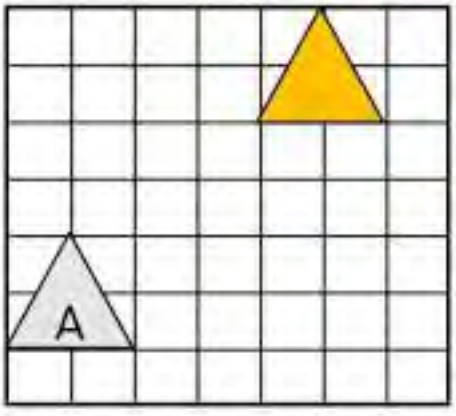
4) _____



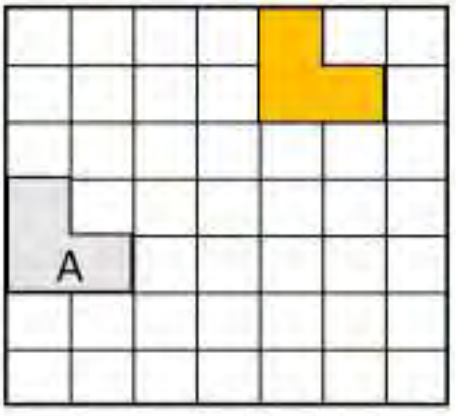
5) _____



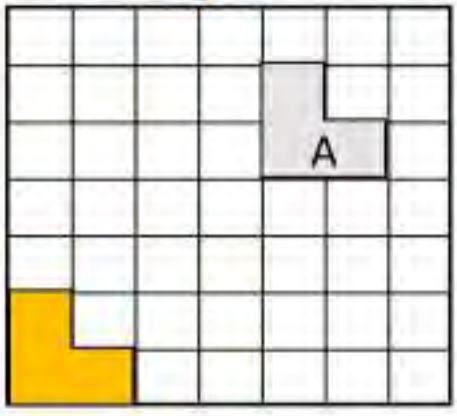
6) _____



7) _____



8) _____



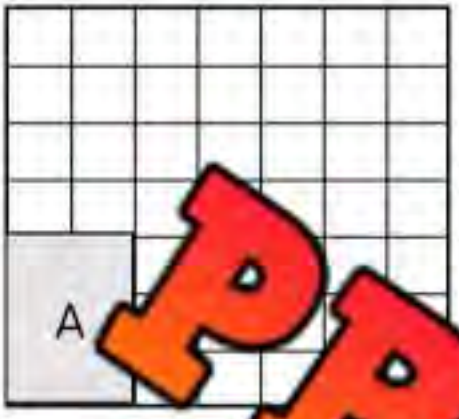
9) _____

Name: _____ 138

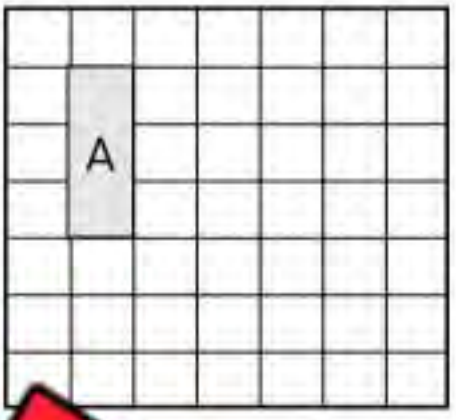
Curriculum Connection
SSA 5

Performing Translations

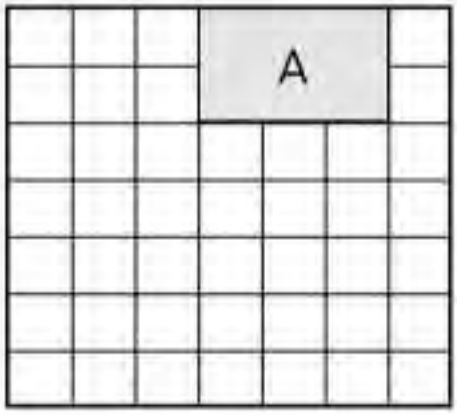
Instructions Draw the new shape after reading the 3 steps



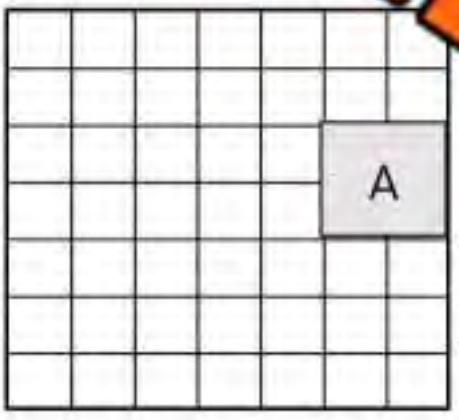
1) 3↑, 4→, _____



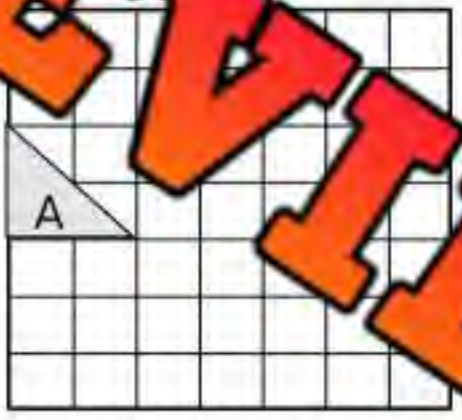
4→, 1↓



3) 3↓, 2←, 2↓

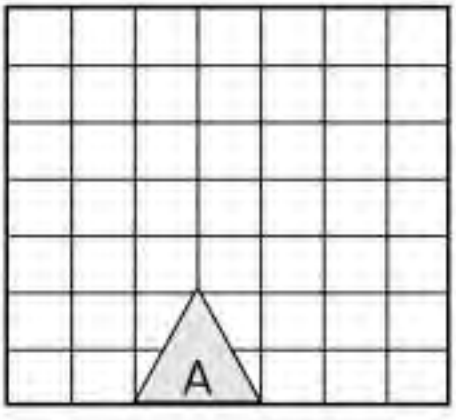


4) 3↓, 4←, 1↑

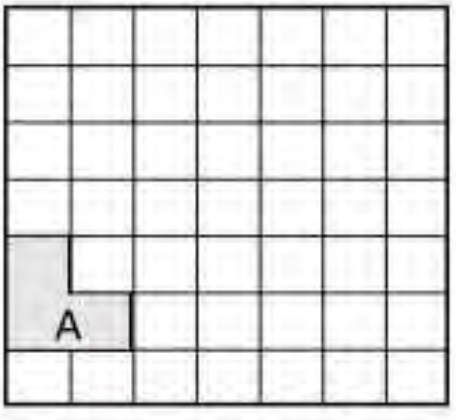


5) 2↓, 4→, 3↑

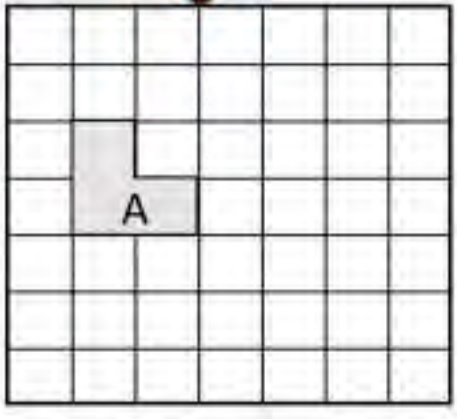
6) _____



7) 4↑, 2→, 3←



8) 4↑, 4→, 5↓

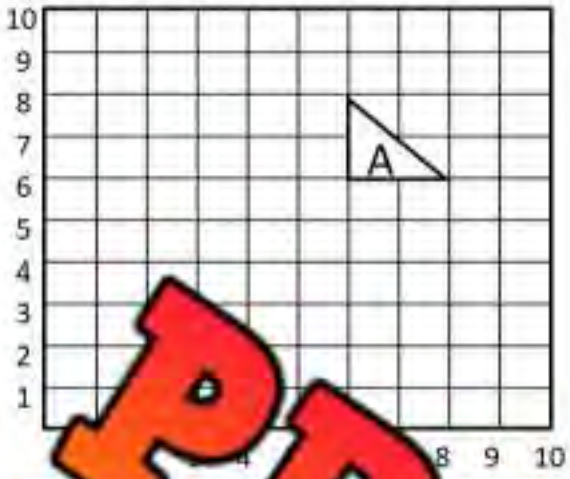


9) 3↓, 3→, 2↑

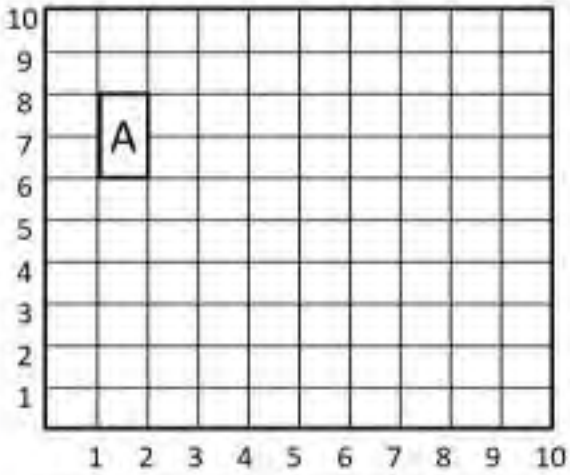
Name: _____ 139

Curriculum Connection
SS6.5

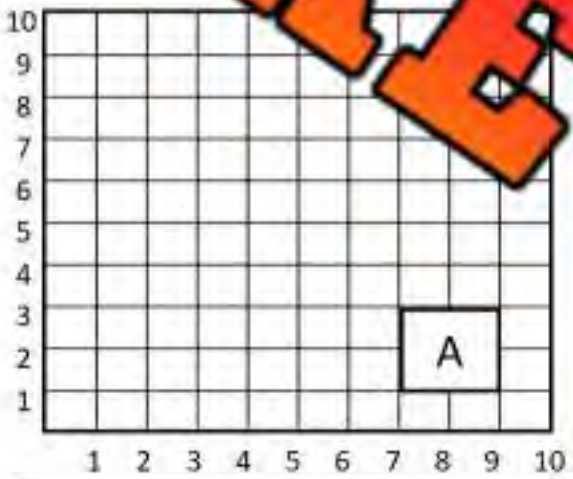
Translating Shapes – Cartesian Plane



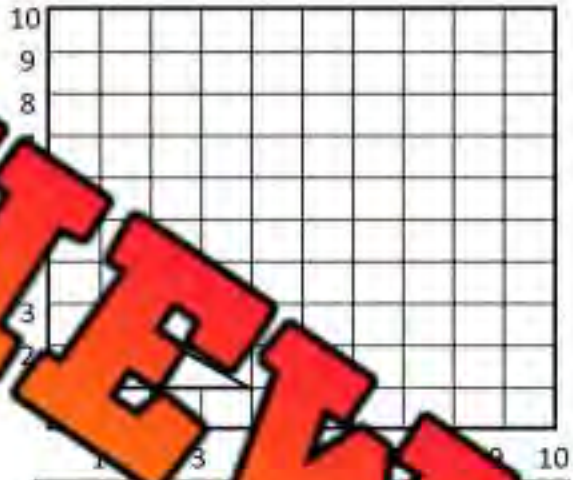
1) L



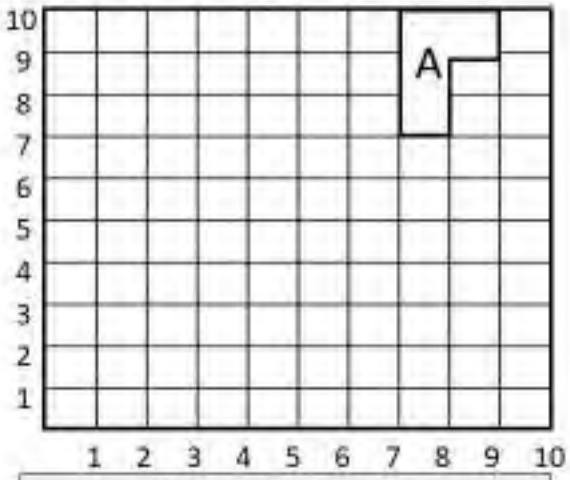
2) Right 5, down 4



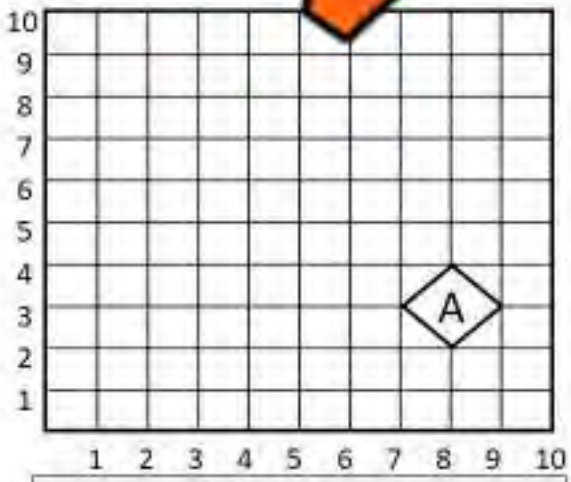
3) Left 6, up 2



4)



5) Left 3, down 6



6) Left 2, up 4

Name: _____ 141

Curriculum Connection
SSM.3

Math Activity: Translation Relay Race

Objective What are we learning about?

To help students understand and describe translations on a Cartesian plane through a fun and engaging relay race activity.

Materials What you will need for the activity.

- Grap
- R
- ed penci ers
- Pen and
- Translatio

Instructions How y plete tivity

1. Explain Translations: Start Expla ions on the Cartesian plane involve moving shapes without rot resiz
2. Distribute Materials: Provide each team wit rawn aper and a set of translation task cards.
3. Form Teams: Divide the class into small teams, e up beh esk with their graph paper and task cards.
4. Translation Task: The first student in each team picks a translat hen strategically draws a shape on the grid, ensuring it can fit afte n.
5. Perform Translation: The student then moves the shape according to instructions on the task card and draws the new position on the grid.
6. Pass to Next Student: The student then goes to the end of the line, and the next student steps up.
7. Repeat Process: The next student repeats the process: drawing the shape at its new position, selecting a new translation task card, and performing the translation.
8. Continue Relay: Continue the relay until all team members have had a turn or all task cards are used.
9. Verification and Discussion: The teacher verifies the translations, and the class discusses the different translations and observations.

Name: _____ 142

Curriculum Connection
SS6.5

Task Cards | Cut out the cards below

Card 1:

Move 2 units → and 1 unit ↑

Card 6:

Move 2 units ← and 3 units ↑

Card 2:

Move 3 [illegible] and 2 [illegible]

Card 7:

Move 1 unit → and 4 units ↓

Card 3:

Move 1 unit → and 3 units ↑

Card 8:

Move 3 [illegible] and 2 units ↑

Card 4:

Move 4 units → and 2 units ↑

Card 9:

Move 2 units → and 2 units ↓

Card 5:

Move 1 unit ← and 2 units ↓

Card 10:

Move 1 unit ← and 3 units ↑

Name: _____ 143

Curriculum Connection
SS6.5

Task Cards | Cut out the task cards below

Card 11:

Move 4 units → and 1 unit ↓

Card 16:

Move 2 units ← and 2 units ↑

Card 17:

Move 2 units → and 3 units ↓

Card 13:

Move 3 units → and 2 units ↓

Card 18:

Move 5 units → and 2 units ↓

Card 14:

Move 3 units ← and 5 units ↑

Card 19:

Move 5 units → and 4 units ↓

Card 15:

Move 4 units → and 3 units ↑

Card 20:

Move 5 units ← and 1 unit ↑

Name: _____ 144

Curriculum Connection
SS6.5

Grid Paper | 1 x 1 cm grid paper

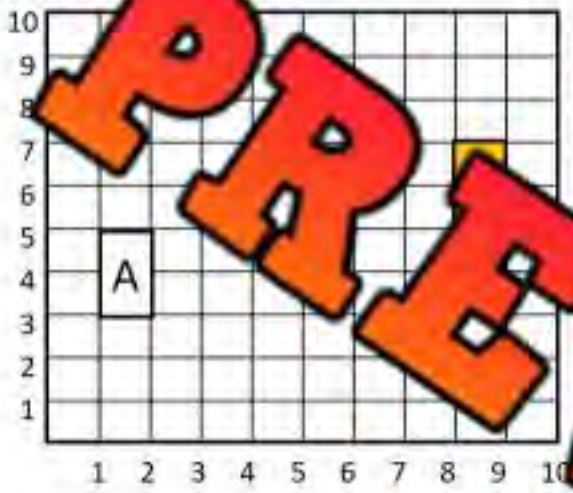
Curriculum Connection
SS6.5

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

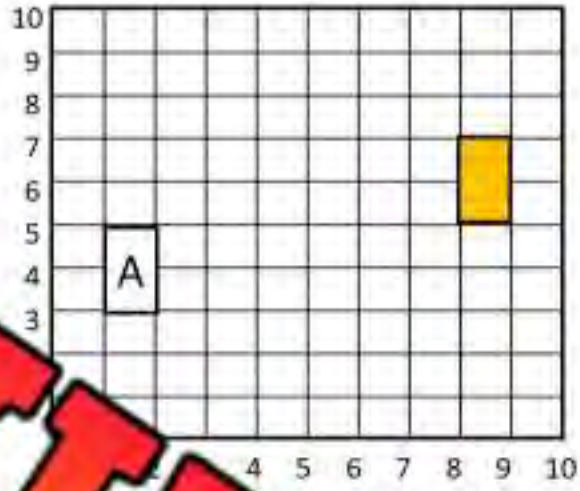
Name: _____

Describe the translations below. Shape A is the original shape.



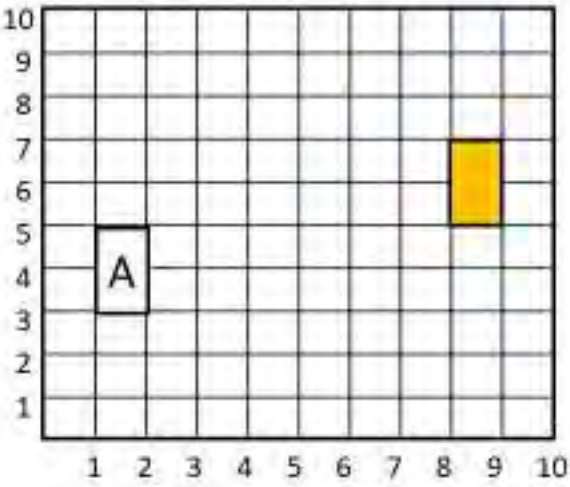
Name: _____

Describe the translations below. Shape A is the original shape.



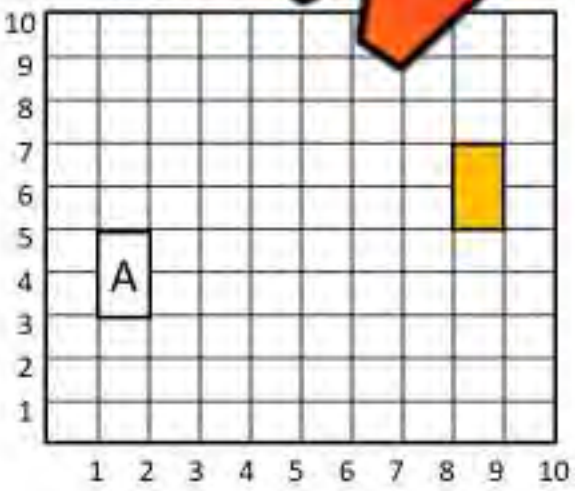
Name: _____

Describe the translations below. Shape A is the original shape.



Name: _____

Describe the translations below. Shape A is the original shape.

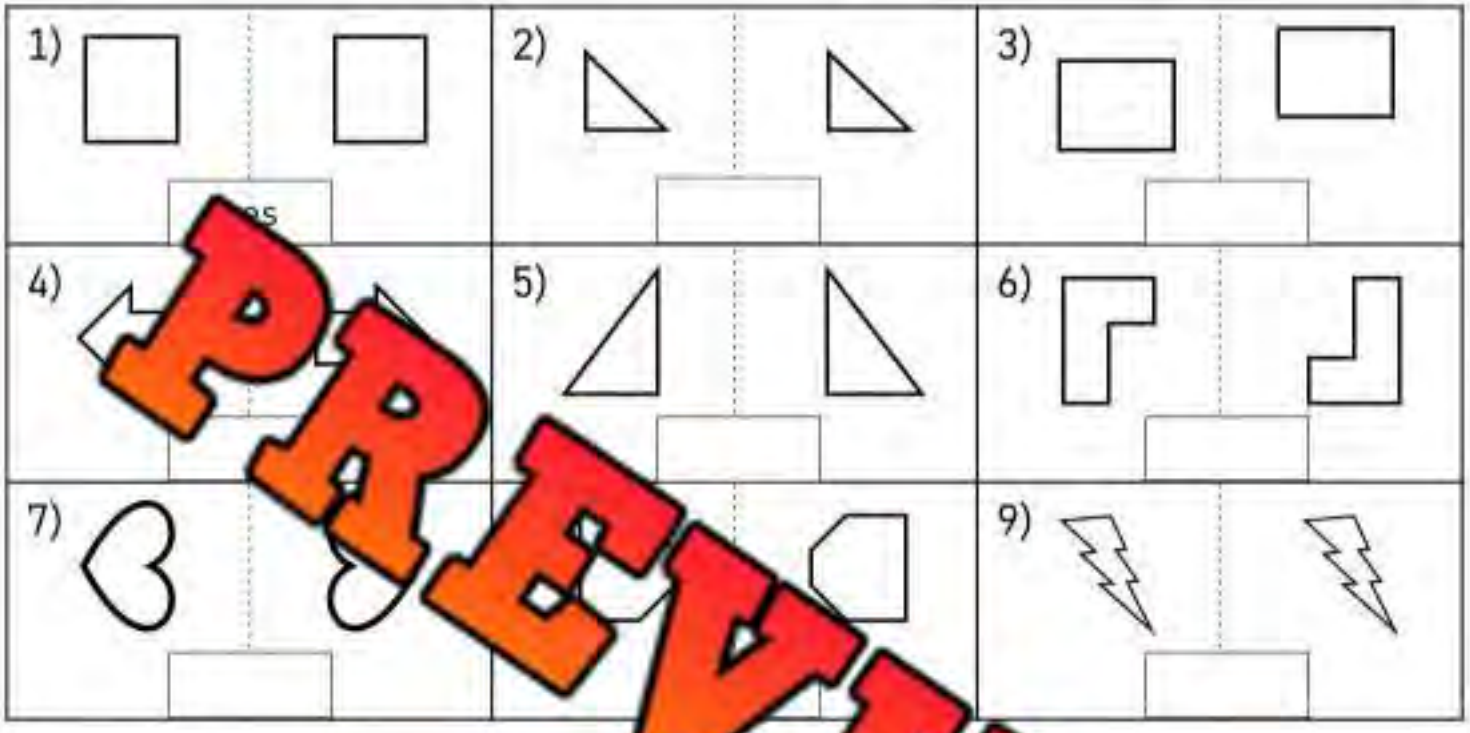


Name: _____ 146

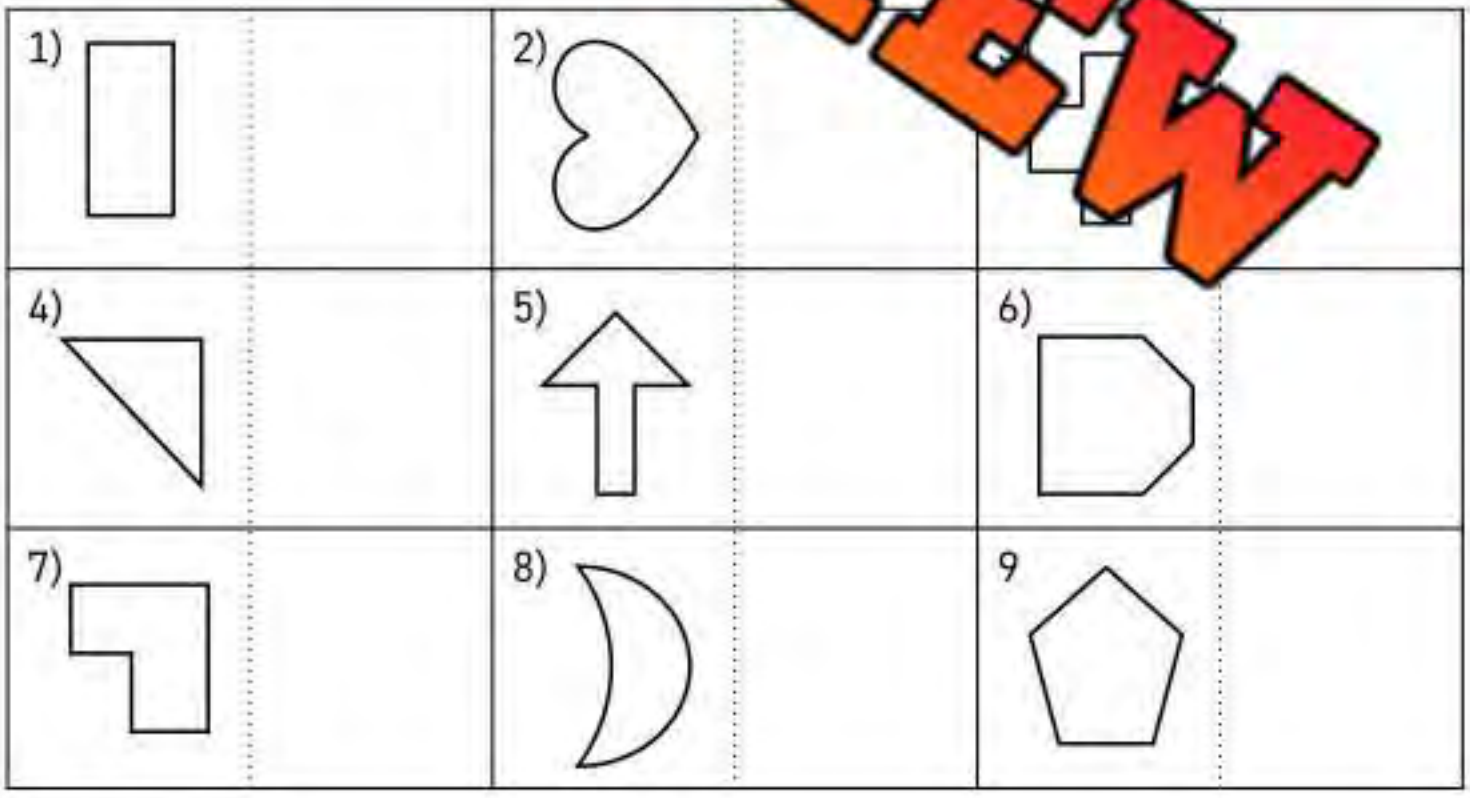
Curriculum Connection
SSA 3

Reflection or Not?

Part 1 Is the transformation a reflection? Yes or no?



Part 2 Draw the shape across the reflection line

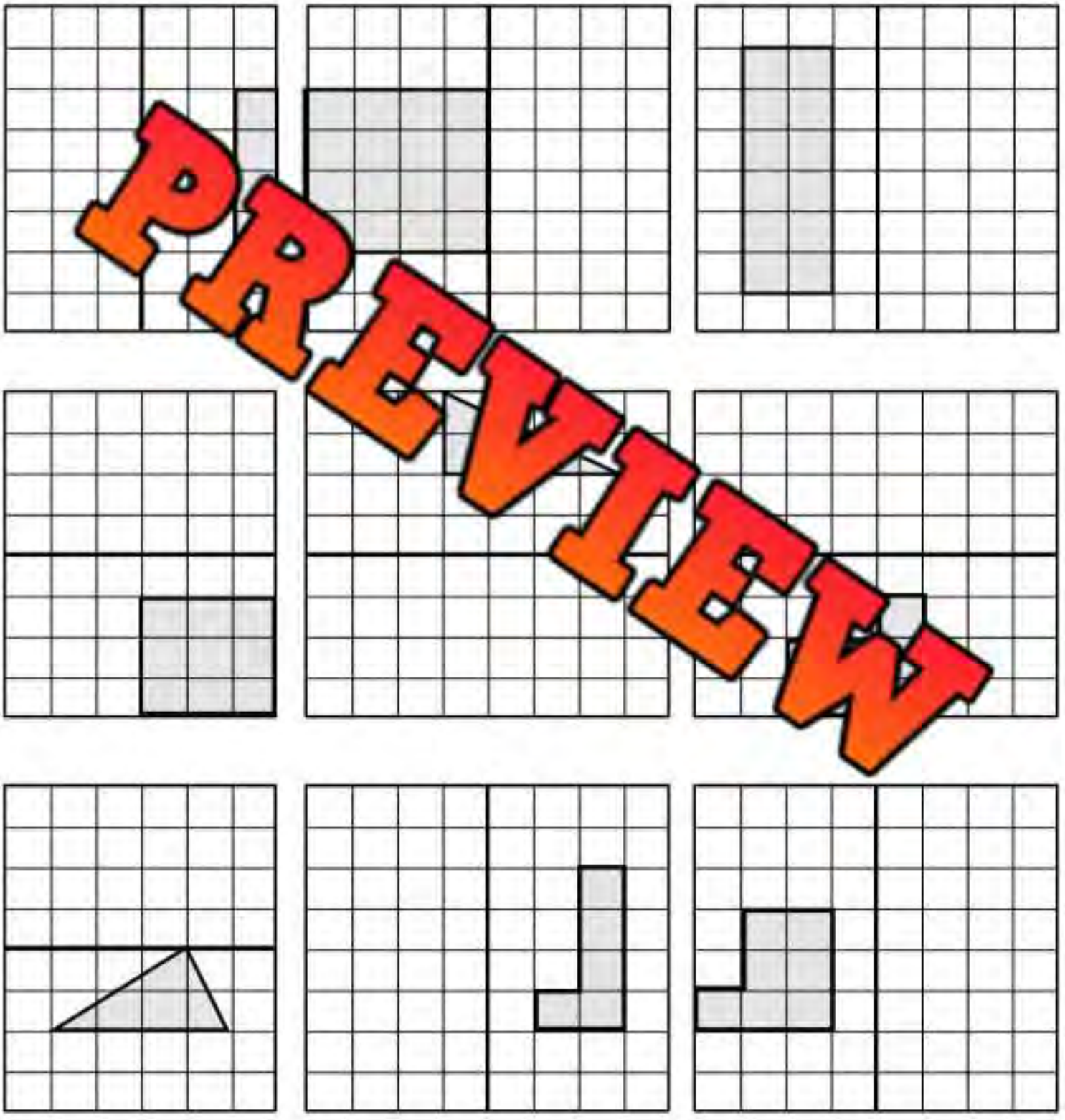


Name: _____ 148

Curriculum Connection
SSA 3

Drawing Reflections

Questions Reflect the shapes across the mirror line



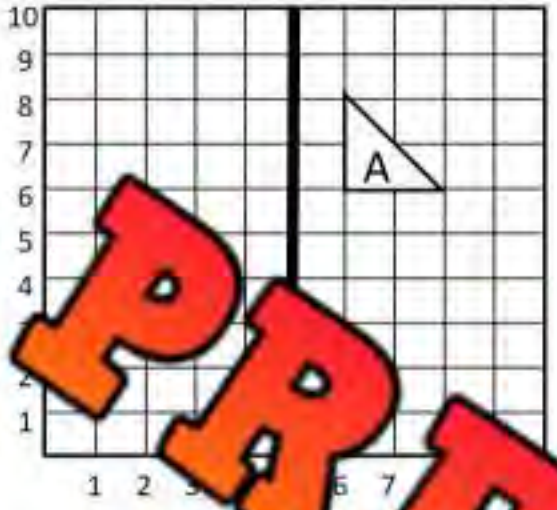
Name: _____ 149

Curriculum Connection
SSA 5

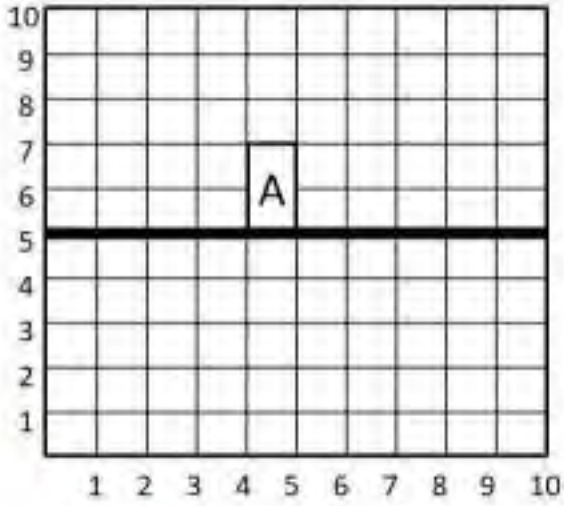
Reflecting Shapes – Cartesian Plane

Instructions Reflect the shapes across the mirror line

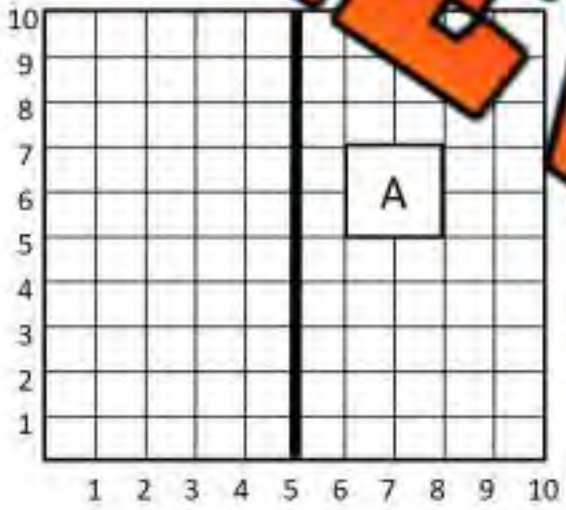
1)



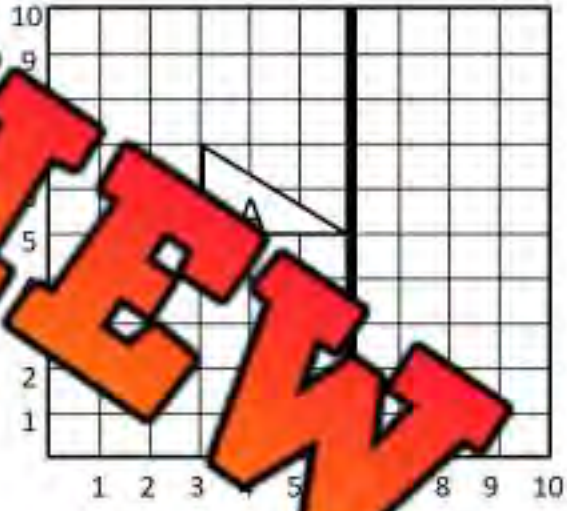
2)



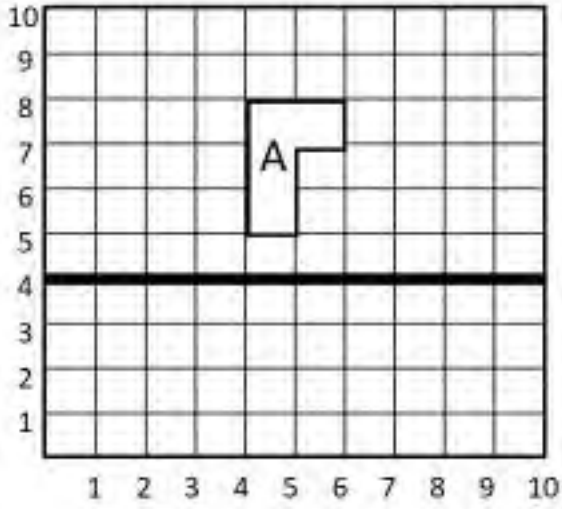
3)



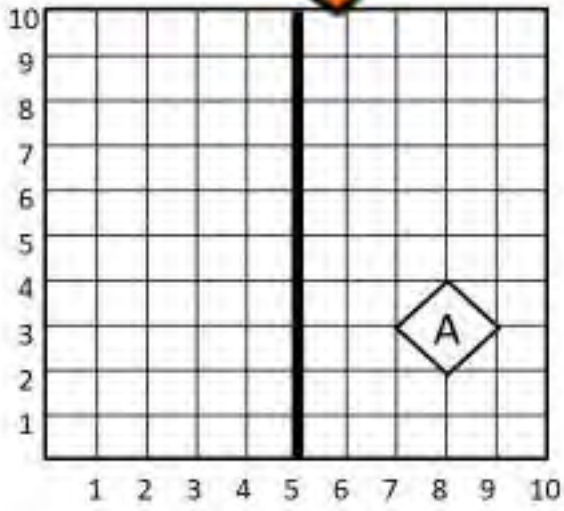
4)



5)



6)



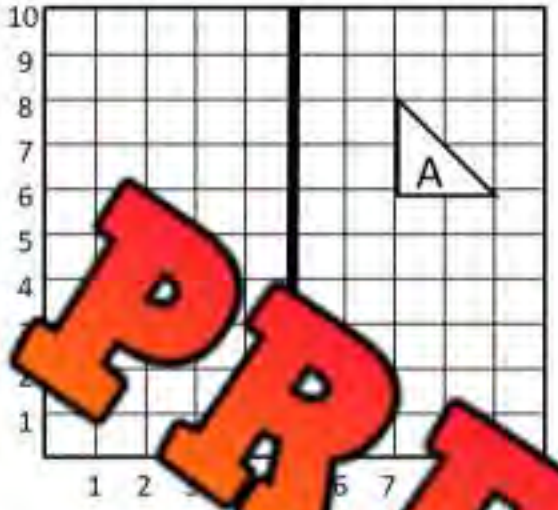
Name: _____ 150

Curriculum Connection
SSA 5

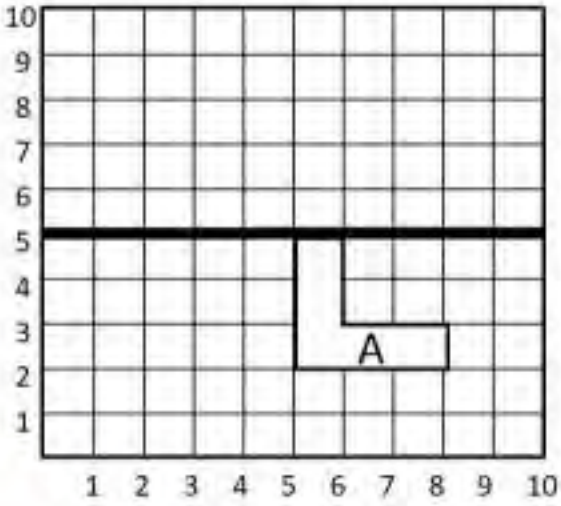
Reflecting Shapes – Cartesian Plane

Instructions Reflect the shapes across the mirror line

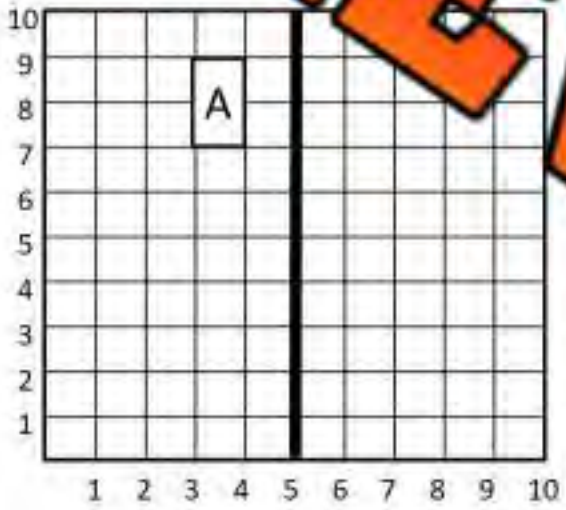
1)



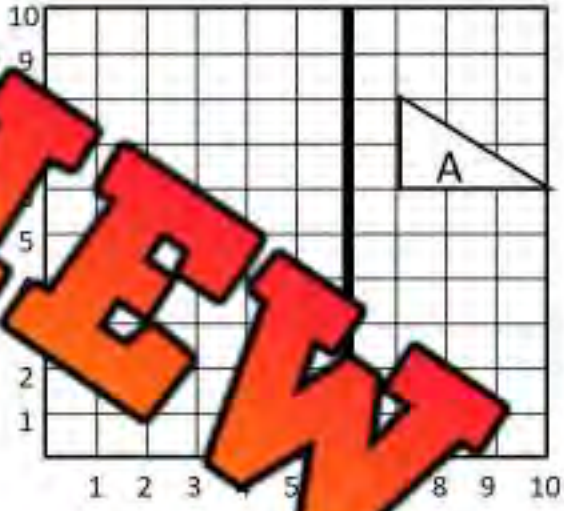
2)



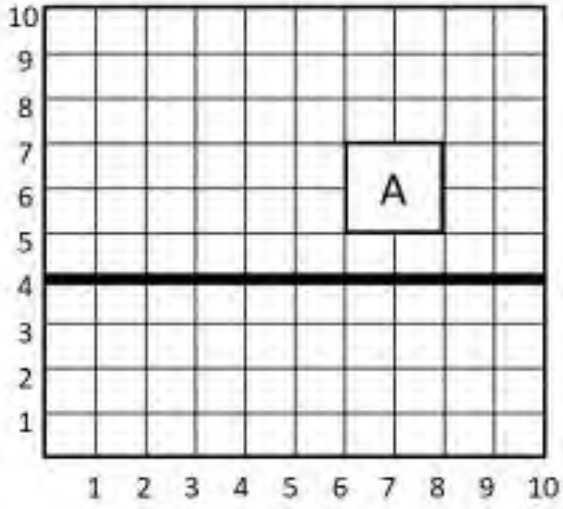
3)



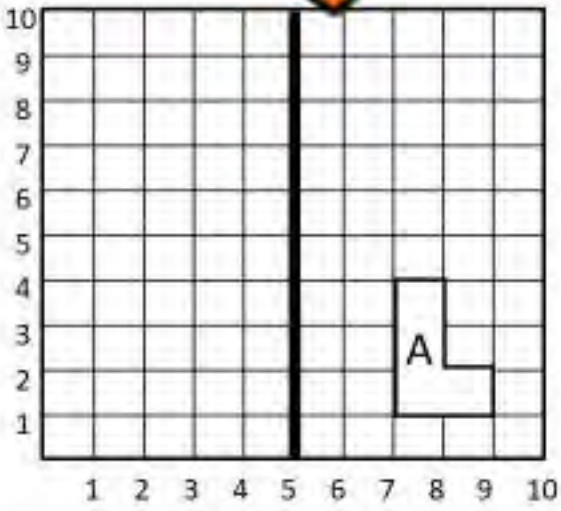
4)



5)



6)



Name: _____ 154

Curriculum Connection
SS6.3

Clockwise and Counterclockwise Rotations

Instruction Draw the controller after it has been rotated

1) 	Clockwise 180° rotation	
2) 	Counterclockwise 90°	
3) 	Clockwise 90° rotation	
4) 	Counterclockwise 360° rotation	
5) 	Clockwise 360° rotation	
6) 	Counterclockwise 180° rotation	

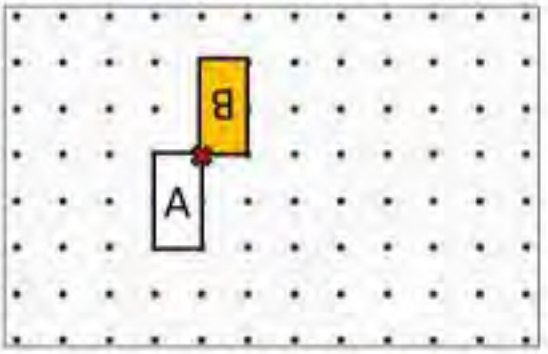
Name: _____ 156

Curriculum Connection
SSA.9

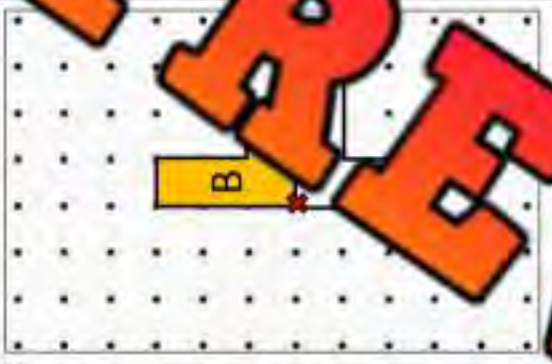
Describing Rotations

Instructions Describe the rotations. Shape A is the original shape.

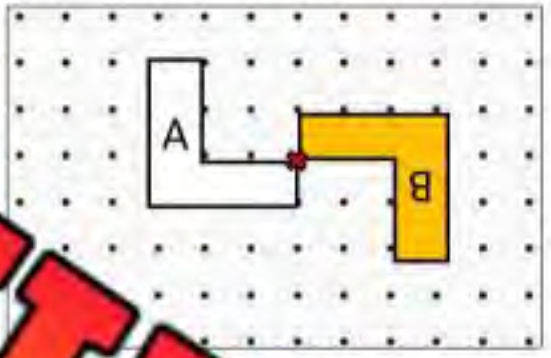
1) _____



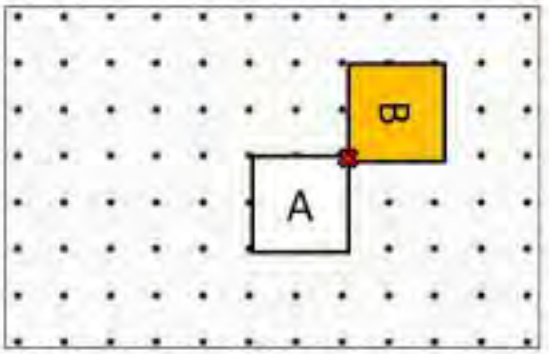
2) _____



3) _____

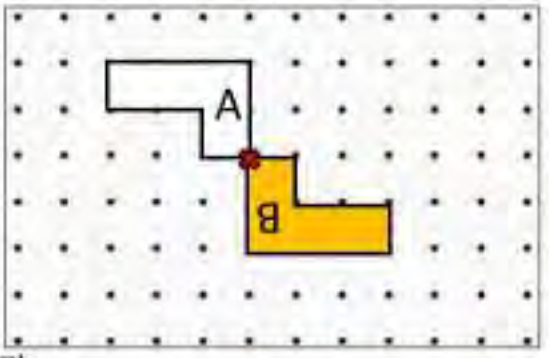


4) _____

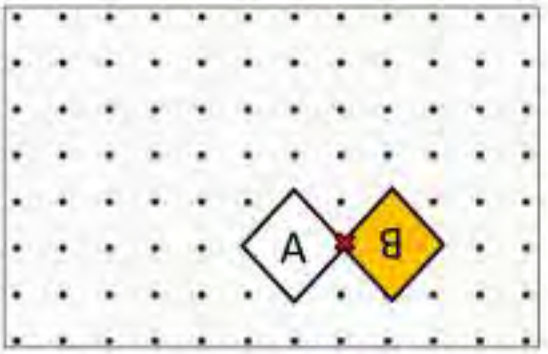


5) _____

6) _____



7) _____

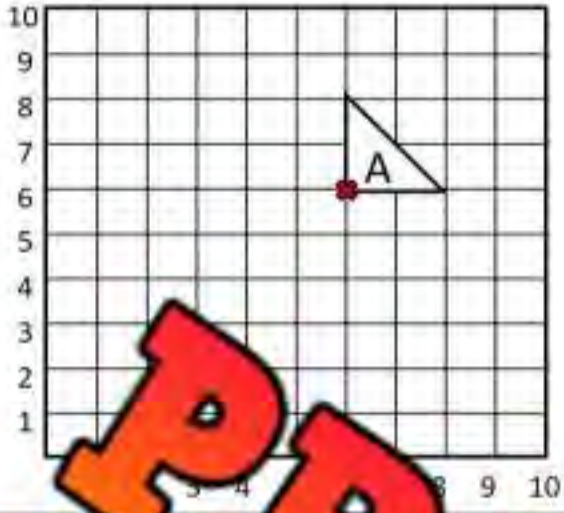


8) _____

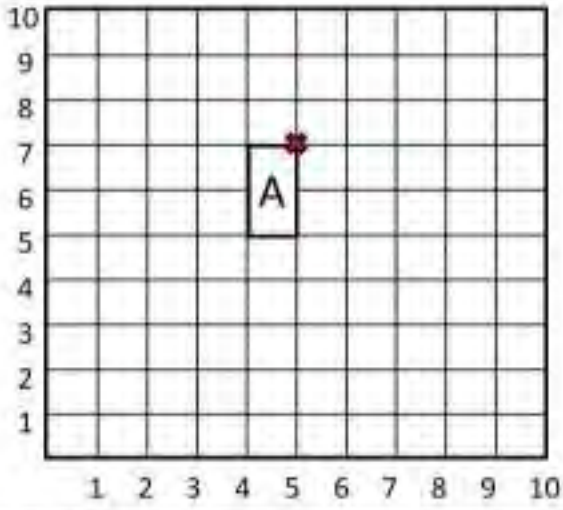
Name: _____ 157

Curriculum Connection
SSA 5

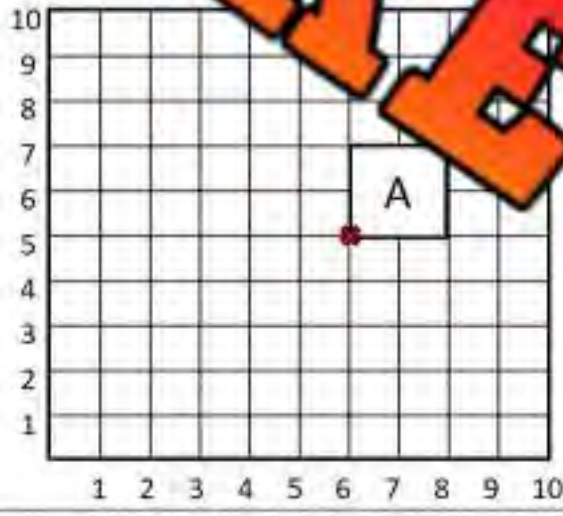
Rotating Shapes - Cartesian Plane



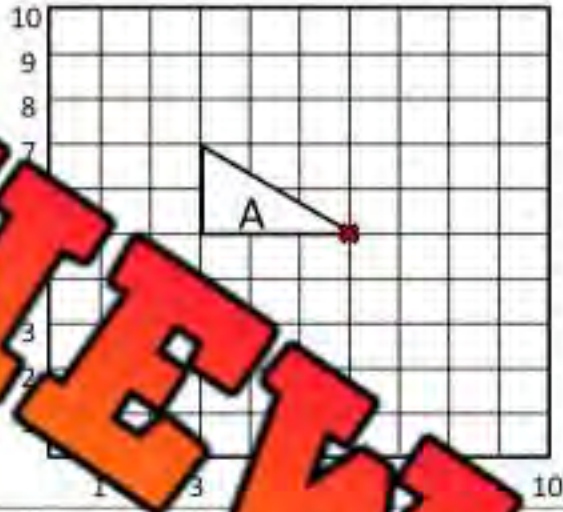
1) [illegible]



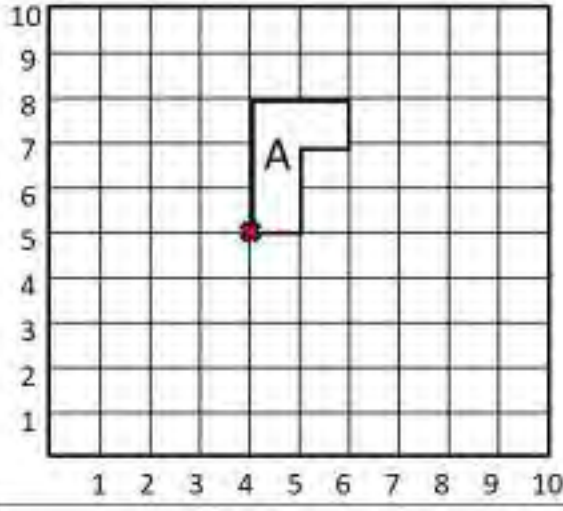
2) 90° counter-clockwise rotation



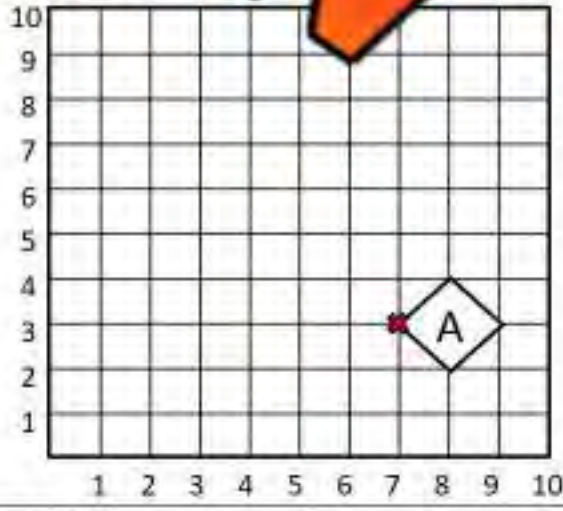
3) 90° clock-wise rotation



4) 90° cl[illegible]n



5) 180° rotation

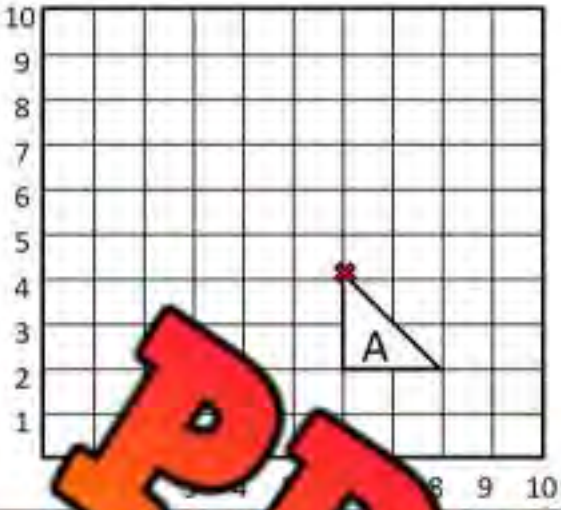


6) 90° counter-clockwise rotation

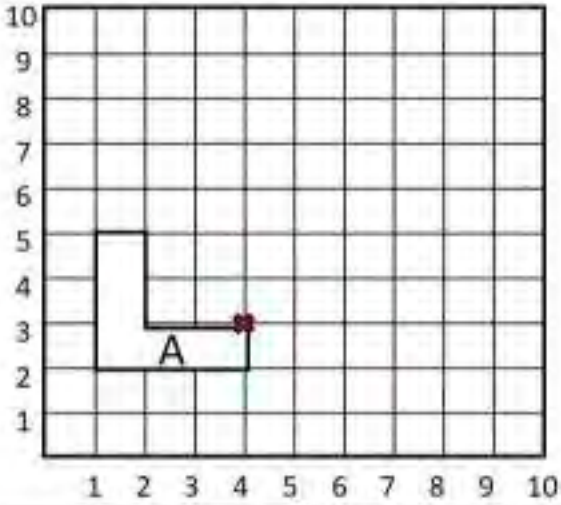
Name: _____ 158

Curriculum Connection
SS6.9

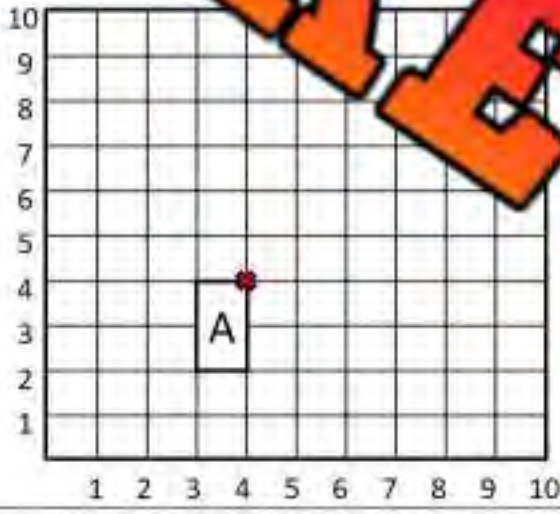
Rotating Shapes - Cartesian Plane



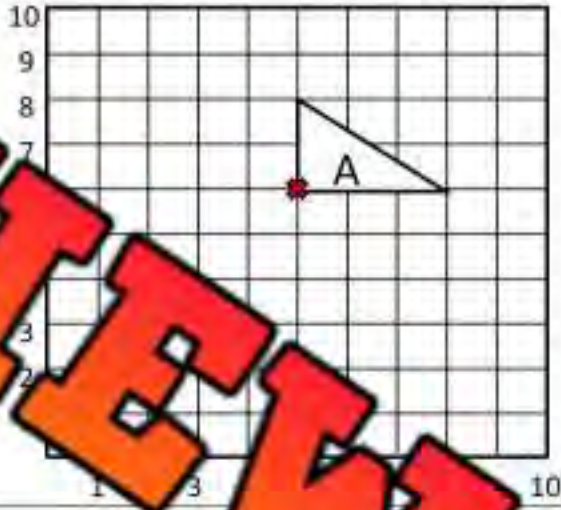
1) 90° counter [illegible] rotation



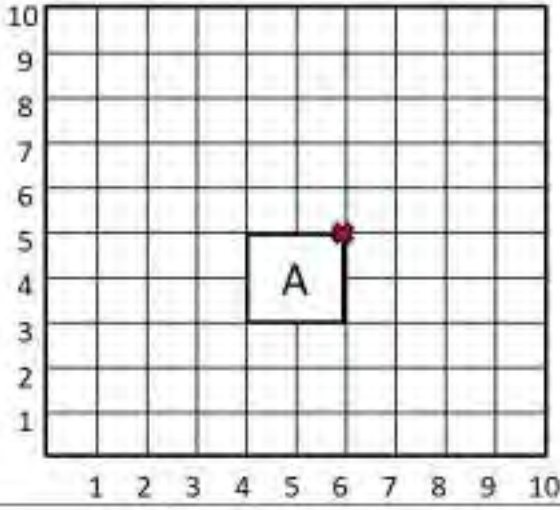
2) 180° rotation



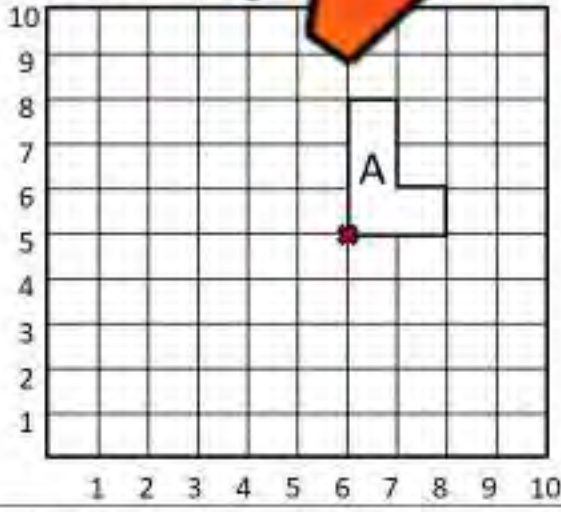
3) 360° clock-wise rotation



4) 90° cl [illegible]



5) 180° rotation



6) 90° counter-clockwise rotation

Curriculum Connection
SS6.5

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

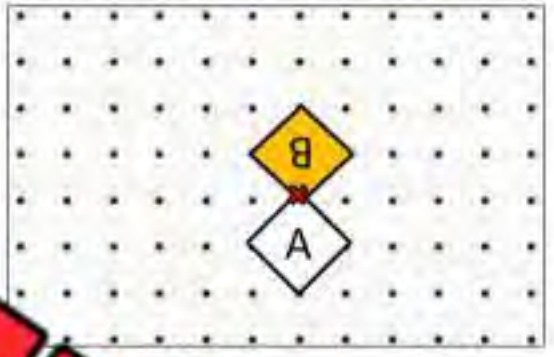
Name: _____

Describe the rotations. Shape A is the original shape.

_____

Name: _____

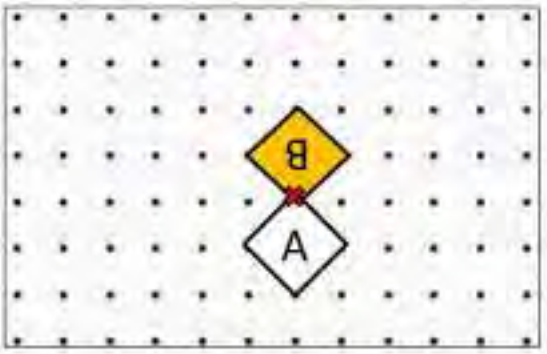
Describe the rotations. Shape A is the original shape.



_____

Name: _____

Describe the rotations. Shape A is the original shape.



_____

Name: _____

Describe the rotations. Shape A is the original shape.

_____

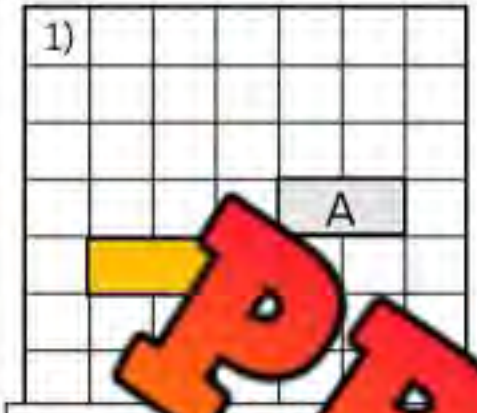
Name: _____ 162

Curriculum Connection
SSA 3

Transformations - Congruency

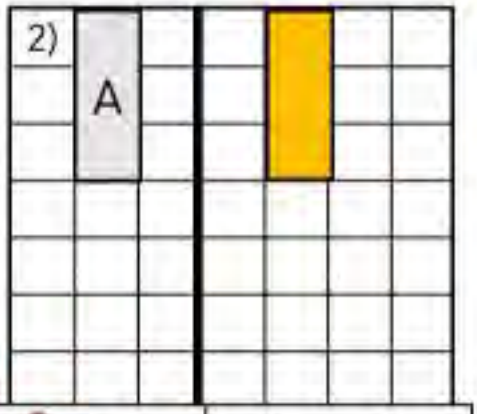
Instructions Are the shapes congruent? Which transformation is it?

1)



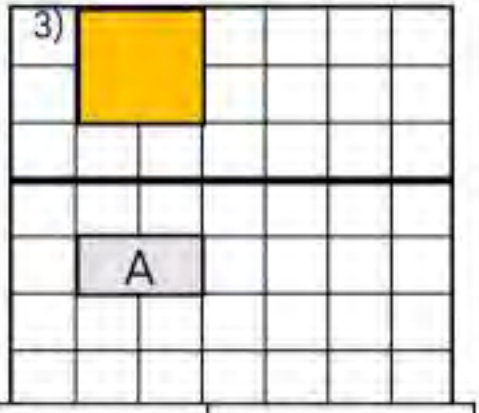
Congruent	Yes	No
Type		

2)



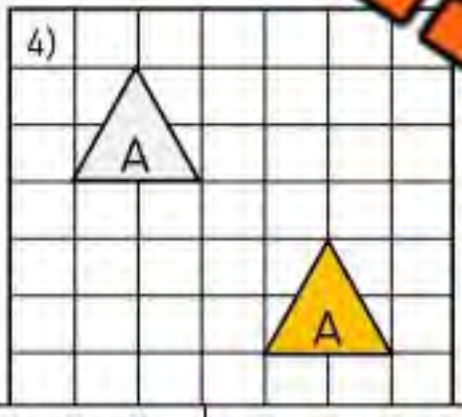
Congruent	Yes	No
Type		

3)



Congruent	Yes	No
Type		

4)

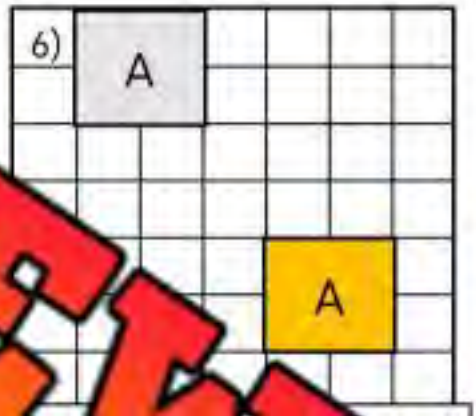


Congruent	Yes	No
Type		

5)

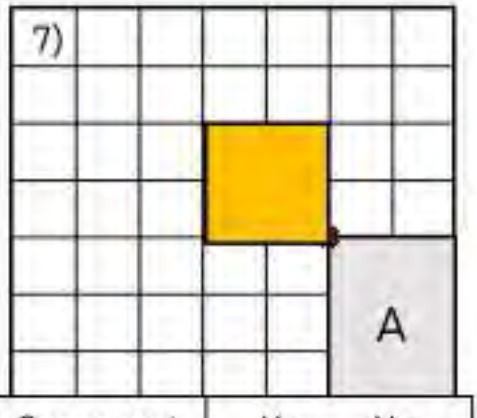
Congruent	Yes	No
Type		

6)



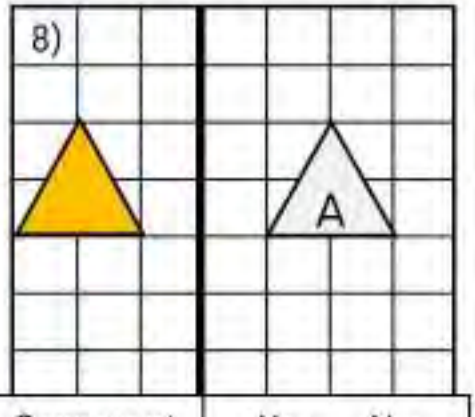
Congruent	Yes	No
Type		

7)



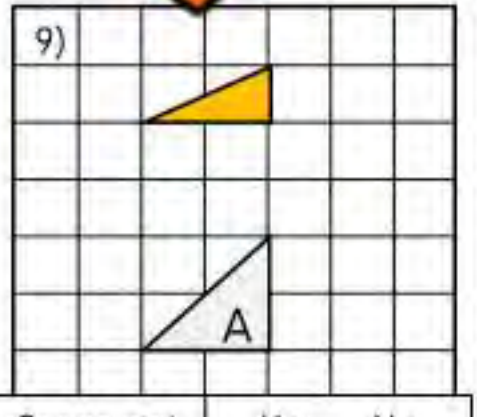
Congruent	Yes	No
Type		

8)



Congruent	Yes	No
Type		

9)

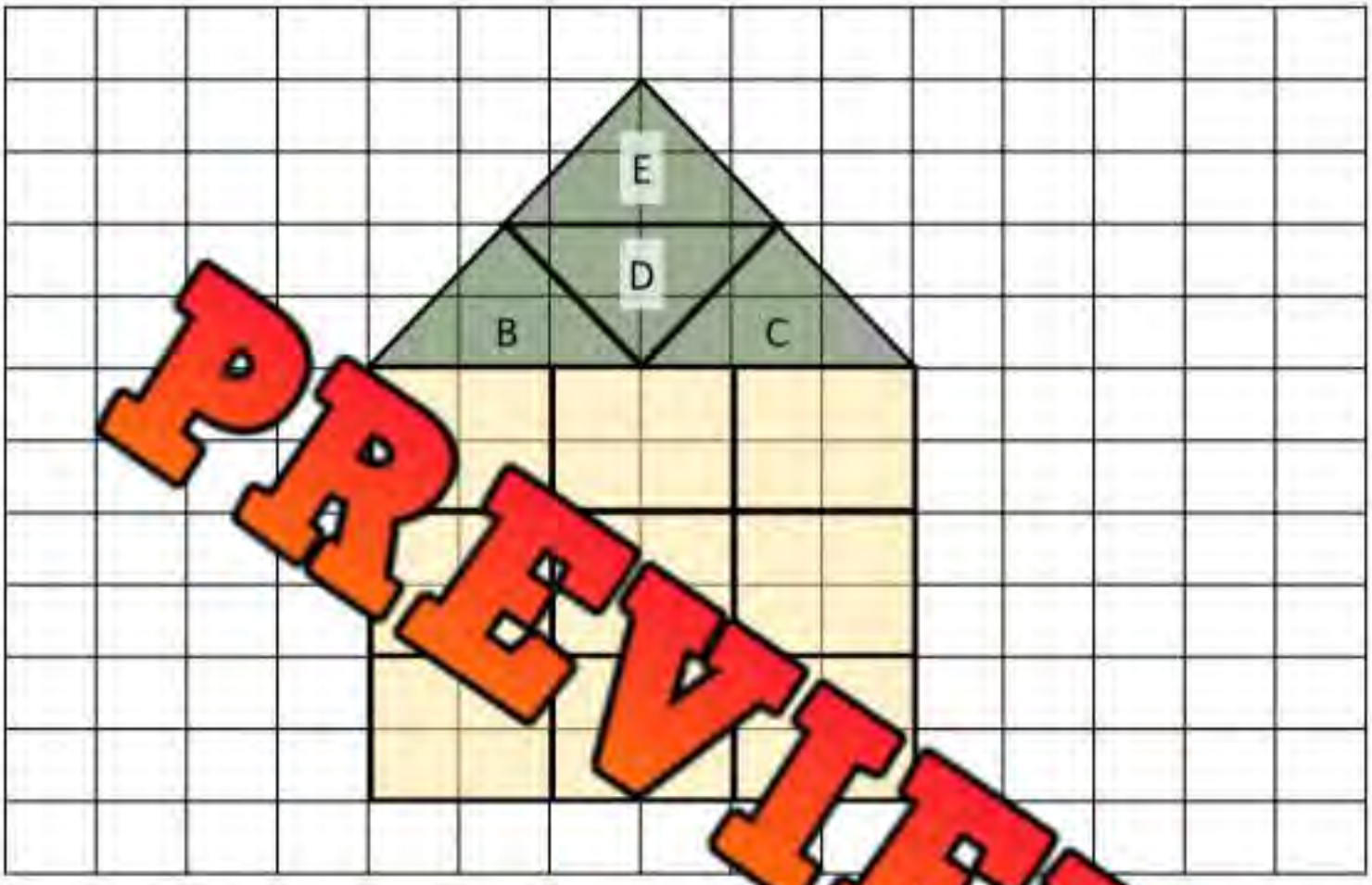


Congruent	Yes	No
Type		

Name: _____ 165

Curriculum Connection
SS6.5

Describing Transformations in a Design



Questions Answer the questions below

1) Which shape is A?	
2) Which transformation was used with shape A?	
3) What is the name of shapes B, C, D, and E?	
4) Which transformation was used to move shape B to C?	
5) Which two transformations were used to move shape C to D?	1) _____ 2) _____
6) Which transformation was used to move shape D to E?	

Name: _____ 166

Curriculum Connection
SS6.5

Create a Design Using Transformations

Instructions

1) Transform copies of the shape below to create a design
2) Describe the transformations at the bottom of the page

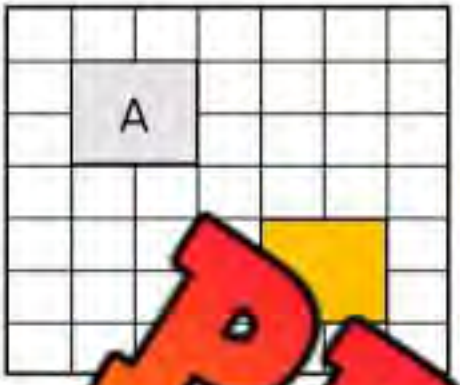
Description Describe which transformations you performed to make your design

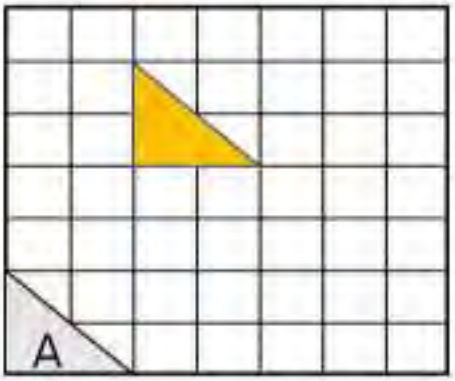
Name: _____ 170

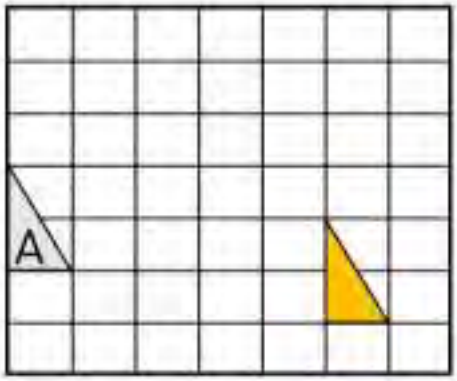
Curriculum Connection
TQ

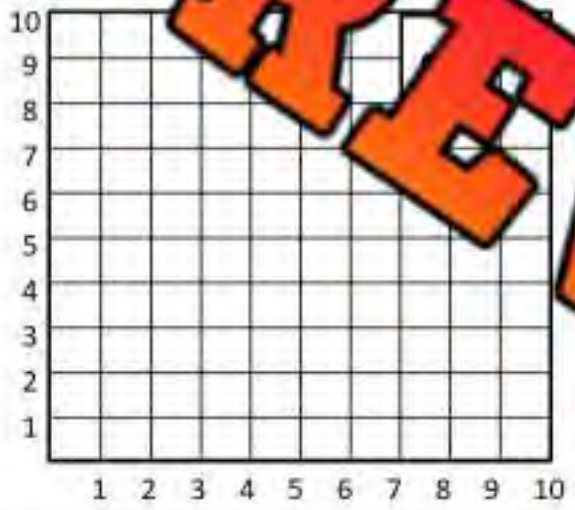
Unit Quiz - Transformations

Part 1 Describe or perform the translations below







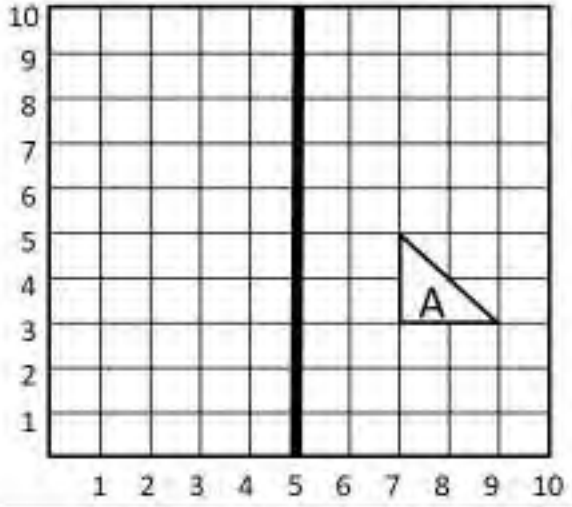


Left 4, down 5

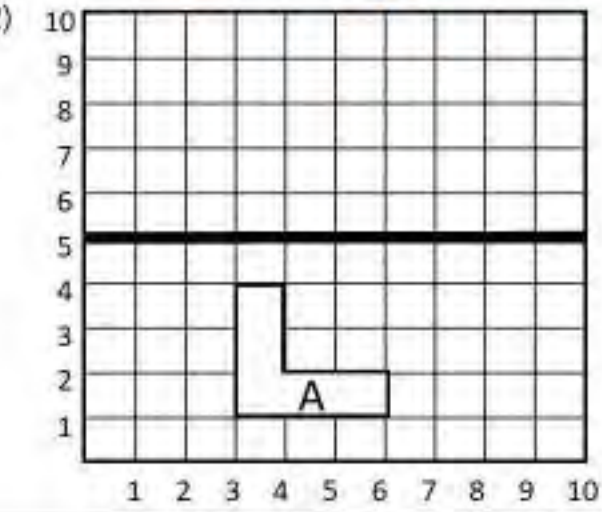
Righ

Part 2 Reflect the shapes across the mirror line

1)

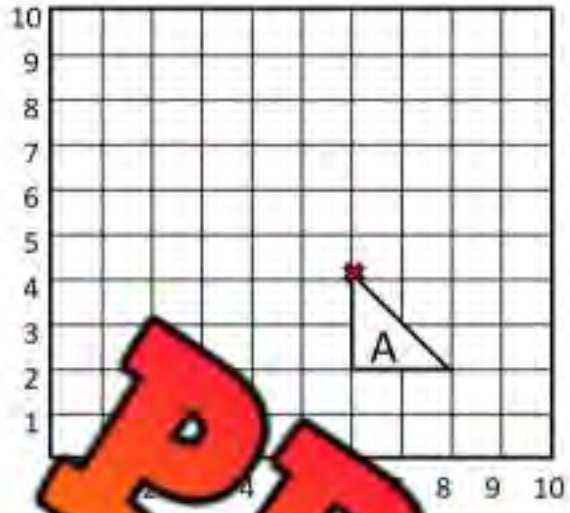


2)

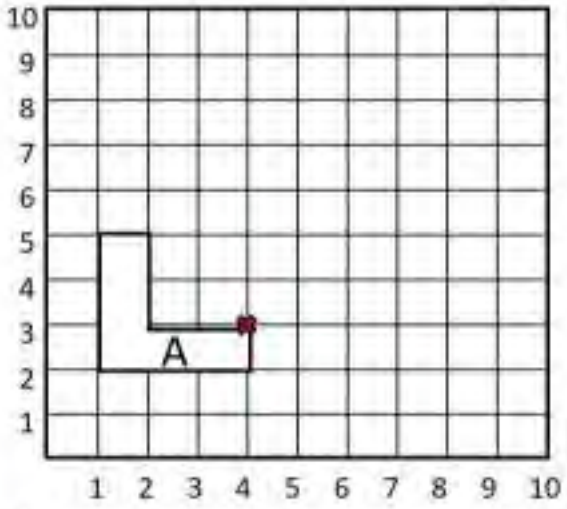


Curriculum Connection
TG

Part 3 Perform the rotations

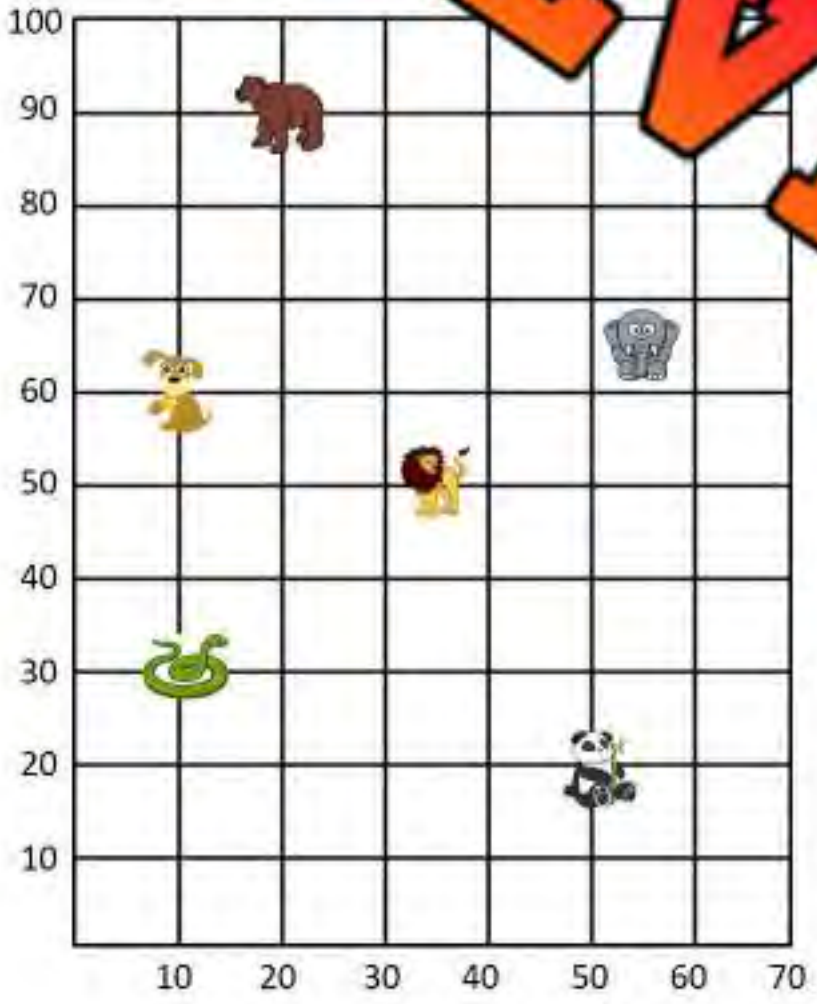


90° counter[illegible]rotation



180° rotation

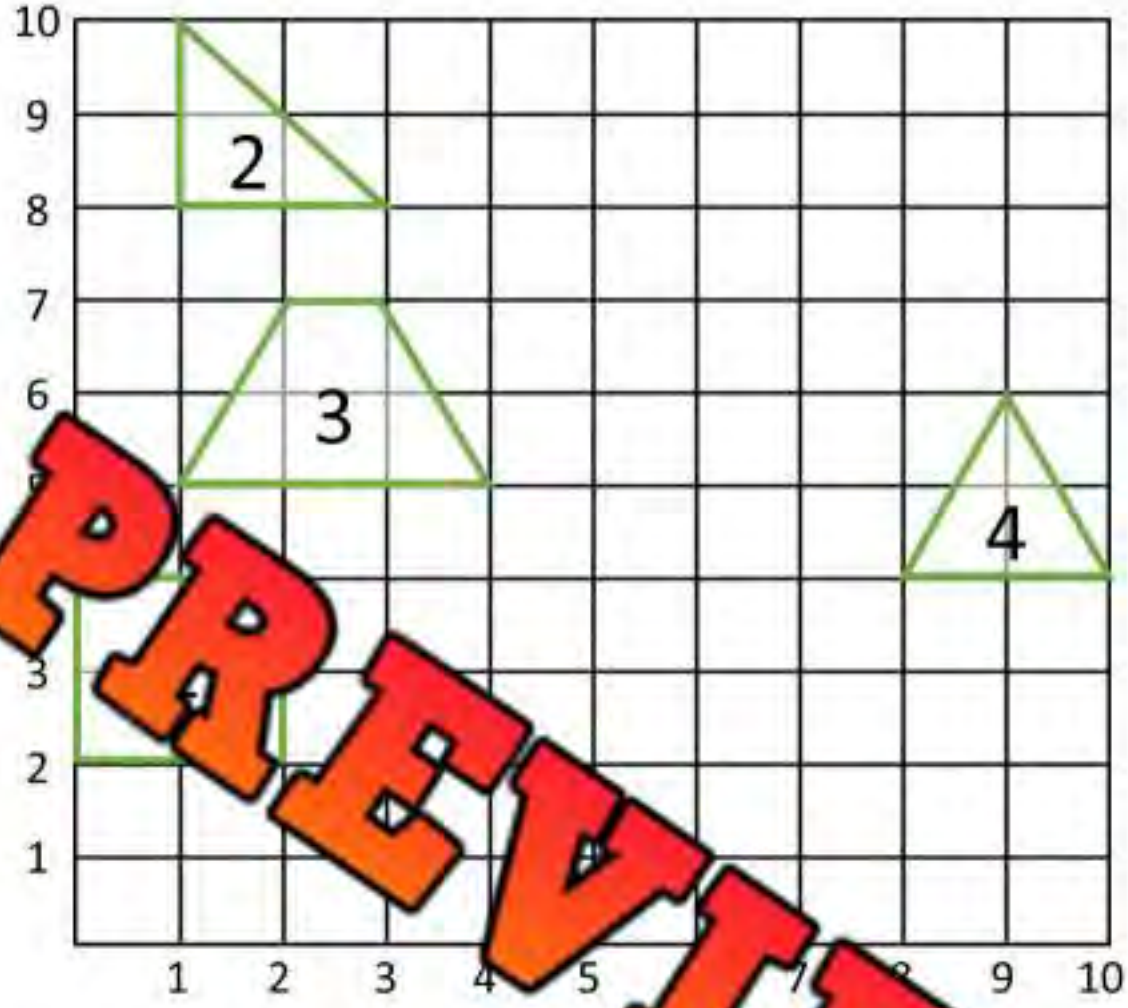
Part 4 Use the [illegible] answer the questions below



Symbol	Coordinates
	(_____, _____)
	(_____, _____)
	(_____, _____)
	(_____, _____)
	(_____, _____)
	(_____, _____)

2. Write the letters on the grid

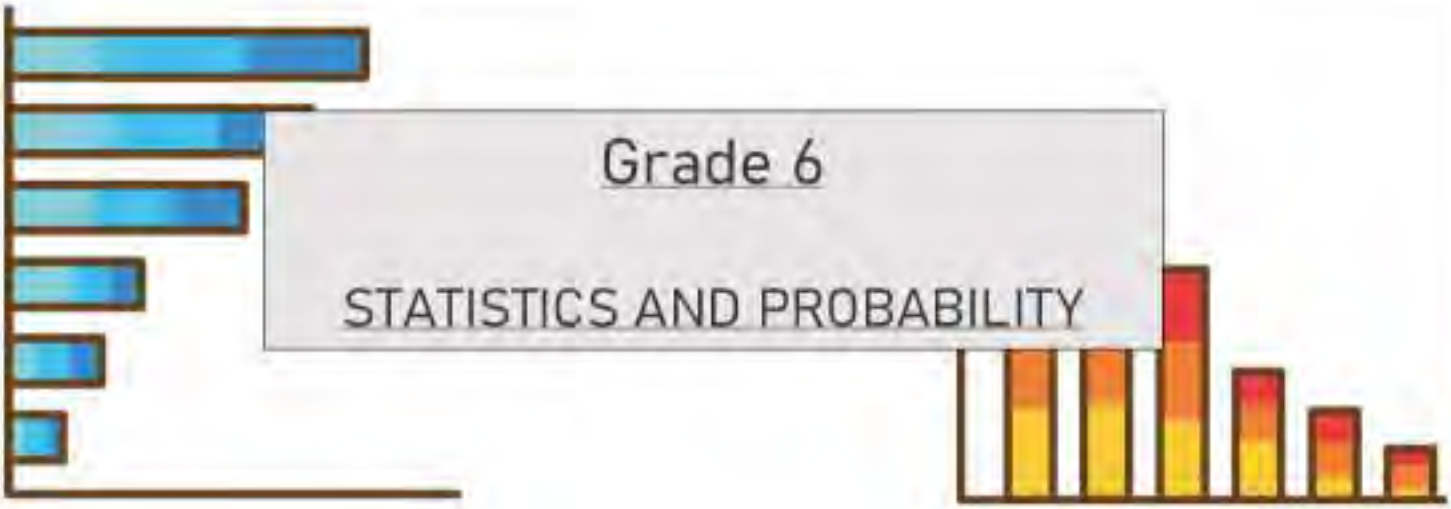
Letter	Coordinates
A	(30, 10)
B	(15, 45)
C	(65, 80)



Part 5 Follow the instructions below

1) Write the coordinates for each Polygon	
Polygon	**Coordinates**
1	
2	
3	
4	

2) Draw th… coordinates	
Polygon	**Coo…tes**
5	(7, 8), (8, 7), (9, 8), (8, 9)
6	(7, 0), (9, 0), (9, 2)
7	(4, 6), (4, 10), (6, 6), (6, 10)
8	(3, 0), (4, 2), (5, 0), (6, 2)



Grade 6

STATISTICS AND PROBABILITY

	Curriculum Expectations	Pages That Cover the Expectations
SP.1	Extend understanding of data analysis to · interpolation and extrapolation.	
SP.2	Demonstrate understanding of probability by: · determining sample space · differentiating between experimental and theoretical probability · determining the theoretical probability · determining the experimental probability · comparing experimental and theoretical probabilities.	101 – 130
TQ	Tests and quizzes	98 – 100, 131 – 133

Name: _____ 8

Curriculum Connection SP.1

Qualitative vs Quantitative Data

Quantitative data	**Qualitative data**
Data that uses numbers (measured, counted) - length, height, area, weight, time, etc.	data that uses words (categories) - choices, favourites, foods, colours, etc.

Questions ad the description of the data and circle if it is quantitative or qualitative

1) M… sale last month	Quantitative Qualitative
2) Heights of … gr…	Quantitative Qualitative
3) Favourite foods of the … udent…	Quantitative Qualitative
4) Rainfall in April last year	Quantitative Qualitative
5) Favourite colours of the students in your cla…	Quantitative Qualitative
6) The weight of different hockey skates	Qua…itative …e
7) The height of the grade 4 students	…itative …ualitative
8) Favourite season of the students in your school	Quantitative Qualitative
9) Which town/city people live in that go to your school	Quantitative Qualitative
10) Whether or not you have a pet	Quantitative Qualitative
11) How long it took to get to school	Quantitative Qualitative

Name: _____ 10

Curriculum Connection
SP.1

Quantitative vs Qualitative Observations

Image #1

Image #2

Part 1 bservations about image #1 and put an x if it is quantitative or qualitative

Obse	Quantitative	Qualitative
1) The ve cle ha	X	
2) The vehicle h es		
3) The vehicle is whit d		
4) The vehicle's age is 3 yea		
5) The vehicle has silver rims		
6) The vehicle has 2 headlights		
7) The vehicle is a car		
8) The vehicle drives up to 180km/hour		
9) The vehicle's tires are large		
10) The vehicle weighs 1700 kilograms		

Part 2 Write quantitative and qualitative observations about image #2

Observations	Quantitative	Qualitative
1)		
2)		
3)		
4)		
5)		

Name: _____ 12

Curriculum Connection SP.1

Primary vs Secondary Data

Primary Data	**Secondary Data**
Data that you have collected yourself **Example** - asking your classmates their favourite food	Data that has been collected by someone else **Example** - finding data on the internet

Part 1 Read the description of the data and circle if it is primary or secondary data

1) You r… …y …ny points Lebron scored in the NBA playoffs last year	Primary Secondary
2) You m…sure t… …of …e kids in your class	Primary Secondary
3) You measure the …all i… …h day for a week	Primary Secondary
4) You look up how much sn… …ach … …mber	Primary Secondary
5) You record how many minutes you s… …each da…	Primary Secondary
6) You weigh different sized rocks in your yard	Primary Secondary
7) You measure the weight of your cat each year	Primary …dary
8) You research how many Orcas are left off the coast of Vancouver	…mary Secondary

Part 2 Write your own primary and secondary data descriptions below

1) Primary	
2) Secondary	
3) Primary	
4) Secondary	

Name: _____ 15

Curriculum Connection
SP.1

Research – Finding Secondary Data

Choose a research question that you are most interested in. Find data that answers your research question. Organize your data by using the table below.

Organizer | Fill in the table below

1) What is your research question?

2) How will you organize your data? You will need 4 or 5 categories so you can use your data to make comparisons.
For example, compare Lebron James' totals for his first 5 seasons.

Categories				
Data				

3) What did you learn about your secondary data?

4) Why is this data considered secondary data?

Name: _____ 16

Curriculum Connection
SP 1

Discrete or Continuous Data?

Discrete and continuous data are both forms of quantitative data. This means both are numerical, meaning the data is acquired through counting or measuring.

Discrete data is collected when the answers to a survey are only numbers. It is quantitative data that has no relationship between the numbers. For example, "how many pets you have" is discrete data because there is no relationship between 1 and 2 pets. You cannot have 1 and a half pets, only 1 or 2. Discrete data is counted.

With **continuous data**, there is a relationship between the numbers. For example, "how much rain there was last week?" You can have 1 and a half millimetres of rain, which means there is a relationship between 1 and 2. Continuous data is measured.

Question: Is each question discrete or continuous?

Tip: Ask yourself if you can split the answer in half.

Question	Discrete/Continuous
1. How many cm of snowfall were	
2. How many siblings do you have?	
3. What was the average temperature in July?	
4. How many minutes did you read this week?	
5. How many video games do you own?	
6. How many kilometres did you run this week?	
7. How many sports do you play?	
8. What grade are you in?	
9. How many litres of milk do you drink a week?	
10. How many cars does your family have?	

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Is the research question discrete or continuous?

Research Question	Discrete/Continuous
How many times did the phone ring today?	
How many different species of birds did you observe on your nature walk?	
How many seconds did it take for the ice to melt completely?	
How many beats per minute is your resting heart rate?	

Name: _____

Is the research question discrete or continuous?

Research Question	Discrete/Continuous
How many times did the phone ring today?	
How many different species of birds did you observe on your nature walk?	
How many seconds did it take for the ice to melt completely?	
How many beats per minute is your resting heart rate?	

Name: _____

Is the research question discrete or continuous?

Research Question	Discrete/Continuous
How many times did the phone ring today?	
How many different species of birds did you observe on your nature walk?	
How many seconds did it take for the ice to melt completely?	
How many beats per minute is your resting heart rate?	

Name: _____

Is the research question discrete or continuous?

Research Question	Discrete/Continuous
How many times did the phone ring today?	
How many different species of birds did you observe on your nature walk?	
How many seconds did it take for the ice to melt completely?	
How many beats per minute is your resting heart rate?	

Name: _____ 18

Curriculum Connection
SP.1

Discrete or Continuous Data?

Questions | Researching a car

You are purchasing a new car over the phone. You ask the car salesman the questions below. Is the data he gives you **discrete** or **continuous**?

Data Collected	Discrete/Continuous
1) How many doors does the car have?	
2) How old is the car?	
3) How many litres does the engine hold?	
4) How many wheels does the car have?	
5) How fast does the car go?	
6) How many passengers can the car hold?	
7) How many speakers are in the car?	
8) How many kilometres has the car driven already?	
9) How much does the car cost?	
10) How long does it take to get up to 60km/hour?	
11) How long is the car?	
12) How many decibels do the speakers produce?	

Name: _____ 19

Curriculum Connection SP.1

Data – Qualitative, Discrete, or Continuous?

Part 1 Researching a basketball team

You are the manager of a basketball team and are researching your next opponent. You decide to collect data based on the questions below. Is the data qualitative, discrete, or continuous?

Data Collected	Qualitative/Discrete/ Continuous
1) How many players are on the team?	
2) How tall are their players?	
3) How many points a game do they score?	
4) What colour are their jerseys?	
5) Which teams have they played before?	
6) How many games have they played?	
7) How old are their players?	
8) How many wins do they have this year?	
9) How many seconds do they take before they shoot?	
10) Which type of defense do they play – zone or man?	
11) How many three pointers do they take a game?	
12) What is the name of their mascot?	

Part 2 Write one example of each type of data

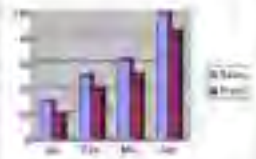
Type of Data	Example
Qualitative	
Discrete	
Continuous	

Name: _____ 20

Curriculum Connection SP.1

Types of Graphs - Information

There are many different types of graphs. Each graph has features that make it better for certain data sets. Read about the different graphs below and when we use each one.

Types of Graph	Explanation	When We Use Them
Pictograph 	- A graph that uses images or symbols to represent data	- When we want to display simple data in picture form. - When we want to make our data more interesting
Bar Graph 	- A graph that displays data using rectangular bars or columns	- When we want to compare categories between different groups - Used with discrete data
Line Plot 	- A graph that displays data as points or symbols (checkmarks, x's) above a number line - The dots are not connected	- Used to show the frequency of data - Quick and simple way to organize data in small groups
Multiple-Bar Graph 	- A graph that shows the relationship between different values of data - The bars are presented beside each other for clear comparisons	- To display the relationship between two sets of data. For example - gender differences or adults vs youth
Broken-Line Graph 	- A graph that displays data as points that are connected with a line	- Used to track changes over periods of time - Used with continuous data

Name: _____ 21

Curriculum Connection
SP.1

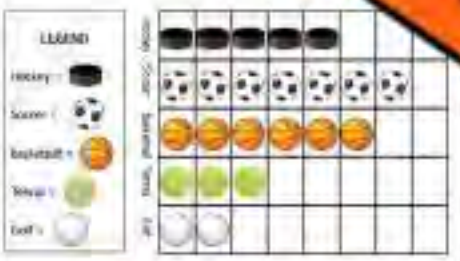
Types of Graphs - Questions

Part 1 Circle the graph you would use to represent the data

	Description	Graph A	Graph B
1)	You want a simple graph that shows a visual representation of the data	Broken-Line	Pictograph
2)	You [illegible] show the relationship between two diffe[illegible]es of data	Bar Graph	Multiple Bar Graph
3)	[illegible]ph that has smaller values	Line Plot	Bar Graph
4)	You want [illegible]ph [illegible] displays your data visually	Multiple Bar Graph	Bar Graph
5)	You want to grap[illegible] data	Broken Line Graph	Line Plot
6)	You are displaying two se[illegible] dat[illegible] and women	Bar Graph	Multiple Bar Graph

Part 2 Label the names of the graph[illegible]w

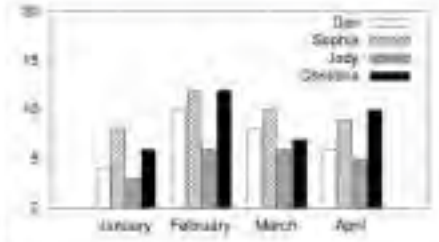
1)



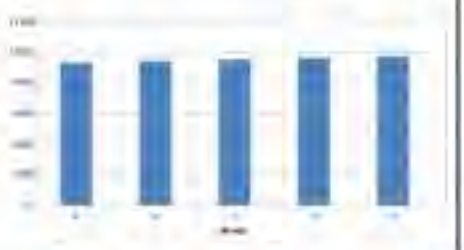
2)

3)

4)



5)



6)

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Circle the graph you would use to represent the data

Description	Graph A	Graph B
1) You want to compare the total sales figures for four different products over a year.	Bar Graph	Line Plot
2) You are looking to display data that shows both an increase and decrease in a single variable over time.	Broken-Line Graph	Multiple Bar Graph
3) You want to represent data that shows the favourite sports of students and their frequencies.	Pictograph	Bar Graph
4) You want to show changes in data over time for different categories.	Multiple Line Graph	Line Plot

Name: _____

Circle the graph you would use to represent the data

Description	Graph A	Graph B
1) You want to compare the total sales figures for four different products over a year.	Bar Graph	Line Plot
2) You are looking to display data that shows both an increase and decrease in a single variable over time.	Broken-Line Graph	Multiple Bar Graph
3) You want to represent data that shows the favourite sports of students and their frequencies.	Pictograph	Bar Graph
4) You want to show changes in data over time for different categories.	Multiple Line Graph	Line Plot

Name: _____ 23

Curriculum Connection
SP.1

Horizontal Pictograph - Candy

A **pictograph** is a graph that displays data using symbols or pictures. Read the pictograph below and answer the questions.

Sam and his friends collected candy on Halloween. The amount of candy each friend collected is displayed below in the pictograph.

Friend	Number of Candies Collected	Frequency
S		
Steve		
Tony		
Jill		
Stacy		

 = 12 Candies

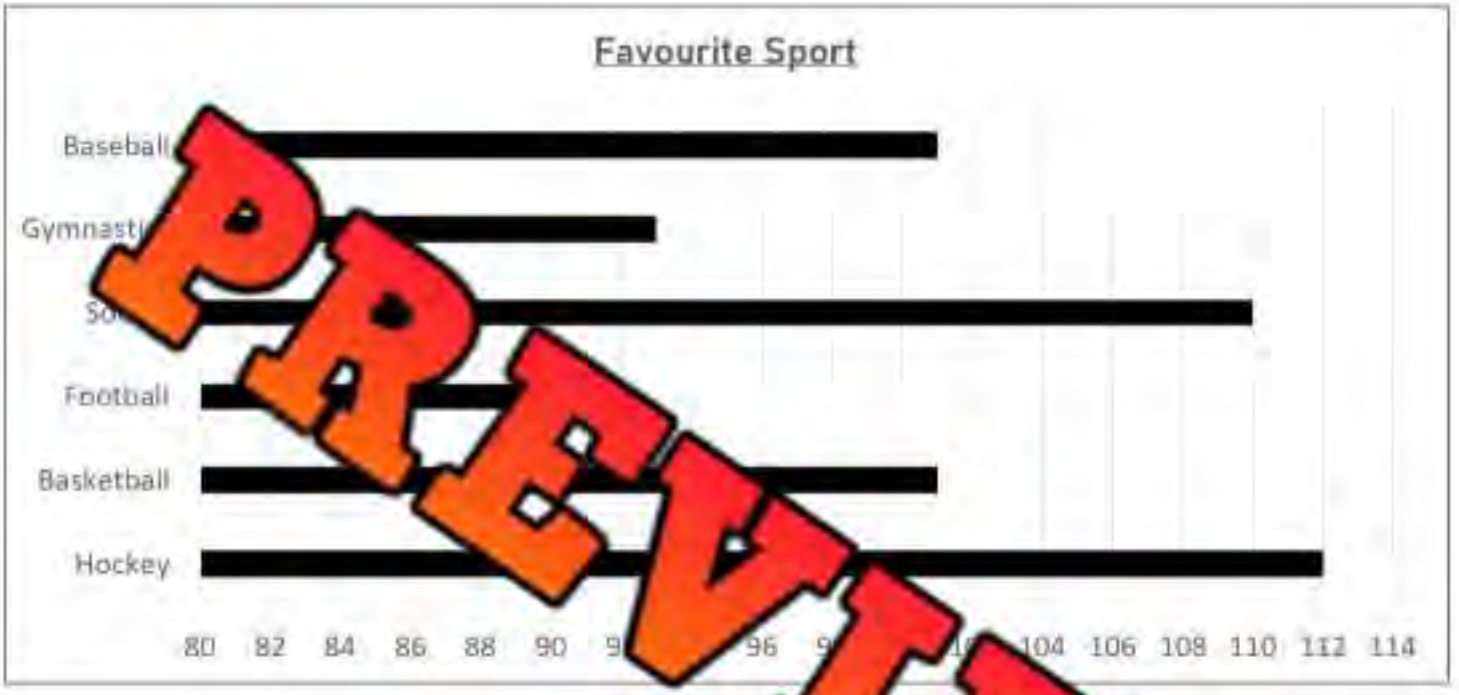
a) How much is one candy worth?	
b) How much is half a candy worth?	
c) Who collected the most candy?	
d) How much more candy did Jill collect than Tony?	
e) How much total candy was collected?	
f) Did Jill and Tony collect more candy than Sam and Steve?	

Name: _____ 26

Curriculum Connection
SP.1

Horizontal Bar Graph – Favourite Sport

The kids at camp were asked which sport they liked the best. They surveyed each kid and the results have been displayed below in a horizontal bar graph.



Questions Fill in the tables below

Frequency Table	
Baseball	
Gymnastics	
Soccer	
Football	
Basketball	
Hockey	

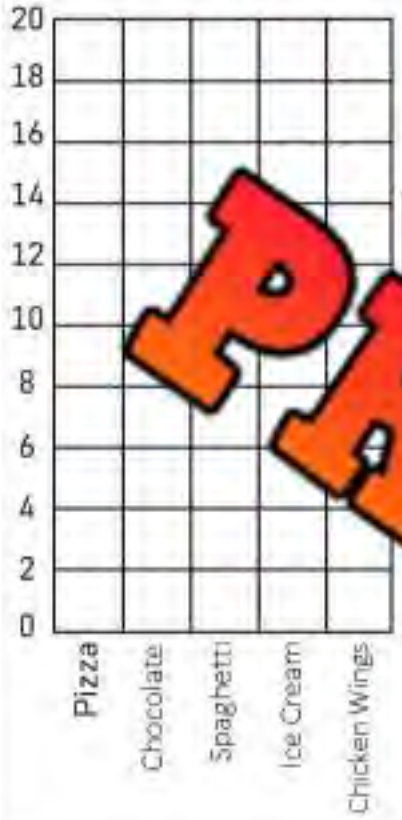
a) Which sport was most popular?	
b) What number does the scale start at?	
c) How many people chose gymnastics as their favourite?	
d) How many kids liked basketball and soccer the best?	
e) How many kids liked hockey more than football?	
f) How many kids were surveyed?	

Name: _____ 30

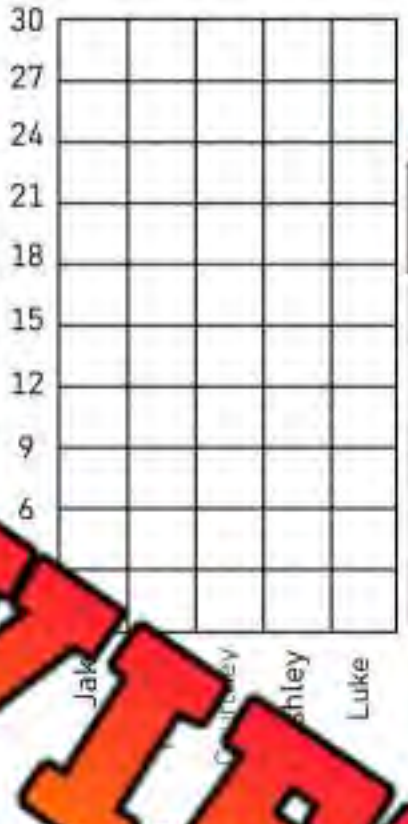
Curriculum Connection
SP.1

Drawing Bar Graphs

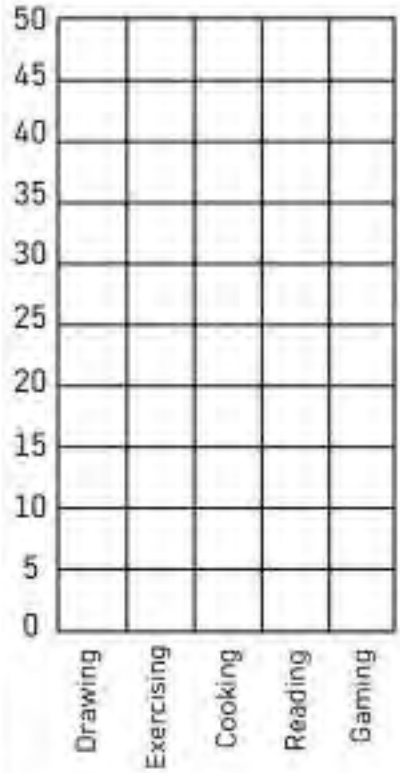
Instruction Draw the bars for each of the bar graphs below



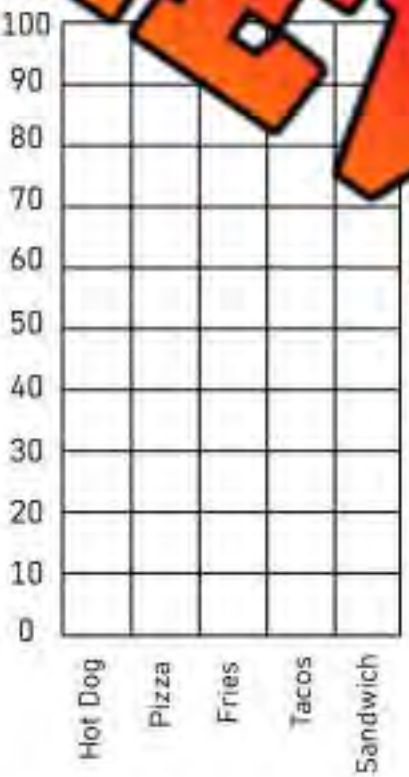
Favourite Food	# of votes
Pizza	16
Chocolate	14
Spaghetti	8
Ice Cream	11
Chicken Wings	11



Player	# of points
Jake	21
Nathan	12
Courtney	18
Ashley	28
Luke	8



Favourite Hobby	# of votes
Drawing	30
Exercising	11
Cooking	29
Reading	13
Gaming	45



Favourite Food	# of votes
Hot Dog	40
Pizza	80
Fries	75
Tacos	35
Sandwich	25

Curriculum Connection
SP.1

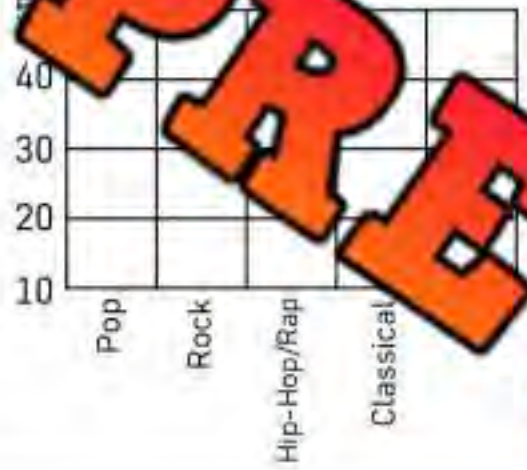
Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Draw the bars for the bar graph below.

Music	Pop	Rock	Hip-Hop/Rap	Classical
Votes	35	20	50	45



Name: _____

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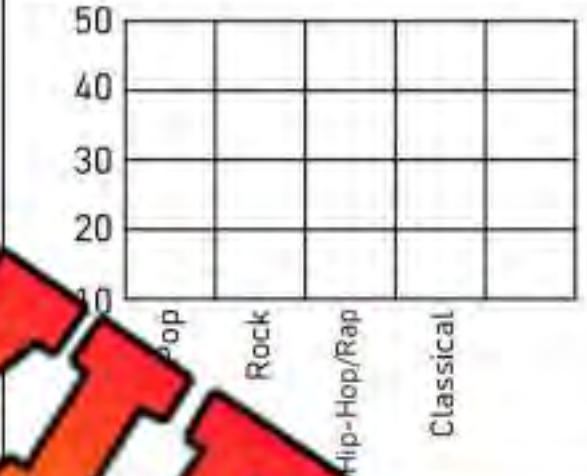

Name: _____

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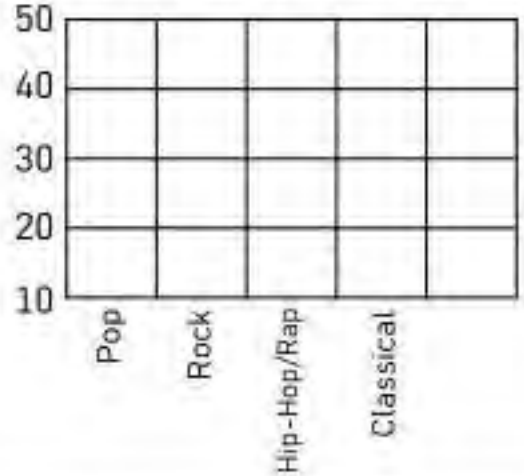

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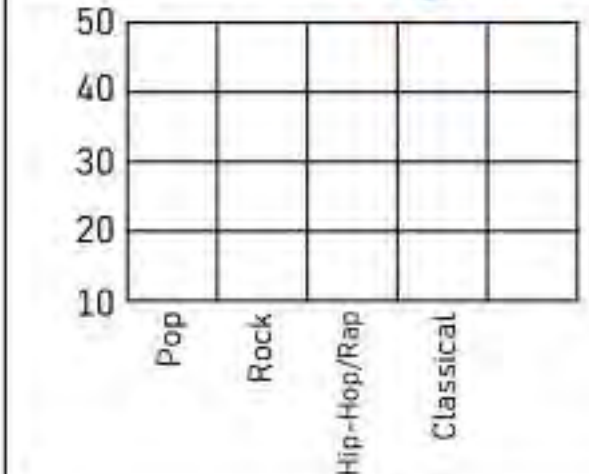
Music	Pop	Rock	Hip-Hop/Rap	Classical
Votes	35	20	50	45

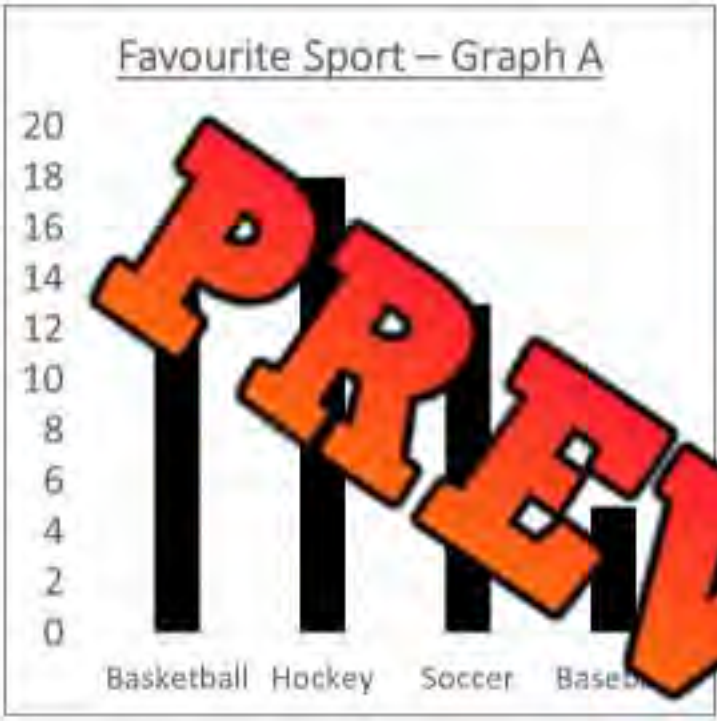


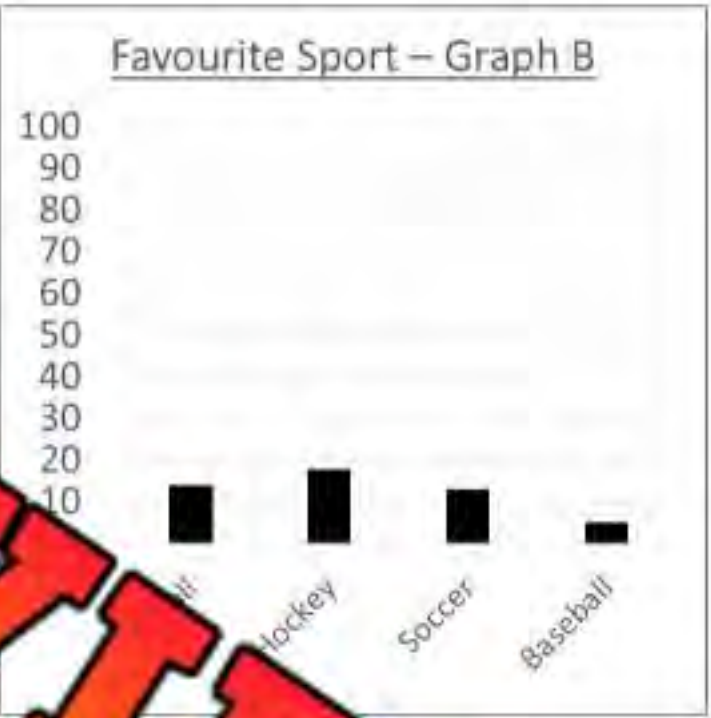
Name: _____ 33

Curriculum Connection
SP.1

Examining Scale – Favourite Sport

The two graphs below display the same data. Examine both graphs and answer the questions below.





Questions What do you notice about th[illegible]?

a) What is the scale in Graph A?	
b) What is the scale in Graph B?	
c) Which graph uses more of the space?	
d) Which graph is easier to read and interpret? Why is that graph better?	
e) Why is it important to choose an appropriate scale?	

Name: _____ 35

Curriculum Connection
SP.1

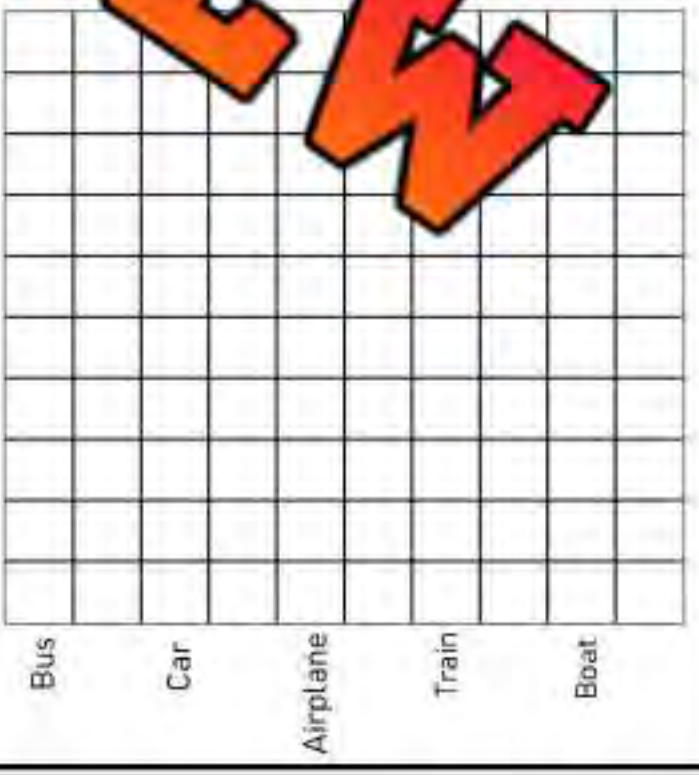
Creating Scale

When you create a scale for your graph, you need to look at the data so you can decide what to go up by. The goal is to create a graph that will fill the graph area.

Step 1: Look at the data. Find the lowest and highest numbers.
Step 2: Count how many lines you have to plot your data.
Step 3: Decide what to go up by to ensure you have enough space to plot ALL the data.

Favourite Dessert	# of votes
Brownie	21
Ice Cream	27
Cookie	15
Donut	12
Pudding	9

Favourite Transportation Method	# of votes
Bus	11
Car	49
Airplane	91
Train	70
Boat	82

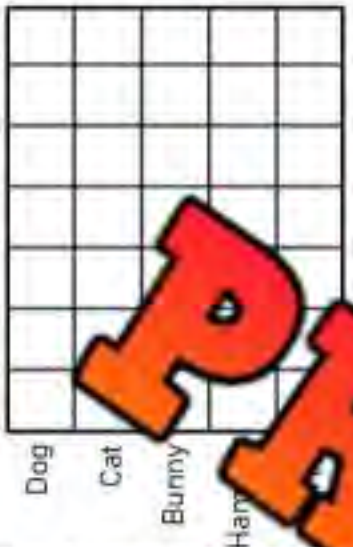


Name: _____ 36

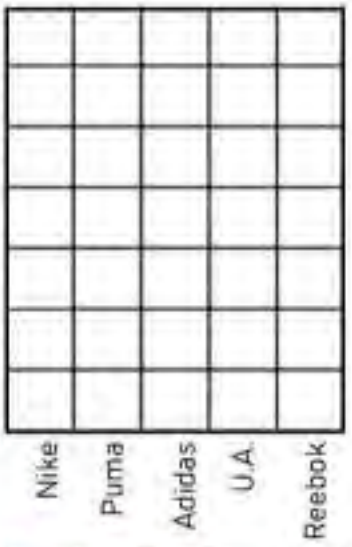
Curriculum Connection
SP.1

Creating Scale

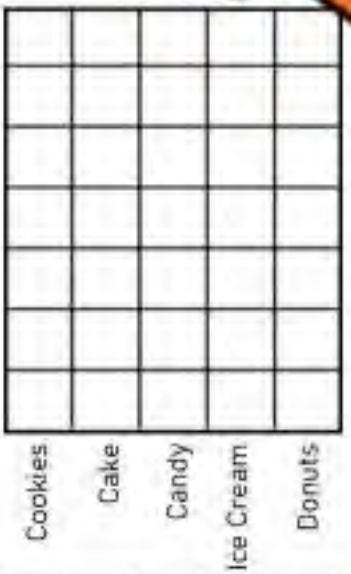
Questions 1. Read the numbers and decide which scale to use 2. Draw your bar graphs



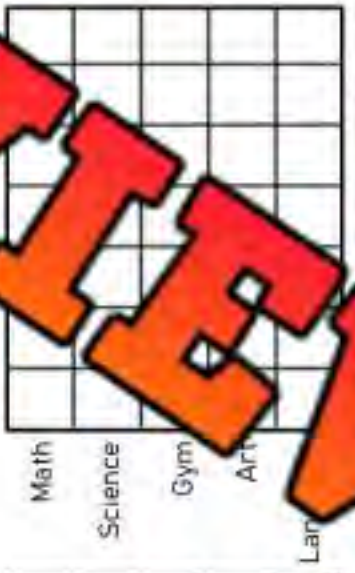
Pets	Votes
Dog	3
Cat	12
Bunny	18
Hamster	15
[illegible]tle	9



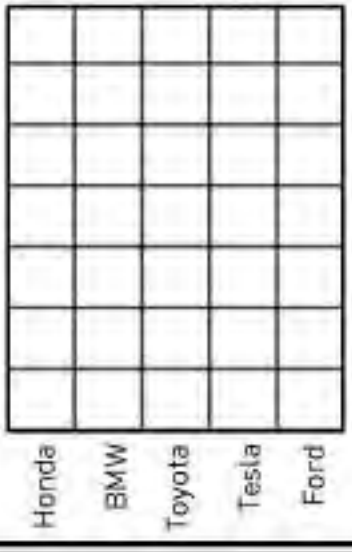
Brand	Votes
Nike	10
Puma	6
Adidas	3
Under Armour	8
Reebok	12



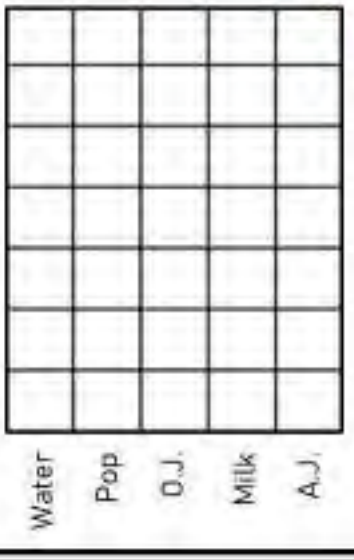
[illegible]	Vot[illegible]
Cooki[illegible]	1[illegible]
Cake	[illegible]
Candy	35
Ice Cream	24
Donuts	12



Subject	Votes
Math	8
Science	22
Gym	65
Art	41
[illegible]	30



Cars	Votes
Honda	200
BMW	450
Toyota	225
Tesla	675
Ford	350



Drinks	Votes
Water	700
Pop	1300
Orange Juice	550
Milk	150
Apple Juice	825

Name: _____ 37

Curriculum Connection SP.1

Collecting Data – Qualitative

Qualitative data is non-numerical data that can be organized by categories, such as type of pet, or favourite colour.

Questions of interest are questions we have that we want to learn more about. We learn more about them by collecting data from a population.

Examples - Which YouTuber is the best from this list? Which video game system is the best?

Population - Choosing your population is important. If you asked kindergartens the same question a[illegible] 6's, you would expect different results and you might not be interested in the kin[illegible] data.

Data C[illegible]tion — [illegible]ct data by asking the population your survey question

Survey Questi[illegible]					
Example: What is your favourite music genre?					
Categories					
Tally					
Frequency					

Interpreting Your Survey Results

1. Which population did you ask? (ex- grade 6's, kids under 12) _____

2. How many people were surveyed? _____

3. Which category was the most popular? _____ least popular _____

4. If you asked your entire school, which category do you think would win? Explain.

_____

5. What conclusions can you make from your data? What did you learn?

_____

_____

Name: _____ 38

Curriculum Connection
SP.1

Creating a Bar Graph

Use the data you collected to plot your graph. Remember the following labels:

X axis label ☐ Y axis label ☐ Title ☐ Scale ☐ Categories ☐

Name: _____ 39

Curriculum Connection SP.1

Collecting Data - Qualitative

Survey Question Solving a Problem | Collect data by asking your classmates your survey question

Think of a problem in your life. How could asking your classmates for their opinions help you solve this problem? Check out the examples below of problems that can be solved with the help of others. Use one of these examples, or come up with your own below.

Examples

1 – "Which ... console should I buy next?"
2 – "W... ... dinner tonight?"
3 – "... ...estaura... ...we go to tonight?"
4 – "Wh... sport ... ... this year?"
5 – "Which so... ...g in... ...lent show?"

Survey Question *Example:* What TV show should I start watching?					
Categories					
Tally					
Frequency					

Interpreting Your Survey Results

1. How many people did you survey? _____
2. Which category was the most popular? _____
3. Which category was the least popular? _____
4. Was your problem solved? Will you follow the data and listen to your classmates?

_____

_____

Name: _____ 40

Curriculum Connection
SP.1

Creating a Bar Graph

Use the data you collected to plot your graph. Remember the following labels:

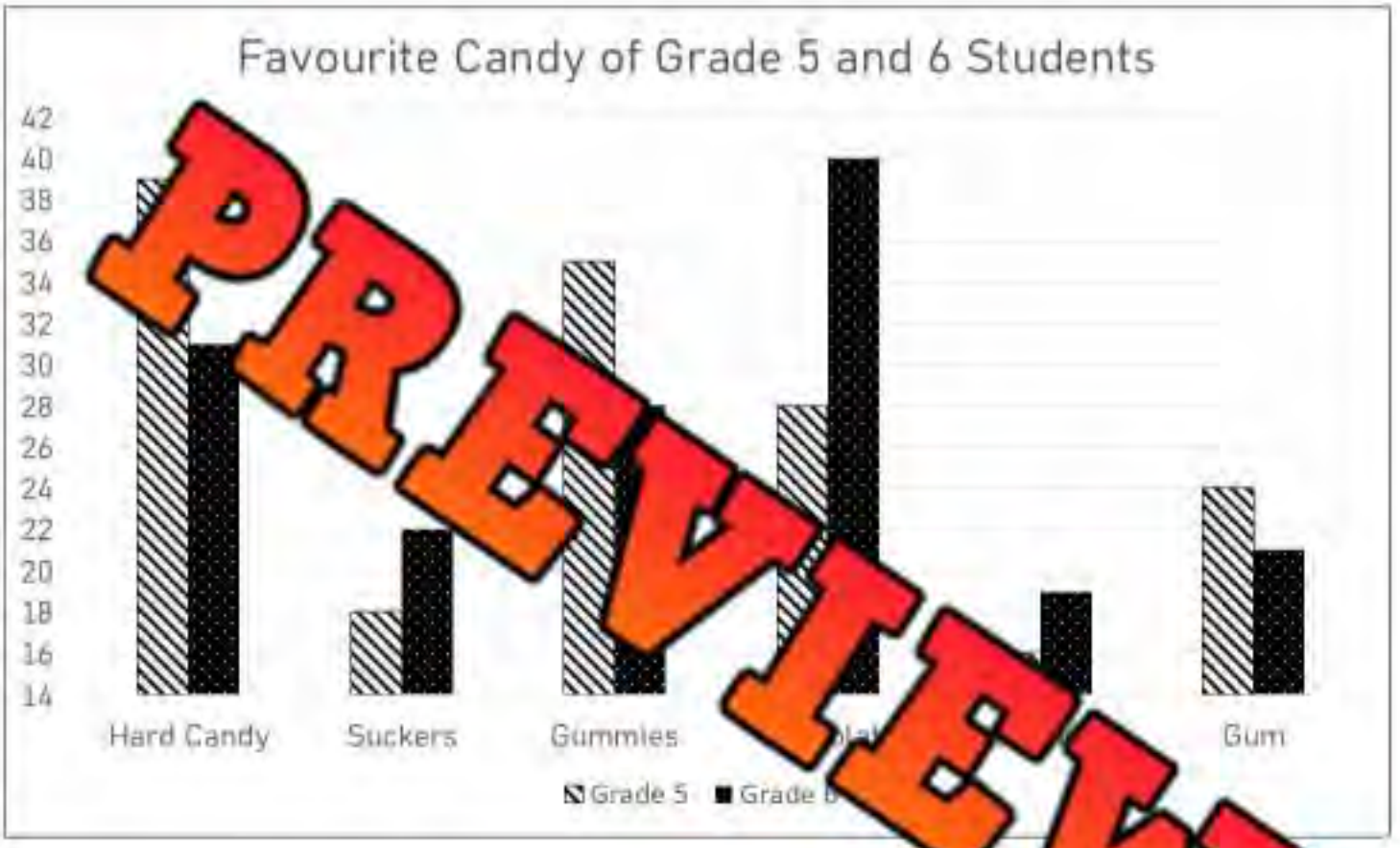
X axis label ☐ Y axis label ☐ Title ☐ Scale ☐ Categories ☐

Name: _____ 45

Curriculum Connection
SP.1

Interpreting a Double Bar Graph

The students in grades 5 and 6 were asked which candy was their favourite. The results have been sorted by grade in the double bar graph below.

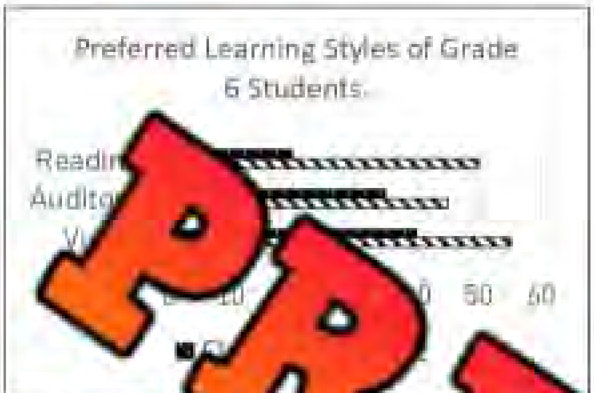


a) Which candy did the grade 5's like the most?	
b) Which candy did the grade 6's like the most?	
c) Which candy got the most votes combined?	
d) How many more votes did chocolate get in total over licorice?	
e) Did more grade 5s or grade 6s participate in the survey?	
f) How many students participated in the survey?	

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: ______________________



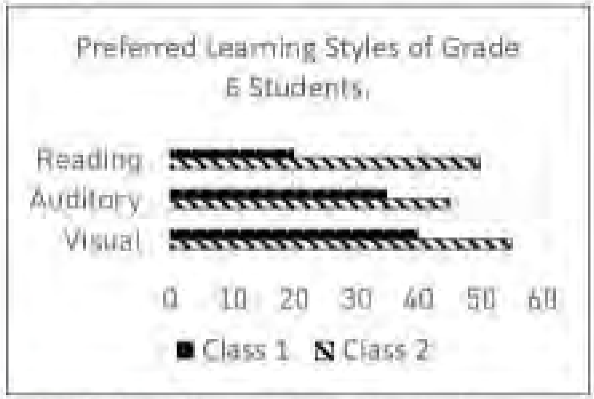
1) Which learning style is the most preferred among the students?

____

2) What is the total number of students who prefer either Visual or Auditory Learning?

____

Name: ______________________



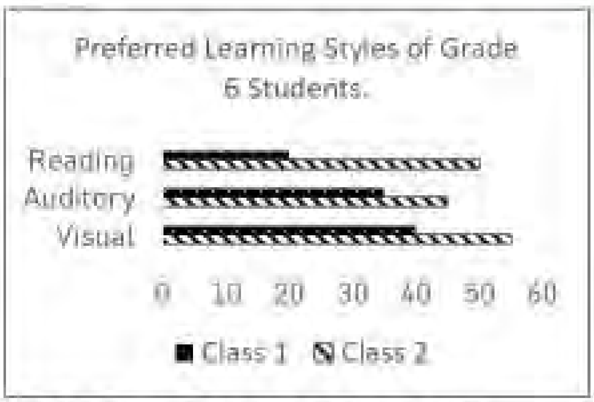
1) Which learning style is the most preferred among the students?

____

2) What is the total number of students who prefer either Visual or Auditory Learning?

____

Name: ______________________



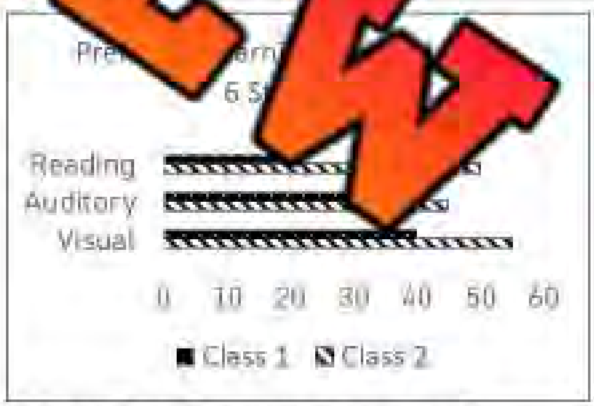
1) Which learning style is the most preferred among the students?

____

2) What is the total number of students who prefer either Visual or Auditory Learning?

____

Name: ______________________



1) Which learning style is the most preferred among the students?

____

2) What is the total number of students who prefer either Visual or Auditory Learning?

____

Name: _____ 47

Activity Title: Flip the Data

Objective What are we learning about?

Students will engage in a fun and active game where they read data from a bar graph and answer questions to earn the opportunity to flip a bottle or cup. This activity combines data interpretation skills with a physical challenge, adding excitement and a competitive element to learning.

Materials What you will need for the activity.

- B or cups g
- A sm tboar r t display bar graphs
- Timer (sto n artp pp)
- Question card on t data
- Scoreboard to ke

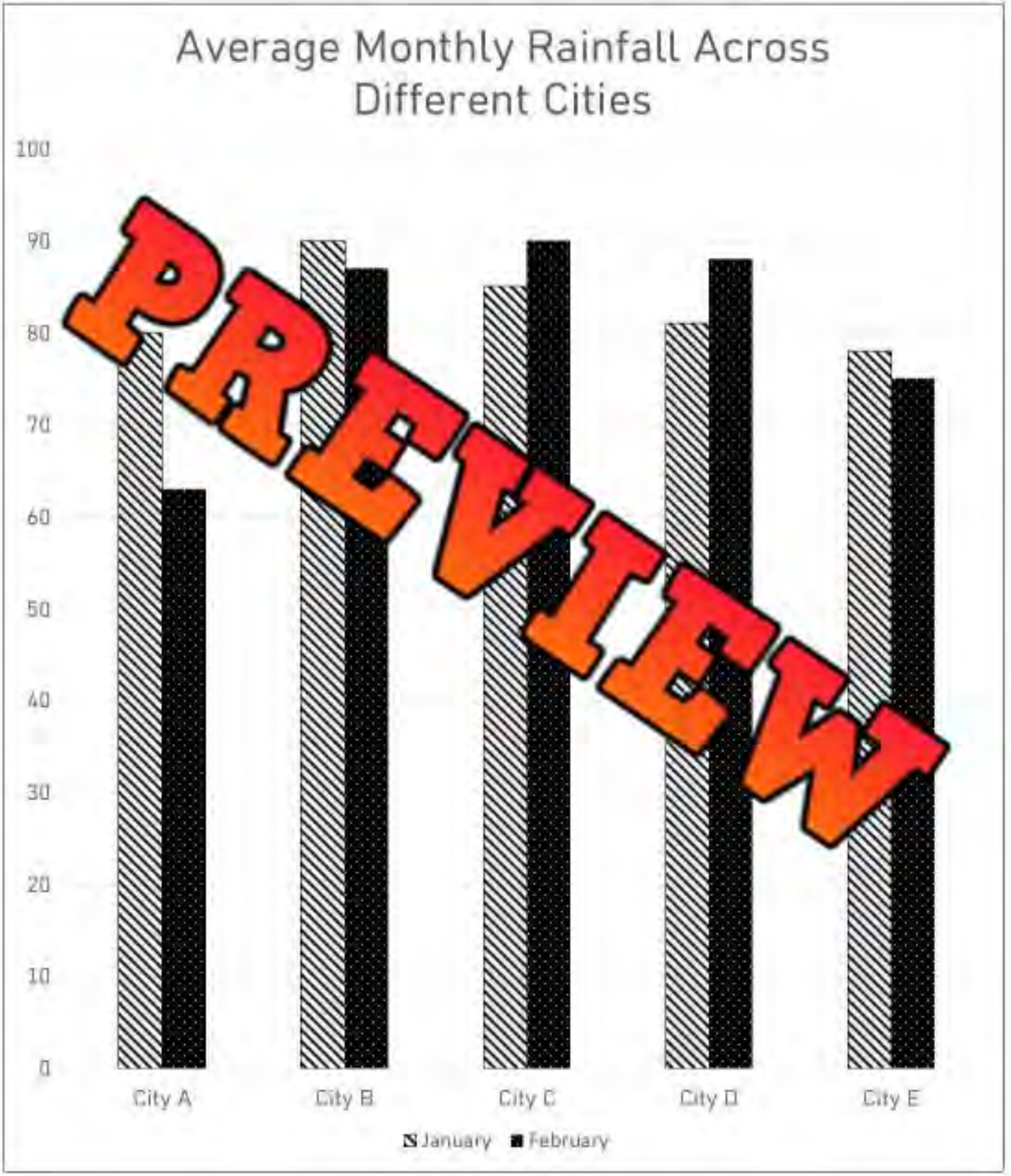
Instructions How you wi mp

1. Divide the class into small teams, ideally of 5 ude h.
2. Prepare a series of bar graphs to display d mart with corresponding question cards that ask about t g
3. One team at a time comes to the front where the gr lay
4. Display the first bar graph on the smartboard.
5. The first student from the active team reads the graph and sel card. Start the timer when the question is first shown.
6. The student answers the question based on the data presented in the graph. The teacher checks the answer.
7. If the student answers correctly, they flip their bottle or cup repeatedly until they land it upright. When they do, the next teammate can take their turn.
8. If the student's answer is incorrect, they must try another question card before they can attempt to flip.
9. The team's turn ends either when all members have successfully flipped their bottle/cup or when the timer reaches a set limit (e.g., 3 minutes).
10. Record the team's time or number of successful flips on the scoreboard.
11. Repeat steps 4-10 for each team. The team with the fastest time wins.

Name: _____ 48

Curriculum Connection
SP.1

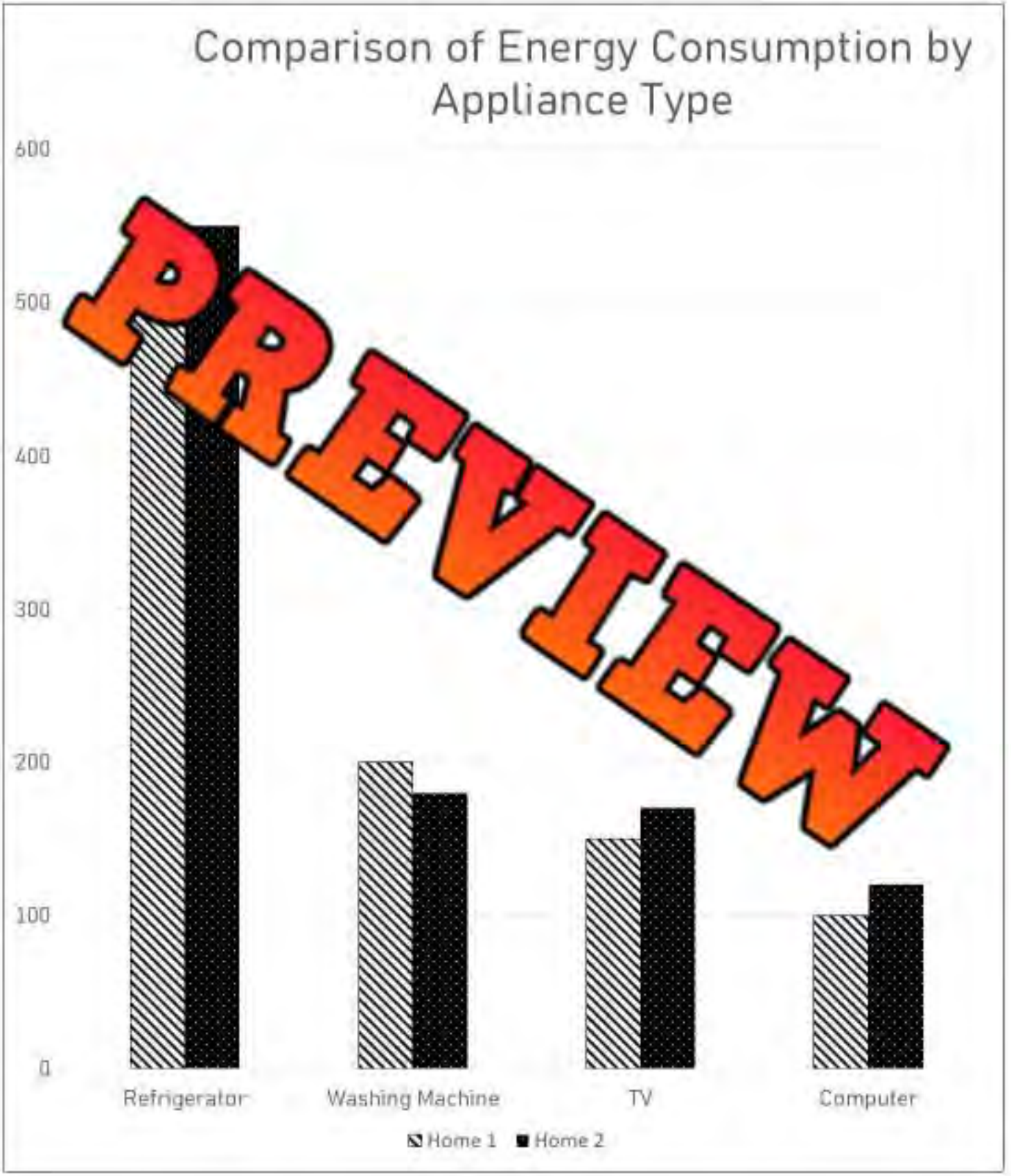
Graph 1 | What did you learn from the graph?



Name: _____ 49

Curriculum Connection
SP.1

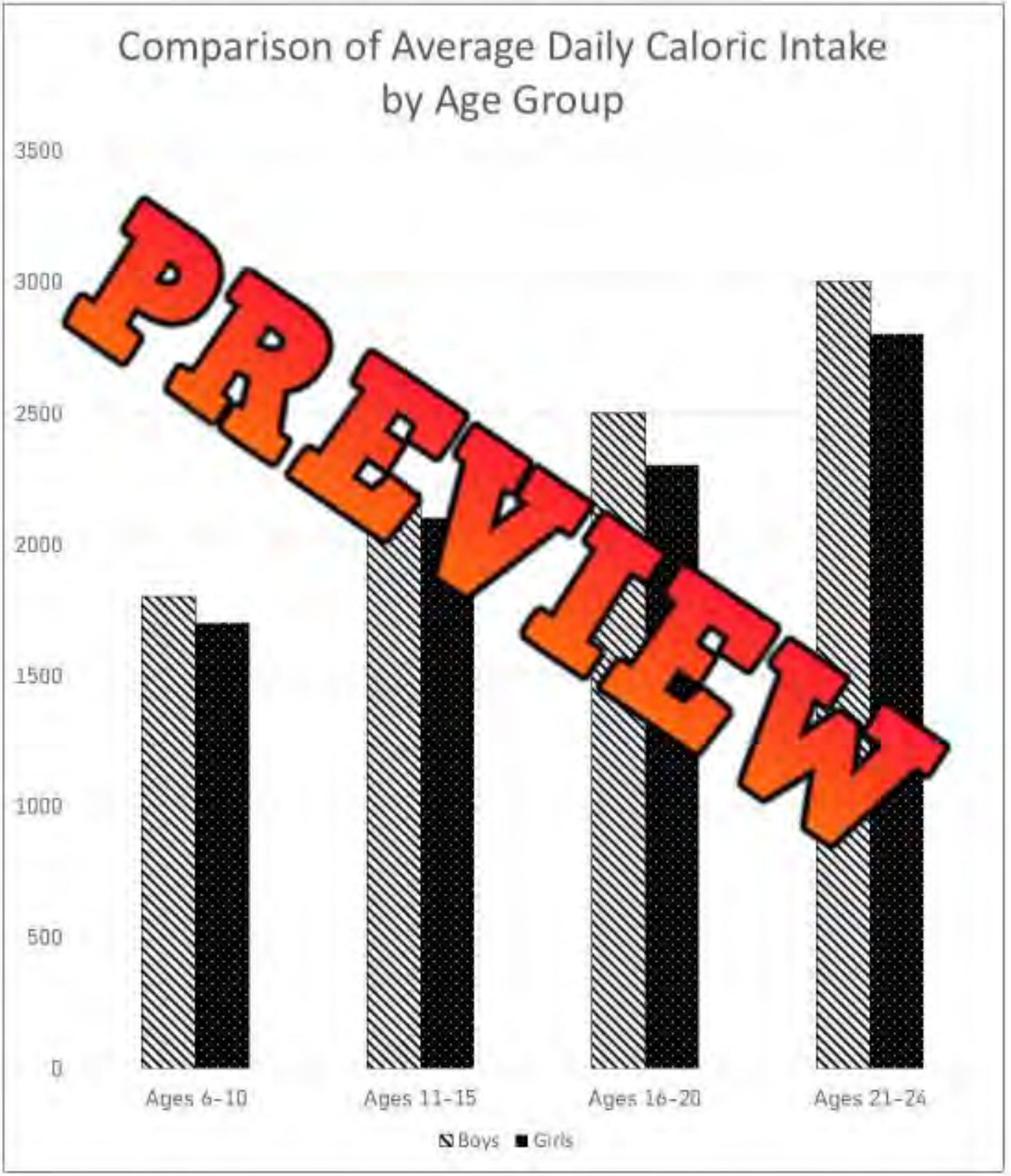
Graph 2 | What did you learn from the graph?



Name: _____ 52

Curriculum Connection
SP.1

Graph 5 | What did you learn from the graph?



Name: _____ 53

Curriculum Connection
SP1

Questions Choose a question to ask the student who is about to flip their bottle

What is the title of the graph?
What is the title of the Y-axis?
What is the title of the X-axis?
What does each bar on the graph represent?
Which category shows the highest values for both bars?
Which category has the lowest values for both bars?
How many categories are displayed on the graph?
What is the range of values shown on the Y-axis?
What is the total number of units represented by all bars?
What is the difference in value between the highest and lowest categories for both bars?
Are there any categories that have similar values? Which ones?
How does the value of one specific category compare to others?
What could be a possible reason for the highest value?
What could be a possible reason for the lowest value?
What trends can you observe from the graph?
How might this data be useful?
If you could add another category to this graph, what would it be?
How would you describe the overall distribution of data?
What insights or conclusions can you draw from this graph?
How might the information on the graph impact decisions or opinions?

Name: _____ 54

Curriculum Connection
SP.1

Survey: Double Bar Graph

When creating a double bar graph, start by collecting data from two different groups. You could survey teachers vs students, grade 5s vs grade 6s, people who studied vs those who didn't.

Directions: Complete this organizer to setup your data so you can graph it later. Next, find two groups of people to survey!

Survey Question									
Example: Favorite color									
Option									
Group 1	Group 2								
Tally	Tally								

Interpreting Your Survey Results

1. How many people did you survey in total? _____

2. Discuss at least one survey result that surprised you?

_____

_____

_____

3. Was there a big difference between the two groups? Explain why you think this was the case.

_____

_____

_____

Name: _____ 55

Curriculum Connection
SP.1

Creating a Double Bar Graph

Use the data you collected to plot your graph. Remember the following labels:

X axis label ☐ **Y axis label** ☐ **Title** ☐ **Scale** ☐ **Options** ☐ **Legend** ☐

Name: _____ 56

Curriculum Connection
SP.1

Multiple-Bar Graph – Favourite Social Media

The students in grade 4, 5, and 6 were asked which social media app was their favourite. The results have been sorted by grade in the multiple-bar graph below.

Part 1 Fill in the frequency table by reading the

Grades	Snapchat	YouTube	Tik Tok	Facebook	Instagram
4					
5					
6					

Part 2 Answer the questions below

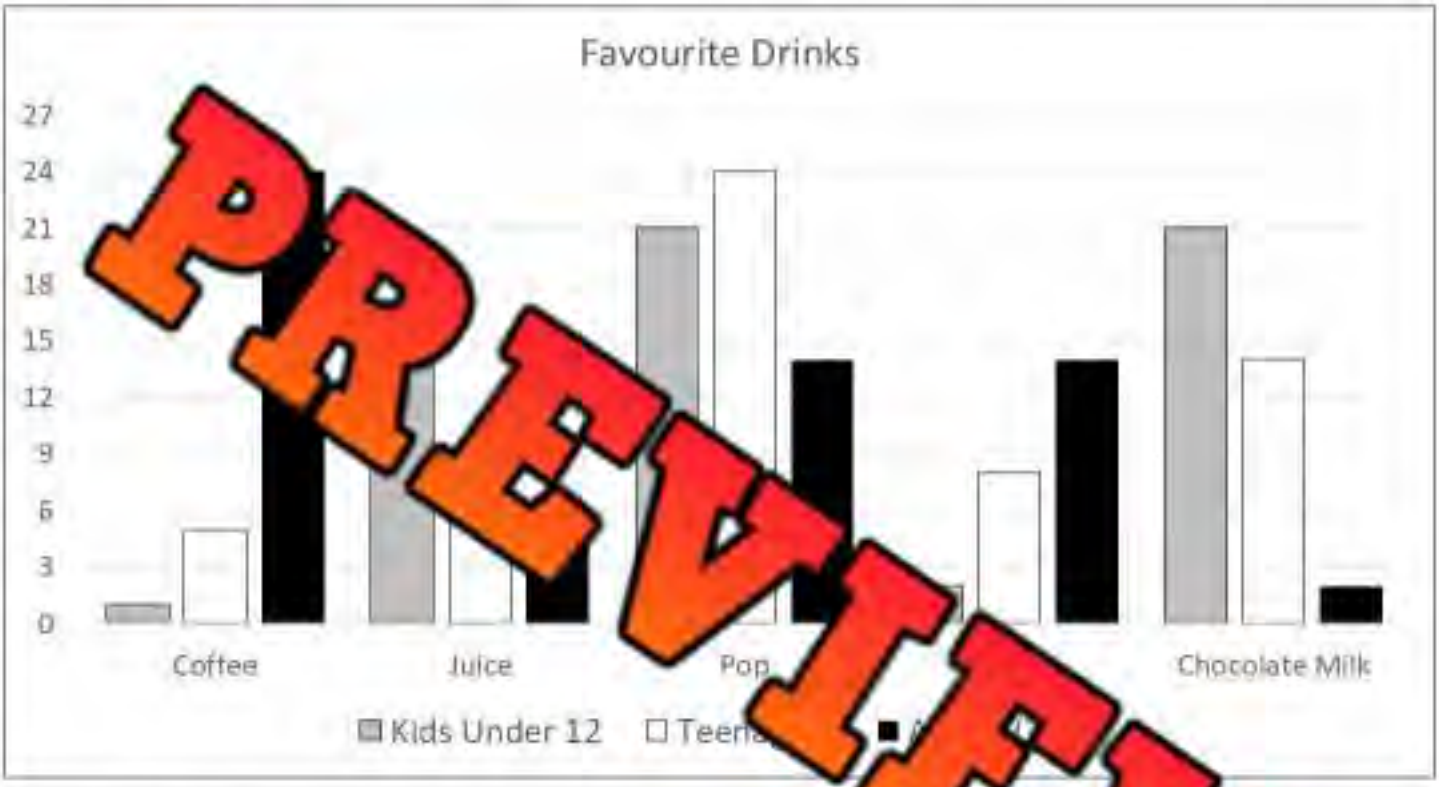
a) How many students in each grade were surveyed?	
b) Which social media was the most popular? How many votes did it get?	
c) How many more grade 4's liked YouTube than grade 6's?	

Name: _____ 57

Curriculum Connection
SP.1

Multiple-Bar Graph – Favourite Beverage

A restaurant wants to know which drinks to keep in stock. They decide to sample three different age groups – kids under 12, teenagers, and adults 20 years or older. They randomly select individuals from each group.



Part 1 Fill in the frequency table by reading the [illegible]

Age Group	Coffee	Juice	Pop	Tea	[illegible]olate Milk
12 and Under					
Teenagers					
Adults (20+)					

Part 2 Answer the questions below

a) How many people in each age group were surveyed?	
b) Which drinks would you keep in stock?	
c) Which age groups prefers juice and milk?	

Name: _____ 58

Curriculum Connection
SP.1

Creating a Multiple-Bar Graph – 3 Groups

Assignment Create a multiple-bar graph using data you have col

1. Choose a population that you can segment into 3 groups.
Example – Kids with no siblings, kids with 1 sibling, kids with more

Groups within Population: _____

2. Choose a survey question you would like to learn more abo k about how the answers might be different based on your different groups.

Survey Question: _____

Option 1			Option 2						Option 4			Option 5		
Group 1	Group 2	Group 3												
Tally	Tally	Tally												

Name: _____ 59

Curriculum Connection
SP.1

Creating a Multiple-Bar Graph – 3 Groups

Use the data you collected to plot your graph. Remember the following labels:

X axis label ☐ **Y axis label** ☐ **Title** ☐ **Scale** ☐ **Categories** ☐

Legend

☐

☐

Fill in the frequency table below with your 5 categories and 3 different groups

Name: _____ 60

Curriculum Connection
SP.1

Interpreting a Broken-Line Graph

Precipitation is the amount of water falling from the sky. It can be in the form of rain, snow, drizzle, sleet, or hail. The data for total precipitation in Saskatoon for 2021 has been represented in the broken-line graph below. Numbers have been rounded to the nearest 5.

Part 1 Fill in the frequency table by reading from the broken-line graph

J	F	M	A	M	J	J	A	S	O	N	D

Part 2 Solve an argument

a) Nolan and Rachel are arguing over which time of year has more precipitation. Nolan says that more precipitation falls from January-June, but Rachel says more falls from July-December. Who is correct? Explain using data to support your answer.

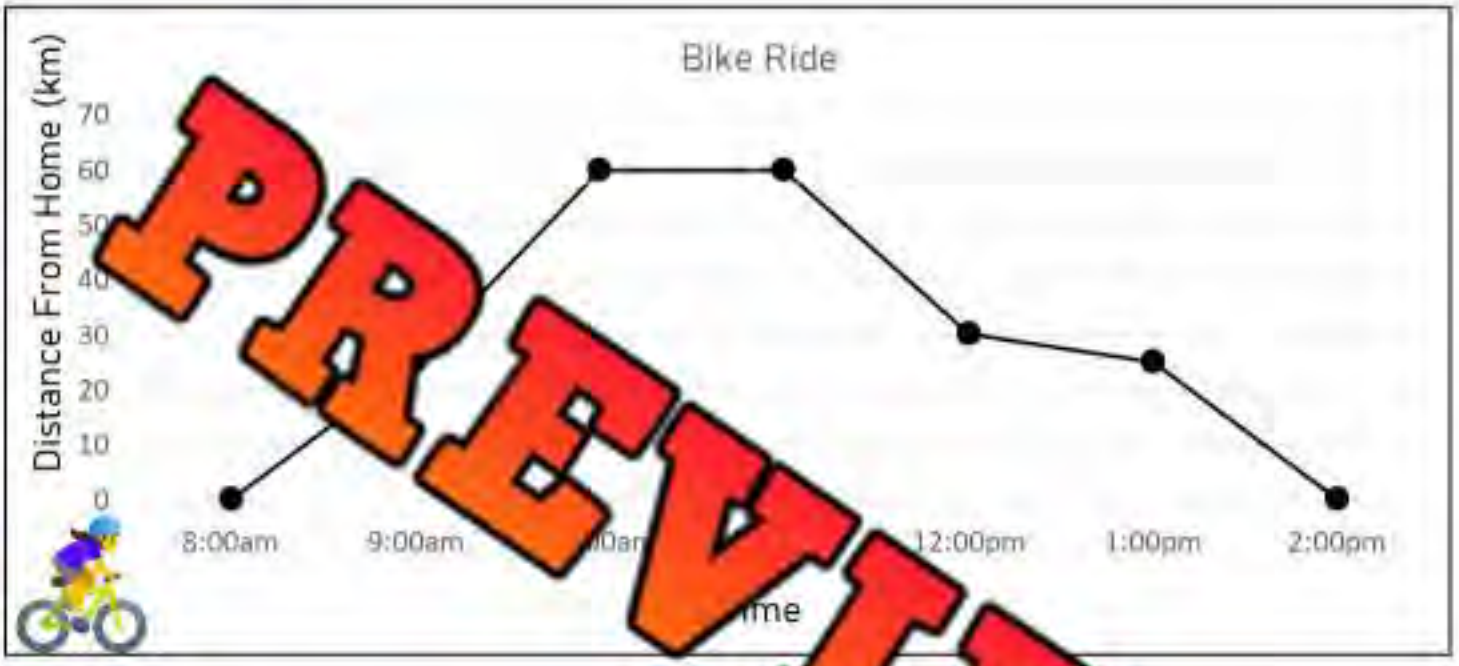
b) Rachel says the largest increase of precipitation happened from January to February, but Nolan thinks it was from September to October. Who is correct? Explain.

Name: _____ 61

Curriculum Connection
SP.1

Interpreting a Broken-Line Graph

Jessica went for a bike ride from 8:00am to 2:00pm. She stopped to enjoy some food at a park and then went home. Unfortunately, she had a flat tire on the way home, but she eventually made it.



Part 1 Fill in the frequency table by re… th… …aph above

Time							
Distance Travelled (km)							

Part 2 Answer the questions below

a) How many kilometres in total did Jessica travel?	
b) What time did Jessica stop at the park?	
c) When did Jessica have a flat tire?	
d) What hour did Jessica travel the most kilometres?	
e) How many hours was Jessica biking for?	

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Number Of Ice Cream Cones Sold (Nearest 5)

1) On which day were the most ice cream cones sold?

2) How many more ice cream cones were sold on Friday than on Monday?

Name: _____

Number Of Ice Cream Cones Sold (Nearest 5)

1) On which day were the most ice cream cones sold?

2) How many more ice cream cones were sold on Friday than on Monday?

Name: _____

Number Of Ice Cream Cones Sold (Nearest 5)

1) On which day were the most ice cream cones sold?

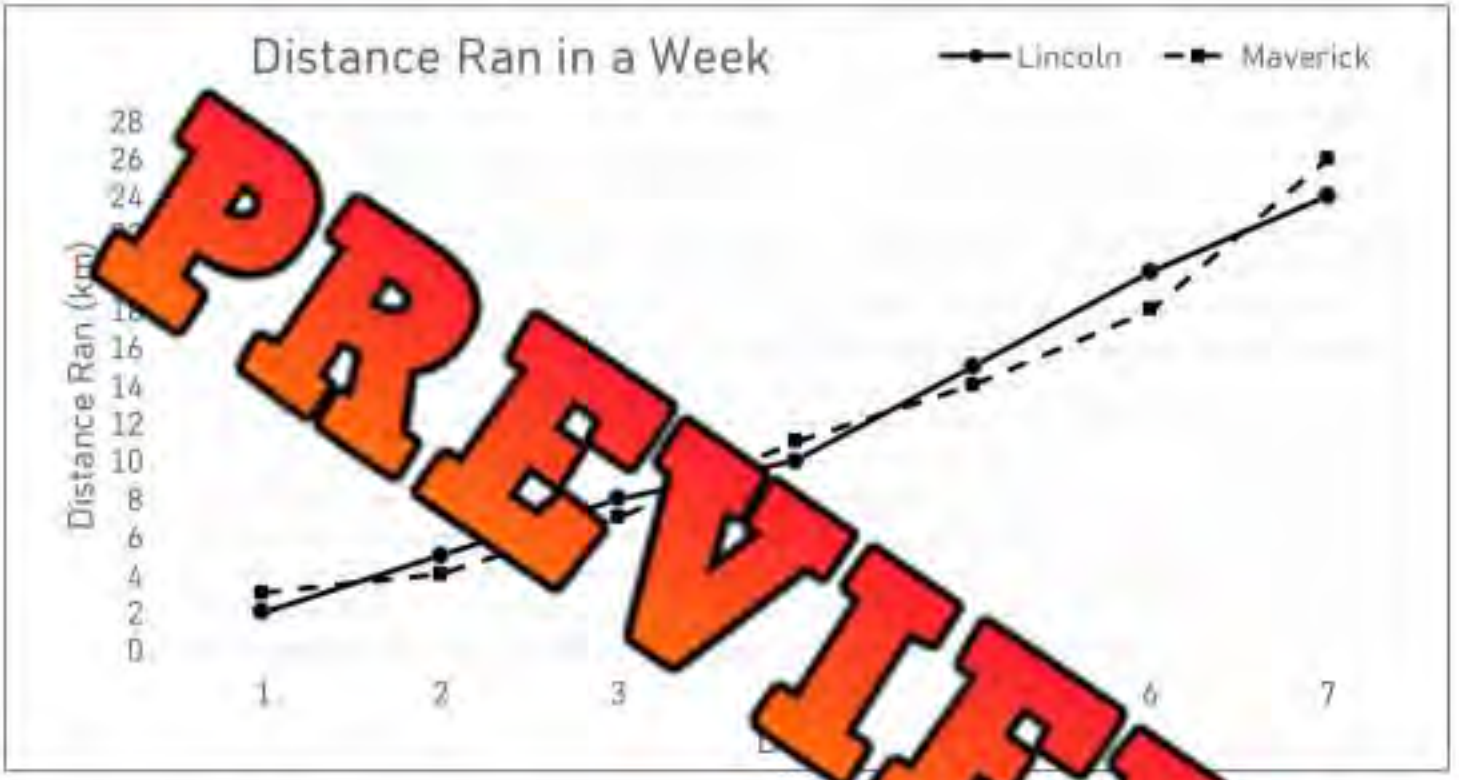
2) How many more ice cream cones were sold on Friday than on Monday?

Name: _____ 63

Curriculum Connection
SP.1

Interpreting Double Broken-Line Graph

Lincoln and Maverick had a contest to see who could run the most kilometres in a week. Their results are displayed in the broken-line graph below.



Questions Answer the questions below

1) Who ran more km in the week?	
2) Is the data continuous or discrete?	
3) Which day did Maverick run the most? How far did he run?	
4) Who was winning the contest after the fifth day?	
5) How many total km did the two girls run together?	
6) Which day did Lincoln run the furthest? How far did he run?	
7) How many more km did Maverick run on day 7 than Lincoln?	

Name: _____ 64

Curriculum Connection
SP.1

Interpolation and Extrapolation

When we talk about graphing, there are two important concepts called interpolation and extrapolation. Let's see what they mean in simple terms:

Interpolation: Imagine you have a connect-the-dots picture with some dots already connected, but there's a small gap in the middle. Interpolation is like filling in that gap using the information you have from the dots around it. It's like guessing where the line should go between the dots we already have.

Extrapolaw, think about the same connect-the-dots picture, but this time the line stop ching the last dot. Extrapolation is like guessing where the line shou s we have, to reach that last dot or even go further. Since we're ding th ond the information we have, it's more of an educated guess an might ccu e as interpolation.

Questions | Answer the questions below

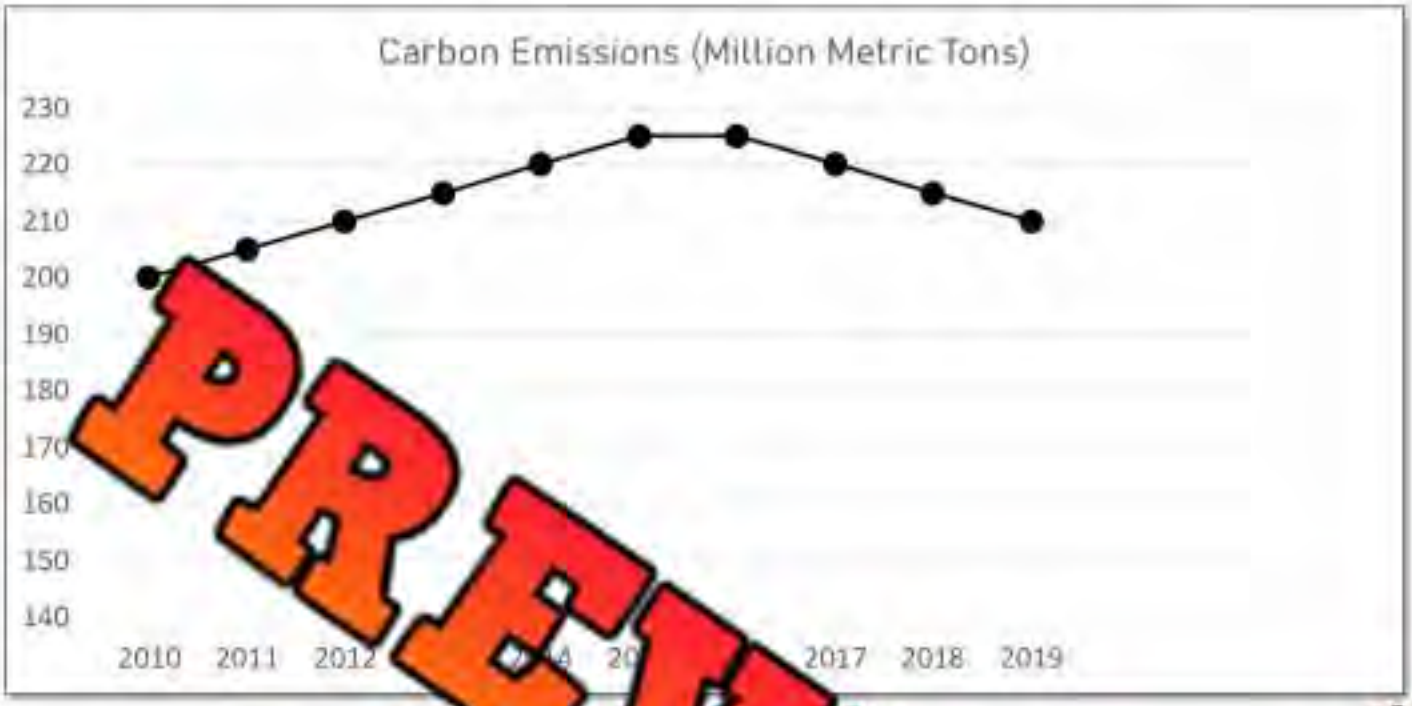
Interpolation	
1) How many visitors visited at 8:30?	
2) How many visitors visited at 11:30?	
3) How many visitors visited at 1:30?	

Extrapolation	
1) How many visitors would visit by 3:00 if the pattern continued?	
2) How many visitors would visit by 5:30 if the pattern continued?	

Name: _____ 65

Curriculum Connection
SP.1

Interpolation and Extrapolation



Questions Answer the que… below.

1) Do you need to use interpolation or extrapol… the … low?	
a) What were the carbon emissions by mid-year 2012?	…polati… Extrapolation
b) What were the carbon emissions by mid-year 2019?	…lati… …lation
c) What will the carbon emissions be by the year 2025?	Interpol… …tion

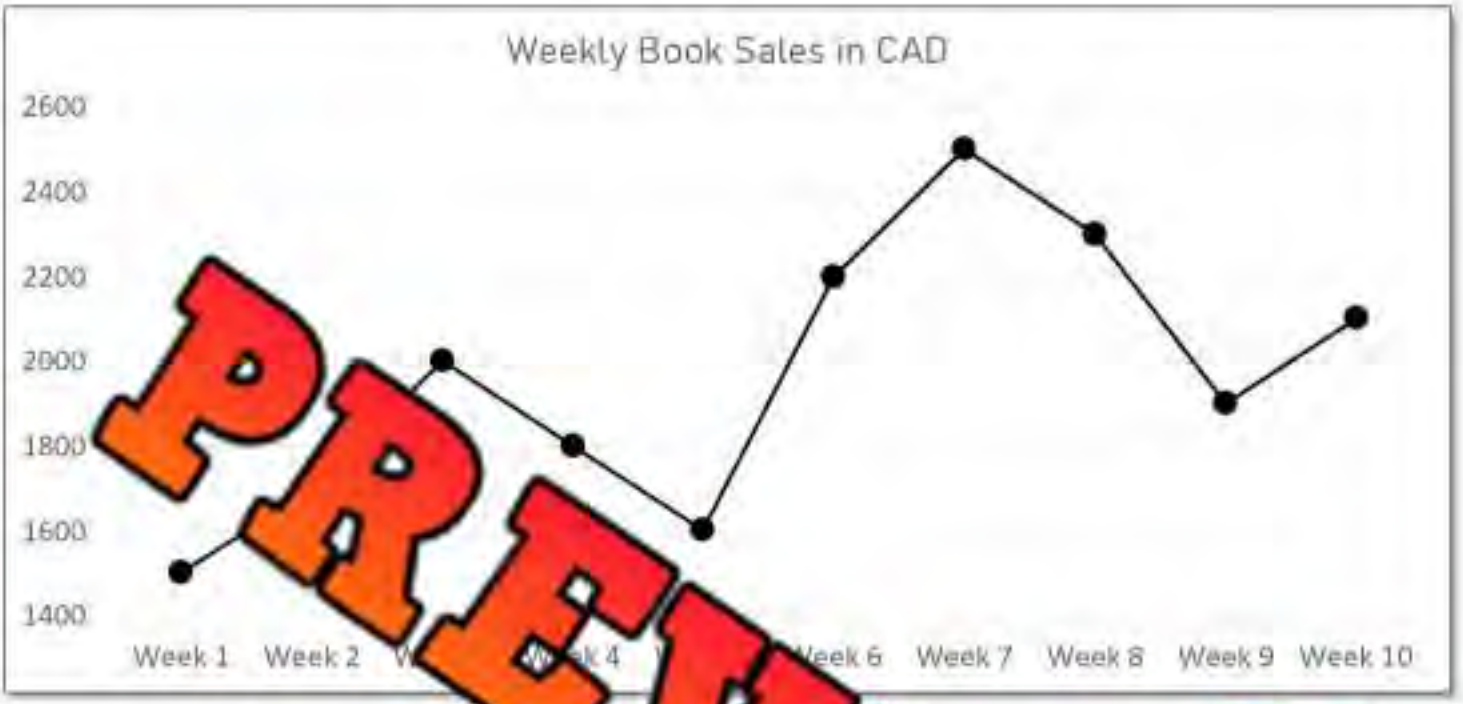
Interpolation	
1) How much carbon emissions were emitted by mid-year 2013?	
2) How much carbon emissions were emitted by mid-year 2018?	
3) How much carbon emissions were emitted by mid-year 2010?	

Extrapolation	
1) What do you predict will be the carbon emissions in the year 2022?	
2) What do you predict will be the carbon emissions in the year 2025?	
3) How much carbon emissions will be emitted by mid-year 2027?	

Name: _____ 66

Curriculum Connection
SP.1

Interpolation and Extrapolation



Questions Answer the que elow

1) How much did the bookstore earn in the mid week

2) How much do you think the bookstore will earn in

3) How much did the bookstore earn in the middle of week

4) How much do you think the bookstore will earn in week 14?

5) How much did the bookstore earn in the middle of week 1?

6) Which is more accurate in describing data: interpolation or extrapolation? Explain.

7) In this line graph, is the extrapolated data more of a guess or an exact figure? Explain.

Name: _____ 67

Curriculum Connection
SP.1

Experiment - Collecting Continuous Data

Instructions: Create a "track" that you can run or walk around 10 times. Have a friend use a stopwatch to record how many seconds it takes for you to complete each lap.

Hypothesis Will your lap times get faster or slower? Explain.

_____

_____

Data Collection Collect data and answer the questions below

Record how many seconds it takes for you to complete each of the 10 laps.

1	2	3	4	5	6	7	8	9	10

Interpreting The Data

1. Was your data collected from a primary or secondary source? _____

2. What conclusions can you draw from your data? What did you learn?

a) _____

_____

b) _____

_____

3. Why is this data continuous data? _____

_____

4. If your graph has ten lines on the y axis (up and down), what scale will you go up by?

_____

_____

Name: _____ 68

Curriculum Connection
SP.1

Creating a Broken-Line Graph

Use the data you collected to plot your graph. Remember the following labels:

X axis label ☐ **Y axis label** ☐ **Title** ☐ **Scale** ☐ **Categories** ☐

Name: _____ 82

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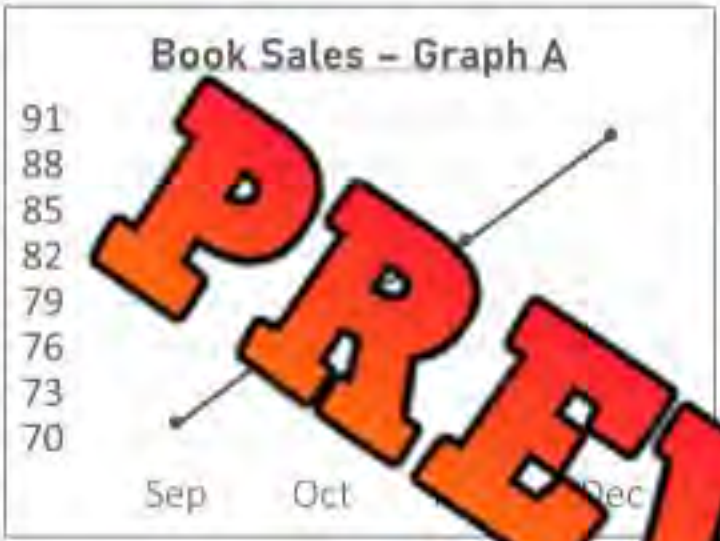
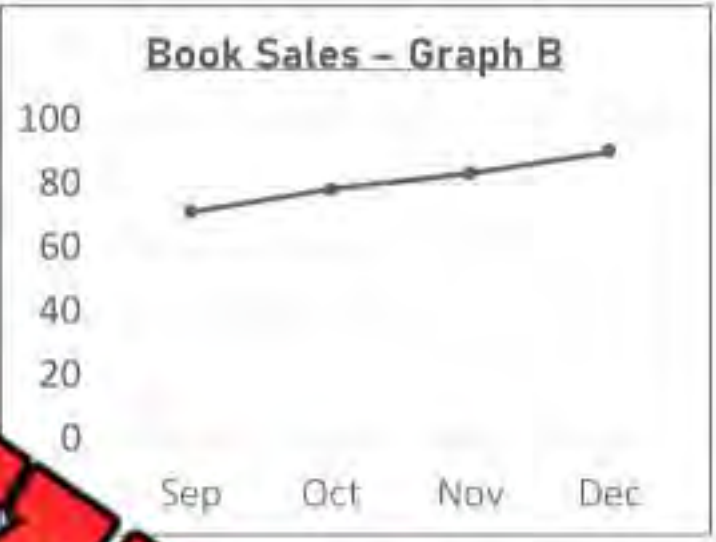
SP.1

Misleading Graphs

Imagine you are selling a book you wrote. You want to show your customers that your book is selling like crazy, and they should buy it now before it sells out. Which graph would you choose for an infographic?





Questions What do you noti[illegible]t the [illegible]?

a) Which graph would you use to show custo[illegible] tha[illegible] ve been growing massively? Why?

b) How are the graphs different? Do they have the same data?

c) How many sales were made from September to December?

d) Does graph A make it seem like more books were sold? Explain.

e) Why is it important to read a graph carefully?

Name: _____ 83

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SP.1

Misleading Graphs

Fantastic Footwear is running an ad campaign comparing their products versus their competitor, Super Shoes.

Questions What do you noti… the … phs?

a) Which graph would you use if you were F… c Fo… …?

b) How many more votes in total did Fantastic Footwear get over S… hoes?

c) Are Fantastic Footwear shoes a lot better than Super Shoes? Explain.

d) Why would advertisers use charts like this to sell their products?

Name: _____ 85

Truth or Lie? Graph Edition

Objective What are we learning about?

Students will learn to identify and explain misleading elements in graphs, developing critical thinking skills and understanding how data can be manipulated in visual representations.

Materials What you will need for the activity.

- A[illegible]d[illegible]al graphs (some accurate, some m[illegible]ing)
- Smartboard[illegible] to[illegible]lay the graphs
- Classroom[illegible]e[illegible]stude[illegible]and view the graphs

Instructions How [illegible]t [illegible]omple[illegible]ctivity

1. Begin by explaining the concept of [illegible]g g[illegible]to the students, highlighting common ways graphs can be man[illegible]d (e.g.[illegible]cales, omitting data, exaggerating differences).
2. Divide the class into small groups or pairs[illegible]oura[illegible]among students.
3. Show each graph one at a time on the smartboa[illegible]d[illegible]ctor. M[illegible]re all students can see the graph clearly.
4. After showing each graph, ask the students to use finger [illegible]gnal[illegible] decision. They show one finger if they believe the graph is true[illegible] misleading) and they show two fingers if they believe the graph is a[illegible]leading in some way).
5. Once all students have made their decisions, invite a few students or groups to explain their reasoning. Ask them to point out specific elements of the graph that make it true or misleading, such as the use of a misleading scale or omitted data.
6. Facilitate a class discussion to reinforce key concepts, summarizing the points made by the students and providing additional examples if necessary.
7. Repeat steps 3-6 for each graph in the set. Encourage students to look for new elements that might be misleading as they view different graphs.
8. After all graphs have been discussed, ask the students to reflect on what they have learned. Provide them with questions to think about or answer in their math journals or as a group.

Name: _____ 86

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SP.1

Graph | What do you notice about the graph?

A graph showing the average commuting times for two different routes (Route 1 and Route 2) during rush hour and non-rush hour periods.

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Curriculum Connection
SP.1

Graph What do you notice about the graph?

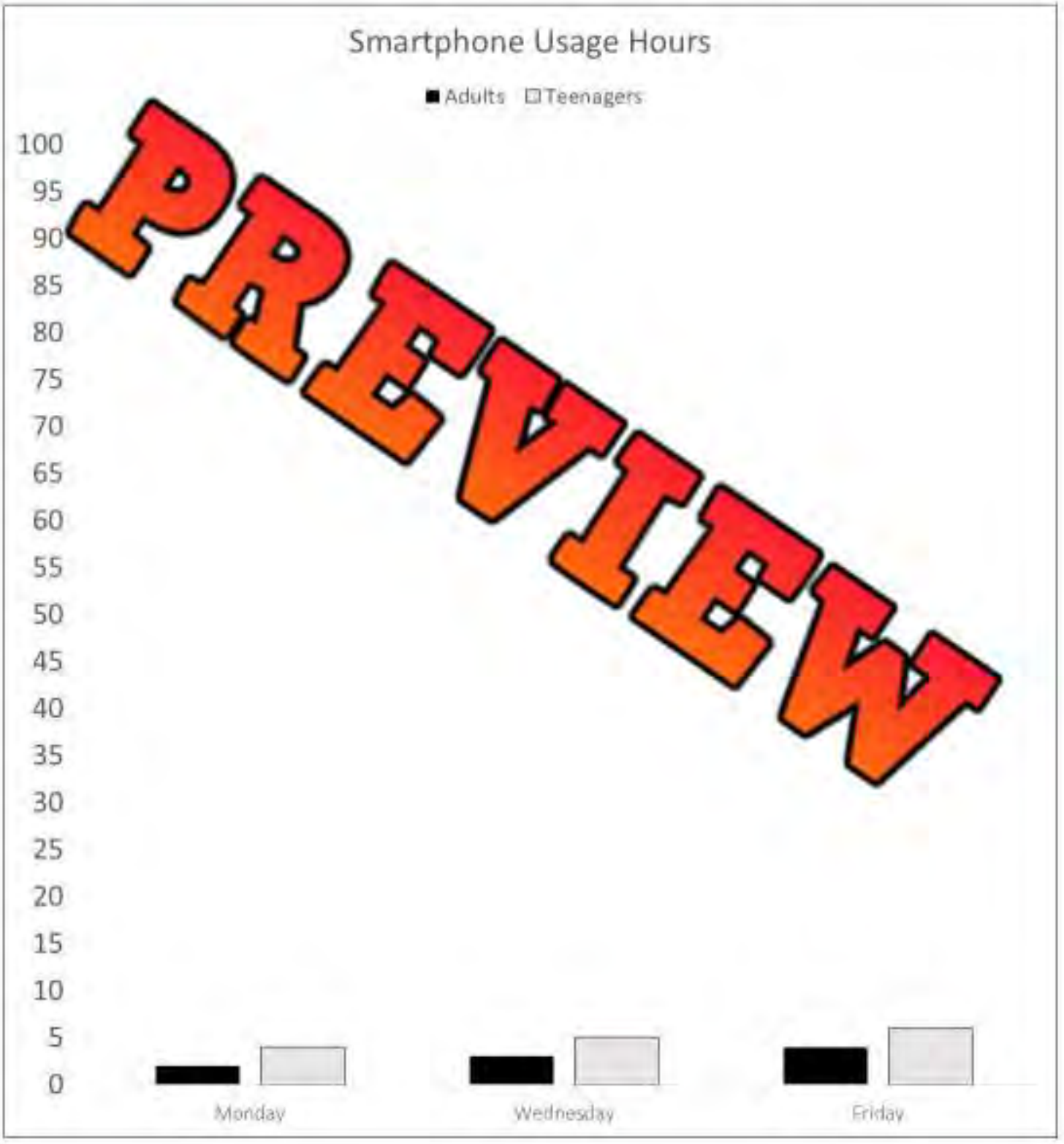
Money was raised by two classes (Class A and Class B) during a school fundraiser over three events (Bake Sale, Car Wash, Talent Show). Class A made this graph to show the results.

Name: _____ 89

Curriculum Connection
SP.1

Graph What do you notice about the graph?

We will compare the daily average hours spent on smartphones by adults and teenagers over a week (7 days). This graph was made by teenagers.



Name: _____ 90

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SP.1

Graph What do you notice about the graph?

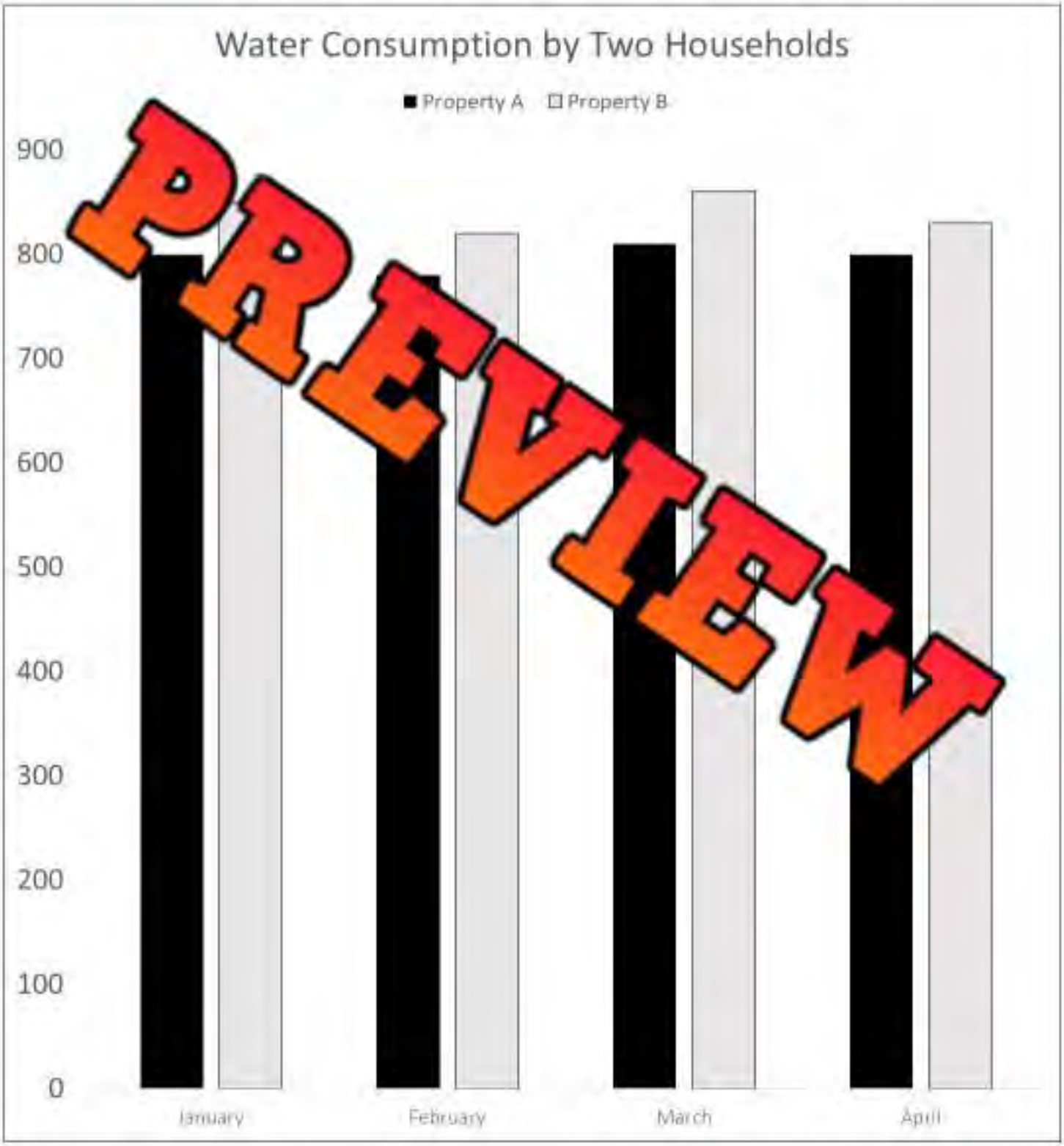
Let us analyze the number of fiction and non-fiction books checked out from a library in two different months (January and February). This graph was made by the librarian.

Name: _____ 95

Curriculum Connection
SP.1

Graph What do you notice about the graph?

A landlord is reviewing the monthly water consumption (in gallons) of his two properties. Property A and Property B over four months (January to April).



Name: _____ 96

Curriculum Connection SP.1

Choosing an Appropriate Graph

Questions Read the data below and decide which type of graph you would use to represent the data

1) You surveyed your classmates asking which sport is their favourite. The results are listed below.

Baseball	Gymnastics	Dance	Hockey	Football
2	35	22	18	12

Which t… …uld you use to represent the data? Explain your choice.

2) You surveyed the tea… …stu… …ur school asking them which food was their favourite. The res… …e li…

	Pizza	Pas…	Chic…	Steak	Hot Dogs
Students	22	17			25
Teachers	16	21			2

Which type of graph would you use to represent t… …xplai… …choice.

3) You are displaying your height in centimetres from when you were 1 years old until you were 6 years old.

1	2	3	4	5	6
52	67	79	92	102	114

Which type of graph would you use to represent the data? Explain your choice.

Name: _____ 98

Curriculum Connection: TQ

Unit Quiz – Data Literacy

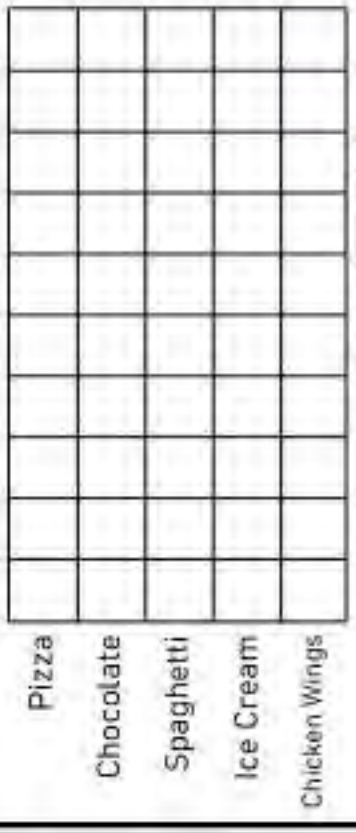
Part 1 Read the description of the data and circle if it is quantitative or qualitative

1) Favourite music genre	Quantitative	Qualitative
2) Heights of students in your class	Quantitative	Qualitative
3) Numbe dents in each classroom	Quantitative	Qualitative

Part 2 tion of the data and circle if it is discrete or continuous

1) Temperatur over long time period	Discrete	Continuous
2) How many siblings has	Discrete	Continuous
3) How tall a tree grows ove ye	Discrete	Continuous

Part 3 Draw the bars for each of the bar grap low lculate the averages



Favourite Food	# of votes
Pizza	27
Chocolate	15
Spaghetti	12
Ice Cream	15
Chicken Wings	21

	# of points
Jake	70
Nathan	60
Courtney	30
Ashley	70
Luke	90

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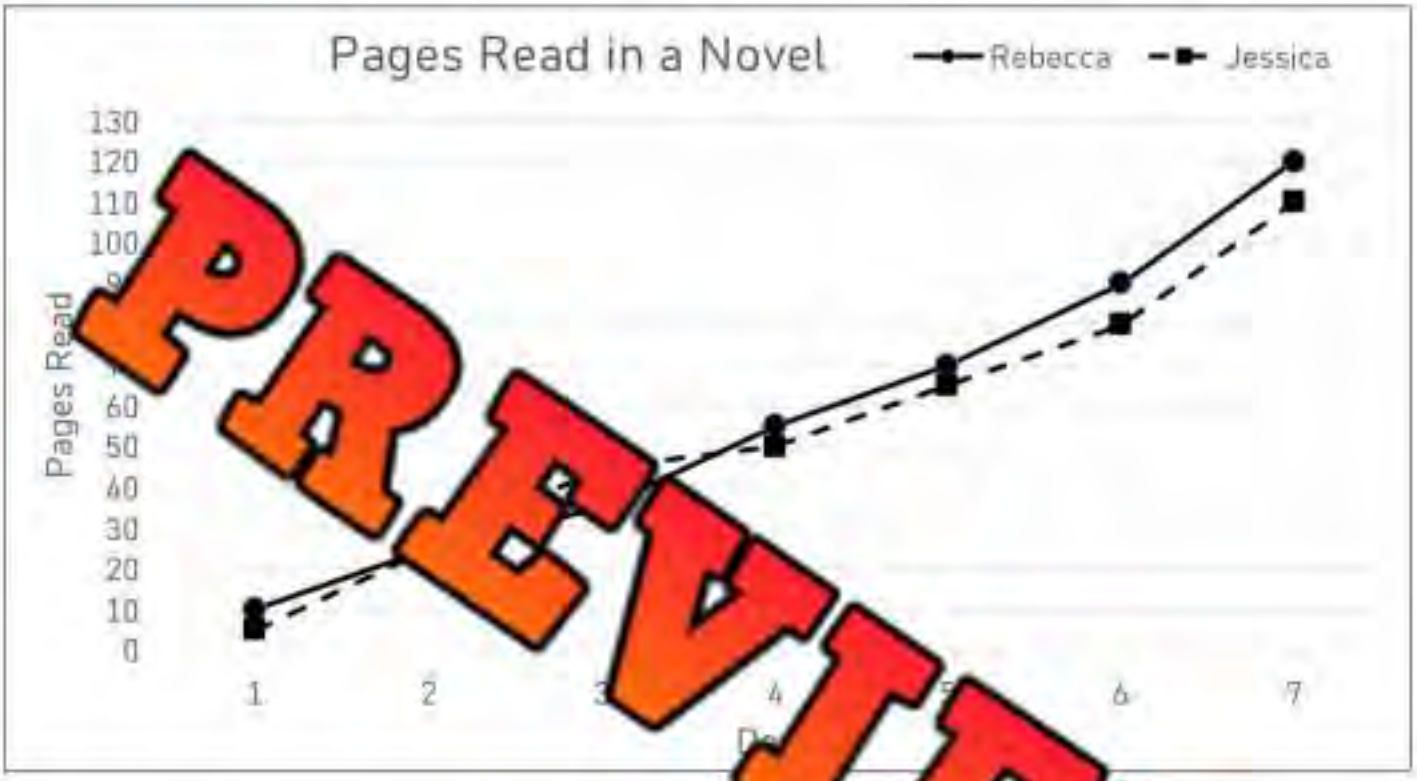
TG

Part 4 Read the graph and answer the questions below

Rebecca and Jessica had a contest to see who could read more pages in their novels in 7 days.



Questions Answer the questions below

1) Who read more pages in the 7 days?	
2) Is the data continuous or discrete?	
3) Which day did the two girls read the most pages?	
4) Which day were they tied?	
5) How many total pages did the two girls read together?	
6) Which day was Jessica ahead?	
7) How many pages did Rebecca read from day 6 to 7?	

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TO

Part 5 Graph the data below in a broken-line graph

The data for the amount of snowfall in Edmonton is presented in the table below. Graph the data as a broken-line graph. Make sure to label your graph properly.

Month	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Snowfall (cm)	8	24	19	50	75	9	5

1) Which month had the most snowfall? _____

2) Which month had the least snowfall? _____

3) How much did it snow in total during these 7 months? _____

4) Is this data discrete or continuous? _____

5) What conclusions can you make from this data? List at least 2.

_____

_____

Name: _____ 101

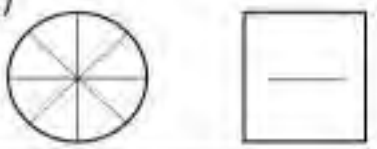
Curriculum Connection
SP.2

Probability – Finding Halves

Part 1 Shade in half of the shapes. Write the fraction of shaded in shapes to total shapes

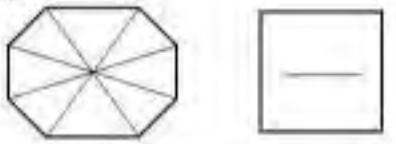
a)  _____

b)  _____

c)  _____

d)  _____

e)  _____

f)  _____

Part 2 What is half of the numbers? Write the fraction

#	Number	Half	Fraction
1	30	15	$\frac{15}{30}$
2	48		
3	22		
4	8		
5	36		
6	60		
7	82		

#	Number	Half	Fraction
8	94		
9			
10	74		
11	54		
12	86		
13	78		
14	62		

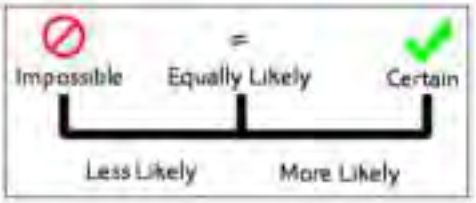
Name: _____ 104

Curriculum Connection
SP.2

Describing the Likelihood of Events

We can describe the likelihood of events by using the following terms:
impossible, unlikely, equally likely, likely, certain

Impossible = Cannot happen
Less Likely = Will probably not happen
Equally likely = There is an equal chance it could happen and that it won't happen
More Likely = Will probably happen
Certain = Will definitely happen



Question Use terms to describe the likelihood of the events below

1) You will have ice cream today	
2) You will drink water today	
3) You will play on an electronic today	
4) You will win the lottery today	
5) You will see an alien today	
6) You will ride in a vehicle today	
7) You will sleep tonight	
8) You will eat chips today	
9) You will go swimming today	
10) You will play a sport today	

Name: _____ 105

Curriculum Connection
SP.2

Describing the Likelihood of Events

Questions | Circle the likelihood of the event happening

1) Ice will melt on a hot day.

Certain
More Likely
Equally Likely
Less Likely
Impossible

2) Water will freeze on a hot day.

Certain
More Likely
Equally Likely
Less Likely
Impossible

3) Someone [illegible] will [illegible] tomorrow.

Certain
[illegible]ely
Eq[illegible]ely
Less Likely
Impossible

4) You will jump at least once today.

Certain
More Likely
Equally Likely
Less Likely
Impossible

5) A talking horse will teach your class today.

Certain
More Likely
Equally Likely
Less Likely
Impossible

6) Yo[illegible]e a sp[illegible] class today.

[illegible]
[illegible]ly
[illegible]ly Likely
Less Likely
Impossible

7) You will see a car today.

Certain
More Likely
Equally Likely
Less Likely
Impossible

8) Water will come out of the tap purple.

Certain
More Likely
Equally Likely
Less Likely
Impossible

Name: ____________________ 107

Curriculum Connection
[illegible]

Activity: Probability Card Sort and Rank

Objective — What are we learning about?

Students will learn to identify and classify events as certain, more likely, equally likely, less likely, or impossible by sorting and ranking scenarios based on their probability.

Materials — What you will need for the activity.

- 30 s[illegible] [illegible]f [illegible]cenario cards with different events w[illegible] [illegible]m[illegible] The sun will rise tomorrow").
- A [illegible] board [illegible] [illegible]ivided into the categories: Certa[illegible]n, M[illegible] [illegible]all[illegible] [illegible]kely, Less Likely, and Impossibl[illegible]
- Glue sticks o[illegible] [illegible]lue

Instructions — How you [illegible] [illegible]ple[illegible] [illegible]ity

1. Begin by explaining the concepts [illegible] [illegible]in, mo[illegible] [illegible] [illegible]ually likely, less likely, and impossible events. Give example[illegible] to ens[illegible] [illegible]den[illegible] [illegible]rstand these probability terms.
2. Have all students stand in a single line in fron[illegible] [illegible] [illegible]ri[illegible] [illegible]rd.
3. Provide each individual student with a scenario car[illegible] [illegible] ea[illegible] [illegible]den[illegible]as one card.
4. Display the large categorization board at the front of the class[illegible] [illegible] students can easily see and access it.
5. Instruct the students to take turns, one by one, reading their scenario card aloud and then discussing where they think the event should be classified on the categorization board.
6. After the student has decided on the classification, have them use glue to attach the card in the corresponding category on the board.
7. Encourage the students to explain their reasoning and engage in discussion with the class if they disagree with the placement of a card.
8. Continue until all 30 cards have been placed on the board.
9. Once all cards have been placed, review the classifications as a class, addressing any misconceptions or disagreements.

Name: _____ 108

Curriculum Connection
SP.2

Scenario Cards | A set of scenario cards with different events

You will receive a report card at the end of the school year.	Your teacher will give you extra homework every day this week.
The temperature outside will be below freezing tonight.	Your school will have a snow day tomorrow.
You will wear shoes to school today.	Your class will have a field trip to the zoo this month.
Your favorite sports team will win the championship this year.	You will meet your favorite celebrity in person this weekend.
You will sleep more than 10 hours tonight.	Your family will win the lottery this week.

Name: _____ 109

Curriculum Connection
SP.2

Scenario Cards | A set of scenario cards with different events

Your school will serve pizza for lunch today.	You will be assigned a partner for your science project.
You ... l ha... chores at hom... eke...	Your teacher will give the class a surprise party.
You will have to take a mat... test in your class this semester.	You ... e chosen to represent ... r s... in a national ... ion.
Your parents will ask about your day when you get home from school.	A meteor will hit ... r town tomorrow.
You will eat breakfast before coming to school.	The school cafeteria will serve broccoli for lunch.

Name: _____ 110

Curriculum Connection
SP.2

Scenario Cards | A set of scenario cards with different events

You will have to do homework tonight.	Your class will go on a field trip to the moon this year.
Your class will have a spelling bee this month.	The dinosaurs will come back to life and roam the Earth again.
You will have to take the bus home from school today.	Your school will cancel all classes for the last of the year.
Your teacher will give you a surprise quiz tomorrow.	You will win a million dollars in the lottery this week.
Your best friend will invite you to their birthday party.	Aliens will land in your town and make contact with the government.

Curriculum Connection
SP.2

Board | Divide each scenario into the following categories

Certain	More Likely	Equally Likely	[illegible]ly	Impossible

Name: _____ 112

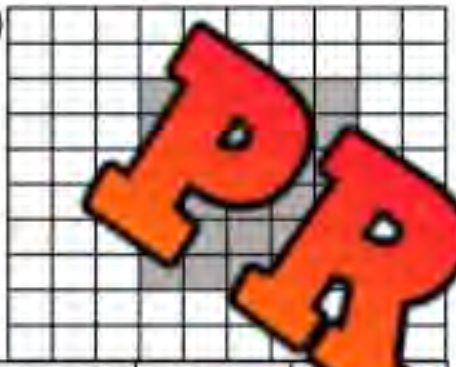
Curriculum Connection
SP.2

Theoretical Probability - Darts

Theoretical probability is the likelihood an event should happen. It is based on the number of favourable outcomes divided by the sample size (total possible outcomes). Imagine below, that the shaded in area is a target and the white part is the wall.

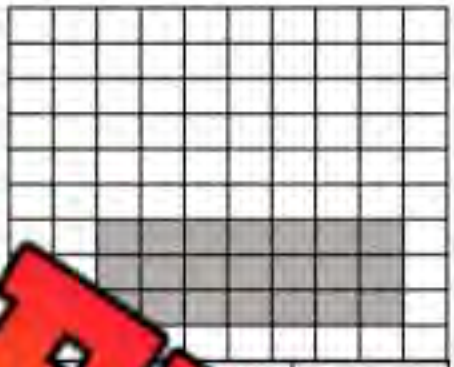
Questions Represent the probability of hitting the target using a fraction, decimal and percent

1)



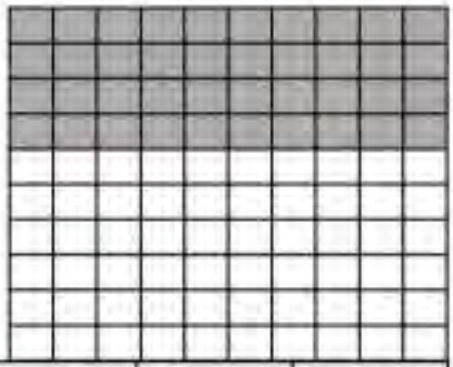
Fraction	Decimal	Percent
30/100	0.3	30%

2)



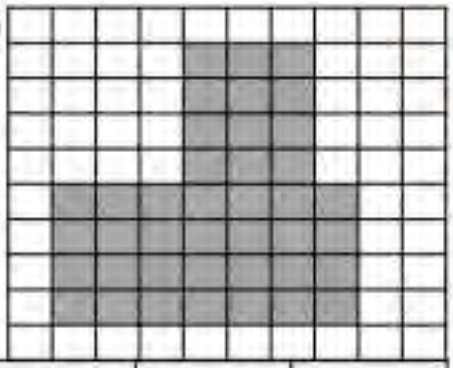
Fraction	Decimal	Percent

3)



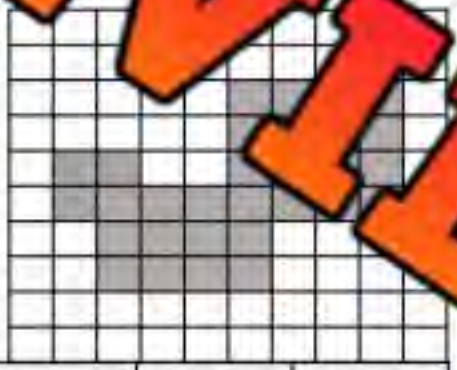
Fraction	Decimal	Percent

4)



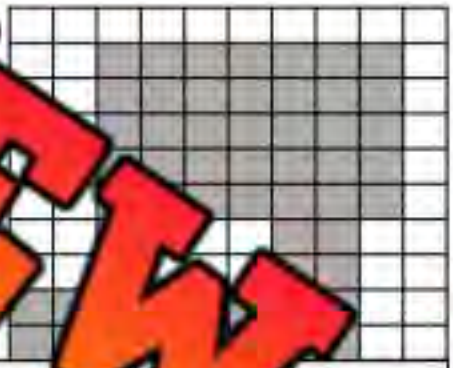
Fraction	Decimal	Percent

5)



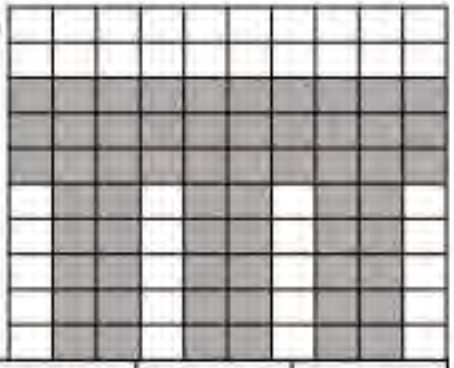
Fraction	Decimal	Percent

6)



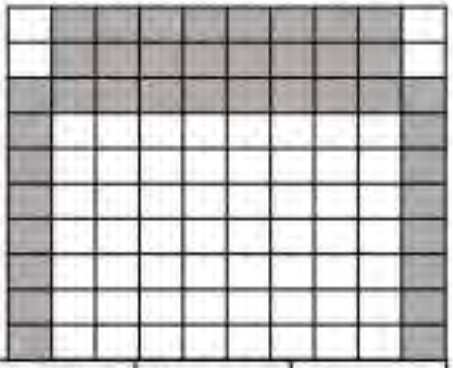
Fraction	Decimal	Percent

7)



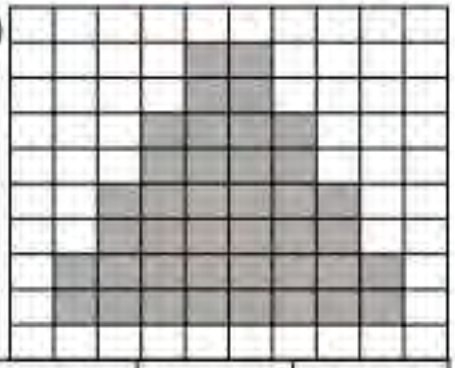
Fraction	Decimal	Percent

8)



Fraction	Decimal	Percent

9)



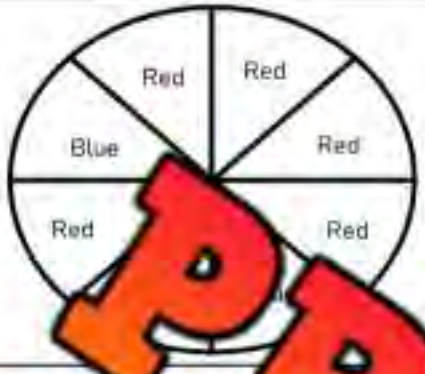
Fraction	Decimal	Percent

Name: _____ 114

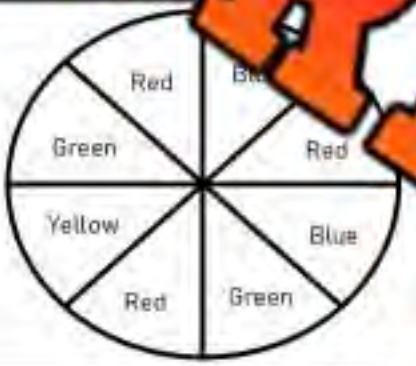
Curriculum Connection SP.2

Theoretical Probability - Spinner

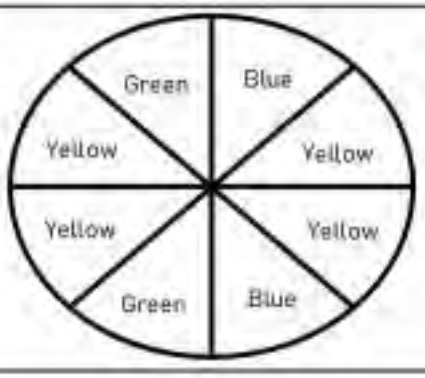
Directions Read the spinner and represent the probability using a fraction/decimal/percent



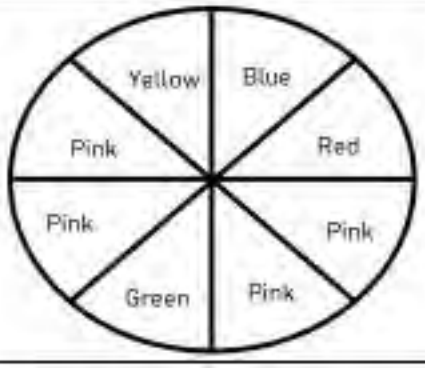
	Fraction	Decimal	Percent
a) Spinning a red			
b) Spinning a blue			
c) Spinning a blue or red			



	Fraction	Decimal	Percent
a) Spinning a [illegible]			
b) Spinning [illegible]			
c) Spinning a yellow			



	Fraction	Decimal	Percent
a) Spinning a green or blue			
b) Spinning a yellow			
c) Spinning a yellow, green or blue			



	Fraction	Decimal	Percent
a) Spinning a blue or green			
b) Spinning a blue or yellow			
c) Spinning a pink			

Name: _____ 115

Curriculum Connection
SP.2

Theoretical Probability – Rolling a Dice

Rolling a Dice: A dice has 6 sides. Each side has a number of dots between 1 and 6. When you roll a dice, you have an unlikely chance of rolling a certain number.

Questions Circle the fraction that represents the probability of the event

1. What is the likelihood of you rolling a 1?

Impossible | Unlikely | Even Chance | Likely | Very Likely | Certain

$\frac{0}{6}$ $\frac{1}{6}$ $\frac{3}{6}$ $\frac{4}{6}$ $\frac{5}{6}$ $\frac{6}{6}$

Decimal	Percent

2. What is the likelihood of you rolling a 5?

Impossible | Very Unlikely | Likely | Very Likely | Certain

$\frac{0}{6}$ $\frac{1}{6}$ $\frac{2}{6}$ $\frac{3}{6}$ $\frac{6}{6}$

Decimal	Percent

3. What is the likelihood of you rolling a 1, 2

Impossible | Very Unlikely | Unlikely | Even Chance

$\frac{0}{6}$ $\frac{1}{6}$ $\frac{2}{6}$ $\frac{3}{6}$ $\frac{4}{6}$

Percent

4. What is the likelihood of you rolling a 1, 2, 3, or 4?

Impossible | Very Unlikely | Unlikely | Even Chance | Likely | Very Likely | Certain

$\frac{0}{6}$ $\frac{1}{6}$ $\frac{2}{6}$ $\frac{3}{6}$ $\frac{4}{6}$ $\frac{5}{6}$ $\frac{6}{6}$

Decimal	Percent

5. What is the likelihood of you rolling an odd number?

Impossible | Very Unlikely | Unlikely | Even Chance | Likely | Very Likely | Certain

$\frac{0}{6}$ $\frac{1}{6}$ $\frac{2}{6}$ $\frac{3}{6}$ $\frac{4}{6}$ $\frac{5}{6}$ $\frac{6}{6}$

Decimal	Percent

Name: _____ 117

Curriculum Connection SP.2

Describing the Likelihood of Events

Cookie Jar: There were 24 cookies in a cookie jar. 12 of the cookies were chocolate chip (cc), 8 were oatmeal raisin (or), and 4 were double chocolate (dc).

Questions | Circle the probability term and fraction

1. What is the likelihood of you picking out a double chocolate cookie?

Impossible — Unlikely — Even Chance — Likely — Certain

$\frac{0}{12}$ $\frac{6}{12}$ $\frac{9}{12}$ $\frac{12}{12}$

Decimal	Percent

2. What is the likelihood of you picking out a chocolate chip cookie?

Impossible — Certain

$\frac{0}{12}$ $\frac{3}{12}$ $\frac{6}{12}$ $\frac{9}{12}$

Decimal	Percent

3. What is the likelihood of you picking out an oatmeal cookie?

Impossible — Unlikely — Even Chance

$\frac{0}{12}$ $\frac{3}{12}$ $\frac{6}{12}$ $\frac{9}{12}$ $\frac{12}{12}$

Decimal	Percent

4. What is the likelihood of you picking out a chocolate chip cookie or an oatmeal raisin cookie?

Impossible — Unlikely — Even Chance — Likely — Certain

$\frac{0}{12}$ $\frac{3}{12}$ $\frac{6}{12}$ $\frac{9}{12}$ $\frac{12}{12}$

Decimal	Percent

5. What is the likelihood of you picking out an oatmeal raisin cookie or a double chocolate cookie?

Impossible — Unlikely — Even Chance — Likely — Certain

$\frac{0}{12}$ $\frac{3}{12}$ $\frac{6}{12}$ $\frac{9}{12}$ $\frac{12}{12}$

Decimal	Percent

Curriculum Connection
SP.2

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

A bookshelf contains 20 books: 8 are fiction, 7 are non-fiction, and 5 are graphic novels.

Circle the probability term and write the fraction, decimal, and percent.

1. What is the likelihood of picking a fiction book?

Fraction	Decimal	Percent

2. What is the likelihood of picking a fiction or non-fiction book?

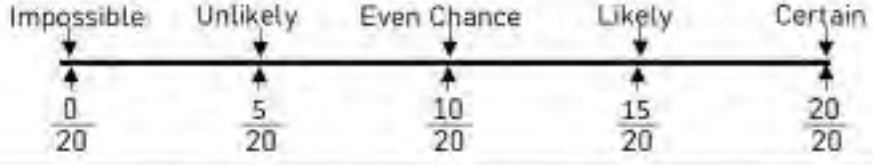
Fraction	Decimal	Percent

Name: _____

A bookshelf contains 20 books: 8 are fiction, 7 are non-fiction, and 5 are graphic novels.

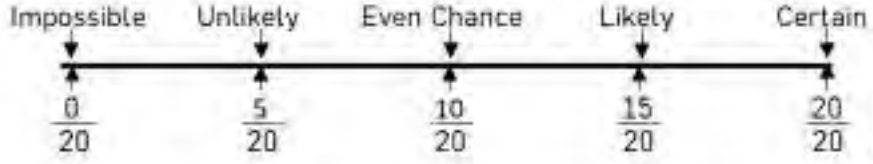
Circle the probability term and fraction.

1. What is the likelihood of picking a fiction book?



Fraction	Decimal	Percent

2. What is the likelihood of picking a fiction or non-fiction book?



Fraction	Decimal	Percent

Name: _____ 119

Describing the Likelihood of Events

Marbles

There are 20 marbles in a bag. What is the likelihood of you pulling out a white, grey, or black marble?

Frequency Fill in the frequency table below

Colour	Frequency

Questions 1) Describe the prob... equally likely, likely or certain
2) Represent the probability o... as a fraction/decimal/percent

Event		Decimal	Percent
1. What is the probability of pulling out a black m...?			
Probability:			
2. What is the probability of pulling out a grey marble?			
Probability:			
3. What is the probability of pulling out a white marble?			
Probability:			
4. What is the probability of pulling out a black, white, or grey marble?			
Probability:			
5. What is the probability of pulling out a black or white marble?			
Probability:			
6. What is the probability of pulling out a green marble?			
Probability:			

Describing the Likelihood of Events

Candies
There are 20 candies in a bag. What is the probability of you pulling out a red, green or blue candy?

Frequency Table — Fill in the frequency table below

Candy Colour	Frequency
[illegible]	
[illegible]	
[illegible]	

Questions
1) Describe the pro[illegible] imp[illegible] [illegible]ly, equally likely, likely or certain
2) Represent the proba[illegible]ity o[illegible] [illegible] as a fraction/decimal/percent

Event	Fraction	Decimal	Percent
1. What is the probability of pulling out a red candy?			
Probability:			
2. What is the probability of pulling out a blue candy?			
Probability:			
3. What is the probability of pulling out a green candy?			
Probability:			
4. What is the probability of pulling out a red, blue, or green candy?			
Probability:			
5. What is the probability of pulling out a blue or green candy?			
Probability:			
6. What is the probability of pulling out a purple candy?			
Probability:			

Name: _____ 121

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SP.2

Describing the Likelihood of Events

Gumball Machine

There are 24 gumballs in a machine. What is the likelihood of you pulling out a red (R), yellow (Y), green (G), or blue (B) gumball?

Frequency Table Fill in the frequency table below

Colour	Frequency
Gre	

Questions
1) Describe the probab imp qually likely, likely or certain
2) Represent the probability of ut a as a fraction/decimal/percent

Event	Decimal	Percent
1. What is the probability of pulling out a green gumb		
Probability:		
2. What is the probability of pulling out a pink gumball?		
Probability:		
3. What is the probability of pulling out a blue or green gumball?		
Probability:		
4. What is the probability of pulling out a red or yellow gumball?		
Probability:		
5. What is the probability of pulling out a blue, red, yellow, or green gumball?		
Probability:		
6. What is the probability of pulling out a red gumball?		
Probability:		

Name: _____ 122

Curriculum Connection
SP.2

Theoretical Probability – Rolling a Dice

Rolling a Dice

A dice has 6 sides. Each side has a number of dots between 1 and 6. When you roll a dice, you have an unlikely chance of rolling a certain number.

Questions	What is the probability of...

1) Rolli

	Decimal	Percent

2) Rolling a 5 o

Fr	al	Percent

3) Rolling an odd number?

Fraction	ecimal	ercent

4) Rolling two six-sided dice and getting a 5?

Fraction	Decimal	er

5) Rolling two six-sided dice and getting a 1, 2, or 3?

Fraction	Decimal	Percent

6) Rolling two six-sided dice and getting an even number?

Fraction	Decimal	Percent

7) Rolling two six-sided dice and getting a 6?

Fraction	Decimal	Percent

Name: _____ 123

Curriculum Connection SP.2

Theoretical vs Experimental Probability

Theoretical Probability
What should happen

Example - The theoretical probability of flipping a heads is 1 time out of 2 or ½.

Experiment Probability
What did happen after the event (experiment)

Example – You flipped a coin 10 times and got 7 heads. The experimental probability is 7/10.

Part 1 Write the theoretical probability of the events happening below

Question	Fraction
1) What is the theoretical probability of flipping a heads?	
2) What is the theoretical probability of flipping a tails?	
3) What is the theoretical probability of flipping a heads if you flipped the coin 20 times?	

Part 2 Experimental Probability – Flip a coin 20 times and record your results

1) How many heads and tails do you think you will flip?

Heads | Tails
20

2) Perform the experiment by flipping a coin 20 times. Record how many heads and tails you get.

	Tallies	Frequency	Fraction	Decimal	Percent
Heads					
Tails					

3) Was the theoretical probability and experimental probability the same? Should it be the same? Explain.

_____

_____

Name: _____ 124

Curriculum Connection SP.2

Theoretical vs Experimental Probability

Examples of Theoretical and Experimental Probability
Theoretical: You should roll a 3 once every 6 rolls = 1/6
Experimental: You rolled a 3 twice when you rolled a dice six times = 2/6

Part 1 Circle if the example is theoretical or experimental

Example	Theoretical or Experimental
1) If you are batting a .300, you should get a hit 3 out of 10 times.	Theoretical Experimental
2) You flipped a coin 4 times and got heads 4 times.	Theoretical Experimental
3) You made 4 out of 10 three point shots in a basketball game.	Theoretical Experimental
4) You won a 50/50 draw after buying 1 ticket out of 100 sold.	Theoretical Experimental
5) There is a 40% chance that it will rain today.	Theoretical Experimental
6) You have a ¼ chance of pulling out a spade from a deck of cards.	Theoretical Experimental

Part 2 Is the example theoretical or experimental probability? Write the fraction

Example	Theoretical or Experimental	Fraction
1) You should get a hit in baseball twice in every 5 at bats.		
2) The Weather Network says there is a 75% chance of it snowing today.		
3) You pulled a diamond card 7 out of 20 times from a deck of cards		

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Curriculum Connection SP.2

Theoretical vs Experimental Probability – Sock Drawer

Part 1 Write the theoretical probability of the events happening below

Your sock drawer is a mess! You have 50 socks in there in 5 different colours – white, blue, black, green, and red. Here is the breakdown of the socks in your drawer.

Colour of Sock	White	Yellow	Black	Green	Red
Number of Socks	18	8	14	4	6

1) If you [illegible] drawer 50 times without looking, what is the theoretical probability you will pull each of the colours below.

Colour of Sock	White	Yellow	Black	Green	Red
Fraction					

Part 2 Complete the experiment and find the experimental probability

2) Close your eyes and point to a random spot in the box below. Use your eraser. Repeat this for 50 trials and tally your results below.

W	R	B	Y	W	B	W	[illegible]			B	W
B	W	W	R	B	W	B	Y	B	Y	[illegible]	G
Y	B	B	G	W	Y	R	W	B	W	W	B	W
B	Y	G	W	G	W	Y	R	R	R	W	Y	

Colour of Sock	White	Yellow	Black	Green	Red
Tally					
Fraction					
Percent					

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Curriculum Connection SP.2

Theoretical vs Experimental Probability – # of Events

The theoretical and experimental probability of an event happening is not guaranteed to be the same. Performing more trials in an experiment will cause the experimental probability to be closer to the theoretical probability.

Example – if you flip a coin 2 times, it is easy to picture getting heads twice in a row. That would mean the experimental probability of getting a heads was 100% or 2/2. However, if you flipped the coin 100 times, it is almost impossible to get 100 heads in a row.

Part 1 – Write the theoretical probability of the events happening below

	Theoretical Probability	Fraction
1) Rolling a 1 on a 6-sided dice		
2) Rolling a 3 on a 6-sided dice		
3) Rolling a 2 or a 5 on a 6-sided dice		
4) Rolling a 6 on a 6-sided dice		

Part 2 – Follow the instructions below to complete the experiments

1) Roll the dice 6 times. Tally your results

1	2	3	4	5	6

2) Roll the dice 60 times. Record how many of each number you get.

	1	2	3	4	5	6
Tallies						
Fraction						

3) Did the experimental probability get closer to the theoretical probability when you rolled the dice more times? Explain why this should happen.

_____

_____

Name: _____ 127

Curriculum Connection
SP.2

Describing Probability – Cars Passing By

Josh watched the cars pass by his house today. He took note of how many people were in each car. He filled out the frequency table below.

Number of People in Car	1	2	3	4	5	Total
Numb f Cars	45	71	34	18	10	
cimal						
Percent						

Questions	Answe ques

1) Fill in the table above using a fracti decimal per

2) Estimate the probability that the next car t has n it

3) Estimate the probability that the next car to pass has 3 p ple

4) Estimate the probability that the next car to pass has at least 4 people in it.

5) Estimate the probability that the next car to pass has at least 2 people in it.

6) If you had to guess, how many people do you think would be in the next car? Explain.

Name: _____ 128

Curriculum Connection
SP.2

Sports Statistics

Questions | Baseball Statistics – 2021 Regular Season Offensive Statistics

Vladamir Guerrero Jr. had an impressive MLB season in 2021. His number of hits are listed below.

	Singles	Doubles	Triples	Home Runs	Total Hits
Type	115	21	1	51	
Fr[illegible]n					
Decimal					
Percent					

Questions | Answer the questions b[illegible]

Question	cent
1) When Guerrero gets a hit, what is the probability he will...	
i) get a double	
ii) get a single	
iii) get a triple	
iv) get a home run	
2) Guerrero had 600 at bats last year. What is the probability he will get hit?	
3) In baseball, a player's batting average is the probability of them getting a hit shown as a decimal. What was Guerrero's batting average in 2021?	

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Curriculum Connection
SP.2

Sports Statistics

Questions — Bo Bichette's 2021 stats

Bo Bichette led the American League in hits in his 2021 season. His number of hits are listed below.

	Singles	Doubles	Triples	Home Runs	Total Hits
Type o	131	30	1	29	
Decimal					
Percent					

Questions — Answer the questions bel

Question	Decim	Percent
1) When Bichette gets a hit, what is the probability he will		
i) get a double		
ii) get a single		
iii) get a triple		
iv) get a home run		
2) Bichette had 640 at bats last year. What is the probability he will get hit?		
3) What was Bichette's batting average in 2021?		
4) Bichette's teammate Teoscar Hernández had 550 at bats and 163 hits. Who had a better batting average?		

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SP.2

Probabilities

Questions | Answer the questions below

1) In Regina on New Years Day, it has snowed 21 of the last 50 years.	
a) What is the probability of it snowing on New Years Day as a...	
Fraction	
Decimal	
Percent	
b) Describe th… of it s… next New Years Day – likely, unlikely, equally t… rtain… le.	

2) A survey of 20 000 new ca… fou… uyers had a major mechanical problem in the first year they ha… eir …	
a) What is the probability of...	
i) Having a mechanical issue in the … ar as …	
ii) Not having a mechanical issue in the first yea… …ion	

3) A hockey team played 45 games last year. Their results are below (… …, ties)

W	T	L	W	W	L	W	L	L	W	L	W		W	L
L	W	T	W	L	W	L	W	T	W	W	L	W	W	L
L	W	L	L	W	L	L	W	W	L	W	W	L	T	W

Fill in the table below.

Results				Total
Fraction				

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Curriculum Connection
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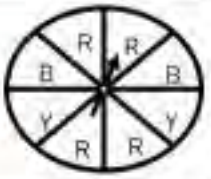
Unit Quiz - Probability

Part 1 Fill in the table below

People at a gym are asked what their favourite exercise equipment is. Their results are below.

Categ	Treadmill	Bike	Elliptical	Rower	Total
Vot	58	42	18	22	
Decimal					
Percentage					

Part 2 Read the spinner and ... each scenario. Then write the fraction.



1) What is the likelihood of landing on a red

Impossible — Unlikely — Even Chance — Likely — ...

$\frac{0}{8}$ $\frac{2}{8}$ $\frac{4}{8}$ $\frac{6}{8}$ $\frac{8}{8}$

...mal	Percent

2. What is the likelihood of landing on a blue part?

Impossible — Unlikely — Even Chance — Likely — Certain

$\frac{0}{8}$ $\frac{2}{8}$ $\frac{4}{8}$ $\frac{6}{8}$ $\frac{8}{8}$

Decimal	Percent

3. What is the likelihood of landing on a red or yellow part?

Impossible — Unlikely — Even Chance — Likely — Certain

$\frac{0}{8}$ $\frac{2}{8}$ $\frac{4}{8}$ $\frac{6}{8}$ $\frac{8}{8}$

Decimal	Percent

Curriculum Connection
TD

Marbles

There are 30 marbles in a bag. What is the likelihood of you pulling out a white, grey, or black marble?

Part 3 Fill in the frequency table below

Marble Colour	Frequency
White	

Part 4
1) Descri[illegible]obabi[illegible]ible, unlikely, equally likely, likely or certain
2) Represen[illegible]rol[illegible]out a marble as a fraction/decimal/percent

Event	Fraction	Decimal	Percent
1. What is the probability of pulling out[illegible]k mar[illegible]			
Probability:			
2. What is the probability of pulling out a grey mar[illegible]			
Probability:			
3. What is the probability of pulling out a white marble?			
Probability:			
4. What is the probability of pulling out a black, white, or grey marble?			
Probability:			
5. What is the probability of pulling out a black or white marble?			
Probability:			
6. What is the probability of pulling out a green marble?			
Probability:			

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Part 5 Answer the questions below

1	2
3	4

1) Rachel conducts an experiment and spins a spinner 20 times.

4	2	1	3	3	1	3	2	1	1
2	3	3	4	2	3	1	2	1	3

a) Fill in the table below

Results					Total
Per					

b) If Rachel spun the sp… times, … think she would have more equal results, or would the results be the…

2) Stephanie records the speed that cars drive by h… the sp… mit is 40 kph.

Speeds	0-20 kph	21-40 k…	41…	…l
Frequency	118	314		
Fraction				
Decimal				
Percent				

a) Represent the probability using a percentage of...

i) the next car driving 20 kph or less by her house

ii) the next car driving illegally (speeding) by her house

iii) the next car driving legally (not speeding) by her house