



Preview - Information



**Thank you for your interest in this bundle.
Within this preview, you will see:**

- ✓ **A selection of worksheets included in each workbook. Keep scrolling to find the next resource included in the bundle.**

When you make a purchase, you will receive a folder with the .pdf workbook files inside.

Thank you for shopping with us. Please let us know if you have any questions at:

rob@supersimplesheets.com



Grade 5 Strand: Number



	Curriculum Expectations	Pages
N5.1	Represent, compare, and describe whole numbers to 1 000 000 within the contexts of place value and the base ten system, and quantity.	5-35
N5.2	Analyze models of, develop strategies for, and carry out multiplication of whole numbers.	90-148, 184-185
N5.3	Demonstrate, with and without concrete materials, an understanding of division (3-digit by 1-digit) and interpret	149-185
N5.4		89-192, 208
<p style="color: red; font-size: 1.2em; font-weight: bold;">Preview of 125 pages from this product that contains 542 pages total.</p>		
N5.5	Demonstrate an understanding of fractions by using concrete and pictorial representations to: <ul style="list-style-type: none"> • create sets of equivalent fractions • compare fractions with like and unlike denominators. 	245-270
N5.6	Demonstrate understanding of decimals to thousandths by: <ul style="list-style-type: none"> • describing and representing • relating to fractions • comparing and ordering. 	36-68, 74-87, 125, 129, 139
N5.7	Demonstrate an understanding of addition and subtraction of decimals (limited to thousandths).	193-206, 209-241
TQ	Tests and Quizzes	88-89, 186-188, 242-244, 271-272

Name: _____

5

Curriculum Connection
NS.1

Place Value Chart

258 341					
Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
2	5	8	3	4	1

Part 1

Fill in the place value charts below

1) 347 284

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

2) 684 139

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

3) 247

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

4) 405 729

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

Part 2

Which place value is the underlined number?

1) 724 <u>8</u> 32 Tens	2) 727 <u>5</u> 34	3) 326 <u>2</u> 91
4) <u>8</u> 32 467	5) 232 <u>8</u> 52	6) 93 <u>5</u> 284
7) 292 <u>4</u> 23	8) 17 <u>3</u> 344	9) 903 <u>0</u> 32

Name: _____

6

Curriculum Connection
NS 1

Place Value – How Many ...

Number	# of Thousands	# of Hundreds	# of Tens	# of Ones
32 457	32	4	5	7

Part 1

Fill in the table below

	Number	# of Thousands	# of Hundreds	# of Tens	# of Ones
1.					
2.	48 41				
3.	87				
4.	351 478				
5.	428 927				
6.	274 349				
7.	681 872				
8.	382 978				
9.	973 648				
10.	846 239				

Part 2

Fill in the blanks with the missing number

- 1) $242\,323 = 200\,000 + 40\,000 + \underline{\hspace{2cm}} + 300 + 20 + 3$
- 2) $843\,781 = 800\,000 + \underline{\hspace{2cm}} + 3\,000 + 700 + 80 + 1$
- 3) $729\,458 = \underline{\hspace{2cm}} + 20\,000 + 9\,000 + 400 + 50 + 8$
- 4) $417\,383 = 400\,000 + 10\,000 + 7\,000 + 300 + \underline{\hspace{2cm}} + 3$
- 5) $306\,739 = 300\,000 + 0 + 6\,000 + \underline{\hspace{2cm}} + 30 + 9$

Exit Cards

Cut Out

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

Name: _____

a) What is the standard form of the number below?

$$700000 + 60000 + 1000 + 200 + 40 + 1$$

b) What is the expanded form of the number below?

591 349

Name: _____

a) What is the standard form of the number below?

$$700000 + 60000 + 1000 + 200 + 40 + 1$$

b) What is the expanded form of the number below?

591 349

Name: _____

a) What is the standard form of the number below?

$$700000 + 60000 + 1000 + 200 + 40 + 1$$

b) What is the expanded form of the number below?

591 349

Name: _____

a) What is the standard form of the number below?

$$700000 + 60000 + 1000 + 200 + 40 + 1$$

b) What is the expanded form of the number below?

591 349

Name: _____

10

Curriculum Connection
NS 1

Expanded Notation

Questions

What is the expanded notation of the numbers below?

1) 501 308

$$(5 \times 100\,000) + (1 \times 1000) + (3 \times 100) + (8 \times 1)$$

2) 432 730

3) 128 000

5) 407 205

6) 20 507

7) 412 600

8) 607 805

9) 750 080

PREVIEW

Expanded Notation

Questions

What is the standard notation of the numbers below?

1) $(6 \times 100\,000) + (3 \times 10\,000) + (2 \times 1\,000) + (9 \times 100) + (8 \times 1)$

632 908

2) $(4 \times 100\,000) + (2 \times 10\,000) + (5 \times 1\,000) + (7 \times 100) + (5 \times 10)$

3) $(3 \times 100\,000) + (1 \times 10\,000) + (4 \times 1\,000) + (8 \times 10)$

4) $(8 \times 100\,000) + (5 \times 10\,000) + (2 \times 1\,000) + (7 \times 100) + (5 \times 10) + (6 \times 1)$

5) $(6 \times 100\,000) + (4 \times 10\,000) + (1 \times 1\,000) + (7 \times 100) + (9 \times 10) + (3 \times 1)$

6) $(5 \times 100\,000) + (3 \times 1\,000) + (6 \times 100) + (7 \times 1)$

7) $(9 \times 100\,000) + (9 \times 10\,000) + (9 \times 1\,000) + (9 \times 100) + (9 \times 10) + (9 \times 1)$

8) $(5 \times 100\,000) + (1 \times 10\,000) + (2 \times 1\,000) + (4 \times 100) + (7 \times 10) + (7 \times 1)$

9) $(7 \times 100\,000) + (2 \times 10\,000) + (4 \times 100) + (6 \times 10) + (5 \times 1)$

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 standard notation of the number below?

$$(6 \times 100\,000) + (1 \times 10\,000) + (4 \times 1\,000) + (5 \times 100) + (5 \times 1)$$

2) What is the expanded notation of the number below?

514 050

Name: _____

1) What is the standard notation of the numbers below?

$$(6 \times 100\,000) + (1 \times 10\,000) + (4 \times 1\,000) + (5 \times 100) + (5 \times 1)$$

2) What is the expanded notation of the number below?

514 050

Name: _____

1) What is the standard notation of the numbers below?

$$(6 \times 100\,000) + (1 \times 10\,000) + (4 \times 1\,000) + (5 \times 100) + (5 \times 1)$$

2) What is the expanded notation of the number below?

514 050

Name: _____

1) What is the standard notation of the numbers below?

$$(6 \times 100\,000) + (1 \times 10\,000) + (4 \times 1\,000) + (5 \times 100) + (5 \times 1)$$

2) What is the expanded notation of the number below?

514 050

Task Cards: Place Value

Objective

What are we learning about?

Students will practice converting written numbers into their standard form to understand place value and number representation better.

Materials

What you will need for the activity.

- 24 task cards
- Answer sheet for answers
- Pencils



Instructions

How you will run the activity

1. Begin by explaining the purpose of the activity and the importance of understanding how numbers are constructed in standard form.
2. Organize the students into pairs and provide each pair with their sets of task cards.
3. Give each pair an answer recording sheet to document their solutions.
4. Encourage teamwork by having students collaborate on finding solutions.
5. Allow students to select any task card to begin with, emphasizing that they 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 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.

Task Cards

Cut out the task cards below

Card 1:

Six hundred forty-one thousand, two hundred fifty-nine

- a) 614,259
b) 641,295
c) 641,259

Card 5:

What is the expanded form of the number below?

591,349

- a) $500,000 + 90,000 + 10,000 + 300 + 40 + 9$
b) $500,000 + 90,000 + 1,000 + 300 + 40 + 9$
c) $500,000 + 90,000 + 1,000 + 3,000 + 40 + 9$

Card 6:

Two hundred nine thousand, three hundred forty-five

- a) 425,705
b) 425,750
c) 452,705

- a) 209,345
b) 290,453
c) 209,354

Card 3:

432,730

- a) $400,000 + 30,000 + 2,000 + 700 + 30$
b) $400,000 + 30,000 + 20,000 + 700 + 30$
c) $400,000 + 30,000 + 2,000 + 700 + 300$

Seven hundred seven thousand, seven hundred fifty

- a) 777,250
b) 772,250
c) 772,650

Card 4: $700,000 + 60,000 + 1,000 + 200 + 40 + 1$

- a) 761,241
b) 760,241
c) 761,201

Card 8:

Fifty-eight thousand, ninety

- a) 58,009
b) 58,900
c) 58,090

Task Cards

Cut out the task cards below

Card 9:

$$(5 \times 100\,000) + (3 \times 10\,000) + (2 \times 1\,000) + (4 \times 100) + (8 \times 10)$$

- a) 532,480
b) 523,480
c) 532,408

Card 13:

Five hundred twelve thousand, six hundred twenty-nine

- a) 521,629
b) 512,629
c) 512,269

Card 14:

$$(5 \times 100\,000) + (6 \times 10\,000) + (1 \times 1\,000) + (8 \times 100) + (7 \times 10)$$

- a) 561,870
b) 516,870
c) 561,780

Card 11:

375,291

- a) $300,000 + 70,000 + 5,000 + 200 + 90 + 1$
b) $300,000 + 75,000 + 2,000 + 90 + 1$
c) $300,000 + 70,000 + 5,000 + 200 + 9 + 1$

Card 12:

My number has 6 hundred thousands, 7 ones, 2 more hundreds than ones, half as many ten thousands as hundred thousands, 2 tens, and 5 thousands.

What is my number?

- a) 635,321 b) 675,217 c) 635,927

Card 15:

675,421

- a) $600,000 + 75,000 + 500 + 20 + 1$
b) $600,000 + 70,000 + 5,000 + 20 + 21$
c) $600,000 + 70,000 + 5,000 + 200 + 20 + 1$

Card 16:

$$800,000 + 50,000 + 6,000 + 300 + 70 + 2$$

- a) 856,307
b) 865,372
c) 856,372

Task Cards

Cut out the task cards below

Card 17:

What is the expanded form of the number below?

745,210

- a) $700,000 + 40,000 + 5,000 + 200 + 10$
 b) $700,000 + 4,000 + 50,000 + 200 + 10$
 c) $700,000 + 40,000 + 5,000 + 2,000 + 10$

Card 21:
 $(7 \times 100\,000) + (4 \times 10\,000) + (5 \times 1\,000) + (9 \times 100) + (2 \times 10)$

- a) 745,290
 b) 754,920
 c) 745,920

Eight hundred and four thousand four hundred and forty-six

- a) 820,567
 b) 820,456
 c) 802,456

Card 22:

654,321

 $600,000 + 50,000 + 4,000 + 30 + 20 + 1$
 $500,000 + 50,000 + 4,000 + 300 + 20 + 1$
 $600,000 + 50,000 + 40,000 + 300 + 20 + 1$
Card 19:

Six hundred ninety thousand, eight hundred twenty-three

- a) 690,823
 b) 690,283
 c) 609,823

Card 23:

567,432

- a) $500,000 + 60,000 + 7,000 + 30 + 2$
 b) $500,000 + 60,000 + 7,000 + 30 + 2$
 c) $500,000 + 60,000 + 7,000 + 30 + 2$

Card 20:

Forty-seven thousand, three hundred twelve

- a) 47,132
 b) 47,312
 c) 47,231

Card 24:

My number has 2 hundred thousands, 4 ones, 3 more hundreds than ones, twice as many ten thousands as hundred thousands, 1 ten, and 6 thousands.

What is my number?

- a) 216,714 b) 246,714 c) 246,471

Name: _____

18

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	

PREVIEW

Place Value - Number Breakdown

Questions

Fill in the blanks below

Number Breakdown

548 782

Write the value of the underlined digit

1) 548 782 = _____

2) 548 782 = _____

3) 548 782 = _____

4) 548 782 = _____

H	Th	Te	Th	H	T	O

Fill in the blank using the expanded form below

_____ + _____ + _____ + _____

Fill in the pattern below

548 782 , _____ , 548 784 , _____ , 548 787

Fill in the pattern below

548 782 , _____ , 548 802 , 548 812

Fill in the pattern below

548 782 , 548 882 , _____ , 549 082 , _____

Compare using $<$, $>$, or $=$

548 782 548 795

515 315 548 782

548 782 523 346

588 325 548 782

508 237 548 782

548 782	+10	
548 782	+100	
548 782	+10 000	
548 782	- 1 000	
548 782	- 10 000	

Standard Form

Words

nded Form

Place Value Chart

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

Pictures

PREVIEW

Counting to 100 000 by 5 000

Part 1

Count by 5 000



	50 000		70 000
5 000			
	35 000		
20 000			90 000



Part 2

Fill in the blanks counting by 5000 starting with the number

1) 12000, 17000, 22000, _____, _____, _____

2) 26000, _____, _____, 41000, _____, _____

3) _____, 63000, _____, _____, 78000, _____, _____

4) 57000, _____, _____, _____, _____, _____

Counting to 1 000 000 by 50 000

Part 1

Count by 50 000



		700000	
500000			
	500000		900000
200000			
		550000	



Part 2

Fill in the blanks counting by 50 000

1) 650000, 700000, 750000, _____, _____, _____, _____

2) 300000, _____, _____, 450000, _____, _____, _____



3) _____, _____, _____, 800000, _____, _____, 950000


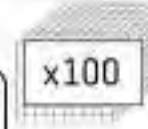
4) _____, _____, _____, _____, _____, _____, 750000



Comparing Base Ten Blocks

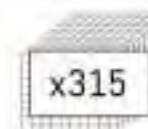
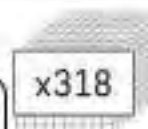
Questions



Compare the number of base ten blocks below

 x135	<input type="text"/>	 x202

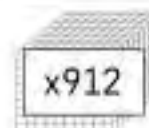

 x85	<input type="text"/>	 x100

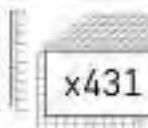
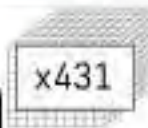
 x249	<input type="text"/>	 x202

 x315	<input type="text"/>	 x318

 x482	<input type="text"/>	 x482

 x782	<input type="text"/>	 x777

 x912	<input type="text"/>	 x920

 x431	<input type="text"/>	 x431

Comparing Numbers

18 625, 35 251, 18 323, 34 482

Least to Greatest

18 323, 18 625, 34 482, 35 251

245 871, 189 784, 324 845, 189 218

Greatest to Least

324 845, 245 871, 189 784, 189 218

Part 1

Order the numbers below from least to greatest

148 875, 151 785, 148 982, 151 658

_____, _____, _____, _____

74 157, 612 712, 613 258, 451 874

_____, _____, _____, _____

945 254, 955 728 7, 86 445

_____, _____, _____, _____

Part 2

Order the numbers below from greatest to least

314 854, 341 785, 341 235, 314 824

_____, _____, _____, _____

264 872, 298 412, 299 452, 278 258

_____, _____, _____, _____

581 775, 538 785, 581 655, 538 999

_____, _____, _____, _____

Place Value Quiz

Part 1 Fill in the place value charts below

1) 143 638

2) 346 195

Hun Thou	Ten Thou	Thou	Hun	Tens	Ones

Hun Thou	Ten Thou	Thou	Hun	Tens	Ones

Part 2 Which place value is the underlined number?

1) 232 <u>6</u> 32	2) <u>4</u> 95 595	3) 495 595
4) <u>5</u> 18 317	5) 388	6) 934 <u>2</u> 34

Part 3 Fill in the table below

	Number	# of Thousands	# of Hundreds	# of Tens	# of Ones
1.	194 325				
2.	418 474				
3.	873 126				

Part 4 What is the standard form of the numbers below?

1) 300 000 + 20 000 + 7 000 + 100 + 40 + 7	2) 900 000 + 80 000 + 4 000 + 500 + 30 + 8
--	--

Part 5

What is the expanded form of the numbers below?

1) 372 285

2) 512 383

3) 784 178

Part 6

Write the standard form of the written words below

1) Four hundred and six thousand,
two hundred and twenty2) Seven hundred eighty-nine thousand,
two hundred seventy-four

Part 7

Write the written form of the numbers below

1) 337 284

2) 716 517

Part 8

Solve the riddles

- 1) My number has 3 ones, 4 thousands, twice as many hundred thousands as thousands, 4 ten thousands, half as many hundreds as ten thousands, and 4 tens. What is my number?
- 2) My number has 2 hundred thousands, 6 tens, 2 more ten thousands as tens, 5 ones, 2 less hundreds as ones, and the same number of thousands as tens. What is my number?

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. We can still represent half a cookie by writing 0.5. 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

3	3	6	.	5	8
Thousands	Tens	Ones	Decimal	Tenths	Hundredths

Part 1

Write the name of the place value for the underlined number?

1) 5 200. <u>32</u>	2) <u>3</u> 5.44	3) 3 542. <u>47</u>	4) 2 314.68
5) 4 326. <u>43</u>	6) 8 264. <u>75</u>	7) <u>7</u> 80.2	8) 7 356. <u>47</u>
9) 3 102. <u>52</u>	10) 6 113. <u>71</u>	11) <u>11</u> 9.5	12) 3 374. <u>44</u>

Part 2

Fill in the place value table for the numbers below

1) 7 862.55

Thousands	Hundreds	Tens	Ones	Decimal	Tenths	Hundredths

2) 2 383.39

Thousands	Hundreds	Tens	Ones	Decimal	Tenths	Hundredths

Comparing Decimals

Part 1

Compare the following numbers

1) 0.5 <input type="text" value=">"/> 0.2	2) 0.3 <input type="text" value=""/> 0.4	3) 0.8 <input type="text" value=""/> 0.6
4) 1.0 <input type="text" value=""/> 0.9	5) 1.3 <input type="text" value=""/> 0.8	6) 0.8 <input type="text" value=""/> 0.5
7) 1.9 <input type="text" value=""/> 9	8) <input type="text" value=""/> 20.1	9) 30.3 <input type="text" value=""/> 25.9
10) 47.12 <input type="text" value=""/> 33.53	11) 5.3 <input type="text" value=""/> 5.3	12) 77.99 <input type="text" value=""/> 77.92
13) 132.22 <input type="text" value=""/> 132.65	14) 155.36 <input type="text" value=""/> 14	15) <input type="text" value=""/> 454.71

Part 2

Compare the following numbers

- 1) Steve and Kim both ran in the 100 metre race last week. Steve ran it in 12.5 seconds and Kim ran it in 12.1 seconds. Who ran it faster?
- 2) LeBron James scores 28.4 points a game while James Harden scores 28.6 points a game. Who scores more points a game?
- 3) Dani and George's parents bought them a cake to share. Dani said she'll take 0.6 of the cake. Should George take the deal?

Math Activity Title: Decimal Bottle Flip Challenge

Objective

What are we learning about?

To practice and reinforce understanding of place value using decimals and comparing decimal numbers through the engaging and physically active bottle flip game.



Materials

What you will need for the activity.

- 2 bottles (or cups) per pair/group filled to approximately one-third with water
- Set of decimal value comparison question cards
- Answer sheet for each group

Instructions

How you will complete the activity

1. Start with a short lesson on place value using decimals and how to compare decimal numbers. Use examples like 8,315.7 (identify the place value of the underlined number) and comparisons like 2.3 > 2.8.
2. Arrange the students into pairs or small groups. Give each group a bottle and a set of question cards to each.
3. Each pair or group receives an answer sheet to record their answers.
4. Explain the rules: One student draws a question card and tries to solve the value or comparison problem.
5. Once they believe they have the correct answer, they write it down on 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.
10. Discuss the strategies used to solve the decimal problems and how understanding decimals is used in real-life situations.

Questions

Cut out the questions below and use for the game

1) 8,315.44	2) 7,264.6	3) 9,281.55	4) 1,187.23
5) 3,801.14	6) 6,432.51	7) 5,432.98	8) 8,175.42
9) 2,718.28	10) 4,321.05	11) 9,876.91	12) 3,765.09
13) 1,234.88	14) 7,001.56	15) 5,555.77	16) 6,666.88
17) 4,444	18) 2,222.33	19) 6734.98	20) 6527.23
21) Tom scored 67.8 on a math test, while Jerry scored 68.2. Which one scored higher?	22) A laptop costs 299 dollars, and a tablet costs 175 dollars. Which one is more expensive?	23) Emma ran 5.75 kilometers while Olivia ran 5.7 kilometers. Who ran more kilometers?	24) A bike travels 25.5 kilometers per hour, and a car travels 25.4 kilometers per hour. Which one travels faster?
25) A basketball game lasted 1.25 hours, and a soccer game lasted 1.5 hours. Which game lasted longer?	26) A guitar costs 1.5 dollars, while a candy bar costs 1.75 dollars. Which one is more expensive?	27) Michael scored 94.8 on a test, while Sarah scored 94.8. Who scored higher?	28) A smoothie costs 3.95 dollars, and a soda costs 1.25 dollars. Which one is cheaper?
29) A book series has an average of 234.45 pages, and another book series has an average of 235.65 pages. Which book series has more pages per book?	30) John has 48.75 dollars, and Mary has 48.85 dollars. Who has more money?	31) A recipe calls for 2.75 cups of flour, but another recipe calls for 2.8 cups of flour. Which recipe uses more flour?	32) A movie lasts 2.25 hours, and another movie lasts 2.25 hours. Which one is longer?
33) A concert ticket costs 150.09 dollars, and a theater ticket costs 150.25 dollars. Which one is more expensive?	34) A car's fuel efficiency is 10.25 kilometres per litre, and another car's fuel efficiency is 10.2 kilometres per litre. Which car is more fuel-efficient?	35) A bottle of water costs 1.08 dollars, and a soda costs 1.35 dollars. Which one is cheaper?	36) A painting is 48.75 centimeters wide, and another painting is 48.85 centimeters wide. Which painting is wider?

Name: _____

40

Decimal Bottle Flip Challenge**Answers**

Record your answers below

1		13		25	
2		14		26	
3		15		27	
4				28	
5				29	
6		18		30	
7		19		31	
8		20		32	
9		21		33	
10		22		34	
11		23		35	
12		24		36	
				Successful Flips	

Ordering Decimals

0.2, 0.1, 0.5, 0.4, 0.9

Least to Greatest

0.1, 0.2, 0.4, 0.5, 0.9

15.2, 10.3, 7.9, 18.5

Greatest to Least

18.5, 15.2, 10.3, 7.9

Part 1

Order the numbers below from least to greatest

0.9, 0.5, 0.2

0.8, 0.9, 0.2, 0.4

0.7, 0.1

1.34, 2.29, 1.55, 2.42

10.43, 10.93, 21.45, 22.62

24, 53.24, 34.18, 48.42

Part 2

Order the numbers below from greatest to least

0.2, 0.6, 0.3, 0.1

0.5, 0.2, 0.9

1.3, 1.9, 1.5, 1.1

2.14, 2.92, 1.35, 1.42

13.54, 12.69, 10.45, 15.33

20.26, 17.63, 19.45, 18.61

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.

- Index cards
- Markers or pens
- Tape
- Timer (optional)
- Small prizes (optional)



Instructions

How you will complete it.

1. Write a set of decimal numbers on 12 index cards. Each card should have one decimal number (or use the cards we have provided).
2. Tape the cards in various locations around the classroom. The numbers are visible but not too easy to find.
3. Explain to the students that they will be going on a treasure hunt to find the decimal number cards. They should not move the cards when they find them; 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).

Index Cards

Cut out the index cards below

1.5

1.23

22.7

45

43.67

47.3

PREVIEW

Index Cards

Cut out the index cards below

43.12

47.34

119.01

119.45

332.34

332.30

PREVIEW

Writing Decimal Numbers Using Words

When writing a decimal number, substitute the decimal for the word 'and'

Examples

14.3	fourteen and three tenths
3.53	three and fifty-three hundredths

Part 1

Match the number with the correct words

	Four and eight tenths	A	8.5
	One-hundred fifty and ninety hundredths	B	9.3
	One-hundred fifty and six tenths	C	18.7
	Eight and three tenths	D	74.8
	Two-thousand eight hundred and five hundredths	E	125.6
	Nine and three tenths	F	542.95
	Eighteen and seven tenths	G	2085.41
	Five-hundred forty-two and ninety-five hundredths	H	80 150.90

Part 2

Write the written form of the numbers below

1)	1.5	
2)	12.8	
3)	25.36	
4)	105.9	
5)	250.84	

Expanded Form



238.17

Standard Form

200 + 30 + 8 + 0.1 + 0.07

Expanded Form



Part 1

What is the expanded form of the numbers below?

1)		
2)	253	
3)	391.5	
4)	408.48	
5)	3 157.87	
6)	58 190.08	

Part 2

What is the standard form of the number below?

1)	80 + 6 + 0.3	
2)	200 + 90 + 4 + 0.7	
3)	400 + 8 + 0.2 + 0.06	
4)	800 + 70 + 0.5 + 0.04	
5)	3000 + 700 + 60 + 0.7 + 0.01	
6)	50 000 + 3000 + 800 + 20 + 3 + 0.9 + 0.01	

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 expanded form of the number below?

235.8

2) What is the standard form of the number below?

 $10\ 000 + 800 + 50 + 6 + 0.6 + 0.03$

Name: _____

1) What is the expanded form of the number below?

235.8

2) What is the standard form of the number below?

 $10\ 000 + 800 + 50 + 6 + 0.6 + 0.03$

Name: _____

1) What is the expanded form of the number below?

235.8

2) What is the standard form of the number below?

 $10\ 000 + 800 + 50 + 6 + 0.6 + 0.03$

Name: _____

1) What is the expanded form of the number below?

235.8

2) What is the standard form of the number below?

 $10\ 000 + 800 + 50 + 6 + 0.6 + 0.03$

Counting by Hundredths – Decimal Pattern

Questions

Continue counting by hundredths by filling in the missing boxes

0.01	0.02								0.10
	0.56								0.11
									0.12
								0.64	
						1.03			
	0.7								
0.47									0.20
			1.19			1.32			
	0.88								
0.41						1.13			
				0.81					
									0.28
			0.35						0.29

Exit Cards

Cut Out

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

Name: _____

Compare the following numbers

1) 0.2122) 0.452 0.4213) 0.602 0.614) 0.451 0.455) 0.871 0.901

Name: _____

Compare the following numbers

1) 0.25 0.2122) 0.452 0.4213) 0.602 0.614) 0.451 0.455) 0.871 0.901

Name: _____

Compare the following numbers

1) 0.25 0.2122) 0.452 0.4213) 0.602 0.614) 0.451 0.455) 0.871 0.901

Name: _____

Compare the following numbers

1) 0.25 0.2122) 0.452 0.4213) 0.602 0.614) 0.451 0.455) 0.871 0.901

Ordering Decimals

0.2721, 0.1215, 0.5487, 0.9232

Least to Greatest

0.1215, 0.2721, 0.5487, 0.9232

5.2242, 0.3263, 6.9317, 8.5229

Greatest to Least

8.5229, 6.9317, 5.2242, 0.3263

Part 1

Order the numbers below from least to greatest

1) 0.553, 0.218, 0.357, 0.113

_____, _____, _____, _____

2) 0.427, 0.159, 0.428, 0.406

_____, _____, _____, _____

3) 0.641, 0.52, 0.64, 0.641

_____, _____, _____, _____

4) 1.454, 2.426, 1.408, 2.616

_____, _____, _____, _____

5) 11.464, 11.483, 24.265, 24.612

_____, _____, _____, _____

6) 51.114, 51.114, 51.128, 51.113

_____, _____, _____, _____

Part 2

Order the numbers below from least to greatest

1) 0.625, 0.661, 0.673, 0.612

_____, _____, _____, _____

2) 0.332, 0.338, 0.333, 0.338

_____, _____, _____, _____

3) 1.413, 1.659, 1.873, 1.942

_____, _____, _____, _____

4) 2.122, 2.181, 1.115, 1.362

_____, _____, _____, _____

5) 14.251, 14.229, 14.396, 14.238

_____, _____, _____, _____

6) 19.722, 19.662, 19.641, 19.637

_____, _____, _____, _____

Generating Decimals Between Whole Numbers**Practice**

List at least three decimals between the numbers

1)

1



2

Decimals

2)

2



3

Decimals

3)

4



5

Decimals

Word Problems

Solve the riddles below

- | | |
|---|--|
| 1) Write at least 3 decimals that are larger than 9 but less than 10. | |
| 2) Write at least 3 decimals that are larger than 49 but less than 50. | |
| 3) Write at least 3 decimals that are larger than 99 but less than 100. | |
| 4) Write at least 3 decimals that are larger than 999 but less than 1000. | |

Exit Cards

Cut Out

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

Name: _____

List three decimals between the numbers.

0.2

0.5

Decimals

0.65

0.67

Decimals

Name: _____

List three decimals between the numbers.

0.2

0.5

Decimals

0.65

0.67

Decimals

Name: _____

List three decimals between the numbers.

0.2

0.5

Decimals

0.65

0.67

Decimals

Name: _____

List three decimals between the numbers.

0.2

0.5

Decimals

0.65

0.67

Decimals

Rounding Numbers 3 Different Ways

Round Down

Round Up

0	1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---	---

$\begin{array}{r} 10 \\ 1864 \rightarrow 1860 \end{array}$	$\begin{array}{r} 100 \\ 1864 \rightarrow 1900 \end{array}$	$\begin{array}{r} 1000 \\ 1864 \rightarrow 2000 \end{array}$
--	---	--

Question Round the numbers three different ways

#		100	1000
1)	2137 → _____	2137 → 2100	2137 → 2000
2)	4236 → _____		4236 → _____
3)	6841 → _____	6841 → _____	6841 → _____
4)	5615 → _____	5615 → _____	
5)	7519 → _____	7519 → _____	7519 → _____
6)	3782 → _____	3782 → _____	3782 → _____
7)	8559 → _____	8559 → _____	8559 → _____
8)	9463 → _____	9463 → _____	9463 → _____

Converting Fractions and Decimals

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



Fraction	Decimal
10/100	
20/100	
	0.30
40/100	
60/100	
70/100	
	0.80
90/100	
	1.00

Fraction	Decimal
5/100	
	0.15
25/100	
	0.35
45/100	
55/100	
	0.65
75/100	

Part 2 Convert the following fractions and decimals

0.52 = /100	0.41 = /100	0.23 = /100	0.84 = /100
36/100 =	48/100 =	34/100 =	92/100 =
37/100 =	52/100 =	0.87 = /100	0.74 = /100

Exit Cards

Cut Out

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

Name: _____

Fill in the table with the converted decimal and fraction.

Fraction	Decimal
$5/100$	
$28/100$	
	0.37
	0.79

Convert the following fractions and decimals.

$$0.42 = \frac{\quad}{100} \quad 78/100 = \quad$$

Name: _____

Fill in the table with the converted decimal and fraction.

Fraction	Decimal
$5/100$	
$28/100$	
	0.37
	0.79

Convert the following fractions and decimals.

$$\frac{\quad}{100} = \quad \quad 78/100 = \quad$$

Name: _____

Fill in the table with the converted decimal and fraction.

Fraction	Decimal
$5/100$	
$28/100$	
	0.37
	0.79

Convert the following fractions and decimals.

$$0.42 = \frac{\quad}{100} \quad 78/100 = \quad$$

Name: _____

Fill in the table with the converted decimal and fraction.

Fraction	Decimal
$5/100$	
$28/100$	
	0.37
	0.79

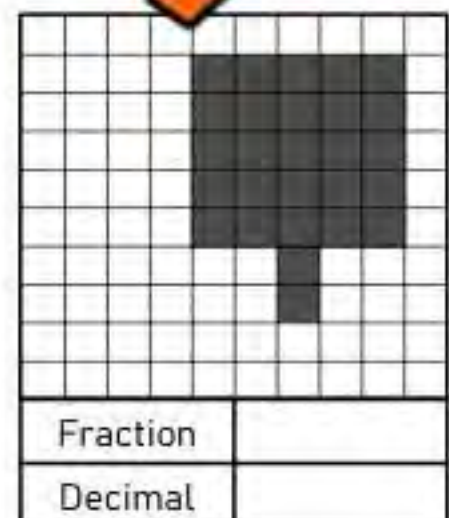
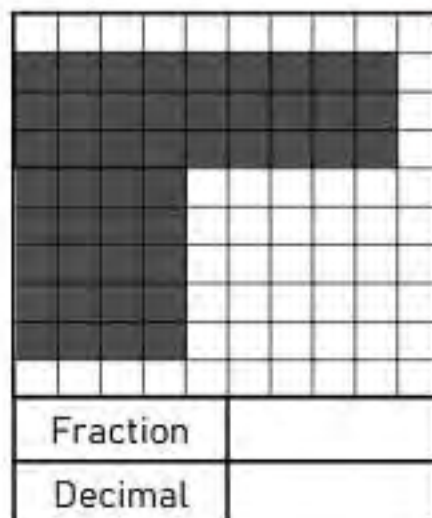
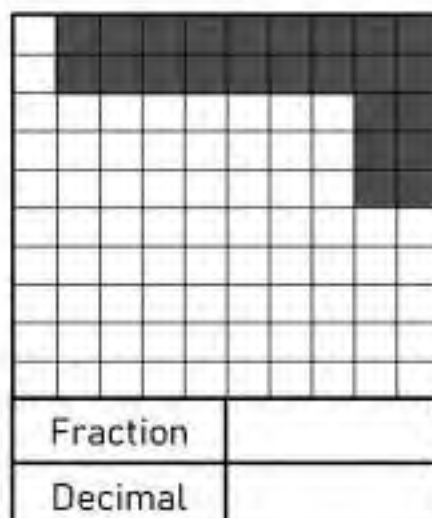
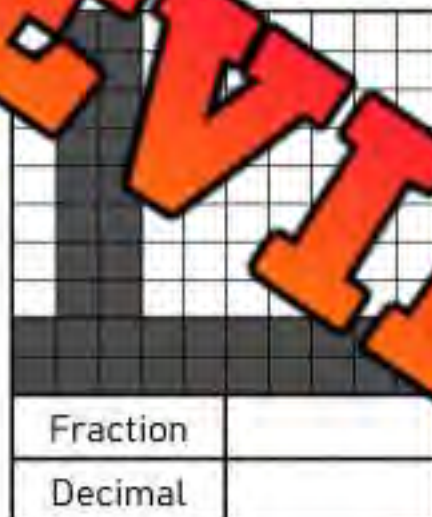
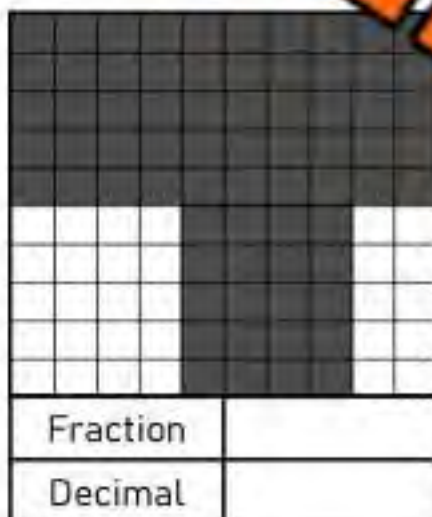
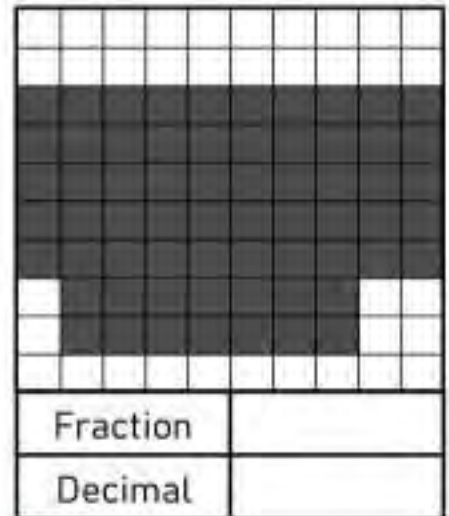
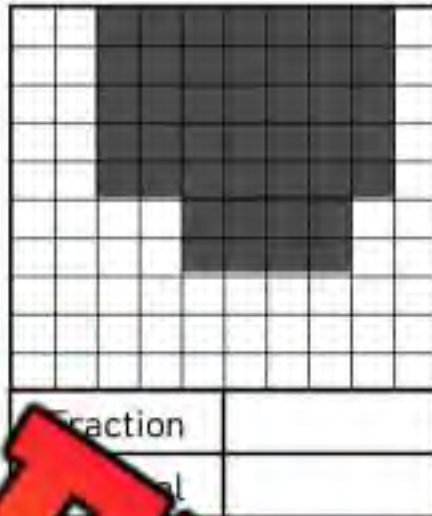
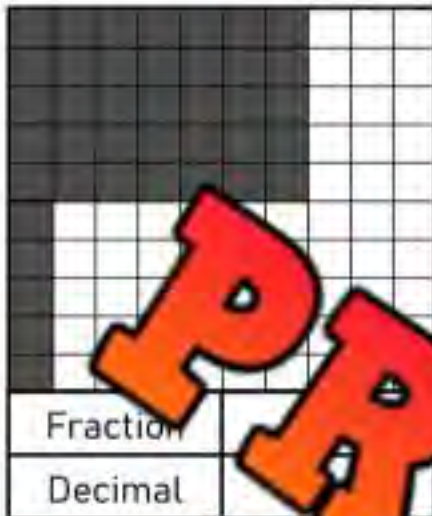
Convert the following fractions and decimals.

$$0.42 = \frac{\quad}{100} \quad 78/100 = \quad$$

Fractions and Decimals

Questions

What fraction and decimal of the array is shaded in?



Quiz - Decimals

Part 1

Fill in the place value table for the numbers below

1) 7 235.426

Thousands	Hundreds	Tens	Ones	Decimal	Tenths	Hundredths	Thousandths

2) 3 814.678

Thousands	Hundreds	Tens	Ones	Decimal	Tenths	Hundredths	Thousandths

Part 2

What is the place value for the underlined number?

1) 7 72 <u>8</u> .122	2) 1 5 <u>6</u> 3.42	3) 8.4 <u>2</u> 7	4) 1 713.6 <u>8</u> 8
5) 6 412. <u>4</u> 33	6) 2 45 <u>4</u> .723	7) 8.4 <u>2</u> 7	8) 4 357. <u>9</u> 26

Part 3

Round the decimal number to the nearest hundredth

1) 0.425 → _____	2) 0.859 → _____	3) 0.259 → _____
4) 0.568 → _____	5) 0.237 → _____	6) 0.127 → _____
7) 4.291 → _____	8) 7.124 → _____	9) 12.313 → _____

Part 4 Order the numbers below from least to greatest

1) 0.223, 0.29, 0.45, 0.413

2) 0.427, 0.42, 0.288, 0.36

3) 0.24, 0.44, 0.47

4) 1.554, 1.41, 1.56, 1.596

Part 5 Answer the problem.

1) Reilly makes 0.425 three-pointers and Chris makes 0.42 three pointers he shoots. Who is the better three pointer shooter?



2) Nicole's watch weighs 29.398 grams and Ashley's watch weighs 29.39 grams. Who has the heavier watch?



3) Megan threw the shot put 7.302 metres and Jill threw it 7.099 metres. Who threw the shot put further?

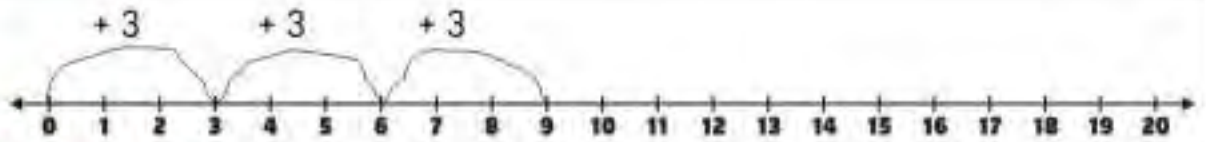


Number Line Multiplication – Repeated Addition

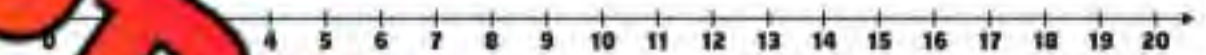
Questions

Fill in the blanks below

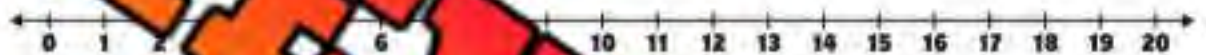
$3 \times 3 = 9$



$5 \times 2 = \underline{\quad}$



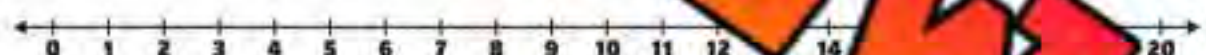
$5 \times 4 = \underline{\quad}$



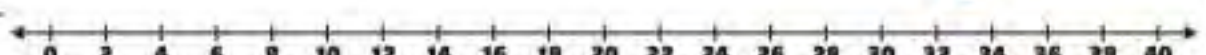
$6 \times 2 = \underline{\quad}$



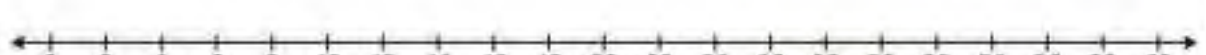
$9 \times 2 = \underline{\quad}$



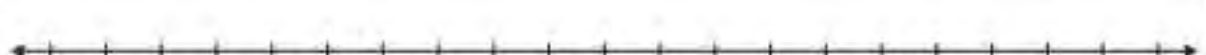
$14 \times 2 = \underline{\quad}$



$8 \times 4 = \underline{\quad}$

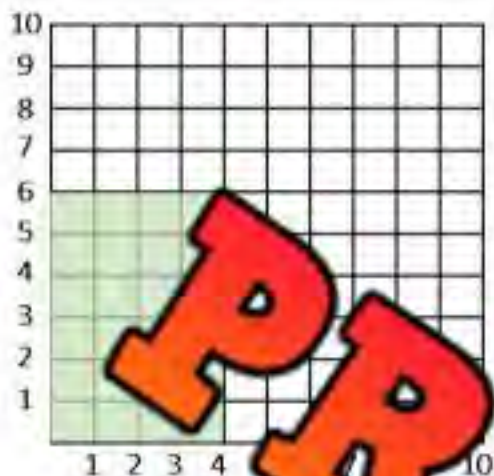


$9 \times 4 = \underline{\quad}$

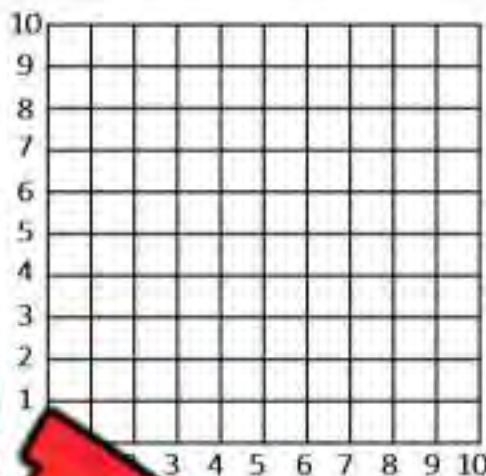


Multiplication - Arrays**Questions**

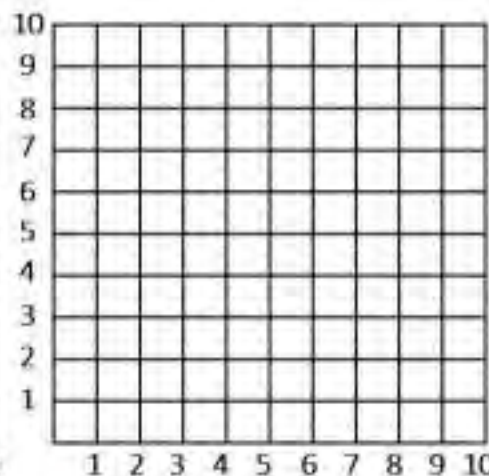
Shade in the arrays using the table. Answer the questions below



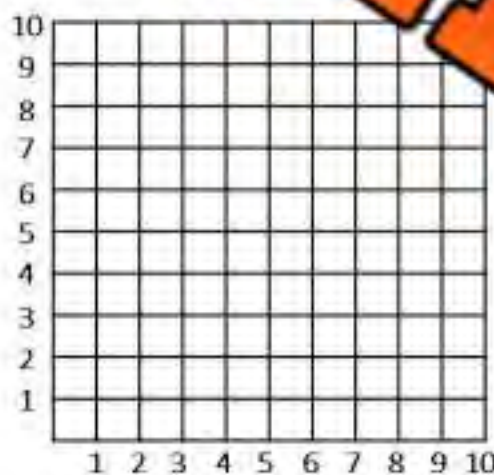
$6 \times 4 = \underline{\quad}$



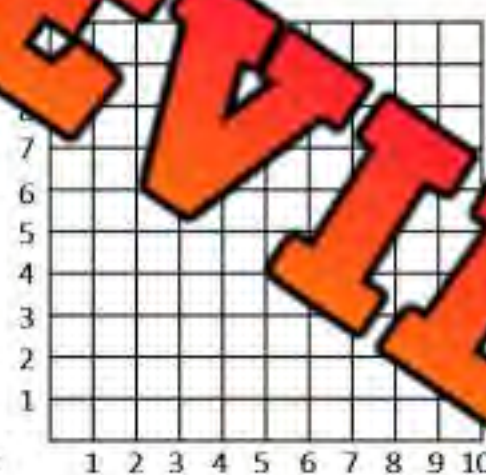
$7 \times 7 = \underline{\quad}$



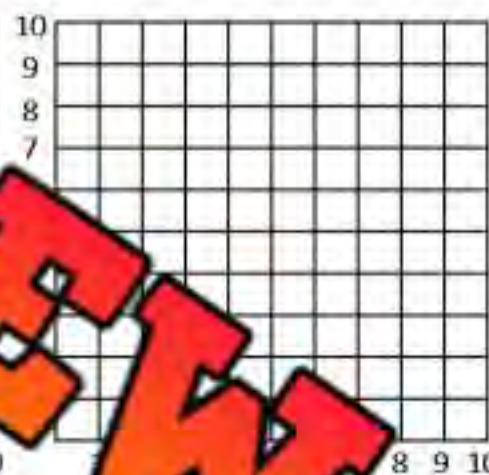
$7 \times 8 = \underline{\quad}$



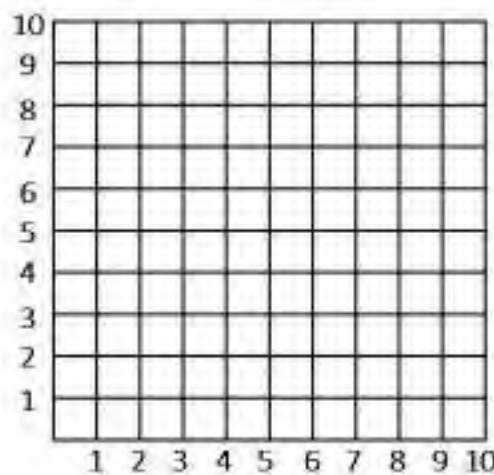
$4 \times 7 = \underline{\quad}$



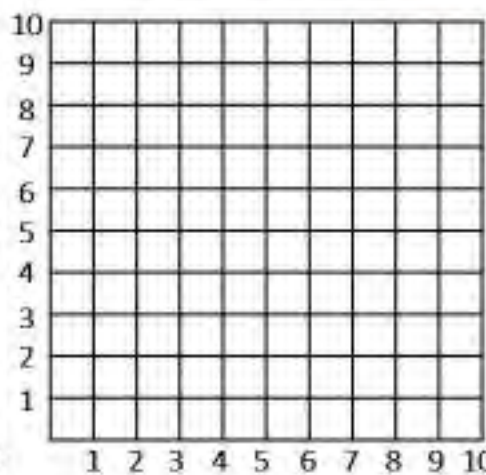
$9 \times 3 = \underline{\quad}$



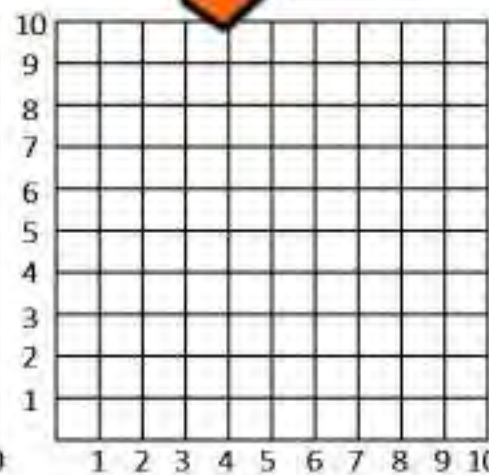
$7 \times 7 = \underline{\quad}$



$6 \times 5 = \underline{\quad}$



$6 \times 6 = \underline{\quad}$



$9 \times 5 = \underline{\quad}$

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

$$7 \times 5 = ?$$

1 2 3 4 5 6 7
5, 10, 15, 20, 25, 30, 35



6×4

7×5

4×3

9×6

8×8

8×7


9×9

PREVIEW

Mental Math - Multiplication - Breaking Up Numbers**Directions**

- 1) Break up one of the numbers into friendlier numbers (two-digit number into one)
- 2) Multiply the other number by the two friendlier numbers
- 3) Add the two answers together

Example


$$\begin{array}{r} 16 \times 4 \\ 10 \times 4 \text{ and } 6 \times 4 \\ \downarrow \qquad \qquad \downarrow \\ 40 \qquad \qquad 24 \\ \swarrow \qquad \searrow \\ 64 \end{array}$$



15×4

18×6

16×7

19×6

15×8

16×6

17×9

Multiplying by Multiples of Ten

Key Concept

- multiply the first numbers together and add a zero when multiplying by a multiple of 10

Examples - $10 \times 9 = 90$

$30 \times 6 = 180$

$60 \times 8 = 480$

$80 \times 4 = 320$

Questions Answer the questions below using the key concept above

2	
5	
7	
3	
4	
6	
8	

	x 30
2	
7	
4	
3	
5	
9	

	x 50
2	
6	
3	
7	
4	

	x 70
2	
5	
7	
3	
4	
6	
8	

	x 40
5	
2	
4	
6	
7	
3	
8	

2	
5	
7	
3	
4	
6	
8	

Activity: Multiplication Race

Objective

What are we learning about?

Students will practise their multiplication facts and multiples of 10 by racing to answer questions quickly and accurately.

Materials What you will need for the activity.

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



Instructions

How you will complete it.

1. Prepare a stack of index cards with multiplication questions. Include a mix of simple multiplication facts (e.g., 3×4 , 6×7) and multiples of 10 (e.g., 5×50 , 7×70).
2. Have students line up in a single file (or you can keep students at their desks).
3. Call the first two students in line to the front. Explain that they will answer the multiplication 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.

Math Cards

Cut out the math cards below

3×8

7×50

9×7

11×10

10×12

$4 \times$

8×30

4×3

PREVIEW

Math Cards

Cut out the math cards below

8×4

10×5

6×11

8×60

9×40

$5 \times$

3×6

4×50

PREVIEW

Name: _____

124

Curriculum Connection
N5.2

Math Cards

Cut out the math cards below

5×120

90×4

5×8

7×40

2×6

8×11

70×5

PREVIEW

Multiplication - 2 x 1 Digits**Part 1**

Use the standard algorithm to solve the multiplication problems below

1)		
	3	5
x		

2)		
	8	7
x		4

3)		
	4	7
x		6

4)		
	8	4
x		9

5)		
	6	2
x		4

6)		
	7	3
x		6

7)		
	2	3
x		6

8)		
	9	3
x		7

Part 2

Use the standard algorithm to solve the multiplication problems below

1)	45
x 2	

2)	74
x 3	

3)	62
x 6	

4)	87
x 5	

5)	99
x 0	

6)	37
x 4	

7)	53
x 7	

8)	73
x 5	

9)	58
x 8	

10)	36
x 6	

Exit Cards

Cut Out

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

Name: _____

Use the standard algorithm to solve the multiplication problems below.

1)			2)		
				7	2
x		2	x		6

3) 45×2

4)

27

 $\times 7$

Name: _____

Use the standard algorithm to solve the multiplication problems below.

1)			2)		
	4	7		7	2
x		3	x		6

3) 45×2

4)

27

 $\times 7$

Name: _____

Use the standard algorithm to solve the multiplication problems below.

1)			2)		
	4	7		7	2
x		3	x		6

3) 45×2

4)

27

 $\times 7$

Name: _____

Use the standard algorithm to solve the multiplication problems below.

1)			2)		
	4	7		7	2
x		3	x		6

3) 45×2

4)

27

 $\times 7$

Multiplication – 3 by 1 Digit**Part 1**

Use the standard algorithm to solve the multiplication problems below

1)				
	3	5	3	
x				

2)				
	8	7	4	
x			8	

3)				
	4	7	2	
x			7	

4)				
	8	4	0	
x			2	

5)				
	8	2	1	
x			4	

6)				
	8	7	5	
x			6	

7)				
	8	7	5	
x			6	

8)				
	9	4	3	
x			7	

Part 2

Use the standard algorithm to solve the multiplication problems below

1) 435 x 2	2) 714 x 3	3) 652 x 6	4) 827 x 5	909 x 0
6) 327 x 4	7) 513 x 7	8) 753 x 5	9) 578 x 8	10) 326 x 6

Multiplication – 3 by 1 Digit**Part 1****Evaluate**

1) 426×6

2) 238×7

3) 2

4) 6×302

5) 522×9

6) 872

PREVIEW**Part 2****Answer the word problems below**

1) Courtney bought 7 boxes of cookies. Each box has 450 grams in it. How many grams of cookies did she buy?



2) Stella ran around her neighbourhood 6 times today. Each lap around her neighbourhood is 752 metres. How many metres did she run?



Multiplication – 3-Digit by 1-Digit

Step 1: Setup up the Area Model

$$235 \times 3 = \underline{\hspace{2cm}}$$

	200	30	5
3	<input type="text"/>	<input type="text"/>	<input type="text"/>

Step 2: Multiply

$$235 \times 3 = \underline{\hspace{2cm}}$$

	200	30	5
3	200×3 600	30×3 90	5×3 15

Step 3: Add

$$235 \times 3 = 705$$

	200	30	5
3	600	90	15

$$600 + 90 + 15 = 705$$

Question Use the area model to solve the multiplication problems below

1) $452 \times 3 = \underline{\hspace{2cm}}$

	<input type="text"/>	<input type="text"/>	<input type="text"/>

2) $626 \times 2 = \underline{\hspace{2cm}}$

	<input type="text"/>	<input type="text"/>	<input type="text"/>

3) $347 \times 4 = \underline{\hspace{2cm}}$

	<input type="text"/>	<input type="text"/>	<input type="text"/>

4) $578 \times 6 = \underline{\hspace{2cm}}$

	<input type="text"/>	<input type="text"/>	<input type="text"/>

5) $312 \times 7 = \underline{\hspace{2cm}}$

	<input type="text"/>	<input type="text"/>	<input type="text"/>

6) $682 \times 8 = \underline{\hspace{2cm}}$

	<input type="text"/>	<input type="text"/>	<input type="text"/>

Exit Cards

Cut Out

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

Name: _____

Solve the multiplication problems below.

1) $356 \times 7 = \underline{\hspace{2cm}}$

2) $830 \times 4 = \underline{\hspace{2cm}}$

3) $672 \times 6 = \underline{\hspace{2cm}}$

Name: _____

Solve the multiplication problems below.

1) $356 \times 7 = \underline{\hspace{2cm}}$

2) $830 \times 4 = \underline{\hspace{2cm}}$

3) $672 \times 6 = \underline{\hspace{2cm}}$

Name: _____

Solve the multiplication problems below.

1) $356 \times 7 = \underline{\hspace{2cm}}$

2) $830 \times 4 = \underline{\hspace{2cm}}$

3) $672 \times 6 = \underline{\hspace{2cm}}$

Name: _____

Solve the multiplication problems below.

1) $356 \times 7 = \underline{\hspace{2cm}}$

2) $830 \times 4 = \underline{\hspace{2cm}}$

3) $672 \times 6 = \underline{\hspace{2cm}}$

Multiplication Word Problems

Questions

Solve the word problems below

1) Ivy sold 262 lemonades from her lemonade stand last month. She sells her lemonade for \$3 each. How much money did she make last month?



2) Kelly works at a call center where she asks people to try to sell a product. Each phone call she makes is an average of 3 minutes long. If she makes 375 calls a shift, how long is she on the phone?



3) A bag of candy has 213 candies in it. Each candy is 6 grams. How many grams is the bag of candy?



Math Activity Title: Multiplication Bottle Flip Challenge**Objective**

What are we learning about?

To practice and reinforce understanding of multiplication with 3-digit by 1-digit numbers and multiplication word problems through the engaging and physically active bottle flip game.

**Material**

What you will need for the activity.

- Plastic bottles (one per pair/group) filled to approximately one-third with water (use 1 liter)
- Set of multiplication word problem question cards
- Answer sheet for each group

Instructions

How you can complete the activity

1. Start with a short lesson on multiplying 3-digit by 1-digit numbers and solving multiplication word problems.
2. Arrange the students into pairs or small groups and give each group a bottle and a set of question cards to each.
3. Each pair or group receives an answer sheet to record their answers.
4. Explain the rules: One student draws a question card and tries to solve the multiplication problem.
5. Once they believe they have the correct answer, they write it down on 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.

Questions

Cut out the questions below and use for the game

1. 213×6	2. 325×4	3. 587×2	4. 412×5
5. 634×3	6. 759×8	7. 276×7	8. 481×9
9. 394×3	10. 542×6	11. 638×4	12. 792×5
13. 253×2	14. 674×7	15. 811×3	16. 951×6
17. 138×9	18. 497×8	19. 782×4	20. 635×2
21. A shop has 12 shelves, and 27 rows with 7 seats in each row. How many seats are there in total?	22. A shop has 15 shelves, and each shelf holds 9 products. How many products are there in total?	23. A park has 47 benches. Each bench can seat 7 people. How many people can be seated in the park?	24. A library has 52 shelves. Each shelf holds 12 books. How many books are there in total?
25. A school has 154 students. Each student brings 5 pencils. How many pencils are there in total?	26. A car dealer sells 123 cars each month. How many cars are sold in 4 months?	27. A farmer harvests 120 kg of fruit each hour. How many kilograms of fruit are harvested in 4 hours?	28. A gardener plants 30 trees each week. How many trees are planted in 4 weeks?
29. A factory produces 240 gadgets every hour. How many gadgets are produced in 5 hours?	30. A theatre has 32 rows with 5 seats in each row. How many seats are there in total?	31. Jeremy earns \$125 an hour. How much does he earn in an 8-hour day?	32. A baker makes 45 cupcakes each hour. How many cupcakes are made in 7 hours?
33. A farmer plants 48 trees in each field. How many trees are in 9 fields?	34. A plane flies 860 km/h. How far will it go after 6 hours?	35. A store sells 56 products each day. How many products are sold in 9 days?	36. A factory produces 150 parts every hour. How many parts are produced in 6 hours?

Multiplication Bottle Flip Challenge**Answers**

Record your answers below

1		13		25	
2		14		26	
3		15		27	
4				28	
5				29	
6		18		30	
7		19		31	
8		20		32	
9		21		33	
10		22		34	
11		23		35	
12		24		36	
				Successful Flips	

Reasonableness – Estimating Products (2 x 2)

When we solve a multiplication question, we should check our product so we know if our answer is reasonable. We can do this by estimating the product. If our answer isn't close to our estimate, we know we've made an error.

Questions

Round the numbers to the nearest ten and then solve

#	Rounding	Calculate	Reasonable?	
			Yes	No
1)		58×34	Yes	No
2)	72×23		Yes	No
3)	62×74	62×74	Yes	No
4)	47×56	47×56	Yes	No

Multiplication – 2 x 2 Digits

Part 1

Use the standard algorithm to solve the multiplication problems below

1)			
		6	3
	x	9	

2)			
		8	8
	x	5	4

3)			
		4	6
	x	8	3

4)			
		4	8
	x	3	7

5)			
		8	5
	x	7	8

6)			
		8	3
	x	6	

7)			
		8	3
	x	9	

8)			
		3	9
	x	6	3

Part 2

Solve the word problems below

1) Joseph is planning a group trip to a sporting event. He has 31 people going to the event and each person is paying \$64. How much money is Joseph collecting from everyone?



2) Aria hands out a lot of candy on Halloween. She decided to buy 23 boxes of candy. Each box has 95 candies in it. How many candies did she buy in total?



Multiplication – 2 x 2 Digits

Step 1: Setup up the Area Model

$$32 \times 17 = \underline{\quad}$$

	30	2
10		
7		

Step 2: Multiply

$$32 \times 17 = \underline{\quad}$$

	30	2
10	30×10 300	10×2 20
7	30×7 210	7×2 14

Step 3: Add

$$32 \times 17 = 544$$

	30	2
10	300	20
7	210	14

$$300 + 210 + 20 + 14 = 544$$

Question: Use an area model to solve the multiplication problems below

1) $32 \times 17 = \underline{\quad}$

2) $27 \times 23 = \underline{\quad}$

3) $45 \times 24 = \underline{\quad}$

4) $17 \times 32 = \underline{\quad}$

5) $82 \times 44 = \underline{\quad}$

6) $94 \times 72 = \underline{\quad}$

Math Jeopardy – Multiplication 2 x 2 Digits

Objective

What are we learning about?

Students will practice multiplication of two-digit numbers and solve word problems involving multiplication in a fun and engaging way.

Materials

What you will need for the activity.

- Jeopardy board and questions
- Buzzer or bell

**Instructions**

How you will complete the activity

1. Print the Jeopardy board on the next page.
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.

Jeopardy Questions

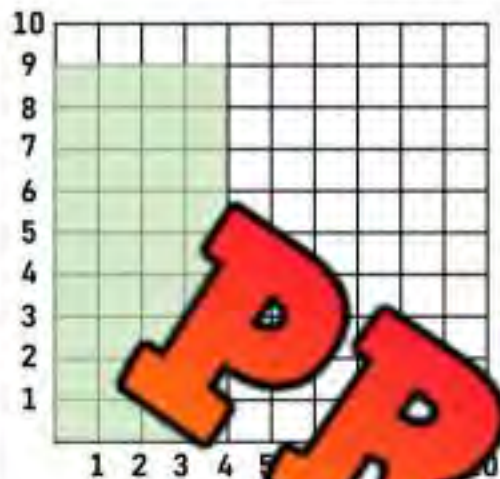
Ask students the questions below

\$100	\$200	\$300	\$400	\$500
$12 \times 14 = \underline{\hspace{2cm}}$	$23 \times 19 = \underline{\hspace{2cm}}$	$35 \times 16 = \underline{\hspace{2cm}}$	$47 \times 28 = \underline{\hspace{2cm}}$	$59 \times 32 = \underline{\hspace{2cm}}$
$21 \times 15 = \underline{\hspace{2cm}}$	$27 \times 25 = \underline{\hspace{2cm}}$	$46 \times 39 = \underline{\hspace{2cm}}$	$53 \times 47 = \underline{\hspace{2cm}}$	$67 \times 54 = \underline{\hspace{2cm}}$
$14 \times 22 = \underline{\hspace{2cm}}$	$18 \times 15 = \underline{\hspace{2cm}}$	$29 \times 17 = \underline{\hspace{2cm}}$	$52 \times 24 = \underline{\hspace{2cm}}$	$48 \times 36 = \underline{\hspace{2cm}}$
Steven has 5 boxes of pencils. Each box contains 12 pencils. How many pencils does he have in total?	Emma buys 8 packs of stickers. Each pack has 15 stickers. How many stickers does she buy in total?	Liam has 18 toy cars. Each car costs \$18. How much was spent in total on the toy cars?	Oliver is reading a book that has 120 pages. He reads 15 pages every day. How many days will it take him to finish the book?	Noah is organizing his comic collection. He has 65 comics, and each of his 19 shelves can hold 3 comics. How many shelves does he need in total?
A farmer has 8 baskets of apples. Each basket contains 24 apples. How many apples are there in total?	Olivia buys 9 packets of crayons. Each packet has 25 crayons. How many crayons does she buy in total?	Mason plants 15 rows of trees. Each row has 14 trees. How many trees does he plant in total?	Sophia is baking cookies. She bakes 25 trays of cookies. Each tray has 32 cookies. How many cookies does she bake in total?	Isabella collects stamps. She has 75 pages of stamps. Each page has 27 stamps. How many stamps does she have in total?

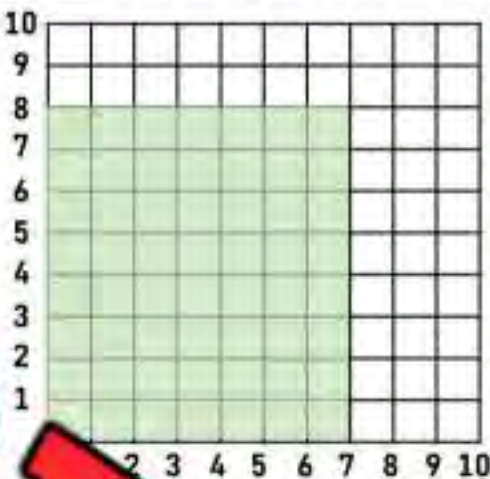
Division - Arrays

Questions

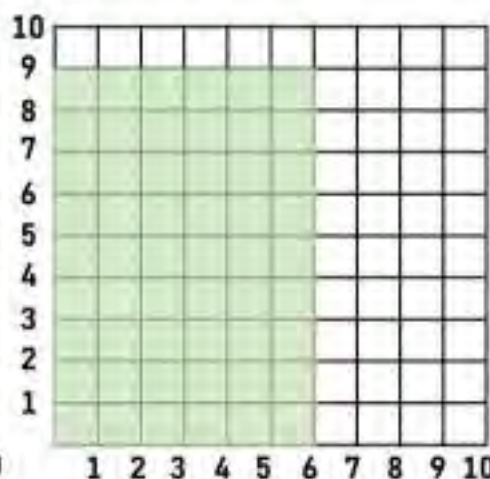
How is the shaded in area divided?



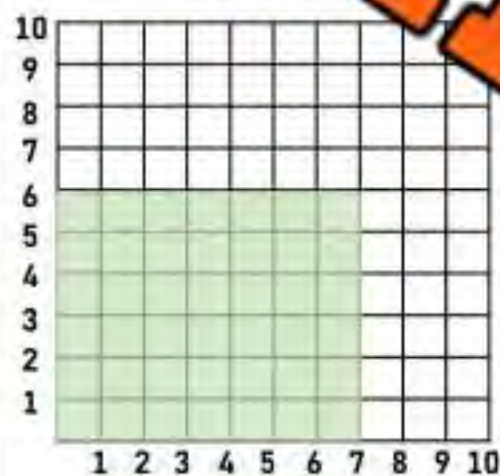
$36 \div 4 = \underline{\quad}$



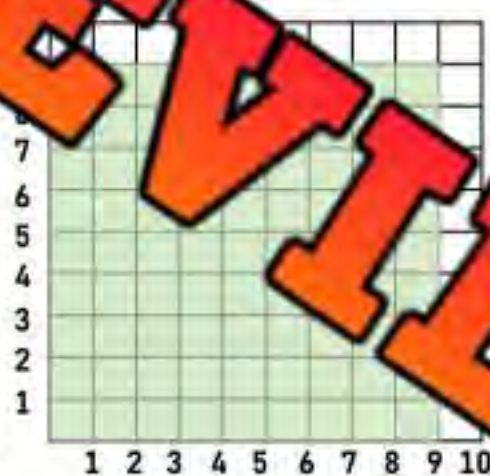
$70 \div 7 = \underline{\quad}$



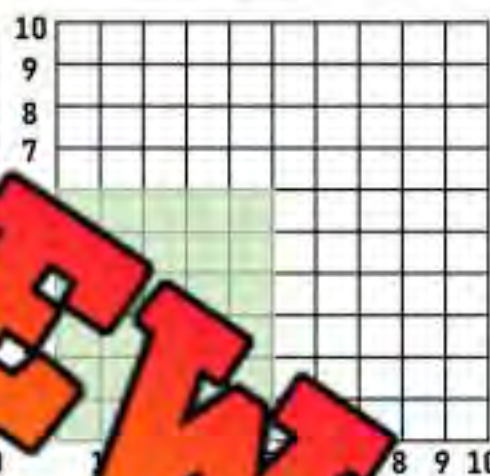
$54 \div 6 = \underline{\quad}$



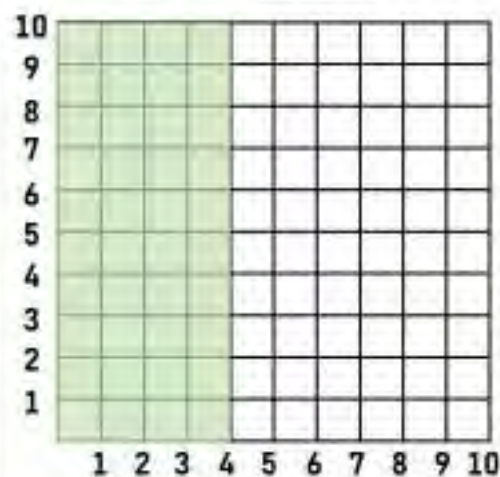
$42 \div 7 = \underline{\quad}$



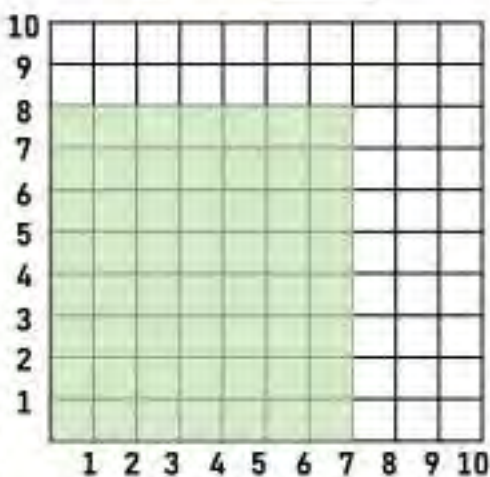
$81 \div 9 = \underline{\quad}$



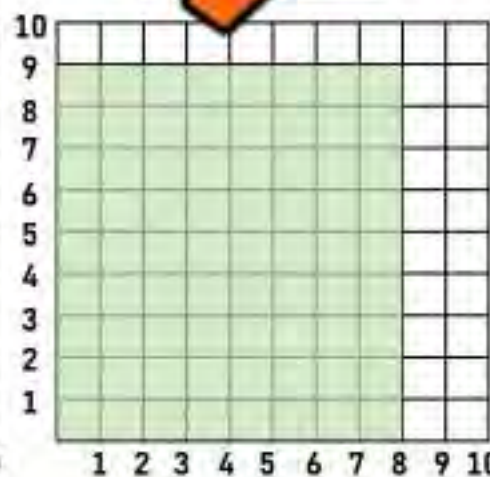
$30 \div 3 = \underline{\quad}$



$40 \div 4 = \underline{\quad}$



$56 \div 7 = \underline{\quad}$



$72 \div 9 = \underline{\quad}$

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.



$$91 \div 7 = ?$$

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

$$39 \div 3 = ?$$

$$85 \div 5 = ?$$

$$72 \div 4 = ?$$

$$84 \div 6 = ?$$

$$105 \div 5 = ?$$

$$105 \div 7 = ?$$

$$112 \div 8 = ?$$

$$114 \div 6 = ?$$

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

$$\begin{array}{r}
 144 \div 6 = 24 \\
 60 \div 6 = 10 \\
 60 \div 6 = 10 \\
 24 \div 6 = 4
 \end{array}$$

← 10 + 10 = 20

$72 \div 6 =$

$68 \div 4 =$

$150 \div 6 =$

$120 \div 4 =$

$208 \div 8 =$

$189 \div 7 =$

$198 \div 6 =$

Activity: Division Race

Objective

What are we learning about?

Students will practise their division facts by racing to answer questions quickly and accurately.

Material

What you will need for the activity.

- Index cards
- Markers of different colors
- Timer (optional)



Instructions

How you will complete the activity.

1. Prepare a stack of index cards with division questions.
2. Have students line up in a single file (or you can have students sit at their desk).
3. Call the first two students in line to the front. Explain that they will race to answer the 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.

Math Cards

Cut out the math cards below

$21 \div 3$

$84 \div 12$

$132 \div 11$

$90 \div 3$

$36 \div 6$

$48 \div 6$

$66 \div 6$

$21 \div 7$

PREVIEW

Math Cards

Cut out the math cards below

$96 \div 12$

$110 \div 10$

$15 \div 3$

$15 \div 5$

$40 \div 10$

$20 \div 4$

$27 \div 9$

$45 \div 5$

PREVIEW

Math Cards

Cut out the math cards below

$24 \div 12$

$30 \div 5$

$40 \div 8$

$56 \div 8$

$72 \div 6$

$36 \div 6$

$30 \div 6$

$99 \div 9$

PREVIEW

Multiplication and Division Quiz**Part 1**

Evaluate

1)		
	4	5
x		5

2)		
	8	3
x		5

3)		
	2	7
x		4

4)		
	7	4
x		8

5) 422×5

243×3

7)		
	4	3
x	1	2

8)		
	6	3
x	1	5

9)		
	2	7
x	2	3

10)		
	5	3
x	1	4

11)			
		5	1
x		1	3

12)			
		2	4
x		3	8

13)			
		5	2
x		6	7

14)

15) 53×38 $108 \div 6$

161

 $6 \overline{) 24}$ $2 \overline{) 120}$ $3 \overline{) 16}$ $5 \overline{) 62}$

Part 2

Solve the multiplication and division word problems below

- 1) Rebecca is filling her pool with water from a hose. Each hour the hose fills the pool with 17 litres. She fills it for 19 hours. How many litres of water is in the pool now?
- 2) Rebecca has 138 beads to make 7 bracelets with. She wants each bracelet to have the same number of beads. How many beads should each bracelet have?
- 3) A business has earned \$434 in a month. There are 6 people that work for the business. How much money should each person get at the end of the month? Will there be any money remaining?
- 4) Carl earns \$85 a day at his job. In January, he worked everyday (31 days). How much money did he earn?

PREVIEW

Estimation – Compatible Numbers

Compatible Numbers is an estimation strategy we use to make adding, subtracting, multiplying, and dividing easier. It involves changing the numbers to make them easier to work with.

Examples 1) $28 + 67$ could be $30 + 70$

2) $382 + 112$ could be $400 + 100$

Questions Use compatible numbers to make the addition questions easier

	Question	Compatible Numbers
1		_____ + _____ = _____
2	99 + 99	_____ + _____ = _____
3	148 + 97	_____ + _____ = _____
4	253 + 152	_____ + _____ = _____
5	308 + 297	_____ + _____ = _____
6	407 + 254	_____ + _____ = _____
7	397 + 353	_____ + _____ = _____
8	511 + 389	_____ + _____ = _____
9	442 + 493	_____ + _____ = _____
10	489 + 504	_____ + _____ = _____

Exit Cards

Cut Out

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

Name: _____

Change the numbers to one particular number that they cluster around.

$217 + 219$	$_ + _ = _$
$449 + 453 + 454$	$_ + _ + _ = _$
$598 + 597 + 587$	$_ + _ + _ = _$
$803 + 797 + 806$	$_ + _ + _ = _$

Name: _____

Change the numbers to one particular number that they cluster around.

$217 + 221 + 219$	$_ + _ + _ = _$
$449 + 453 + 454$	$_ + _ + _ = _$
$598 + 597 + 587$	$_ + _ + _ = _$
$803 + 797 + 806$	$_ + _ + _ = _$

Name: _____

Change the numbers to one particular number that they cluster around.

$217 + 221 + 219$	$_ + _ + _ = _$
$449 + 453 + 454$	$_ + _ + _ = _$
$598 + 597 + 587$	$_ + _ + _ = _$
$803 + 797 + 806$	$_ + _ + _ = _$

Name: _____

Change the numbers to one particular number that they cluster around.

$217 + 221 + 219$	$_ + _ + _ = _$
$449 + 453 + 454$	$_ + _ + _ = _$
$598 + 597 + 587$	$_ + _ + _ = _$
$803 + 797 + 806$	$_ + _ + _ = _$

Mental Math – Adding Decimals – Place Value**Directions:**

1. Add the decimals
2. Add the whole numbers
3. Add the two answers together



$5.54 + 3.72$

$0.04 + 0.02 = 0.06$

$0.5 + 0.7 = 1.20$

$5.00 + 3.00 = 8.00$

$0.06 + 1.20 + 8 = 9.26$

$3.53 + 4.31$

$3.53 + 4.31$

$4.43 + 6.45$

$13.24 + 6.52$

$23.23 + 21.44$

24.52

$25.44 + 3.53$

$33.65 + 21.21$

Mental Math – Adding Decimals – Adding Chunks**Directions:**

1. Keep the bigger number the same
2. Add the other whole number to the bigger number
3. Add the decimal your answer



$$\begin{aligned} &5.53 + 3.74 \\ &5.53 + 3 = 8.53 \\ &8.53 + 0.7 = 9.23 \\ &9.23 + 0.04 = 9.27 \end{aligned}$$

$3.32 + 2.45$

$3.32 + 2 = 5.32$

$5.32 + 0.4 = 5.72$

$5.72 + 0.05 = 5.77$

$1.36 + 3.51$

$4.45 + 6.32$

$12.45 + 4.23$

$16.51 + 12.17$

25

$35.43 + 14.52$

$43.47 + 32.30$

Adding Decimals – Hundredths – No Regrouping

Part 1

Use the standard algorithm to solve the addition problems below

1) $\begin{array}{r} 53.11 \\ + 32.47 \\ \hline \end{array}$	2) $\begin{array}{r} 44.53 \\ + 21.25 \\ \hline \end{array}$	3) $\begin{array}{r} 31.52 \\ + 12.27 \\ \hline \end{array}$	4) $\begin{array}{r} 56.32 \\ + 1.13 \\ \hline \end{array}$	5) $\begin{array}{r} 32.16 \\ + 54.13 \\ \hline \end{array}$
6) $\begin{array}{r} 42.73 \\ + 4.25 \\ \hline \end{array}$	7) $\begin{array}{r} 51.27 \\ + 5.12 \\ \hline \end{array}$	8) $\begin{array}{r} 72.23 \\ + 26.56 \\ \hline \end{array}$	9) $\begin{array}{r} 31.55 \\ + 41.03 \\ \hline \end{array}$	10) $\begin{array}{r} 23.21 \\ + 23.38 \\ \hline \end{array}$
11) $\begin{array}{r} 60.84 \\ + 22.02 \\ \hline \end{array}$	12) $\begin{array}{r} 44.97 \\ + 2.02 \\ \hline \end{array}$	13) $\begin{array}{r} 24.68 \\ + 12.59 \\ \hline \end{array}$	14) $\begin{array}{r} 84.68 \\ + 12.59 \\ \hline \end{array}$	15) $\begin{array}{r} 31.54 \\ + 7.32 \\ \hline \end{array}$

Part 2

Answer the questions below

1) $52.08 + 21.81$

2) $46.43 + 32.51$

3) $65.83 + 52.15$

4) $78.42 + 11.53$

Adding Decimals - Regrouping

Part 1

Use the standard algorithm to solve the addition problems below

1)
$$\begin{array}{r} 63.72 \\ + 25.54 \\ \hline \end{array}$$

2)
$$\begin{array}{r} 65.45 \\ + 23.32 \\ \hline \end{array}$$

3)
$$\begin{array}{r} 38.34 \\ + 26.53 \\ \hline \end{array}$$

4)
$$\begin{array}{r} 35.25 \\ + 41.63 \\ \hline \end{array}$$

5)
$$\begin{array}{r} 12.45 \\ + 17.35 \\ \hline \end{array}$$

6)
$$\begin{array}{r} 51.52 \\ + 12.45 \\ \hline \end{array}$$

7)
$$\begin{array}{r} 28.26 \\ + 17.63 \\ \hline \end{array}$$

8)
$$\begin{array}{r} 66.57 \\ + 29.21 \\ \hline \end{array}$$

9)
$$\begin{array}{r} 192.67 \\ + 325.23 \\ \hline \end{array}$$

10)
$$\begin{array}{r} 374.21 \\ + 653.52 \\ \hline \end{array}$$

12)
$$\begin{array}{r} 652.51 \\ + 295.33 \\ \hline \end{array}$$

Part 2

Answer the questions below

1) $157.18 + 225.25$

2) $556.33 + 246.79$

3) $475.93 + 252.48$

4) $788.46 + 115.85$

Exit Cards

Cut Out

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

Name: _____

Solve the addition problems below.

$$\begin{array}{r} 1) \quad 63.450 \\ + 32.525 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 49.772 \\ + 50.216 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 12.473 \\ + 37.125 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 85.361 \\ + 12.517 \\ \hline \end{array}$$

Name: _____

Solve the addition problems below.

$$\begin{array}{r} 1) \quad 63.450 \\ + 32.525 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 49.772 \\ + 50.216 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 12.473 \\ + 37.125 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 85.361 \\ + 12.517 \\ \hline \end{array}$$

Name: _____

Solve the addition problems below.

$$\begin{array}{r} 1) \quad 63.450 \\ + 32.525 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 49.772 \\ + 50.216 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 12.473 \\ + 37.125 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 85.361 \\ + 12.517 \\ \hline \end{array}$$

Name: _____

Solve the addition problems below.

$$\begin{array}{r} 1) \quad 63.450 \\ + 32.525 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 49.772 \\ + 50.216 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 12.473 \\ + 37.125 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 85.361 \\ + 12.517 \\ \hline \end{array}$$

Mental Math – Subtracting Decimals – Counting Up**Directions:**

1. Start with the smaller number
2. Count up from the smaller number to the bigger number to find the difference
3. The difference is the answer

$7.63 - 2.41$



$5.52 - 2.31$

$7.45 - 3.22$

$9.47 - 7.53$

$12.54 - 10.91$

$24.35 - 12.93$

$35.42 - 30.31$

Mental Math – Subtracting Decimals – Subtracting Chunks**Directions:**

1. Keep the bigger number the same
2. Subtract the other whole number from the bigger number
3. Subtract the decimal from your answer

$6.36 - 3.51$

$6.36 - 3 = 3.36$

$3.36 - 0.50 = 2.86$

$2.86 - 0.01 = 2.85$

$4.68 - 2.42$

$4.68 - 2 = 2.68$

$2.68 - 0.4 = 2.28$

$2.28 - 0.02 = 2.26$

$4.57 - 3.33$

$9.54 - 2.22$

$14.48 - 7.52$

$15.54 - 10.91$

7.15

$48.36 - 11.82$

$52.65 - 30.35$

Subtracting Decimals – No Borrowing

Part 1

Use the standard algorithm to solve the subtraction problems below

1) $\begin{array}{r} 55.75 \\ - 12.52 \\ \hline \end{array}$	2) $\begin{array}{r} 25.36 \\ - 13.21 \\ \hline \end{array}$	3) $\begin{array}{r} 94.96 \\ - 20.73 \\ \hline \end{array}$	4) $\begin{array}{r} 75.47 \\ - 52.33 \\ \hline \end{array}$	5) $\begin{array}{r} 65.76 \\ - 31.01 \\ \hline \end{array}$
6) $\begin{array}{r} 96.79 \\ - 52.24 \\ \hline \end{array}$	7) $\begin{array}{r} 76.66 \\ - 40.37 \\ \hline \end{array}$	8) $\begin{array}{r} 86.85 \\ - 31.32 \\ \hline \end{array}$	9) $\begin{array}{r} 81.57 \\ - 60.12 \\ \hline \end{array}$	10) $\begin{array}{r} 63.78 \\ - 21.44 \\ \hline \end{array}$
11) $\begin{array}{r} 862.66 \\ - 230.35 \\ \hline \end{array}$	12) $\begin{array}{r} 634.98 \\ - 102.63 \\ \hline \end{array}$	13) $\begin{array}{r} 7.88 \\ - 204.28 \\ \hline \end{array}$	14) $\begin{array}{r} 4.28 \\ - 520.54 \\ \hline \end{array}$	15) $\begin{array}{r} 751.96 \\ - 520.54 \\ \hline \end{array}$

Part 2

Answer the questions below

1) $147.38 - 45.25$	2) $273.67 - 150.32$
3) $485.62 - 351.50$	4) $985.35 - 353.04$

Subtracting Decimals – Borrowing

Questions

Use the standard algorithm to solve the subtraction problems below

1)

$$\begin{array}{r} 53.744 \\ - 27.521 \\ \hline \end{array}$$

2)

$$\begin{array}{r} 95.427 \\ - 33.843 \\ \hline \end{array}$$

3)

$$\begin{array}{r} 64.263 \\ - 25.672 \\ \hline \end{array}$$

4)

$$\begin{array}{r} 62.712 \\ - 32.536 \\ \hline \end{array}$$

5)

$$\begin{array}{r} 76.617 \\ - 31.837 \\ \hline \end{array}$$

6)

$$\begin{array}{r} 437.496 \\ - 254.258 \\ \hline \end{array}$$

7)

$$\begin{array}{r} 41.354 \\ - 3.541 \\ \hline \end{array}$$

8)

$$\begin{array}{r} 823.351 \\ - 51.371 \\ \hline \end{array}$$

9)

$$\begin{array}{r} 712.584 \\ - 404.423 \\ \hline \end{array}$$

10)

$$\begin{array}{r} 646.984 \\ - 451.237 \\ \hline \end{array}$$

11)

$$\begin{array}{r} 173.804 \\ - 145.437 \\ \hline \end{array}$$

12)

$$\begin{array}{r} 659.332 \\ - 243.636 \\ \hline \end{array}$$

13)

$$\begin{array}{r} 3.377 \\ - 213.429 \\ \hline \end{array}$$

15)

$$\begin{array}{r} 527.828 \\ - 131.332 \\ \hline \end{array}$$

Word Problems

Answer the questions below

1) Maria bought a piece of fabric that was 24.563 metres long. She used 12.674 metres for a project. How much fabric does she have left?

2) John's car had 115.678 litres of fuel before his trip. After the trip, it had 29.345 litres left. How many litres of fuel did he use?

3) A hot tub holds 547.896 litres of water. After filling the hot tub with 294.421 litres, how many litres does it need to be full.

Task Cards: Adding and Subtracting Decimals

Objective

What are we learning about?

Students will practice adding and subtracting decimal numbers to the thousandths place to improve their accuracy and understanding of decimal operations.

Materials

What you will need for the activity.

- 20 task cards
- Student answer sheet for answers
- Pencils



Instructions

How to run the activity

1. Begin by explaining the steps for adding and subtracting decimal numbers, emphasizing the importance of aligning the decimal points.
2. Organize the students into pairs and provide each pair with their sets of task cards.
3. Give each pair an answer recording sheet to record their solutions.
4. Encourage teamwork by having students collaborate on their problem-solving and finding solutions.
5. Allow students to select any task card to begin with, emphasizing that they 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 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.

Task Cards

Cut out the task cards below

Card 1:

A baker had 12.567 kilograms of flour. After baking some cakes, 8.345 kilograms remained. How much flour was used?

- a) 4.222 b) 4.232 c) 4.212

Card 5:

$$567.890 + 234.567$$

- a) 802.467
b) 802.447
c) 802.457

Card 6:

Lisa's phone battery was charged to 98.546%. After a few hours of use, the battery percentage dropped to 76.214%. How much battery percentage was used?

- a) 111.121 b) 111.111 c) 111.111 d) 22.322 e) 22.312

Card 3:

$$45.789 + 32.123$$

- a) 77.902
b) 77.922
c) 77.912

A rope was originally 20.875 metres long. After cutting off a piece, 15.763 metres remained. How long was the piece that was cut off?

- a) 336.628 b) 336.638 c) 336.648

Card 4:

A rope was originally 20.875 metres long. After cutting off a piece, 15.763 metres remained. How long was the piece that was cut off?

- a) 5.112 b) 5.122 c) 5.132

Card 8:

$$456.789$$

$$- 123.456$$

- a) 333.333 b) 333.323 c) 333.343

Task Cards

Cut out the task cards below

Card 9:

$$\begin{array}{r} 345.678 \\ + 234.567 \\ \hline \end{array}$$

- a) 580.235 b) 580.235 c) 580.255

Card 13:

A scientist had 181.756 grams of a chemical. Another scientist gave him 101.678 grams. How much chemical does he have now?

- a) 283.434 b) 283.444 c) 283.424

Card 14:

$$\begin{array}{r} 90.123 \\ - 23.456 \\ \hline \end{array}$$

A tank held 200.000 litres of water. Another tank held 333.456 litres. How much water do they hold together?

- a) 579.255 b) 579.235 c) 579.245

- a) 66.667 b) 66.667 c) 66.677

Card 11:

$$156.789 + 23.456$$

- a) 180.235
-
- b) 180.245
-
- c) 180.255

A box weighed 155.000 kilograms. Another box weighed 193.922 kilograms. How much do both boxes weigh together?

- a) 348.912 b) 348.902 c) 348.922

Card 12:

A piece of land was 303.579 hectares. After selling a part, 202.345 hectares remained. How much was sold?

- a) 101.234 b) 101.224 c) 101.244

Card 16:

$$\begin{array}{r} 789.012 \\ - 456.789 \\ \hline \end{array}$$

- a) 332.233 b) 332.213 c) 332.223

Task Cards

Cut out the task cards below

Card 17:

A rope ladder was 353.567 centimetres long. After repairing, it is now 355.123 metres long. How much was added to the ladder?

- a) 1.566 b) 1.566 c) 1.576

Card 21:

$$\begin{array}{r} 890.123 \\ + 109.876 \\ \hline \end{array}$$

- a) 1,000.000 b) 999.999 c) 1,000.001

Card 22:

A tank held 45.789 litres of oil. After some was used, 33.456 litres remained. How many litres of oil were used?

- a) 233.333 b) 233.343 c) 233.343 d) 233.343 e) 233.343 f) 233.343 g) 233.343 h) 233.343 i) 233.343 j) 233.343 k) 233.343 l) 233.343 m) 233.343 n) 233.343 o) 233.343 p) 233.343 q) 233.343 r) 233.343 s) 233.343 t) 233.343 u) 233.343 v) 233.343 w) 233.343 x) 233.343 y) 233.343 z) 233.343

Card 19:

$$89.123 + 78.456$$

- a) 167.569
b) 167.589
c) 167.579

Card 20:

A length of wire was 14.789 metres. After trimming, it measured 11.234 metres. How much wire was trimmed off?

- a) 3.555 b) 3.545 c) 3.565

Card 24:

$$67.890 + 78.123$$

- a) 146.003
b) 146.023
c) 146.013

Task Cards: Adding and Subtracting Decimals**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	

PREVIEW

Converting Cents to Dollars

Money can be written as cents or dollars. When we have less than 1 dollar, we use cents. When we have more than 1 dollar, we use dollars. If we have whole dollars and cents, we can combine the two.

Examples - $100\text{¢} = \$1.00$

$50\text{¢} = \$0.50$

$142\text{¢} = \$1.42$

Part 1

Convert the cents into dollars



¢	\$
1¢	
10¢	
20¢	
25¢	
	\$0.32
41¢	
57¢	
	\$0.68
	\$0.82
98¢	

¢	\$
	\$1.00
	\$5.00
600¢	
700¢	
	\$8.00
	\$9.00
1000¢	

¢	\$
150¢	\$1.50
250¢	
325¢	
450¢	
	\$5.25
650¢	
	\$7.20
800¢	
	\$9.00

Part 2

Circle the largest amount of money



1)	100¢	\$1.00	350¢	\$2.30
2)	200¢	\$3.00	750¢	\$3.50
3)	300¢	\$2.00	220¢	\$1.60
4)	400¢	\$4.00	575¢	\$5.25
5)	500¢	\$7.00	250¢	\$6.40
6)	600¢	\$3.00	450¢	\$8.00

Exit Cards

Cut Out

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

Name: _____

Count the coins below



_____ ¢ or \$ _____

Name: _____

Count the coins below



_____ ¢ or \$ _____

Name: _____

Count the coins below



_____ ¢ or \$ _____

Name: _____

Count the coins below



_____ ¢ or \$ _____

Calculating Change Using \$2

Questions

Calculate how much change you will get

Money Used and Item	Change Due	Money Used and Item	Change Due
1) 	= _____	6) 	= _____
2) 	= _____	7) 	= _____
3) 	= _____	8) 	= _____
4) 	= _____	9) 	= _____
5) 	= _____	10) 	= _____

Calculating Change Using \$50 and \$100

Questions

Calculate how much change you will get

Money Used and Item	Change Due
1) 	= _____
2)  \$87.25	= _____
3)  \$32.35	= _____
4)  \$92.70	= _____
5)  \$28.50	= _____

Money Used and Item	Change Due
6)  \$45.25	= _____
7)  \$70.40	= _____
8)  \$88.75	= _____
9)  \$35.60	= _____
10)  \$88.75	= _____

Providing Change to Customers

Money Used	Item	Item	Change Due
			$9.50 + 4.50 = 14.00$ $20.00 - 14.00 = \$6.00$

Questions

Put up the items and provide change based on what the customer paid

Money Used	Item	Item	Change Due
			

Money Used	Item	Item	Change Due
			

Money Used	Item	Item	Change Due
			

Making Change – Up To \$100

		
\$55.25	\$66.10	\$84.65

Questions Make the change by drawing the correct bills and coins

1) \$64.70	2) \$54.50	3) \$76.75
4) \$72.60	5) \$78.55	6) \$83.25
7) \$80.95	8) \$61.90	9) \$57.70
10) \$93.95	11) \$95.80	12) \$99.40

Making Change – Word Problems

Questions

Answer the word problems below

- 1) Rob is about to buy a new pair of shoes and a pair of socks. The shoes cost \$114.90, and the socks are \$9.50. He has the money below in his wallet.



- a) How much do the shoes and socks cost?
- b) Which bills/coins should Rob use to pay for the shoes and socks?
- c) How much change will he get back?



- 2) Charlie is shopping for a new stereo. He found one for \$139.50. He also found a pair of headphones for \$99.25. Charlie brought the money below to the store.



- a) How much will the stereo and headphones cost?
- b) Which bills/coins should Charlie use to pay for the stereo and headphones?
- c) How much change will he get back?



Activity: Four Corners Money Addition

Objective

What are we learning about?

Students will practice adding two decimal sums related to money and demonstrate their understanding by selecting the correct answer from four options.

Materials you will need for the activity.

- Printed questions (display on a projector)
- Labels for the corners (A, B, C, D)
- Space in the classroom for students to move to the corners



Instructions

How you will complete the activity

1. Label each corner of the room with a letter: A, B, C, D.
2. Ensure there is enough space for students to move and gather at the corners.
3. Explain the activity and how it works to the students.
4. Have students sit at their desks.
5. Read a question aloud, along with the four answer options.
6. Give students a moment to decide on their answer and move to the corresponding corner.
7. Reveal the correct answer and discuss the solution.
8. Repeat the process with the remaining questions.

Questions

Read the questions to the students

Question	A	B	C	D
1) Emily bought a book for \$5.57 and a pen for \$3.15. How much did she spend in total?	9.41	8.72	10.20	7.47
2) Anna bought an apple for \$9.10 and a banana for \$3.15. How much did she spend in total?	12.72	13.66	13.12	12.25
3) Sarah bought a toy for \$6.92 and a game for \$3.70. How much did she spend in total?	11.74	13.01	11.46	10.62
4) Sam bought a jacket for \$4.42 and a pair of shoes for \$5.29. How much did he spend in total?	8.43	10.28	9.31	9.81
5) James bought a pizza for \$6.96 and a sandwich for \$7.02. How much did he spend in total?	10.98	11.71	11.80	11.98
6) John bought a notebook for \$3.77 and a ruler for \$3.53. How much did he spend in total?	7.22	7.00	8.95	7.30
7) Michael bought a movie ticket for \$5.82 and popcorn for \$1.54. How much did he spend in total?	7.46	7.36	7.36	6.34
8) David bought a hat for \$6.59 and a scarf for \$6.60. How much did he spend in total?	11.22	13.19	13.19	13.19
9) Emily bought a chocolate bar for \$1.39 and a soda for \$7.31. How much did she spend in total?	8.70	9.12	9.36	9.31
10) John bought a pencil for \$4.69 and an eraser for \$8.12. How much did he spend in total?	12.23	12.81	13.22	12.36
11) Sophia bought a lamp for \$4.88 and a clock for \$5.73. How much did she spend in total?	7.64	8.62	8.64	10.61
12) John bought a phone case for \$9.67 and a charger for \$1.83. How much did he spend in total?	11.67	12.29	11.50	10.79

Adding and Subtracting Quiz**Part 1**

Add and subtract the numbers below

1)

	6	1	.	1	8	5
+	2	5				3
<hr/>						

2)

	3	5	5	.	5	1	9
+	2	8	2	.	5	2	6
<hr/>							

3)

	5	6	4	.	6	8	7
+	3	2	9	.	2	7	1
<hr/>							

4)

	6	6	4	.	0	4	7
-	4	2	0	.	0	2	3
<hr/>							

5)

	6				4		
-	3	6	3		7	3	
<hr/>							

6)

	8	2	8	.	6	3	5
-	5	9		.	4	5	3
<hr/>							

7)

173.804
-145.437

8)

803.372
- 213.454

9)

527.828
- 131.332

Part 2

Solve the word problems below

- 1) Elijah has \$31.78 and earns \$62.71 more. How much money does he have now?



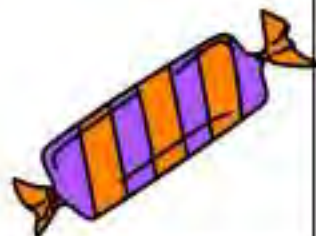
- 2) Ethan spent \$39.89 on a video game and a new controller for \$45.75. How much money did he have left?




- 3) Harper saved \$99.50 last month from her allowance. She bought a new shirt for \$33.75. How much does she have left?



- 4) Scarlett buys a bag of candy that has 242.58 grams in it. She ate 125.39 grams. How many grams are left in the bag?



Part 3 Add up the items and provide change based on what the customer paid with

Money Used	Item	Item	Change Due
			

Money Used	Item	Item	Change Due
			

Money Used	Item	Item	Change Due
			

Money Used	Item	Item	Change Due
			

Comparing Common Denominators

If fractions have the same denominator, the larger fraction will have the larger numerator.

For example - $\frac{3}{8} < \frac{4}{8}$

Part 1 Compare the fractions using $<$ $>$ $=$

$\frac{2}{5}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{6}{8}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{5}{8}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{2}{7}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{3}{7}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{6}{10}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{5}{10}$ <input style="width: 30px; height: 30px;" type="text"/>
$\frac{5}{5}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{4}{9}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{4}{9}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{5}{7}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{4}{7}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{7}{9}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{4}{9}$ <input style="width: 30px; height: 30px;" type="text"/>
$\frac{2}{2}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{1}{2}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{4}{6}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{5}{5}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{4}{5}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{2}{4}$ <input style="width: 30px; height: 30px;" type="text"/>	$\frac{4}{4}$ <input style="width: 30px; height: 30px;" type="text"/>

Part 2 Put the fractions in order from least to greatest

$\frac{2}{10}$	$\frac{3}{10}$	$\frac{5}{10}$	$\frac{4}{10}$	$\frac{7}{10}$	$\frac{10}{10}$

$\frac{2}{9}$	$\frac{3}{9}$	$\frac{5}{9}$	$\frac{1}{9}$	$\frac{9}{9}$	$\frac{8}{9}$	$\frac{7}{9}$	$\frac{4}{9}$

Part 3 Answer the word problem below

On Wednesday, $\frac{7}{9}$ kids played basketball for free time. On Friday, $\frac{1}{9}$ kids played basketball in their free time. Which day had a greater fraction of kids playing basketball.

Ordering Fractions

Directions

Answer the questions below

1)

John has three cakes for his birthday party. His guests eat $\frac{3}{4}$ of the first cake, $\frac{2}{4}$ of the second cake, and $\frac{1}{4}$ of the third cake. List the cakes that were eaten the least to the most.



2)

A group of friends share a pizza with eight slices. Jack ate $\frac{1}{8}$ of the pizza, Jane ate $\frac{4}{8}$ of the pizza, and Tom ate $\frac{2}{8}$ of the pizza. In order from least to greatest, how much pizza did each person eat?



3)

A chef made three types of pies, each the same size. The first pie was cut into 6 equal slices, the second pie was cut into 3 equal slices, and the third pie was cut into 2 equal slices. If he ate one slice of each pie, which pie did he eat the most of? Which pie did he eat the least?



4)

A recipe calls for $\frac{2}{4}$ cup of flour, $\frac{2}{5}$ cup of sugar, and $\frac{2}{8}$ cup of butter. List the ingredients from most used to least.



Comparing Benchmark Fractions - Halves

We can use our understanding of benchmark fractions to compare and order other fractions.

For example: $\frac{5}{6}$ is greater than $\frac{3}{8}$ because $\frac{5}{6}$ is greater than one half and $\frac{3}{8}$ is less than one half.

Part 1

Circle the fractions that are a half

$\frac{2}{6}$ $\frac{5}{6}$ $\frac{5}{6}$ $\frac{1}{2}$ $\frac{2}{4}$ $\frac{5}{10}$ $\frac{3}{8}$ $\frac{1}{3}$ $\frac{4}{7}$ $\frac{6}{12}$

Part 2

Circle the fractions that are larger than a half

$\frac{2}{5}$ $\frac{3}{7}$ $\frac{5}{7}$ $\frac{7}{5}$ $\frac{4}{10}$ $\frac{3}{8}$ $\frac{5}{6}$ $\frac{8}{13}$

Part 3

Compare the fractions using $>$, $<$, or $=$

$\frac{2}{5}$ <input type="text"/> $\frac{4}{7}$	$\frac{6}{10}$ <input type="text"/> $\frac{4}{8}$	$\frac{2}{5}$ <input type="text"/> $\frac{3}{8}$
$\frac{3}{7}$ <input type="text"/> $\frac{4}{5}$	$\frac{7}{9}$ <input type="text"/> $\frac{3}{8}$	$\frac{5}{7}$ <input type="text"/> $\frac{2}{5}$ $\frac{5}{10}$
$\frac{5}{7}$ <input type="text"/> $\frac{2}{5}$	$\frac{6}{9}$ <input type="text"/> $\frac{2}{10}$	$\frac{6}{7}$ <input type="text"/> $\frac{2}{5}$ $\frac{5}{9}$ <input type="text"/> $\frac{4}{10}$

Part 4

Answer the word problem below

Sherry walked $\frac{6}{8}$ of a kilometre to school. Sara walked $\frac{2}{5}$ of a kilometre to school. Who walks further to school each day? How do you know?

Equivalent Fractions

Questions

Shade in the fraction and decide if they are equivalent

1.



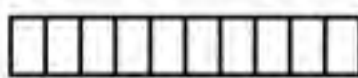
$\frac{1}{3}$



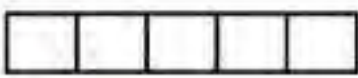
$\frac{2}{6}$

Yes No

2.



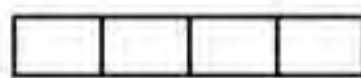
$\frac{2}{10}$



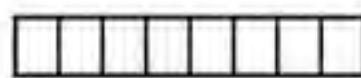
$\frac{1}{5}$

Yes No

3.



$\frac{3}{4}$

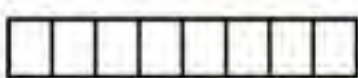


$\frac{7}{8}$

4.



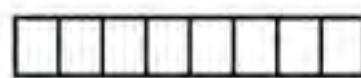
$\frac{1}{4}$



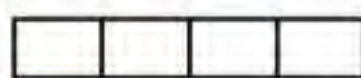
$\frac{4}{8}$

Yes No

6.



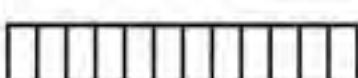
$\frac{3}{8}$



$\frac{2}{4}$

Yes No

7.



$\frac{3}{12}$



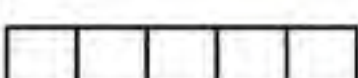
$\frac{1}{4}$

Yes No

8.



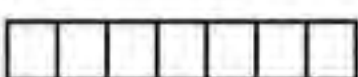
$\frac{1}{10}$



$\frac{2}{5}$

Yes No

10.



$\frac{5}{7}$



$\frac{10}{12}$

Yes No

11.



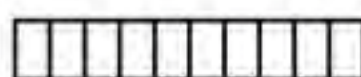
$\frac{10}{14}$



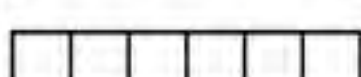
$\frac{5}{7}$

Yes No

12.



$\frac{8}{10}$



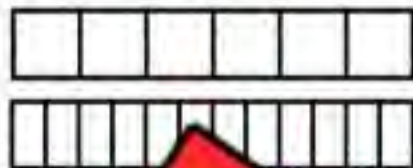
$\frac{4}{6}$

Yes No

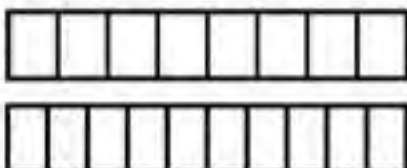
Equivalent Fractions

QuestionsCompare the fractions using $<$ $>$ $=$

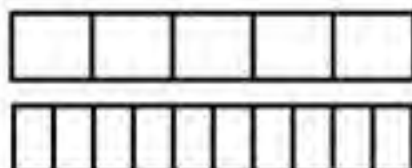
1.

 $\frac{2}{8}$ $\frac{4}{8}$  $\frac{6}{10}$

2.

 $\frac{4}{8}$  $\frac{6}{10}$

3.

 $\frac{1}{5}$  $\frac{2}{10}$

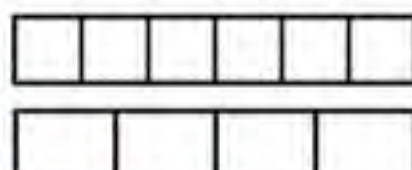
4.

 $\frac{2}{3}$  $\frac{3}{4}$

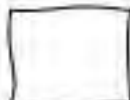
5.

 $\frac{3}{12}$ 

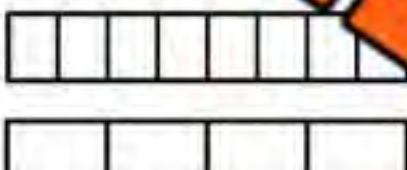
6.

 $\frac{4}{6}$  $\frac{2}{4}$

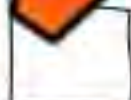
7.

 $\frac{5}{7}$  $\frac{8}{14}$

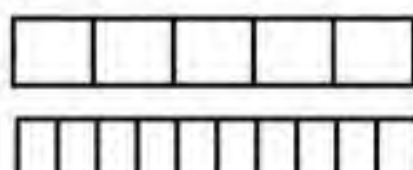
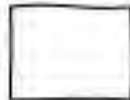
8.

 $\frac{7}{8}$  $\frac{3}{4}$

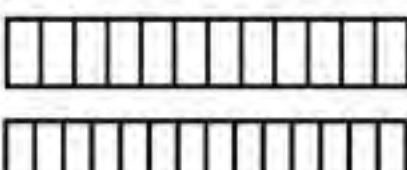
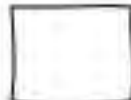
9.

 $\frac{6}{8}$  $\frac{4}{6}$

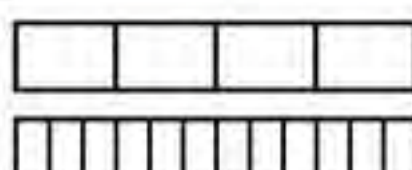
10.

 $\frac{3}{5}$  $\frac{6}{10}$

11.

 $\frac{6}{12}$  $\frac{7}{14}$

12.

 $\frac{3}{4}$  $\frac{8}{12}$

Equivalent Fractions

**Questions**

Fill in the blanks to find equivalent fractions

1) $\frac{1}{2} = \frac{2}{\quad} = \frac{\quad}{6} = \frac{4}{\quad} = \frac{\quad}{10} = \frac{6}{\quad} = \frac{\quad}{14}$

2) $\frac{1}{3} = \frac{\quad}{9} = \frac{4}{\quad} = \frac{\quad}{15} = \frac{6}{\quad} = \frac{\quad}{21}$

3) $\frac{1}{4} = \frac{\quad}{16} = \frac{\quad}{20} = \frac{6}{\quad} = \frac{\quad}{28}$

4) $\frac{1}{5} = \frac{2}{\quad} = \frac{\quad}{15} = \frac{\quad}{20} = \frac{6}{\quad} = \frac{7}{\quad}$

5) $\frac{1}{6} = \frac{\quad}{12} = \frac{3}{\quad} = \frac{4}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{42}$

6) $\frac{1}{7} = \frac{\quad}{14} = \frac{\quad}{21} = \frac{4}{\quad} = \frac{5}{\quad} = \frac{\quad}{42} = \frac{\quad}{49}$

7) $\frac{1}{8} = \frac{\quad}{16} = \frac{3}{\quad} = \frac{4}{\quad} = \frac{5}{\quad} = \frac{\quad}{48} = \frac{\quad}{56}$

8) $\frac{1}{9} = \frac{\quad}{18} = \frac{3}{\quad} = \frac{\quad}{36} = \frac{\quad}{45} = \frac{6}{\quad} = \frac{7}{\quad}$

Memory Game: Matching Equivalent Fractions

Objective

What are we learning about?

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

Materials

What you will need for the activity.

- Memory game cards. Each card will have a different fraction that can be matched to another fraction.
- A small table or clear floor space.



Instructions

How you will complete the activity.

1. Divide the class into groups of 3 or 4. Give each group a set of Memory Game cards. (Provided)
2. Have each group lay all the cards face down in a grid on a table or clear floor space.
3. The students take turns flipping over two cards at a time, trying to find a matching equivalent fraction.
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: _____

258

Curriculum Connection
NS.5

Cards

Memory Game Cards

$$1/2$$

$$3/6$$

$$3/9$$

$$1/4$$

$$1/16$$

$$2/3$$

$$6/9$$

$$3/4$$

$$9/12$$

PREVIEW

Cards

Memory Game Cards

$1/5$

$3/15$

$6/15$

$3/5$

$6/10$

$1/6$

$4/24$

$5/6$

$10/12$

PREVIEW

Cards

Memory Game Cards

 $3/10$ $9/30$ $14/20$ $9/10$ $10/20$ $2/7$ $6/21$ $3/7$ $9/21$ **PREVIEW**

Comparing Fractions

Part 1Compare the fractions using $<$, $>$, $=$

1.

$$\frac{3}{6} \square \frac{4}{12}$$

2.

$$\frac{2}{8} \square \frac{3}{4}$$

3.

$$\frac{2}{5} \square \frac{2}{10}$$

4.

$$\frac{2}{6} \square \frac{1}{3}$$

5.

$$\frac{4}{8} \square \frac{1}{4}$$

6.

$$\frac{3}{5} \square \frac{3}{10}$$

7.

$$\frac{1}{2} \square \frac{3}{6}$$

8.

$$\frac{2}{3} \square \frac{5}{6}$$

9.

$$\frac{1}{6} \square \frac{1}{2}$$

10.

$$\frac{2}{4} \square \frac{6}{12}$$

11.

$$\frac{3}{5} \square \frac{1}{3}$$

Part 2

Answer the word problems below

1) For Jill's birthday, she ate $\frac{3}{10}$ of her birthday cake. On Shannon's birthday, Shannon ate $\frac{1}{5}$ of her cake. If the cakes were the same size, who ate more cake?

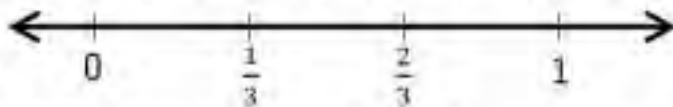


2) Sam and Joel each got medium pizzas for themselves. Sam ate $\frac{6}{8}$ of his pizza. Joel ate $\frac{2}{4}$ of his pizza. Who ate more pizza?



Proper Fractions – Number Line

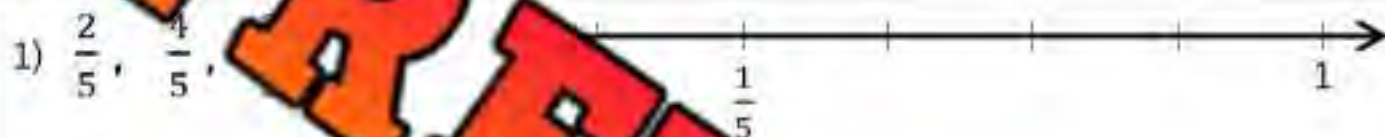
A **proper fraction** has a numerator (top number) smaller than the denominator (bottom number). When we place a proper fraction on a number line, it will always fall between 0 and 1.



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 plotting proper fractions on the number lines below



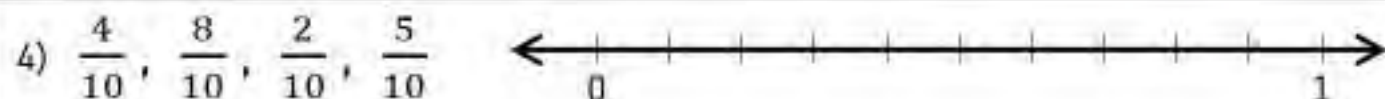
Put in order from least to greatest: _____



Put in order from least to greatest: _____



Put in order from least to greatest: _____



Put in order from least to greatest: _____

Simplifying Fractions

Fractions can be equal, which means we can write the same fraction in many different ways. The best way to write a fraction is to simplify it to its lowest form.

How To Do It:

1. Write down the factors for both numbers.

Example: the number 6 has 4 factors: 6, 1, 2, 3

2. Find the greatest common factor (GCF) by circling the largest number that divides into both numbers.

3. Divide both numbers by the GCF.

Example

$\frac{25}{100}$ - Factors: 1, 5, 25
 $\frac{100}{100}$ - Factors: 1, 2, 4, 5, 10, 20, 25, 50, 100

$$\frac{25 \div 25}{100 \div 25} = \frac{1}{4}$$



Questions

Simplifying Fractions

1) $\frac{8}{16} = \frac{\quad}{\quad}$

2) $\frac{12}{24} = \frac{\quad}{\quad}$

3) $\frac{12}{18} = \frac{\quad}{\quad}$

4) $\frac{25}{35} = \frac{\quad}{\quad}$

5) $\frac{36}{60} = \frac{\quad}{\quad}$

6) $\frac{21}{35} = \frac{\quad}{\quad}$

7) $\frac{14}{42} = \frac{\quad}{\quad}$

8) $\frac{16}{32} = \frac{\quad}{\quad}$

Simplifying Fractions - Matching

Questions

Draw a line from the fraction to its simplest form

Fraction	Simplest Form
$\frac{8}{16}$	$\frac{5}{6}$
$\frac{15}{18}$	$\frac{4}{5}$
$\frac{35}{50}$	$\frac{6}{7}$
$\frac{36}{42}$	$\frac{4}{9}$
$\frac{24}{27}$	$\frac{1}{2}$
$\frac{8}{10}$	$\frac{7}{10}$

PREVIEW

Simplifying Fractions

Questions

Select the simplest terms of the fraction



1) $\frac{10}{30}$

2) $\frac{8}{16}$

a) $\frac{2}{5}$

c) $\frac{1}{3}$

a) $\frac{1}{3}$

b) $\frac{1}{2}$

c) $\frac{2}{4}$

3) $\frac{5}{28}$

4) $\frac{15}{25}$

a) $\frac{3}{4}$

b) $\frac{4}{5}$

c) $\frac{7}{9}$

a) $\frac{3}{7}$

c) $\frac{3}{5}$

5) $\frac{18}{24}$

6) $\frac{9}{15}$

a) $\frac{4}{5}$

b) $\frac{3}{4}$

c) $\frac{2}{3}$

a) $\frac{4}{6}$

b) $\frac{3}{5}$

c) $\frac{2}{4}$

7) $\frac{18}{32}$

8) $\frac{12}{36}$

a) $\frac{9}{16}$

b) $\frac{3}{7}$

c) $\frac{2}{5}$

a) $\frac{2}{6}$

b) $\frac{3}{9}$

c) $\frac{1}{3}$

Simplifying Fractions – Alex's Homework

Questions

Alex answered the questions but didn't simplify enough. Help him out!

Question	Alex's Answer	Your Answer
1) Isabella baked 30 cookies. She gave away 20 of them. What fraction of cookies did she give away? 	$20/30$ or $10/15$	
2) Zoe earned \$60 a week selling baked goods. She earned 15 dollars on Friday. What fraction of the money did she earn on Friday? 	$15/60$ or $3/12$	
3) Ethan has 18 candies. 6 are blue and 12 are green. What fraction of the candies are blue? 		
4) A canteen sold 64 drinks today. They sold 24 sport drinks. What fraction of drinks were sport drinks? 	$24/64$ or $12/32$	
5) Ella scored 16 points in her basketball game. Her team scored a total of 36 points. What fraction of total points did Ella score? 	$16/36$ or $8/18$	

Fractions Quiz

Part 1

Put the fractions in order from least to greatest

$\frac{4}{4}$

$\frac{4}{8}$

$\frac{4}{9}$

$\frac{4}{5}$

$\frac{4}{10}$

$\frac{4}{4}$

$\frac{7}{8}$

$\frac{3}{4}$

$\frac{1}{2}$

$\frac{1}{8}$

Part 2

Compare the fractions

1.



$$\frac{5}{7} \quad \square \quad \frac{8}{14}$$

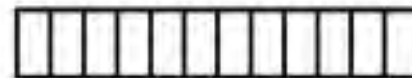
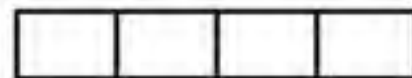
2.



$$\frac{7}{8} \quad \square \quad \frac{3}{4}$$

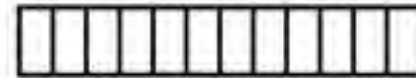
$$\frac{6}{8} \quad \square \quad \frac{4}{6}$$

4.



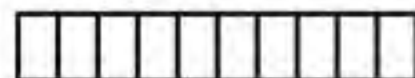
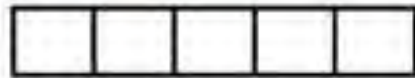
$$\frac{3}{4} \quad \square \quad \frac{8}{12}$$

5.



$$\frac{3}{12} \quad \square \quad \frac{1}{4}$$

6.



$$\frac{3}{5} \quad \square \quad \frac{6}{10}$$

Part 3

Write 3 equivalent fractions for the following fractions

$\frac{1}{2}$

$\frac{1}{4}$

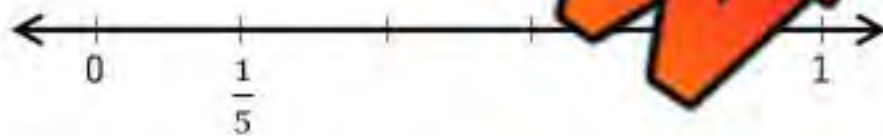
$\frac{1}{5}$

$\frac{1}{6}$

Part 4

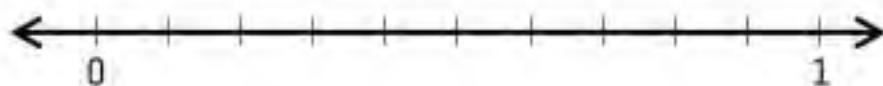
Plot the proper fractions on the number line below.

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



Put in order from least to greatest: _____

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



Put in order from least to greatest: _____



Grade 5

Patterns and Relations



	Curriculum Expectations	Pages
P5.1	Represent, analyse, and apply patterns using mathematical language and notation.	5 - 56
P5.2		23
TQ	Testes and Quizzes	57 - 59, 124 - 126

**Preview of 100 pages from
this product that contains
249 pages total.**

Name: _____

5

Curriculum Connection
P5.1

Increasing Addition Patterns



Growing/Increasing Patterns

$$\begin{array}{cccccc}
 +10 & +10 & +10 & +10 & +10 & \\
 \wedge & \wedge & \wedge & \wedge & \wedge & \\
 10, & 20, & 30, & 40, & 50, & 60
 \end{array}$$

$$\begin{array}{ccccc}
 +5 & +5 & +5 & +5 & +5 \\
 \wedge & \wedge & \wedge & \wedge & \wedge \\
 3, & 8, & 13, & 18, & 23, & 28
 \end{array}$$



Part 1

Increasing Patterns - Addition

$$1) \begin{array}{cc} \wedge & \wedge \\ 2, & 4, & 6, & \end{array} \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

$$2) \begin{array}{cc} \wedge & \wedge \\ 16, & 20, & 24, & \end{array} \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

$$3) \begin{array}{cc} \wedge & \wedge \\ 25, & 32, & 39, & \end{array} \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \begin{array}{c} \wedge \\ 72, \end{array} \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

$$5) \begin{array}{cc} \wedge & \wedge \\ 142, & 150, & 158, & \end{array} \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \begin{array}{c} \wedge \\ 182, \end{array} \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

Part 2

Follow the rule by adding the next number in the

$$1) \text{ (Add 2)} \\ 17, 19, 21, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

$$2) \text{ (Add 4)} \\ 22, 26, 30, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

$$3) \text{ (Add 6)} \\ 63, 69, 75, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

$$4) \text{ (Add 5)} \\ 102, 107, 112, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

$$5) \text{ (Add 10)} \\ 177, 187, 197, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

$$6) \text{ (Add 4)} \\ 147, 151, 155, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

Increasing Pattern Rules - Adding

**Part 1**

Continue the increasing patterns below

1) 40, 50, 60, _____, _____, _____

Pattern Rule: Start at 40, add _____ each time

2) 22, 30, _____, _____, _____

Pattern Rule: Start at _____ add _____ each time

3) 55, 61, _____, _____, _____

Pattern Rule: Start at _____ add _____ each time

4) 120, 144, 168, _____, _____, _____

Pattern Rule: Start at _____ add _____ each time

5) 213, 221, 229, _____, _____, _____

Pattern Rule: Start at _____ add _____ each time

Part 2

Write your own patterns using the given rule

1) _____, _____, _____, _____, _____

Pattern Rule: Start at 36, add 4 each time

2) _____, _____, _____, _____, _____

Pattern Rule: Start at 535, add 0 each time

3) _____, _____, _____, _____, _____

Pattern Rule: Start at 211, add 6 each time

4) _____, _____, _____, _____, _____

Pattern Rule: Start at 302, add 12 each time

Decreasing Subtraction Patterns



Shrinking/Decreasing Patterns

$$\begin{array}{ccccccccc} -10 & -10 & -10 & -10 & -10 & & & & \\ \wedge & \wedge & \wedge & \wedge & \wedge & & & & \\ 60, & 50, & 40, & 30, & 20, & 10 & & & \end{array}$$

$$\begin{array}{ccccccccc} -5 & -5 & -5 & -5 & -5 & & & & \\ \wedge & \wedge & \wedge & \wedge & \wedge & & & & \\ 45, & 40, & 35, & 30, & 25, & 20 & & & \end{array}$$



Part 1

Fill in the missing numbers in the pattern

$$1) \begin{array}{ccc} \wedge & \wedge & \\ 22, & 18, & 14, \end{array} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}}$$

$$2) \begin{array}{ccc} \wedge & \wedge & \\ 46, & 40, & 34, \end{array} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}}$$

$$3) \begin{array}{ccc} \wedge & \wedge & \\ 67, & 62, & 57, \end{array} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}}$$

$$4) \begin{array}{ccc} \wedge & \wedge & \\ 91, & 87, & 83, \end{array} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}}$$

$$5) \begin{array}{ccc} \wedge & \wedge & \\ 141, & 135, & 129, \end{array} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}}$$

$$6) \begin{array}{ccc} \wedge & \wedge & \\ 187, & 182, & 177, \end{array} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}}$$

Part 2

Follow the rule by subtracting the next number in

1) (Subtract 3)

$$21, 18, 15, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

2) (Subtract 6)

$$42, 36, 30, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

3) (Subtract 5)

$$64, 59, 54, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

4) (Subtract 4)

$$142, 138, 134, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

5) (Subtract 2)

$$177, 175, 173, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

6) (Subtract 10)

$$218, 208, 198, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

Table of Values - Train

Instructions

Translate the increasing patterns into a table of values

A train has the following people in each train car.



Car 1

Car 2

Car 3

Car 4



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

1) What is the pattern rule: Start at _____ each time.

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

3) Is there any pattern between the number of cars and the number of people?
Look at your table and look up and down (vertically).

4) How many people would be in train car 50?

Table of Values – Golf Ball

Instructions

Translate the increasing patterns into a table of values

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



Hr 1



Hr 2



Hr 3



Hr 4



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

1) What is the pattern rule: Start at _____, then _____ each time.

2) How many golf balls would Steven find by hour 12?

3) Is there any pattern between the number of hours and the number of golf balls?
For this problem, you will need two operations (x _____, - _____)

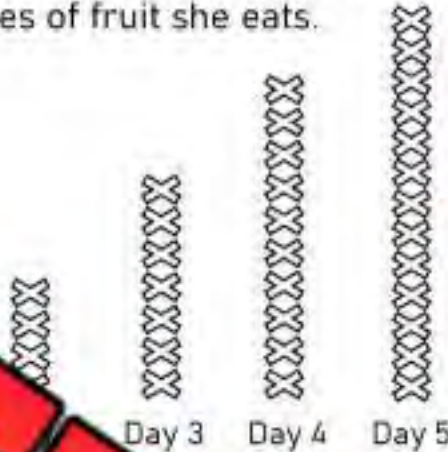
4) How many golf balls would he find by hour 24?

Table of Values - Fruit

Instructions

Translate the growing patterns into a table of values

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



Term Number (Day)	1	2	3	4	5	6	10
Term Value (Fruit Pieces)							

1) What is the pattern rule: Start at _____, then _____ each time.

2) How many pieces of fruit would Stacy eat on day 8?

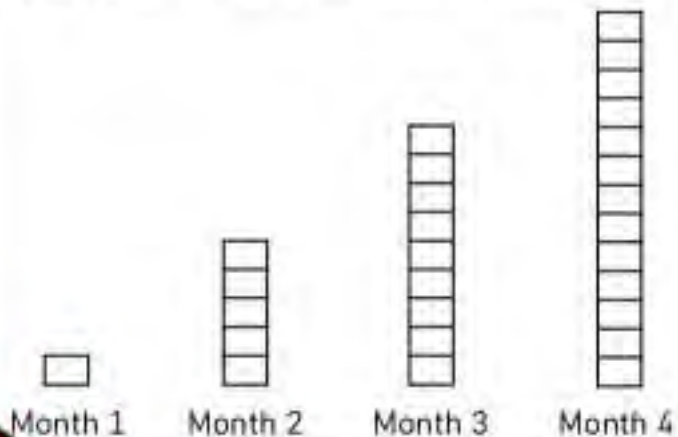
3) Is there any pattern between the number of days and fruit eaten? For this problem, you will need two operations (x _____, - _____)

4) How many pieces of fruit would Stacy eat by day 15?

Table of Values - Reading



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)				

1) What is the pattern rule: Start at _____ each time.

2) How many books would Chris read in month 11?

3) Is there any pattern between the number of months and books read? For this problem, you will need two operations (x _____, - _____)

4) How many books would Chris read in month 15?

Table of Values – Decreasing Patterns

Instructions

Translate each decreasing pattern into a table of values

1) Kerry kept track of how many cookies she ate each day using addition signs.

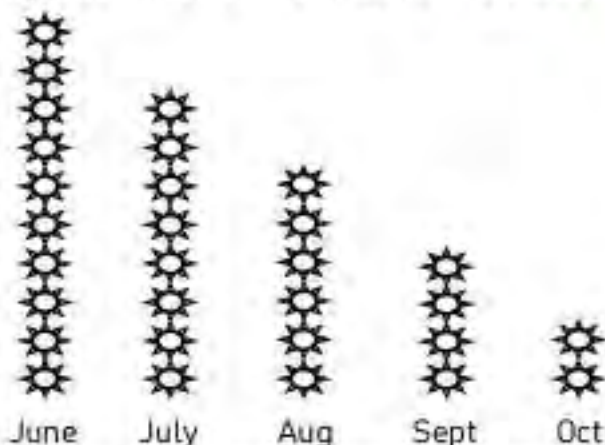


1) What is the pattern rule

2) How many total cookies did she eat in the 5 days?

Term Number (Day)				
Term Value (Cookies)				

2) Ally writes down how many days it was sunny each month from June – October.



1) What is the pattern rule

2) How many sunny days in total were there in the 5 months?

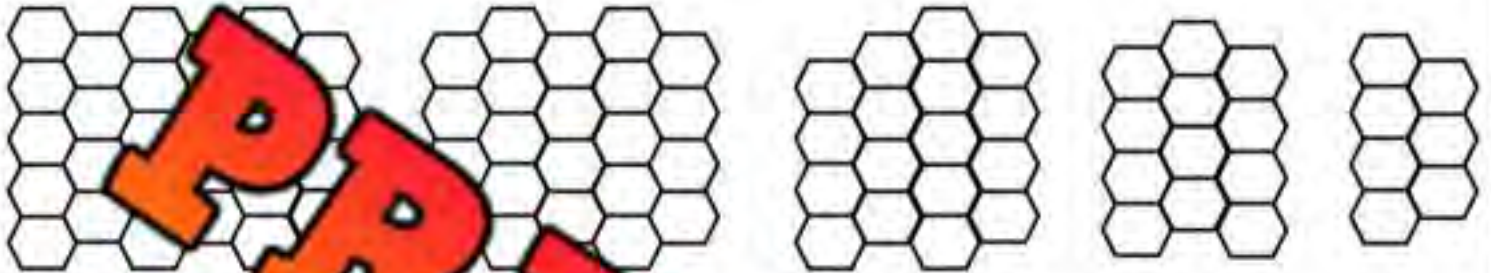
Term Number (Month)						November
Term Value (Sunny Days)						

Table of Values – Decreasing Patterns

Instructions

Answer the question below using a table of values

Jill makes a pattern using hexagons. Translate the pattern using a table of values.



Term Number	Term	What is the pattern rule: Start at _____, then _____ each time.
		2) How many hexagons total were used?
		3) Draw your own shrinking pattern below.

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 by using the table of values.

When you complete a math worksheet, you earn 8 points. Fill in the table below to learn more about your point collection.

# of Worksheets	Points Earned
2	
4	
6	
8	
10	

Name: _____

Answer the questions below by using the table of values.

When you complete a math worksheet, you earn 8 points. Fill in the table below to learn more about your point collection.

# of Worksheets	Points Earned
2	
4	
6	
8	
10	

Name: _____

Answer the questions below by using the table of values.

When you complete a math worksheet, you earn 8 points. Fill in the table below to learn more about your point collection.

# of Worksheets	Points Earned
2	
4	
6	
8	
10	

Name: _____

Answer the questions below by using the table of values.

When you complete a math worksheet, you earn 8 points. Fill in the table below to learn more about your point collection.

# of Worksheets	Points Earned
2	
4	
6	
8	
10	

Input/Output Table – Addition



Rule: add 5	
In	Out
25	30
45	50
65	70
85	90



Instructions: Complete the input/output tables below

In	Out
30	
57	
78	
98	

Rule: add 6	
In	Out
26	
78	
104	
157	

Rule: add 7	
In	Out
42	
123	
255	
413	

Rule: add 4	
In	Out
23	
48	
81	

Rule: add 8	
In	Out
52	
86	
136	
218	

Rule: add 12	
In	Out
75	
110	
276	
452	

Input/Output Table – Subtraction

Rule: subtract 5	
In	Out
35	30
50	45
65	60
80	75



Instr _____ the input/output tables below

Rule: subtract 10	
In	Out
18	
54	
122	
166	

Rule: subtract 10	
In	Out
84	
155	
342	

Rule: subtract 4	
In	Out
66	
133	
186	
314	

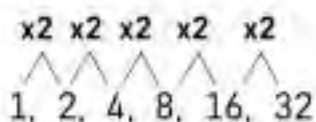
Rule: subtract 8	
In	Out
79	
108	
210	
322	

Rule: subtract 6	
In	Out
76	
89	
116	
344	

Rule: subtract 12	
In	Out
25	
88	
115	
241	

Increasing Patterns - Multiplication

Multiplication Pattern



Part 1

Extend the multiplication pattern

1) 2, 6, 18, _____

2) 2, 4, 8, _____

3) 5, 50, 500, _____

5) 5, 10, 20, _____

6) _____ 225 _____

Part 2

Follow the rule to continue the multiplication pattern

1) (Multiply by 2)

3, 6, 12, _____

2) (Multiply by 5)

5, 25, 125, _____

3) (Multiply by 3)

1, 3, 9, _____

4) (Multiply by 10)

1, 10, 100, _____

5) (Multiply by 4)

4, 16, 64, _____

6) (Multiply by 2)

25, 50, 100, _____

Input/Output Table - Multiplication



Rule: multiply by 2

In	Out
1	2
3	6
5	10
7	14

Instr _____ the input/output tables below

Rule: multiply by 2	
In	Out
3	
6	
9	
12	

Rule: multiply by 6	
In	Out
5	
8	
11	

Rule: multiply by 4	
In	Out
5	
10	
15	
20	

Rule: multiply by 3	
In	Out
4	
7	
10	
13	

Rule: multiply by 5	
In	Out
10	
20	
30	
40	

Rule: multiply by 10	
In	Out
10	
11	
12	
13	

Pattern Rules - Multiplication

$\begin{array}{c} \times 3 \quad \times 3 \quad \times 3 \\ \wedge \quad \wedge \quad \wedge \\ 2, 6, 18, 54, 162, 486 \end{array}$

Pattern Rule: Start at 2, multiply by 3 each time.



Instructions

Fill in the rules

2, 4, 8, 16, 32, 64

Start at _____, multiply by _____ each time

27, 81, 243, 729

Start at _____, multiply by _____ each time

1, 5, 25, 125, 3125

Start at _____, multiply by _____ each time

5, 10, 20, 40, 80, 160, 320

Start at _____, multiply by _____ each time

1, 10, 100, 1000, 10000, 100000

Start at _____, multiply by _____ each time

6, 18, 54, 162, 486, 1458

Start at _____, multiply by _____ each time

Pattern Rules - Multiplication**Instructions**

Write your own sequences using the pattern rule

1) _____, _____, _____, _____, _____

Pattern Rule: Start at 2, multiply by 3 each time

2) _____, _____, _____, _____, _____

Pattern Rule: Start at 1, multiply by 2 each time

3) _____, _____, _____, _____, _____

Pattern Rule: Start at 10, multiply by 2 each time

4) _____, _____, _____, _____, _____

Pattern Rule: Start at 8, multiply by 2 each time

5) _____, _____, _____, _____, _____

Pattern Rule: Start at 3, multiply by 3 each time

Activity: Finger Signals Quiz - Doubling Patterns

Objective

What are we learning about?

Students will understand and reinforce their knowledge of doubling patterns using multiplication.

Materials

What you will need for the activity.

- A list of questions



Instructions

How you will complete the activity

1. Prepare a list of questions with answer choices labeled A, B, C, and D.
2. Explain the finger signals for each answer choice: one finger for A, two fingers for B, three fingers for C, and four fingers for D.
3. Inform the students they will show their answer by raising the appropriate number of fingers 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 doubling patterns.

Name: _____

28

Question	A	B	C	D
Start with 2. What is the fifth number in the doubling pattern?	16	32	64	128
If the pattern starts at 3, what will the fourth number be when doubling?	24	27	48	54
Which number comes next in the pattern: 5, 10, 20, ___?	30	40	50	60
What is the fourth number in the doubling pattern starting with 6?	6	12	18	24
Start with 4. What is the eighth number in the doubling pattern?	32	64	128	256
Which number comes next in the pattern: 8, 16, 32, ___?	48	64	80	96
Which pattern starts with 10 and follows a doubling sequence?	10, 20, 40, 80	10, 15, 20, 25	10, 30, 50, 70	10, 20, 40, 80
If the pattern starts at 11, what will the sixth number be?	11	22	352	704
Which sequence is a doubling pattern starting with 12?	12, 24, 48	12, 36, 72	24, 48, 96	12, 48, 96, 192
What is the doubling pattern that starts with 13 and ends with 208?	13, 26, 52, 104, 208	13, 26, 52, 104	13, 26, 52, 104, 208	13, 26, 78, 208
Which number comes next in the pattern: 14, 28, 56, ___?	70	84	98	112
What is the doubling pattern that starts with 15 and ends with 240?	15, 30, 60, 120, 240	15, 45, 90, 180, 240	15, 60, 120, 180, 240	15, 30, 90, 120, 240
Which pattern shows a correct doubling sequence starting with 16?	16, 32, 64, 128	16, 48, 96, 192	16, 64, 128, 256	16, 32, 96, 192
What do you think is the easiest way to find the next number in a doubling pattern?	Add	Multiply	Subtract	Divide
Why do you think doubling patterns are important in math?	Easy to remember	Common in nature	Used in real life	All of the above

Exit Cards

Cut Out

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

Name: _____

Growing Multiplication Patterns

1) (Multiply by 2)

2, 4, 8, _____, _____, _____

2) 9, 45, 225, 1125, 5625, 28125

Start at _____, multiply by _____ each time

3) _____, _____, _____, _____, _____

Pattern Rule: Start at 3, multiply by 5 each time.

Name: _____

Growing Multiplication Patterns

1) (Multiply by 2)

2, 4, 8, _____, _____, _____

2) 9, 45, 225, 1125, 5625, 28125

Start at _____, multiply by _____ each time

3) _____, _____, _____, _____, _____

Pattern Rule: Start at 3, multiply by 5 each time.

Name: _____

Growing Multiplication Patterns

1) (Multiply by 2)

2, 4, 8, _____, _____, _____

2) 9, 45, 225, 1125, 5625, 28125

Start at _____, multiply by _____ each time

3) _____, _____, _____, _____, _____

Pattern Rule: Start at 3, multiply by 5 each time.

Name: _____

Growing Multiplication Patterns

1) (Multiply by 2)

2, 4, 8, _____, _____, _____

2) 9, 45, 225, 1125, 5625, 28125

Start at _____, multiply by _____ each time

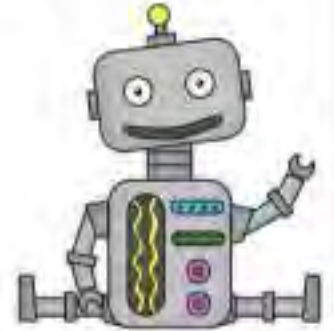
3) _____, _____, _____, _____, _____

Pattern Rule: Start at 3, multiply by 5 each time.

Input/Output Table - Division



Rule: divide by 10	
In	Out
70	7
80	8
90	9
100	10



Instructions: Complete the input/output tables below

Rule: divide by 1	
In	Out
1	
5	
10	
20	

Rule: divide by 2	
In	Out
6	
10	
14	

Rule: divide by 3	
In	Out
6	
9	
12	
15	

Rule: divide by 4	
In	Out
4	
8	
16	
32	

Rule: divide by 5	
In	Out
10	
20	
40	
50	

Rule: divide by 10	
In	Out
10	
20	
50	
100	

Pattern Rule – Input/Output Tables



Add 10 or Subtract 10	
In	Out
20	30
30	40
50	60
90	100



Inst. _____ in the input/output tables below

In	Out
32	66
	79
104	

Rule: add 3	
In	Out
13	
38	75
	94

Rule: subtract 6	
In	Out
	24
75	
94	
	122

Rule: subtract 4	
In	Out
32	84
136	
	188

Rule: subtract 2	
In	Out
52	
85	
	102
	143

Rule: add 6	
In	Out
16	
67	
	123
	214

Table of Values – Term Numbers/Values



Instructions

Fill in the table of values below

Term Number	Term Value
1	15
2	22
3	29
4	
5	
6	

Term Number	Term Value
1	10
2	18
3	26
4	
5	
6	

Term Number	Term Value
1	74
2	65
3	56
4	
5	
6	

Term Number	Term Value
1	136
2	126
3	116
4	
5	
6	

Term Number	Term Value
1	168
2	181
3	
4	207
5	
6	
10	

Term Number	Term Value
1	284
2	277
3	
4	263
5	
6	
10	

Table of Values

Questions

Answer the questions below by using the table of values

When you work an hour, you get paid 35 dollars. Fill in the table to learn more about your earnings.

1) How many dollars will you make if you work 5 hours?

2) How many dollars will you make if you work 10 hours?



Hours Worked	Money Made
1	
2	
3	
4	
5	
10	

Weeks	KM Run
1	
2	
3	
4	
5	
10	

You are training for a marathon, so you run 21km a

1) How many kilometers will you run after 5 weeks?

2) How many kilometers will you run if you ran 21km for 10 weeks?

Chris is studying for a science test next week. Each night he studies for 25 minutes.

1) How many minutes does he study after 5 nights?

2) How many minutes does he study after 8 nights?



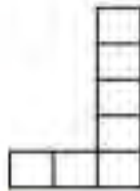
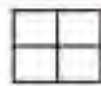


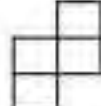
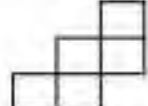
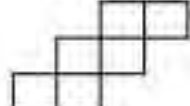
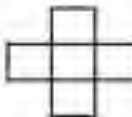
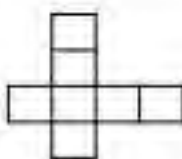
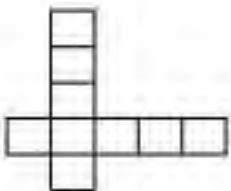
3) How many nights does he need to study for to study for 350 minutes?

Nights	Minutes
1	
2	
3	
4	
5	
8	

T-Tables – Drawing Blocks

Instructions

Fill in the T-Tables, counting the lines in each figure. Draw figure 4.

									Figure		Boxes	
1)	Figure 1		Figure 2		Figure 3		Figure 4		1			
									2			
									3			
									4			
									8			
									Figure		Boxes	
2)	Figure 1		Figure 2		Figure 3		Figure 4		1			
									2			
									3			
									4			
									Figure		Boxes	
3)	Figure 1		Figure 2		Figure 3		Figure 4		1			
									3			
									4			
									10			
									Figure		Boxes	
4)	Figure 1		Figure 2		Figure 3		Figure 4		1			
									2			
									3			
									4			
									10			

Activity Title: Pattern Pass Along**Objective**

What are we learning about?

To engage students in understanding and creating growing patterns using blocks, enhancing their pattern recognition skills and encouraging cooperative learning. Students will start a pattern and then adapt and extend patterns started by their peers.

Materials What materials will need for the activity.

- A variety of colored stacking cubes
- Timers or stopwatches
- Paper and pencils for recording their original pattern observations

**Instructions**

How you will complete the activity

1. Each student receives an equal number of blocks in different colours.
2. Allow three minutes for every student to start their own growing pattern on their desk or designated workspace.
3. After three minutes, instruct every student to move to the desk to their right.
4. Give students two minutes to analyze the pattern in front of them and then add on to it, continuing the growing sequence. They should only add 1 more figure.
5. Repeat step 4 until each student has returned to their original starting position or until students begin running out of blocks.
6. Once back at their starting position, each student should observe how their initial pattern has evolved.
7. Have students write down any changes they notice and what additions were made by others. Does the pattern still work?

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.

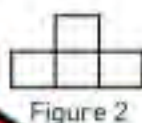


Figure 3

b) Write the number of sides that represents the figure sequence.

Fig 1 Fig 2 Fig 3 Fig 4

Name: _____

a) Draw the next figure.

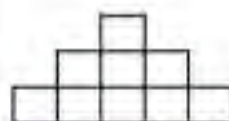
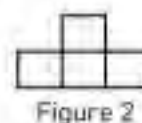
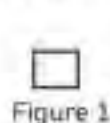


Figure 3

Figure 4

b) Write the number of sides that represents the figure sequence.

Fig 1 Fig 2 Fig 3 Fig 4

Name: _____

a) Draw the next figure.

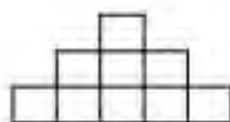
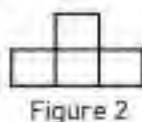


Figure 3

Figure 4

b) Write the number of sides that represents the figure sequence.

Fig 1 Fig 2 Fig 3 Fig 4

Name: _____

a) Draw the next figure.

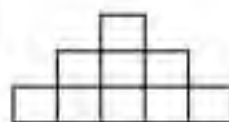
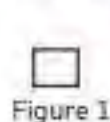


Figure 3

Figure 4

b) Write the number of sides that represents the figure sequence.

Fig 1 Fig 2 Fig 3 Fig 4

Increasing Patterns – Tables of Values

Instructions

Fill in the table of values and write the pattern rule

1) Larry is sorting beads in different bottles.



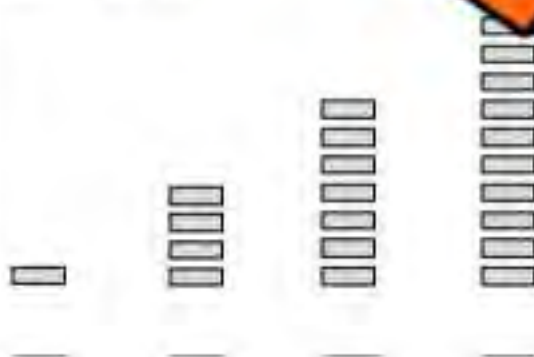
Term Number (bottles)	Term Value (beads)
1	
2	
3	
4	
7	

Pattern Rule

Start at _____, add _____ each time.



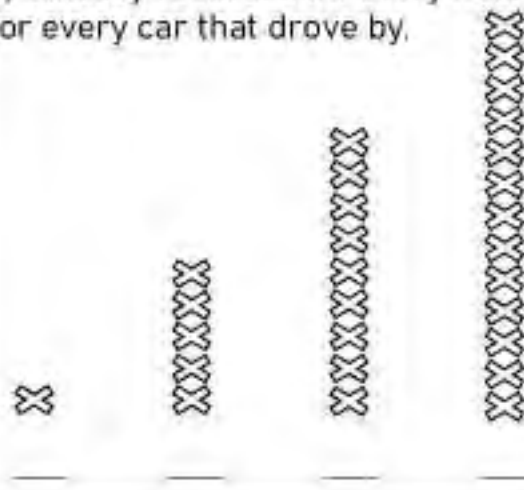
2) The first child got 1, the second got 4, the third got 7, and the fourth got 10.



Term Number	Term Value
1	
2	
3	
4	
8	

Pattern Rule

3) Lindsay recorded x's every hour for every car that drove by.



Term Number	Term Value
1	
2	
3	
4	
9	

Pattern Rule

Table of Values – 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 term number and term value. To do this, we look across the table from the term number to the term value.

Practice Find the pattern rule when you look across the table of values

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

$$n + 2$$

Term Number	Term Value
3	6
4	8
5	
9	

$$n \times 2$$

Term Number	Term Value
1	5
2	10
3	15
4	20
5	25

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

Term Number	Term Value
1	3
2	6
3	9
4	12
5	15
11	

Term Number	Term Value
10	8
15	13
20	18
25	23
30	28
50	

Table of Values – Finding Term N

Practice

Write an expression that represents the pattern

Term Number	Term Value
1	6
2	12
3	18
4	24
5	30
8	

Term Number	Term Value
1	14
2	15
3	16
4	17
5	18

Term Number	Term Value
100	10
110	11
120	12
130	13
140	14
180	

Term Number	Term Value
2	0
4	2
6	4
8	6
10	8
50	

Term Number	Term Value
1	10
2	14
3	21
4	28
5	35
11	

Term Number	Term Value
10	10
12	12
14	14
16	16
18	18
200	

Word Problem

 Write a table of values and find the n^{th} term

Joe goes out looking for shells on a beach. He records how many shells he finds each day. He found 10 shells the first day, 20 shells the second day, 30 the third day, and 40 the fourth day. How many will he find on the 30th day if the pattern continues.

Finding Term N – Word Problems

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

1) Hugh has been saving money since he was 1 years old. He is now 15. He saved \$20 when he was 1, \$40 when he was 2, \$60 when he was 3 and \$80 when he was 4.

a) If the pattern continues...

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

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

iii) How much will he save when he is 50?



2) Pam is ramping up her exercise each week. In week 1, she exercised 40 minutes. In week 2, she exercised 80 minutes. In week 3, she exercised 120 minutes. In week 4, she exercised 160 minutes.

a) If the pattern continues...

i) How much will she exercise in week 10?

ii) How much will she exercise in week 30?

iii) How much will she exercise in one year? (week 52)



Exit Cards

Cut Out

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

Name: _____

Emma is building a Lego tower. She started when she was 1 year old. She is now 15. She added 10 pieces to her tower when she was 1, 20 pieces when she was 2, 30 pieces when she was 3, and 40 pieces when she was 4. If the pattern continues...

a) How many pieces will she add to her tower when she is 5?

Answer: _____

b) How many pieces will she add to her tower when she is 10?

Answer: _____

c) How many pieces will she add to her tower when she is 25?

Answer: _____

Name: _____

Emma is building a Lego tower. She started when she was 1 year old. She is now 15. She added 10 pieces to her tower when she was 1, 20 pieces when she was 2, 30 pieces when she was 3, and 40 pieces when she was 4. If the pattern continues...

a) How many pieces will she add to her tower when she is 5?

Answer: _____

b) How many pieces will she add to her tower when she is 10?

Answer: _____

c) How many pieces will she add to her tower when she is 25?

Answer: _____

Name: _____

Emma is building a Lego tower. She started when she was 1 year old. She is now 15. She added 10 pieces to her tower when she was 1, 20 pieces when she was 2, 30 pieces when she was 3, and 40 pieces when she was 4. If the pattern continues...

a) How many pieces will she add to her tower when she is 5?

Answer: _____

b) How many pieces will she add to her tower when she is 10?

Answer: _____

c) How many pieces will she add to her tower when she is 25?

Answer: _____

Name: _____

Emma is building a Lego tower. She started when she was 1 year old. She is now 15. She added 10 pieces to her tower when she was 1, 20 pieces when she was 2, 30 pieces when she was 3, and 40 pieces when she was 4. If the pattern continues...

a) How many pieces will she add to her tower when she is 5?

Answer: _____

b) How many pieces will she add to her tower when she is 10?

Answer: _____

c) How many pieces will she add to her tower when she is 25?

Answer: _____

Increasing Pattern Challenge

Instructions

Complete the table of values and answer the questions below

Joel has created a pattern using his blocks. Fill in the table of values to learn more about the pattern.



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

Pattern Rule: _____

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

2) Which shape (term number) would use 44 blocks?

3) How many blocks would it take to create the 15th shape (term number)?

4) How many blocks would it take to create the 32nd shape (term number)?

5) Write an expression that represents the pattern
Example: $n + 5$

Push-Up Challenge



Instructions

Complete the table of values and answer the questions below

Brayden was challenged by a friend to do 20 push-ups a day for 2 weeks. Complete the table of values below to see his push-up progress.

Term Number (Days)	2	3	4	5	6	7	8	9	10
Term Value (Pushups)									

Pattern Rule: _____

1) How many pushups did Brayden do in 2 weeks?

2) Which day did Brayden complete 200 pushups?

3) How many pushups would he do if he continued the challenge for 3 weeks?

4) If his friend did 50 pushups for 5 days, and Brayden did 20 pushups for two weeks, who would have done more?

5) How many days would it take him to do 600 pushups?

6) Brayden thinks he could do 1000 pushups in 50 days if he continued the same pattern. Is he correct?

7) Write an expression that represents the situation.

Allowance Saving

Instructions

Complete the table of values and answer the questions below

Martha is given a weekly allowance of \$25. She is saving her money for a new tablet that costs \$200. Fill in the table of values to find out when she can buy her new tablet.



Term Number (Weeks)	3	4	5	6	7	8	9	10
Term Value (Money)								

Pattern Rule: _____

1) In how many weeks can Martha buy her new tablet?

2) How much money would she save in 10 weeks?

3) If she kept saving, how many weeks would she need to save \$600?

4) How much money would she have after 20 weeks?

5) Martha changed her mind and now wants a new computer that costs \$800. How many weeks will she need to save her allowance?

6) Write an expression that represents her saving pattern.

Basketball Skills Challenge

Instructions

Complete the table of values to learn more about the pattern

Connor is practicing his shooting skills in basketball. He decides to take 150 shots each day for 10 days.



Term Number (Day)	2	3	4	5	6	7	8	9	10
Term Value (Shots)									

Pattern Rule: _____

1. Which day did Connor finish 1000	
2. How many shots did Connor take in 10 days?	
3. If his friend took 200 shots for 7 days and Connor took 150 shots for 10 days, who would have taken more shots? Explain.	
4) How many days would it take Connor to shoot his 2000 th shot?	
5) How many shots would Connor take if he took 150 shots for 21 days?	
6) Write an expression that represents Connor's practicing pattern.	

Saving Money

Instructions

Complete the table of values to learn more about the pattern

Jesse is saving her pay cheques from work each week for 10 weeks. She makes \$300 each week. She is hoping she can buy a new bike for \$2500. Fill in the table below to find out.



Term Num (Weeks)	1	2	3	4	5	6	7	8	9	10
Term Value (Money)										

Pattern Rule: _____

1) Can Jesse buy her new bike after 10 weeks?

2) How much did she save in 10 weeks?

3) If she kept saving, How many weeks would she need to save \$4200?

4) How much money would she have after 15 weeks?

5) Jesse changed her mind and now wants to buy a car for \$5400. How many weeks will she need to save her pay cheques?

6) Write an expression that represents Jesse's saving pattern.

Table of Values to Concrete Pattern

Instructions

Answer the questions below

Laura created a cool pattern yesterday using trapezoids. Her brother messed up the pattern, but she remembers how it went. She wrote the table of values below.

1) Draw a pattern using trapezoids that uses the same number of trapezoids that Laura used.

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



Pattern Rule: _____

2) What is the pattern increasing by each time?

3) How many total blocks did Laura use to make the pattern?

4) If Laura continued the pattern, how many trapezoids would she need to make the 8th term?

5) Laura kept the pattern going. She used 29 trapezoids for the last term. How many terms are in her pattern?

6) Write an expression that represents the pattern.

Task Cards: Patterning – All Operations

Objective

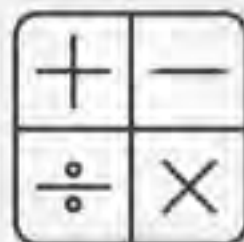
What are we learning about?

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

Materials

What you will need for the activity.

- 24 task cards
- Student answer recording sheet
- Pencils



Instructions

How you will do the activity

1. Introduce the concept of patterns in mathematics and their relevance to problem-solving in everyday life.
2. Organize the students into pairs and provide each pair with their sets of task cards.
3. Give each pair an answer recording sheet to document their responses.
4. Encourage teamwork by having students collaborate on finding solutions.
5. Allow students to select any task card to begin with, emphasizing that they 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 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.

Task Cards

Cut out the task cards below

Card 1:

Start with 5. Add 4 to get the next number in the pattern. What is the fifth number?

- a) 21
- b) 25
- c) 29

Card 5:

Begin with 60. Subtract 5 and then divide by 5 for the next number. What is the second number?

- a) 11
- b) 12
- c) 13

Start with 15. Multiply by 2, then subtract 1 for the next number. What is the second number?

- a) 15
- b) 16
- c) 17

Card 6:

Start with 20. Subtract 4 and then take away half for the next number. What is the second number?

- a) 7
- b) 8
- c) 10

Card 3:

Start with 80. Divide by 2 to get the next number. What is the fourth number?

- a) 20
- b) 25
- c) 10

Start with 100. Subtract 2, add 2, subtract 4 to get the next term. What is the third number?

- a) 100
- b) 35
- c) 33

Card 4:

Start with 7. Multiply by 3 and then add 2 for the next number. What is the second number?

- a) 21
- b) 23
- c) 24

Card 8:

Start with 15. Divide by 3 to get the next number. What is the second number?

- a) 5
- b) 2
- c) 8

Task Cards

Cut out the task cards below

Card 9:

Start with 6. Multiply by 5 and then add 4 for the next number. What is the second number?

- a) 32
- b) 34
- c) 36

Card 13:

Start with 12. Add 5 and then multiply by 2 to get the next number. What is the third number?

- a) 34
- b) 76
- c) 78

Begin with 10. Add 10, then divide by 8 for the next number. What is the second number?

- a) 10
- b) 15
- c) 20

Card 14:

Start with 16. Add 5 to get the next number in the pattern. What is the fifth number?

- a) 31
- b) 36
- c) 41

Card 11:

Start with 18. Subtract 2 and then take away half for the next number. What is the second number?

- a) 8
- b) 9
- c) 10

Start with 5. Subtract 2 and then multiply by 2 to get the next number. What is the third number?

- a) 10
- b) 76
- c) 99

Card 12:

Start with 50. Subtract 5, add 3, subtract 5 to get the next term. What is the third term number?

- a) 43
- b) 36
- c) 31

Card 16:

Start with 12. Multiply by 3 and then subtract 4 for the next number. What is the second number?

- a) 30
- b) 32
- c) 34

Task Cards

Cut out the task cards below

Card 17:

Start with 8. Multiply by 2 and then subtract 4 to get the next number. What is the third number?

- a) 24
- b) 20
- c) 16

Card 21:

Start with 9. Add 3 and then multiply by 2 for the next number. What is the second number?

- a) 18
- b) 21
- c) 24

Start with 4. Multiply by 2 to get the next number. What is the second number?

- a) 10
- b) 8
- c) 5

Card 22:

Begin with 100. Subtract 10 and then divide by 2 for the next number. What is the second number?

- a) 30
- b) 40
- c) 45

Card 19:

Start with 25. Add 10 and then multiply by 3 to get the next number. What is the third number?

- a) 315
- b) 105
- c) 345

Card 23:

Start with 12. Divide by 2 and then subtract 1 to get the next number. What is the third number?

- a) 12
- b) 14
- c) 16

Card 20:

Start with 80. Divide by 4 to get the next number. What is the third number?

- a) 20
- b) 5
- c) 10

Card 24:

Start with 15. Multiply by 2 and then subtract 5 for the next number. What is the third number?

- a) 25
- b) 35
- c) 45

Name: _____

56

Curriculum Connection
P5.1

Task Cards: Patterning

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	

PREVIEW

Unit Quiz - Patterns

Part 1

Translate the increasing pattern into a table of values

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



Term Number	1	4	5	8
Term Value				

Pattern rule: _____

1) How many circles would be in the 10 th term?	
2) How many circles would term 20 have?	
3) Is there a pattern between the term number and term value?	
4) How many total shapes were used in the first 4 terms?	

Part 2

T-Tables

Term Number	Term Value
1	74
2	81
	88

+
+
+
+
+

Term Number	Term Value
1	137
2	131
3	
4	119
5	
6	

-
-
-
-
-

Part 3

Answer the questions about the pattern. Draw the 4th figure

Draw Figure 4



Figure 1



Figure 2

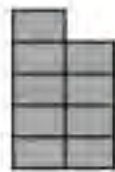


Figure 3

Figure 4

Figure	Term Value
1	
2	

1) Is this an increasing or decreasing pattern?

2) How many rectangles would figure 25 have?

3) Write an expression that represents the pattern

Part 4

Solve the word problem below. Show your work!

1) Answer the questions about the push-up pattern below.

a) If you did 15 push-ups a day, how many days would it take you to do 135 pushups?

b) Fill in the table below to represent doing 15 push-ups a day.

Term Number (Days)	1	3	4	5	10
Term Value (Push-Ups)					

c) On which day would you complete 135 pushups?

d) If you continued this pattern of pushups, how many pushups would you do by day 50?

e) Write an expression that represents the pattern.

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 $32 \div 4 = 8$

Expression = $3y + 2$ or $49 \div n$

Question: Is the number sentence an expression or equation?

1) $1 + 20$ Expression Equation	2) $25 + y$ Expression Equation
3) $3y + 8$ Expression Equation	4) $2n + 5$ Expression Equation
5) $8 - 4 + n = 10$ Expression Equation	6) $7 + n$ Expression Equation
7) $12 \div 4 = 3$ Expression Equation	8) $56 \div 8$ Expression Equation
9) $100 \div n + 3$ Expression Equation	10) $\frac{25}{n} + 10 = 15$ Expression Equation
11) $\frac{40}{n} - 8$ Expression Equation	12) $65 + 3 - n \div 10$ Expression Equation

Equation or Expression?

Questions

Is the number sentence an expression or equation?

1) Paul has 5 cookies but needs enough for 10 people. $5 + c = 10$	Equation	Expression
2) The pattern has the following rule: $3n - 1$	Equation	Expression
3) Maria wants to run 100 km this week. She has already run 22km. $22 + c = 100$	Equation	Expression
4) The cost to enter an arena is \$20 plus \$5 per ticket. $20 + 5t$	Equation	Expression
5) Jeff works at a garden centre and earns \$15 per hour. He can figure out his pay by using the following equation: $15h$	Equation	Expression
6) Bailey made \$200 last week working with her mom. She worked 10 hours. $10w = 200$	Equation	Expression
7) Jane had 150 candies to give away on Halloween. She has 30 left. $150 - c = 30$	Equation	Expression
8) Ashley had 200 candies to give away on Halloween. She will give 2 candies to each kid. How many kids can she give candy to? $200 \div 2 = k$	Equation	Expression
9) Candy bags come in 30 packs. The total number of candies is represented below: $30b$	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 perimeter of a rectangle is calculated by the formula: $2(l + w)$

Expression Equation

- 2) Emma has read 15 pages of a book and wants to read a total of 50 pages this week.

$$15 + p = 50$$

Expression Equation

Name: _____

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

- 1) The perimeter of a rectangle is calculated by the formula: $2(l + w)$

Expression Equation

- 2) Emma has read 15 pages of a book and wants to read a total of 50 pages this week.

$$15 + p = 50$$

Expression Equation

Name: _____

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

- 1) The perimeter of a rectangle is calculated by the formula: $2(l + w)$

Expression Equation

- 2) Emma has read 15 pages of a book and wants to read a total of 50 pages this week.

$$15 + p = 50$$

Expression Equation

Name: _____

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

- 1) The perimeter of a rectangle is calculated by the formula: $2(l + w)$

Expression Equation

- 2) Emma has read 15 pages of a book and wants to read a total of 50 pages this week.

$$15 + p = 50$$

Expression Equation

Addition – Are They Equal?

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

$8 + 4 = 12$

$23 + 15 \neq 36$

$47 + 13 = 50$

Instruct:Put a slash through the equal sign (\neq) if it is not balanced

1) $25 + 10 = 35$

2) $40 + 10 = 30$

3) $48 + 7 = 45$

4) $35 + 7 = 41$

5) $20 + 20 = 40$

6) $30 + 40 = 60$

7) $61 + 9 = 70$

8) $54 + 7 = 61$

9) $67 + 7 = 74$

10) $42 + 20 = 62$

11) $54 + 14 = 67$

12) $50 + 20 = 70$

13) $61 + 14 = 65$

14) $74 + 14 = 84$

15) $66 + 12 = 76$

16) $12 + 63 = 75$

17) $80 + 8 = 88$

18) $55 + 16 = 71$

19) $11 + 81 = 92$

20) $22 + 66 = 98$

21) $56 + 43 = 99$

Addition – Which Equation Matches?

Two of the equations equal the same number. Which one matches the shaded in equation?

Example

$12 + 11$

$14 + 9$

$19 + 5$



Instructions

Circle the equation that matches the shaded in equation

1) $27 + 9$

$31 + 4$

$30 + 6$

2) $36 + 12$

$31 + 4$

$25 + 14$

3) $42 + 18$

$51 + 9$

$47 + 12$

4) $55 + 13$

$51 + 16$

5) $72 + 15$

$75 + 12$

$52 + 33$

6) $102 + 12$

$99 + 15$

$104 + 12$

7) $124 + 24$

$131 + 16$

$129 + 19$

Pre-Algebra – Balancing Equations

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

Examples:

$$\begin{array}{c} 37 \\ \wedge \\ 22 + 15 = \boxed{37} \end{array}$$

$$\begin{array}{c} 78 \\ \wedge \\ 46 + \boxed{32} = 78 \end{array}$$

Instructions

Fill in the missing number to balance the equation

1) $15 + \square = \square$

2) $33 + 8 = \square$

3) $54 + 3 = \square$

4) $18 + \square = 27$

5) $12 + \square = 32$

6) $32 + \square = 39$

7) $\square + 8 = 26$

8) $\square + 15 + \square + 35 = 45$

10) $45 + 14 = \square$

11) $22 + \square = 62$

9) $\square + 17 = 65$

13) $44 + \square = 88$

14) $62 + 15 = \square$

15) $72 + \square = 85$

16) $55 + \square = 89$

17) $62 + 23 = \square$

18) $17 + \square = 87$

19) $77 + \square = 98$

20) $51 + 41 = \square$

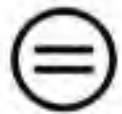
21) $57 + \square = 99$

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, $n = 20$.



Instruct Find out the value of the variable

1) $5 + n = 15$ $n =$	2) $n + 7 = 14$ $n =$	3) $22 + n = 32$ $n =$
4) $32 + 16 = p$ $p =$	5) $45 + 12 = p$ $p =$	6) $p + 33 = 65$ $p =$
7) $35 + y = 55$ $y =$	8) $y + 17 = 40$ $y =$	9) $15 + y = 30$ $y =$
10) $55 + t = 75$ $t =$	11) $36 + t = 68$ $t =$	12) $60 + t = 80$ $t =$
13) $75 + a = 89$ $a =$	14) $82 + a = 95$ $a =$	15) $73 + a = 97$ $a =$
16) $68 + 22 = s$ $s =$	17) $63 + 31 = s$ $s =$	18) $67 + s = 93$ $s =$

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.

$$X+10=25$$

Material What you will need for the activity.

- Index cards with math problems
- Chairs arranged in a circle
- Stopwatch or timer
- 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 the center.
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.

Index Cards

Use the math problems below

$$\underline{\quad} + 15 = 37$$

$$12 + x = 29$$

$$25 + \underline{\quad} = 54$$

$$8 + y = 26$$

A farmer has 80 chickens. He gets some more. Now he has 125 chickens. How many chickens did he get?

Emily had 100 marbles. She won some more in a game. Now she has 195 marbles. How many marbles did she win?

$$\underline{\quad} + 20 = 68$$

$$10 + x = 57$$

$$\underline{\quad} + \underline{\quad} = 85$$

$$\underline{\quad} + \underline{\quad} = 49$$

$$120 + \underline{\quad} = 150$$

$$100 + \underline{\quad} = 140$$

$$\underline{\quad} + \underline{\quad} = 467$$

$$180 + y = 270$$

$$275 + \underline{\quad} = 320$$

$$125 + z = 289$$

John had 320 stickers. He bought some more. Now he has 700 stickers. How many stickers did he buy?

The class collected 200 cans for a food drive. They collected some more cans the next day. Now they have 275 cans. How many cans did they collect the next day?

The library has 400 books. They bought some more books. Now they have 485 books. How many books did they buy?

A store had 250 toys in stock. They received a shipment of some more toys. Now they have 390 toys. How many toys did they receive?

$$50 + \underline{\quad} = 123$$

$$60 + x = 141$$

$$\underline{\quad} + 85 = 172$$

$$95 + y = 183$$

Name: _____

69

$$200 + \underline{\quad} = 278$$

$$110 + x = 198$$

$$\underline{\quad} + 210 = 315$$

$$140 + y = 271$$

$$220 + \underline{\quad} = 345$$

$$180 + x = 296$$

Sarah had 36 candies. Her friend gave her some more. Now she has 65 candies. How many candies did her friend give her?

A library had 15 books. They received some more books. Now they have 212 books. How many books did they receive?

There were 150 students in a school. Some more students joined. Now there are 420 students. How many students joined?

A box contained 90 pencils. It was filled with some more pencils. Now it has 385 pencils. How many pencils were added?

$$90 + \underline{\quad} = 385$$

$$130 + \underline{\quad} = 254$$

$$\underline{\quad} + 45 = 157$$

$$100 + y = 278$$

$$200 + \underline{\quad} = 345$$

$$240 + x = 315$$

$$\underline{\quad} + 45 = 92$$

A baker made 120 cookies in the morning. She baked some more in the afternoon. Now she has 185 cookies. How many cookies did she bake in the afternoon?

Tom had 75 toy cars. He bought some more at the store. Now he has 125 toy cars. How many toy cars did he buy?

$$34 + y = 87$$

$$55 + \underline{\quad} = 108$$

$$150 + x = 225$$

A gardener planted 50 flowers. He planted some more flowers later. Now there are 110 flowers in the garden. How many more flowers did he plant?

There were 180 students in the auditorium. Some more students entered. Now there are 250 students in total. How many students entered the auditorium?

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:

$$a + b + c = ?$$

$$7 + 9 + 11 = 27$$

$$a = 7$$

$$b = 9$$

$$c = 11$$



Question Find out the value of the variable

$$a + b + c = 9 \quad c = 7$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$n + y + t = \quad n = 4 \quad y = 12 \quad t = 5$$

$$\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$c + r + p = \quad c = 7 \quad r = 8 \quad p = k$$

$$\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$g = 12 \quad h = 6 \quad k = 4$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$e + c + g = \quad e = 8 \quad c = 7 \quad g = 10$$

$$\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$a + c = a \quad h = 10 \quad c = 3$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$a + b + c = \quad a = 12 \quad b = 11 \quad c = 13$$

$$\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$n + y + t = \quad n = \quad t = 15$$

$$\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$c + r + p = \quad c = 16 \quad r = 9 \quad p = 15$$

$$\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$g + h + k = \quad g = 20 \quad h = 20 \quad k = 10$$

$$\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$e + c + g = \quad e = 25 \quad c = 15 \quad g = 17$$

$$\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$a + b + c = \quad a = 18 \quad b = 14 \quad c = 13$$

$$\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

Word Problems – Writing Addition Equations

Questions

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) Bruce and Hank made \$75 together at work. Bruce can't remember how much he made but Hank made \$39. Which equation will tell us how much Bruce made?



$b + 39 = 75$

$39 + b = 75$

$75 + 39 = b$

3) Mary and Brianna found 121 Easter eggs together. Mary found 65. Which equation will tell us how many Brianna found?



$121 + b = 65$

$65 + b = 121$

$b + 65 = 121$

$b = 65$

4) Brad scored 38 points in a basketball game. He had 12 points in the second half. Which equation will tell us how many points he had in the second half?



$p + 38 = 12$

$38 + 12 = p$

$38 + p = 12$

$12 + p = 38$

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?



$s + 14 = 31$

$31 + 14 = s$

$14 + s = 31$

$31 + s = 14$

Exit Cards

Cut Out

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

Name: _____

Jacob, Emily, and Lucas have \$300 together. Jacob has \$100 and Emily has \$120. Which equation will tell us how much money Lucas has?

- a) $100 + 120 + l = 300$
b) $l + 100 + 120 = 300$
c) $300 = 100 + 120 + l$
d) All of the above

Name: _____

Jacob, Emily, and Lucas have \$300 together. Jacob has \$100 and Emily has \$120. Which equation will tell us how much money Lucas has?

- a) $100 + 120 + l = 300$
b) $l + 100 + 120 = 300$
c) $300 = 100 + 120 + l$
d) All of the above

Name: _____

Jacob, Emily, and Lucas have \$300 together. Jacob has \$100 and Emily has \$120. Which equation will tell us how much money Lucas has?

- a) $100 + 120 + l = 300$
b) $l + 100 + 120 = 300$
c) $300 = 100 + 120 + l$
d) All of the above

Name: _____

Jacob, Emily, and Lucas have \$300 together. Jacob has \$100 and Emily has \$120. Which equation will tell us how much money Lucas has?

- a) $100 + 120 + l = 300$
b) $l + 100 + 120 = 300$
c) $300 = 100 + 120 + l$
d) All of the above

Word Problems – Solving Addition Equations

Questions

Write the algebraic equations and answer the question

1) Tim drove 138 km to get to work. Then he drove to the store. When he got to the store, he had driven 195 km in total. How many km did he drive to the store (s)?



2) Steve earned 120 points for beating level 1 in a video game. He got 68 more points for beating level 2. How many total points (t) did he have after level 2?

Bonus – He had 100 points after beating level 3. How many points did he get in level 3 (l)?



3) The Lakers scored 122 total points in a game against the Toronto Raptors. Kobe Bryant had 81 points for the Lakers. How many points (p) did the rest of the team have?



4) Jessica's boat can hold a whopping 200 litres of gas. She went out on a long trip and used up the tank. When she docked the boat after she was done, the tank had 40 litres left. How many litres (l) did she use?



5) Becca had \$187 in her bank account. She deposited some more money after she babysat for a summer. Now she has \$410. How much money (m) did she make babysitting?



Solving Addition Equations – Shopping Trip

Questions

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

1) Jan spent x amount of dollars on new clothes at the mall. She bought jeans (j) for \$79, a shirt (s) for \$35, and a hat (h) for \$49. Find the value of x .

Equation : $x = j + s + h$

$$x = 79 + 35 + 49$$

$x = \$163$ Therefore, Jan spent \$163.



2) Hilary spent n amount of dollars at pet store. She bought dog food (f) for \$59 and bones (b) for \$29. She also bought a new dog toy (t) for \$22. How much did she spend? Find the value of n .

Equation : _____



3) Josiah spent \$510 total (t) at a sports store. He bought new skates (s) for \$310, new gloves (g) for \$120, and a new pair of socks (n) for n dollars. How much is n worth?

Equation : _____



4) Barry bought 3 new t-shirts (s) that all cost the same amount of money. The total price of all t-shirts was t dollars. How much is s worth?

Equation : _____ = _____ + _____ + _____ or _____ = _____ ÷ _____



5) Henry bought a new computer setup for a total (t) of \$799. He bought a computer for c number of dollars. He also bought a keyboard (k) for \$44 and a mouse (m) for \$35. How much is c worth?

Equation : _____



Subtraction – Are They Equal?

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

$12 - 4 = 8$

$42 - 11 \neq 30$

$34 - 17 = 17$

InstructionsPut a slash through the equal sign (\neq) if it is not balanced

1) $8 - 3 = 5$	2) $17 - 4 = 14$	3) $20 - 7 = 13$
4) $28 - 11 = 17$	5) $32 - 28 = 4$	6) $42 - 10 = 33$
7) $48 - 14 = 34$	8) $45 - 16 = 29$	9) $57 - 14 = 44$
10) $62 - 12 = 50$	11) $68 - 15 = 52$	12) $70 - 12 = 58$
13) $78 - 22 = 55$	14) $74 - 13 = 61$	15) $84 - 13 = 74$
16) $89 - 0 = 0$	17) $91 - 11 = 80$	18) $86 - 15 = 72$
19) $95 - 30 = 65$	20) $97 - 16 = 82$	21) $77 - 26 = 51$

Subtraction – Which Equation Matches?

Two of the equations equal the same number. Which one matches the shaded in equation?

Example

$19 - 8$

$15 - 4$

$21 - 9$



Instructions

Circle the equation that matches the shaded in equation

1)	$47 - 8$	$38 - 9$	$45 - 15$
2)	$53 - 11$	$6 - 6$	$51 - 6$
3)	$73 - 8$	$70 - 8$	$78 - 12$
4)	$87 - 12$	$84 - 10$	
5)	$103 - 12$	$99 - 8$	$105 - 13$
6)	$121 - 13$	$115 - 6$	$120 - 12$
7)	$136 - 15$	$139 - 18$	$141 - 22$

Matching Game: Do The Equations Match

Objective

What are we learning about?

To enhance students' understanding of equality within addition and subtraction 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: _____ will need for the activity.

- Pre-prepared pre-cut matching cards.
- Small bags or envelopes to hold the cards for each group.



Instructions

How you will complete the

1. Before the class, the teacher will cut out the prepared matching game cards.
2. Divide the students into small groups and give each group a small envelope containing a set of the matching cards.
3. In their groups, students will spread out the cards face down on their table.
4. 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).
5. 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.
6. The activity continues until all pairs are correctly matched within each group.

Cards

Matching Game Cards

$10 + 15$

$20 + 5$

$30 - 0$

$100 + 50$

$15 + 25$

$90 - 30$

$60 - 0$

$75 + 25$

$100 + 0$

PREVIEW

Cards

Matching Game Cards

$110 + 50$

$120 + 40$

$150 + 20 - 10$

$130 + 40$

$140 + 30$

$170 - 70$

$120 + 20 - 20$

$90 + 90$

$150 + 30$

PREVIEW

Cards

Matching Game Cards

$200 + 50 - 30$

$210 + 10 - 0$

$100 + 40 - 10$

$130 + 0$

$60 + 50 - 10$

$70 + 30$

$150 + 20 - 10$

$140 + 20$

$220 - 70 + 30$

$180 + 0$

PREVIEW

Pre-Algebra – Balancing Subtraction Equations

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

Examples:

$$\begin{array}{r} 16 \\ \swarrow \searrow \\ 24 - 8 = \boxed{16} \end{array}$$

$$\begin{array}{r} 29 \\ \swarrow \searrow \\ 45 - 16 = \boxed{29} \end{array}$$



Instructions:

Fill in the missing number to balance the equation

1) $23 - \square = \square$

2) $28 - 4 = \square$

3) $32 - 7 = \square$

4) $15 - \square = 5$

5) $7 - \square = 9$

6) $22 - \square = 11$

7) $\square - 8 = 13$

8) $\square - 7 = \square - 12 = 12$

10) $43 - 11 = \square$

11) $64 - \square = 44$

9) $\square - 2 = 44$

13) $71 - \square = 58$

14) $77 - 12 = \square$

15) $65 - \square = 49$

16) $85 - \square = 67$

17) $74 - 15 = \square$

18) $86 - \square = 72$

19) $90 - \square = 60$

20) $86 - 16 = \square$

21) $98 - \square = 85$

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.

X

Example: $39 - n = 25$

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

Question Find out the value of the variable

1) $31 - n = 25$ n =	2) $27 - 15 = 8$ p =	3) $35 - n = 15$ n =
4) $47 - 16 = p$ p =	5) $23 - 12 = 11$ p =	6) $p - 13 = 18$ p =
7) $53 - y = 37$ y =	8) $y - 45 = 0$ y =	9) $12 - 5 = y$ y =
10) $73 - t = 55$ t =	11) $42 - t = 35$ t =	12) $75 - t = 60$ t =
13) $83 - a = 67$ a =	14) $67 - a = 58$ a =	15) $95 - a = 75$ a =
16) $98 - 35 = s$ s =	17) $86 - s = 71$ s =	18) $96 - s = 73$ s =

Exit Cards

Cut Out

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

Name: _____

a) $s - g = k$ $s = 125$ $g = 47$

_____ - _____ = k

k =

b) $o - r = p$ $o = 78$ $r = 29$

_____ - _____ = p

p =

Name: _____

a) $s - g = k$ $s = 125$ $g = 47$

_____ - _____ = k

k =

b) $o - r = p$ $o = 78$ $r = 29$

_____ - _____ = p

p =

Name: _____

a) $s - g = k$ $s = 125$ $g = 47$

_____ - _____ = k

k =

b) $o - r = p$ $o = 78$ $r = 29$

_____ - _____ = p

p =

Name: _____

a) $s - g = k$ $s = 125$ $g = 47$

_____ - _____ = k

k =

b) $o - r = p$ $o = 78$ $r = 29$

_____ - _____ = p

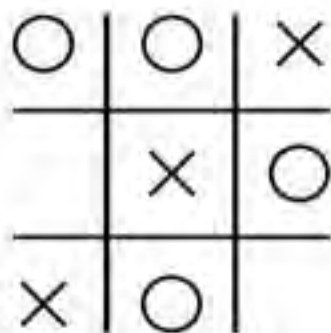
p =

Math Tic-Tac-Toe: Solving Variables

Objective

What are we learning about?

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



Materials

What will need for the activity.

- Tic-Tac-Toe boards

Instructions

How you will play the game.

1. Find a partner to play the game with.
2. The goal is to solve the algebraic equations in each square and 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 equation in that square and 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.

Tic-Tac-Toe

Use the following tic-tac-toe grids for the game.

$x - 3 = 5$	$8 - y = 2$	$z - 4 = 6$
$y - 2 = 3$	$10 - x = 4$	$w - 5 = 7$
$6 - z =$	$-1 = 5$	$n - 6 = 2$

$h - 5 = 2$	$i - 3 = 6$	$j - 7 = 3$
$k - 2 = 9$	$l - 1 = 8$	$m - 4 = 7$
$39 - h = 9$	$38 - i = 7$	$37 - j = 8$

$b - 4 = 5$	$c - 7 = 2$	$d - 3 = 6$
$e - 1 = 8$	$f - 2 = 7$	$g - 5 = 4$
$37 - b = 9$	$36 - c = 8$	$35 - d = 7$

$v - 5 = 3$	$w - 2 = 7$	$x - 4 = 5$
$y - 3 = 6$	$z - 3 = 6$	$a - 6 = 2$
$35 - v = 4$	$34 - w = 3$	$33 - x = 7$

$p - 6 = 2$	$q - 4 = 5$	$r - 5 = 3$
$s - 1 = 8$	$t - 2 = 9$	$u - 3 = 7$
$33 - p = 9$	$32 - q = 8$	$31 - r = 7$

$j - 5 = 4$	$k - 3 = 6$	$l - 6 = 1$
$m - 2 = 9$	$n - 1 = 8$	$o - 4 = 7$
$31 - j = 8$	$30 - k = 9$	$29 - l = 7$

Tic-Tac-Toe

Use the following tic-tac-toe grids for the game.

$d - 7 = 3$	$e - 5 = 2$	$f - 4 = 6$
$g - 1 = 8$	$h - 2 = 9$	$i - 3 = 7$
$29 - d =$	$28 - e = 7$	$27 - f = 5$

$x - 4 = 5$	$y - 3 = 7$	$z - 6 = 1$
$a - 1 = 8$	$b - 2 = 7$	$c - 5 = 3$
$27 - x = 6$	$26 - y = 8$	$25 - z = 5$

$z - 4 = 5$	$a - 2 = 9$	$b - 3 = 8$
$c - 1 = 8$	$d - 3 = 7$	$e - 2 = 6$
$19 - z = 5$	$18 - a = 7$	$17 - b = 8$

$l - 6 = 4$	$m - 4 = 5$	$n - 5 = 3$
$o - 3 = 7$	$p - 1 = 10$	$q - 3 = 8$
$23 - l = 6$	$22 - m = 4$	$21 - n = 8$

$t - 5 = 3$	$u - 4 = 5$	$v - 6 = 1$
$w - 2 = 7$	$x - 1 = 8$	$y - 3 = 6$
$17 - t = 8$	$16 - u = 7$	$15 - v = 9$

$n - 8 = 1$	$o - 6 = 2$	$p - 4 = 5$
$q - 3 = 6$	$r - 2 = 7$	$s - 1 = 8$
$15 - n = 6$	$14 - o = 8$	$13 - p = 9$

Word Problems – Solving Subtraction Equations

Instructions

Solve the word problems using equations and variables

1) Bridgette started the weekend with \$214 in her bank account. She went shopping (s) at the mall and now had \$76. How much did she spend at the mall?



2) Susie found 100 Easter eggs during her Easter egg hunt. She gave some to her friends and now has 25 eggs left. How many did she give (g) away?



3) There are 128 minutes in a movie. John is watching. He watches 41 minutes and then pauses the movie for popcorn. How many minutes (m) are left?



4) Jeremy is climbing Mount Everest to Base Camp. It is 5,464 metres high. He takes a break with 1,100m left. How many metres has he climbed (c) already?



5) Pam is driving to her cottage in northern Alberta. The total distance is 721km. She has driven 315km already. How much more distance (d) does she need to drive?



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 $x - f - s = l$

$$l = 1350 - 415 - 480$$

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



2) The family heads to a restaurant for \$300 on dinner out for 3 nights. They spent \$75 on the first (f) dinner, and \$128 on the second dinner. How much do they have left for the third dinner (t)?

Equation : _____

_____ Therefore, _____



3) The family heads to the waterslide park. They bring \$200. The total (t). The two adults (a) cost \$25 each. The two kids (k) cost \$15 each. How much do they have left (L)?

Equation : _____

_____ Therefore, _____



4) The family buys a 24 pack of mini donuts (d). Ron (r) has 4 and his sister has 3. The kids (k) eat 10 together. How many donuts are left (l)?

Equation : _____

_____ Therefore, _____



5) On the drive home, they take a short cut. The drive is 950km (d). They drive 380km the first day (f) and 430km the second (s) day. How many km do they have left (l)?

Equation : _____

_____ Therefore, _____



Math Activity Title: Algebraic Bottle Flip Challenge**Objective** What are we learning about?

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

**Materials** What you will need for the activity.

- 10 bottles (or cups) (pair/group) filled to approximately one-third with water
- Set of subtraction algebra question cards
- Answer sheet for each group

Instructions How you will complete the activity

1. Start with a short lesson on one-step subtraction algebra problems, using examples like $x - 3 = 4$.
2. Arrange the students into pairs or small groups and give each group a bottle and a set of question cards to each.
3. Each pair or group receives an answer sheet to record their answers.
4. Explain the rules: One student draws a question card and reads the subtraction algebra problem.
5. Once they believe they have the correct answer, they write it on their answer sheet.
6. The student then gets to attempt a bottle flip. After answering each question, 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

1) $x - 12 = 68$	2) $b - 13 = 37$	3) $150 - d - 8 = 92$	4) $167 - 10 - 23 = w$
5) $y - 9 = 41$	6) $n - 5 = 35$	7) $92 - q - 18 = 52$	8) $236 - t - 117 = 43$
9) $m - 16 = 74$	10) $p - 17 = 33$	11) $r - 20 - 12 = 58$	12) $v - 158 - 14 = 118$
13) Kelly had 45 stickers and lost 10. How many did she lose?	14) Sam had 60 marbles and lost 15. How many does he have now?	15) 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?	16) Sophia decides to use \$550 for car repairs. She spent some amount on new tires, \$150 on brake pads, and \$100 on an oil change. She has \$100 left for a car wash. How much did she spend on new tires?
17) Dylan had 70 candies and gave some away. Now he has 55. How many did he give away?	18) Eva had 90 crayons and broke some. Now she has 65. How many did she break?	19) Michael planned to allocate \$700 to home improvements. He spent some amount on paint, \$180 on curtains, and \$100 on light fixtures. He has \$220 left for a new rug. How much did he spend on paint?	20) The Johnsons plan to spend \$500 for a party. They spent \$120 on decorations, some amount on food, and \$80 on drinks. They have \$250 left for favors. How much did they spend on food?
21) Lucy had a number of balloons. She gave 10 to her friend and now has 40 left. How many balloons did Lucy start with?	22) Mike had a number of books. He gave 12 to his friend and now has 30 left. How many books did Mike start with?	23) Liam and Olivia have \$350 for a weekend getaway. They spent \$100 on gas, some amount on lunch, and \$85 on souvenirs. They have \$95 left for dinner. How much did they spend on lunch?	24) Emma and Noah budget \$300 for dinner out for 3 nights. They spent \$75 on the first dinner, some amount on the second dinner, and \$97 left for the third dinner. How much did they spend on the second dinner?

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	

PREVIEW

Multiplication – Are They Equal?

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

$4 \times 3 \neq 8$

$3 \times 5 = 15$

$7 \times 4 \neq 21$

InstructPut a slash (\neq) through the equal sign if it is not balanced

1) $3 \times 2 = 6$	2) $5 \times 3 = 15$	3) $7 \times 3 = 21$
4) $5 \times 5 = 30$	5) $4 \times 3 = 12$	6) $4 \times 5 = 25$
7) $10 \times 4 = 40$	8) $6 \times 5 = 30$	9) $5 \times 2 = 10$
10) $6 \times 10 = 70$	11) $2 \times 9 = 18$	
13) $4 \times 4 = 12$	14) $6 \times 1 = 6$	15) $4 \times 6 = 24$
16) $4 \times 7 = 21$	17) $5 \times 9 = 40$	18) $5 \times 10 = 50$
19) $5 \times 7 = 35$	20) $7 \times 7 = 42$	21) $8 \times 4 = 32$

Multiplication – Which Equation Matches?

Two of the equations equal the same number. Which one matches the shaded in equation?

Example

2×3

1×6

4×2



Instruct Circle the equation that matches the shaded in equation

1) 4×4

9×2

8×2

2) 9×2

6×4

3) 6×4

8×3

9×3

4) 8×5

9×4

5) 4×3

6×2

5×3

6) 6×6

7×5

9×4

7) 5×6

10×3

8×4

Pre-Algebra – Balancing Multiplication Equations

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

Examples:

$$\begin{array}{c} 18 \\ \swarrow \searrow \\ 6 \times 3 = \boxed{18} \end{array}$$

$$\begin{array}{c} 16 \\ \swarrow \searrow \\ 4 \times 4 = \boxed{16} \end{array}$$



Instructions: Fill in the missing number to balance the equation

1) $8 \times \boxed{} =$

2) $4 \times 3 = \boxed{}$

3) $5 \times \boxed{} = 35$

4) $3 \times \boxed{} = 12$

5) $\boxed{} \times 5 = 10$

6) $\boxed{} \times 5 = 25$

7) $7 \times 10 = \boxed{}$

8) $4 \times \boxed{} = 20$

9) $7 \times \boxed{} = 21$

10) $7 \times 3 = \boxed{}$

11) $4 \times \boxed{} = 16$

12) $4 \times 6 = \boxed{}$

13) $7 \times \boxed{} = 63$

14) $8 \times 6 = \boxed{}$

Multiplication – Find the Variable

When we multiply a number by a variable, we do not need to use the multiplication sign. It is known that any variable next to a number means the operation we are using is multiplication.

Example: $7n = 14$ means $7 \times n = 14$

We can figure out the unknown number by balancing the equation.
In this equation, $n = 2$.



Instructions: Find out the value of the variable

1) $3n = 6$ $n =$	2) $n \times 8 = 16$ $n =$
3) $10 \times 4 = p$ $p =$	4) $20 \times 5 = p$ $p =$
5) $3n = 18$ $n =$	6) $n \times 6 = 30$ $n =$
7) $5n = 25$ $n =$	8) $6 \times 4 = t$ $t =$
9) $3n = 24$ $n =$	10) $10n = 100$ $n =$
11) $9s = 27$ $s =$	12) $5 \times 8 = s$ $s =$

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.

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



Instructions

How to run the activity

1. Prepare a stack of index cards with multiplication and one-step algebraic equation questions. Include a mix of systems for more variety.
2. Have students line up in a single file.
3. Call the first two students in line to the front to compete in a race to answer the multiplication algebraic equation question that the teacher pulls from 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 says the 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.

Multiplication Equations

Use these for the race

$3x = 21$

$2a = 30$

$12x = 180$

$4y = 48$

$3b = 60$

$11y = 121$

$4c = 44$

$10z = 100$

$6n = 72$

$5l = 65$

$9n = 81$

$7m = 91$

$6o = 54$

$8m = 64$

$8k = 96$

$7f = 126$

$7g = 49$

$9p = 135$

$8g = 160$

$10b = 150$

$9h = 153$

$5b = 25$

$11c = 143$

$10i = 190$

$4c = 12$

$12d = 144$

$11j = 121$

$3d = 9$

PREVIEW

Exit Cards

Cut Out

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

Name: _____

Find out the value of the variable

1) $ch = t$ $c = 8$ $h = 10$

_____ x _____ = t

t =

2) $mp = q$ $m = 3$ $q = 15$

_____ x _____ = q

p =

Name: _____

Find out the value of the variable

1) $ch = t$ $c = 8$ $h = 10$

_____ x _____ = t

t =

2) $mp = q$ $m = 3$ $q = 15$

_____ x _____ = q

p =

Name: _____

Find out the value of the variable

1) $ch = t$ $c = 8$ $h = 10$

_____ x _____ = t

t =

2) $mp = q$ $m = 3$ $q = 15$

_____ x _____ = q

p =

Name: _____

Find out the value of the variable

1) $ch = t$ $c = 8$ $h = 10$

_____ x _____ = t

t =

2) $mp = q$ $m = 3$ $q = 15$

_____ x _____ = q

p =

Division – Are They Equal?

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

$8 \div 2 \neq 5$

$9 \div 3 = 3$

$15 \div 3 \neq 3$

**Instructions**Put a slash (\neq) through the equal sign if it is not balanced

2) $20 \div 10 = 10$

3) $9 \div 3 =$

4) $16 \div 2 = 6$

5) $25 \div 5 = 5$

6) $4 = 7$

7) $42 \div 7 = 7$

8) $28 \div 4 =$

9) $32 \div 8 = 3$

10) $48 \div 8 = 6$

11) $64 \div 8 = 6$

12) $24 \div 12 = 2$

13) $33 \div 3 = 3$

14) $55 \div 11 = 5$

Exit Cards

Cut Out

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

Name: _____

Put a slash through the equal sign if it is not balanced

- 1) $45 \div 5 = 8$
- 2) $72 \div 8 = 9$
- 3) $40 \div 8 = 6$
- 4) $100 \div 20 = 5$

Name: _____

Put a slash (\neq) through the equal sign if it is not balanced

- 1) $45 \div 5 = 8$
- 2) $72 \div 8 = 9$
- 3) $40 \div 8 = 6$
- 4) $100 \div 20 = 5$

Name: _____

Put a slash (\neq) through the equal sign if it is not balanced

- 1) $45 \div 5 = 8$
- 2) $72 \div 8 = 9$
- 3) $40 \div 8 = 6$
- 4) $100 \div 20 = 5$

Name: _____

Put a slash (\neq) through the equal sign if it is not balanced

- 1) $45 \div 5 = 8$
- 2) $72 \div 8 = 9$
- 3) $40 \div 8 = 6$
- 4) $100 \div 20 = 5$

Division – Which Equation Matches?

Two of the equations equal the same number. Which one matches the shaded in equation?

Example

$12 \div 4$

$9 \div 3$

$16 \div 4$



Instruct

Circle the equation that matches the shaded in equation

1)

$20 \div 4$

$10 \div 2$

$12 \div 2$

2)

$18 \div 3$

6

$60 \div 10$

3)

$28 \div 4$

$42 \div 7$

$49 \div 7$

4)

$45 \div 5$

$18 \div 2$

5)

$36 \div 6$

$18 \div 3$

$16 \div 4$

6)

$24 \div 3$

$45 \div 5$

$40 \div 5$

7)

$32 \div 8$

$27 \div 9$

$28 \div 7$

Pre-Algebra – Balancing Division Equations

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

Examples:

$$\begin{array}{c} 5 \\ \swarrow \quad \searrow \\ 15 \div 3 = \boxed{5} \end{array}$$

$$\begin{array}{c} 5 \\ \swarrow \quad \searrow \\ 10 \div 2 = \boxed{5} \end{array}$$



Question: Fill in the missing number to balance the equation

1) $18 \div \square = \square$

2) $12 \div 3 = \square$

3) $15 \div \square = 5$

4) $22 \div \square = 2$

5) $\square \div 4 = 4$

6) $\square \div 7 = 7$

7) $42 \div 6 = \square$

8) $56 \div \square = 8$

9) $28 \div \square = 4$

10) $100 \div 10 = \square$

11) $36 \div \square = 6$

12) $63 \div 9 = \square$

13) $80 \div \square = 10$

14) $81 \div 9 = \square$

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: $27 \div n = 3$ or $\frac{27}{n} = 3$

We can figure out the unknown number by balancing the equation.
In this equation, $n = 9$.



Instructions: Find out the value of the variables

$1) 5 \div n = 3$ $n =$	$2) \frac{n}{3} = 3$ $n =$
$3) 16 \div 4 = p$ $p =$	$4) 24 \div p = 8$ $p =$
$5) \frac{42}{n} = 6$ $n =$	$6) \frac{24}{n} = 3$ $n =$
$7) 80 \div n = 10$ $n =$	$8) \frac{t}{2} = 4$ $t =$
$9) \frac{48}{n} = 8$ $n =$	$10) 55 \div n = 11$ $n =$
$11) 36 \div s = 12$ $s =$	$12) \frac{24}{8} = s$ $s =$

Word Problems – Solving Division Equations

Questions

Solve the word problems using equations and variables

1) Mary bought 56 burgers that came packed in packs of 8. How many packs did she buy?



2) Ona scooped 40 scoops of ice cream evenly onto 8 cones. How many scoops did each cone get?



3) Jade is putting 72 onions into boxes. Each box holds 8 onions. How many boxes does he need?



4) A group of 9 friends buys a bunch of cookies. Each friend gets 6 cookies. How many cookies did they buy?



5) In gym class, a group of 49 students were divided into 7 groups. How many students are in each group?



Math Pictionary: Division Equations Challenge

Objective

What are we learning about?

To reinforce students' understanding and application of division through solving word problems in a fun and interactive drawing game.

Materials

What you will need for the activity.

- Index cards
- Markers or pens
- Whiteboard or a sheet of paper
- Timer or stopwatch (optional)



Instructions

How you will complete it.

1. Divide the class into two teams.
2. One student from Team A will come to the front of the room and draw a card. The student will then read the word problem slowly and draw a representation of the problem on the whiteboard.
 - They can use objects to represent the numbers in the problem and can write the numbers to label their drawings, but they cannot use mathematical symbols or operations. For example, if the problem is "56 apples divided among 7 students," the student can draw an apple and write "56" above it and draw a student and write "7" above the student.
3. Team A will observe the drawing and try to guess the word problem and solve it. For added difficulty, make students guess what is written on the index card. They have 1 minute to discuss and come up with the answer.
4. If Team A correctly identifies the word problem and solves it within the time limit, they earn a point. If they answer incorrectly, Team B gets a chance to solve it.
5. Next, a student from Team B will come to the front, draw a card, and draw a representation of the division word problem on the whiteboard.
6. Team B will then have 1 minute to discuss and solve the problem.
7. Alternate turns between the teams.
8. Continue the game until all index cards have been used or the designated game time is up.

Name: _____

116

Math Equations

Cut out the equations below

Index Cards

There are 24 candies, and each child gets 4. How many children are there?

A farmer has 48 apples and packs them into bags with 6 apples each. How many bags does he need?

A classroom has 30 chairs and 5 tables. How many students sit at each table?

There are 56 books on a shelf. Each shelf holds 8 books. How many shelves are there?

A baker has 36 cupcakes and packs them into boxes of 6. How many boxes does he need?

A library has 72 books and wants to divide them evenly into 9 stacks. How many books are in each stack?

There are 40 marbles, and each jar can hold 5 marbles. How many jars are needed?

A teacher has 90 pencils and gives 10 pencils to each student. How many students get pencils?

A family has 20 oranges and divides them into 4 equal bags. How many oranges are in each bag?

A gardener has 50 flowers and plants them in rows of 5. How many rows are there?

A group of 14 penguins catch 56 fish. If they share the fish equally, how many fish does each penguin get?

16 monkeys find 64 bananas. If they share the bananas equally, how many bananas does each monkey get?

Name: _____

117

Math Equations

Cut out the equations below

Index Cards

A bakery has 100 cookies and packs them into boxes of 10. How many boxes are needed?

A school has 81 grade 5 students, and they are divided into 3 equal classes. How many students are in each class?

There are 12 candies in one bag and 12 candies in another. They are divided equally among 6 children. How many candies does each child get?

There are 120 fish and 30 more are added to the pond. If 10 pelicans share them equally, how many does each get?

There are 45 chocolates, and 15 more are added to the rest are divided among 3 friends. How many chocolates does each friend get?

A group of 20 bees collect 100 flowers. If they share the flowers equally, how many flowers does each bee get?

A baker has 60 cupcakes and bakes 30 more. He packs them into boxes of 10. How many boxes does he need?

A flock of 12 birds find 36 worms. If they share them equally, how many worms does each bird get?

There are 64 apples, and 8 more are added to the basket. If 8 horses share them equally, how many apples does each horse get?

There are 80 balloons, and 40 are used for decoration. The rest are divided equally among 8 children. How many balloons does each child get?

There are 42 cookies in one jar and 14 cookies in another. They are divided equally among 7 friends. How many cookies does each friend get?

A bunch of squirrels are given 48 raspberries, and 24 more are added. They are divided equally among 8 squirrels. How many raspberries does each student get?

Division – Bar Model**Instructions**

Use the bar model to answer the division questions below.

1) $56 \div 8$

56							

2) $28 \div 4$

28			

3)

4) $40 \div 10$

40									

5) $36 \div 4$

36			

6) $35 \div 5$

7) $49 \div 7$

49						

8) $63 \div 7$

63								

9) $56 \div 7$

56							

10) $32 \div 4$

32			

Division Word Problems – Bar Model

Instructions

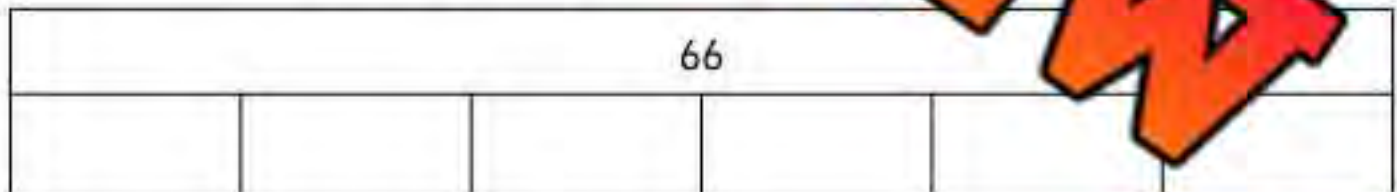
Use the bar model to answer the division questions below

1) Richard has 48 candies to give away to his 6 friends. How many candies will each friend get?



Division Equation Sentence: _____ ÷ _____ = _____

2) Emma and her 5 friends made \$66 selling cookies at a bake sale. How much money will each of the friends get?



Division Equation Sentence: $\frac{\square}{\square} = \underline{\hspace{2cm}}$

Jeopardy Questions

Ask students the questions below

\$100	\$200	\$300	\$400	\$500
$2x = 6$. Find x .	$4y = 24$. Find y .	$5z + 10 = 25$. Find z .	If 3 apples cost \$15, what is the cost per apple?	Jack has twice as many toy cars as Oliver. If the total is 18 cars, how many does Oliver have?
$6 + m = 12$. Find m .	$4z = 20$. Find z .	$10 = 2t + 6$. Solve for t .	If there are 28 apples in a basket and the number of apples is 4 times the number of oranges, how many oranges are there?	Sophia's sister is 30 years old. She is 4 years older than twice Sophia's age. How old is Sophia?
$8 - p = 3$. Find p .	$7e - 14 = 21$. What is e ?	$5 = 2t + 1$. What is t ?	If Sam had 45 marbles and lost 10, how many does he have left?	A rectangle has a perimeter of 120 cm. If the length is twice the width, what are the length and width?
$3 + n = 9$. Find n .	$2d + 4 = 14$. Find d .	$18 = 3b - 3$. Find b .	John has 30 pencils. Jerry has 3 times as many pencils as John. How many pencils does Jerry have?	They have 10 books. How many books does each have?
$10 + 2 = ?$	$6 + c = 2$. Find c .	$4r + 5 = 29$. Find r .	John had 80 pencils. After using some for his art projects, he now has 55 pencils left. How many pencils did he use?	Jason is 12 years old. He is 6 years older than twice his brother's age. How old is his brother?
$5 = x - 3$. What is x ?	$15 + 3 = ?$	$20 = 5 + 23 = ?$	There are 20 marbles between you and Sarah. If you have 4 times as many marbles as Sarah, how many does Sarah have?	Emma's aunt is 36 years old. She is 12 years older than three times Emma's age. How old is Emma?

Algebra Quiz - Equations**Part 1**Put a slash (\neq) through the equal sign if it is not balanced

1) $37 + 12 = 48$

2) $34 + 7 = 41$

3) $49 - 5 = 45$

4) 59

5) $7 \times 4 = 21$

6) $70 \div 7 = 10$

Part 2

Put a missing number to balance the equation

1) $43 + 8 = \square$

2) $\square - 30 = 23$

3) $29 + \square = 36$

4) $42 + 17 = \square$

5) $\square + 55 = 98$

7) $33 - 7 = \square$

8) $\square - 14 = 46$

10) $65 - 13 = \square$

11) $\square - 22 = 60$

12) $91 - 15 = \square$

13) $\square \times 6 = 24$

14) $7 \times \square = 42$

15) $48 \div \square = 6$

16) $54 \div 6 = \square$

Part 3

Find out the value of the variable

$7 + n = 17$ $n =$	$n - 8 = 22$ $n =$	$2n = 18$ $n =$	$\frac{30}{n} = 10$ $n =$
$n + 12 = 35$ $n =$	$n - 22 = 75$ $n =$	$8n = 24$ $n =$	$\frac{36}{6} = n$ $n =$

Part 4

Find out the value of the variable

$a + b + c = 17$ ____ + ____ = ____	$c = 12$	$n + y + t =$ ____ + ____ + ____ = ____	$n = 3$	$y = 22$	$t = 8$
$a - b = c$ ____ - ____ = c	$a = 26$	$a = f$ ____ = f	$e = 32$	$n = 16$	
$c =$		$f =$			
$a \times b = c$ ____ x ____ = c	$a = 8$	$b = 4$	$x = 4$	$y = 4$	
$c =$			$y = k$		
		$k =$			

Part 5

Solve the word problem below. Make sure to write an equation

Zakk shoveled snow all day and earned \$135. He now has \$215 in his bank account. How much money did he have in his bank (b) account before he was paid for shoveling snow?

Part 6

Is the number sentence an expression or equation?

1) $13 + 13 = 26$	2) $25 + y$
Expression Equation	Expression Equation
3) $5y + 3 = 18$	4) $4n + 8$
Expression Equation	Expression Equation
5) $20 - 4 + n = 10$	6) $20 - 5 + n$
Expression Equation	Expression Equation

Part 7

Write equations and answer the questions

- 1) Daniel had \$167. He paid for his dad's car park for his dad. Now he has \$215. How much did his dad pay for the car park?
- 2) Shannon worked 9 hours today and made \$180. How much did she earn (e) per hour?
- 3) Jack needs to drive 400 km to get home. He has driven for awhile and now only has 150 km left to get home. How far has he driven (d)?
- 4) Jade is putting 72 onions into boxes. Each box holds 8 onions. How many boxes does he need?



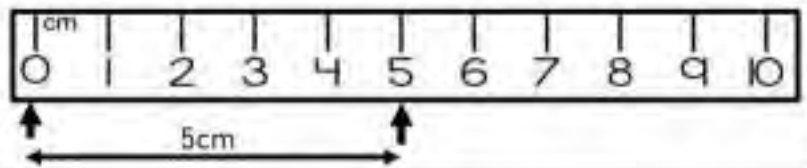
Grade 5 Shape and Space



	Curriculum Expectations	Pages	
SS5.1	Design and construct different rectangles given either perimeter or area, or both (whole numbers), and draw conclusions.	22-72	
SS5.2	Demonstrate understanding of measuring length (mm) by: <ul style="list-style-type: none">• selecting and justifying referents for the unit mm• modelling and describing the relationship between mm, cm, and m units.	5-21	
SS5.3	Demonstrate an understanding of volume by: <ul style="list-style-type: none">• selecting and justifying referents for cm^3 or m^3 units• estimating volume by using referents for cm^3 or m^3• measuring and recording volume (cm^3 or m^3)	75-87	
SS5.4	Preview of 125 pages from this product that contains 319 pages total.		9-100
SS5.5			• parallel • intersecting • perpendicular • vertical • horizontal.
SS5.6	Identify and sort quadrilaterals, including: <ul style="list-style-type: none">• rectangles• squares• trapezoids• parallelograms• rhombuses according to their attributes.	116-131	
SS5.7	Identify, create, and analyze single transformations of 2-D shapes (with and without the use of technology).	134-175	
TQ	Tests and Quizzes	73-74, 102-103, 132-133, 146-177	

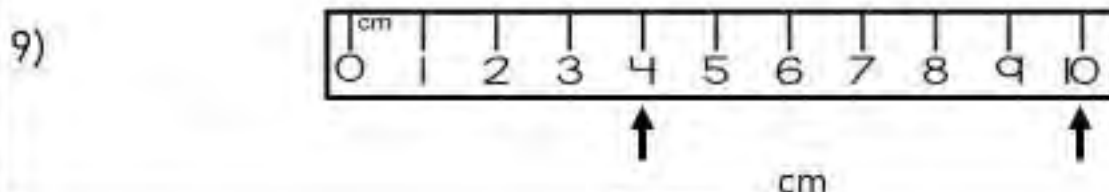
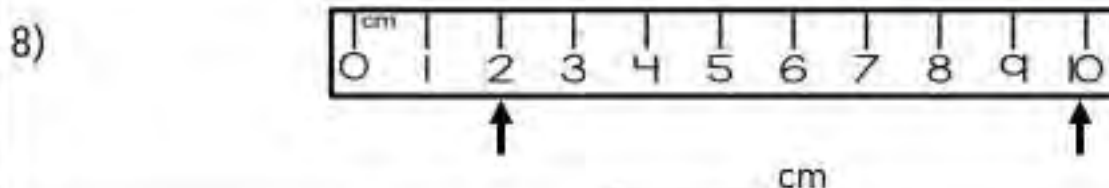
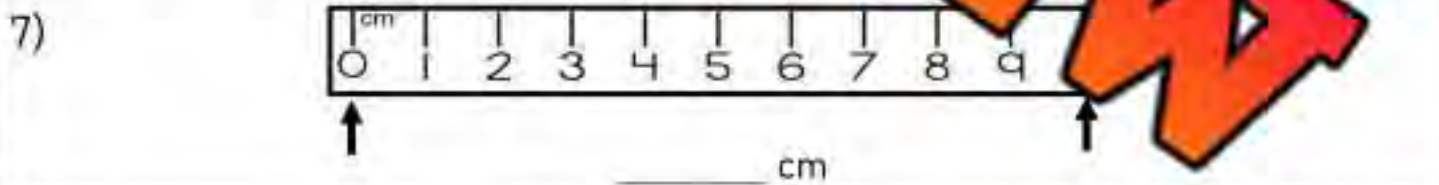
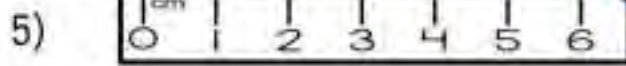
Measuring in Centimetres

We can accurately measure the length of something by using a ruler.



Instructions

Read the rulers below to find the distance between the arrows



Measuring in Centimetres and Millimetres**Part 1**

Use a ruler to measure the lines below

1)



_____ cm

_____ mm

2)



_____ cm

_____ mm

3)



_____ cm

_____ mm

4)



_____ cm

_____ mm

5)



_____ cm

_____ mm

6)



_____ cm

_____ mm

7)



_____ cm

_____ mm

_____ mm

Part 2

Draw a line that is the correct length

1)

70 mm

2)

4 cm

3)

60 mm

4)

2 cm




5)

3 cm











6)

50 mm




Metric System Units – mm, cm, m

Millimetre (mm)	Centimetre (cm)	Metre (m)
Used to measure short distances	Used to measure short to medium distances	Used to measure medium to long distances
		

Questions: Which unit of measure would you use to measure the following distances?

1) The length of _____		
2) The length of your _____		
3) The length of your eraser		
4) The length of your classroom		
5) The width of a worm		
6) The distance of a 10 second race		
7) The length of your shoe		
8) The width your fingernail		
9) The height of the classroom door		
10) The length of your school		

Metric System Units - mm, cm, m

Millimetre (mm)	Centimetre (cm)	Metre (m)
$10\text{mm} = 1\text{cm}$ $1000\text{mm} = 1\text{m}$ 	$1\text{cm} = 10\text{mm}$ $100\text{cm} = 1\text{m}$ 	$1\text{m} = 100\text{cm}$ $1\text{m} = 1000\text{mm}$ 

Part 1

Complete the tables below

mm	cm
10	
20	
40	
50	
	6
	7
	8
90	
100	

cm	m
100	1
	2
300	3
400	
	5
600	
	7
1000	

Part 2

Convert the units of measurement below

1) 1m _____ cm

5) 5m _____ cm

9) 500cm _____ m

2) 20mm _____ cm

6) 50mm _____ cm

10) 500mm _____ cm

3) 2cm _____ mm

7) 100mm _____ cm




11) 8m _____ cm

4) 50cm _____ mm

8) 30cm _____ mm

12) 300cm _____ m

Metric System Units – Decimal Conversions

Millimetre (mm)	Centimetre (cm)	Metre (m)
15mm = 1.5cm 1500mm = 1.5m 	5.5cm = 55mm 430cm = 4.3m 	2.5m = 250cm 1.3m = 1300mm 

Part 1 Complete the tables below

mm	cm
5	
15	
45	
55	
	6.5
75	
85	
	9.5

cm	m
	0.5
	1.5
250	
350	
	4.5
550	
6	
850	
950	

Part 2 Convert the units of measurement below

1) 1.3m = _____ cm

5) 6.2m = _____ cm

9) 580cm = _____ m

2) 28mm = _____ cm

6) 57mm = _____ cm

10) 87mm = _____ cm

3) 2.7cm = _____ mm

7) 134mm = _____ cm

11) 8.42m = _____ cm

4) 5.3cm = _____ mm

8) 3.6cm = _____ mm

12) 330cm = _____ m

Which is Longer?

Part 1

Which distance is farther? Circle the longest distance.

1)	10.5m	200.2cm	10.5mm	2.5m
2)	32.5cm	380mm	0.5m	1000m
3)	50m	535cm	5.5m	1.5m
4)	3.3m	1000mm	156cm	
5)	712cm	3000mm	4.5m	

Part 2

Read the problem and write the answer below.

- Nick and Ryan both competed in a jump at track meet. Nick jumped 3.45m and Ryan jumped 329cm. Who jumped farther?
- Max and Rudy are arguing over whose pencil is longer. Max's pencil is 10cm long and Rudy's is 95mm long. Whose pencil is longer?
- Fred and Norm both walk to school. Fred walks 5400cm and Norm walks 53m. Who walks further to school?



Memory Game: Matching Equivalent Units

Objective

What are we learning about?

Students will practice converting and matching equivalent units of measurement, such as centimeters to millimeters and meters to centimeters, to enhance their understanding of metric conversions.

Materials

What you will need for the activity.

- Sets of Memory Game cards with units of measurement (provided)
- Tables or clear floor space for each group to lay out their cards



Instructions

How you will complete the activity.

1. Divide the class into groups of 3 or 4 students each.
2. Give each group a set of Memory Game cards.
3. Have each group lay all the cards face down in a grid on a table or floor.
4. Students take turns flipping over two cards at a time, trying to find a match with equivalent units of measurement.
5. If a student finds a match (e.g., 1 meter and 100 centimeters), they remove those cards from the grid and keep them.
6. If the cards do not match, they are turned back over, and the next student takes a turn.
7. The game continues until all the cards have been matched.
8. After the game, review the equivalent units of measurement with the class, ensuring students understand the conversions.

Name: _____

13

Cards

Memory Game Cards

1 centimeter

10 millimeters

200 centimeters

50 centimeters

500 millimeters

3 meters

300 centimeters

20 centimeters

200 millimeters

PREVIEW

Cards

Memory Game Cards

5 centimeters

50 millimeters

10 meters

1000 centimeters

4 meters

40 centimeters

8 centimeters

80 millimeters

15 meters

1500 centimeters

PREVIEW

Cards

Memory Game Cards

12.5 centimeters

125 millimeters

67.5 centimeters

250 centimeters

7.25 meters

725 centimeters

8.5 centimeters

85 millimeters

PREVIEW

Cards

Memory Game Cards

2.25 meters

225 centimeters

9.5 meters

950 centimeters

5.5 meters

550 centimeters

0.5 centimeters

5 millimeters

0.75 meters

75 centimeters

PREVIEW

Estimating Distance

Questions

Which distance makes the most sense?

1) Length of a pencil

- a) 30cm
- b) 10mm
- c) 10cm



2) Length of a soccer field

- a) 100m
- b) 500m
- c) 500cm



3) Distance of a 200m race

- a) 100 metres
- b) 50mm
- c) 2000m

4) Length of a gym

- a) 15m
- b) 3m
- c) 300cm
- d) 3000mm



5) Width of a computer monitor

- a) 2m
- b) 40cm
- c) 20mm



6) Length of your shoe

- a) 2m
- b) 20cm
- c) 20mm



7) Height of a desk

- a) 2m
- b) 90cm
- c) 200mm



8) Height of an NBA player (person)

- a) 2m
- b) 100cm
- c) 200mm



9) Length of a bus

- a) 13m
- b) 200cm
- c) 2000mm



10) Width of an eraser on the end of a pencil

- a) 2m
- b) 10cm
- c) 10mm



Estimating the Distance

In life, we often need to be able to estimate the distance or length of things. We first need to choose the correct unit of measurement – mm, cm, or m. Then we estimate by using our understanding of these units.

Example

- my walk to school is around 500m
- my pencil is approximately 10cm long
- my eraser is about 8mm wide



Questions: Answer the questions below by estimating the distances

1) How far do you live away from school?

2) How wide is your classroom?

3) How wide is your thumbnail?

4) How tall is your desk/table?

5) How tall are you?

6) How tall is your water bottle?

7) How far is the nearest store?

8) How wide is your sheet of paper?

9) How wide is your gym?

10) How thick is the last book you read?

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 of measurement below.

- a) _____ cm
b) _____ cm
c) 640 _____ m

2) Solve the problem below

Ben and Tom are measuring toy cars. Ben's car is 8.3 cm long. Tom's car is 85 mm long. Whose car is longer?

Name: _____

1) Convert the units of measurement below.

- a) 69 mm = _____ cm
b) 9.57 m = _____ cm
c) 640 cm = _____ m

2) Solve the problem below

Ben and Tom are measuring toy cars. Ben's car is 8.3 cm long. Tom's car is 85 mm long. Whose car is longer?

Name: _____

1) Convert the units of measurement below.

- a) 69 mm = _____ cm
b) 9.57 m = _____ cm
c) 640 cm = _____ m

2) Solve the problem below

Ben and Tom are measuring toy cars. Ben's car is 8.3 cm long. Tom's car is 85 mm long. Whose car is longer?

Name: _____

1) Convert the units of measurement below.

- a) 69 mm = _____ cm
b) 9.57 m = _____ cm
c) 640 cm = _____ m

2) Solve the problem below

Ben and Tom are measuring toy cars. Ben's car is 8.3 cm long. Tom's car is 85 mm long. Whose car is longer?

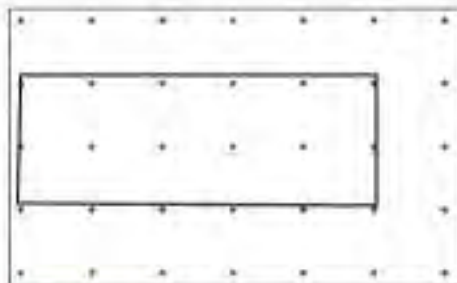
Finding the Perimeter of Irregular Shapes

Part 1

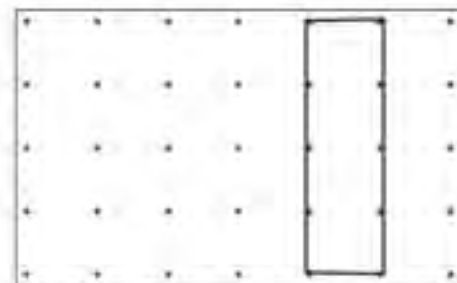
Find the perimeter of the rectangles below



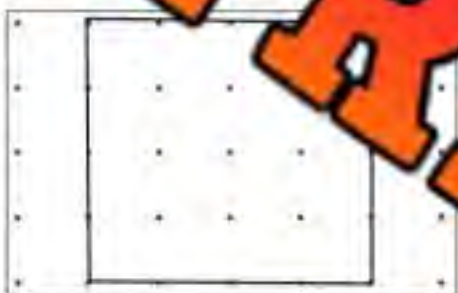
1) Perimeter = _____



2) Perimeter = _____



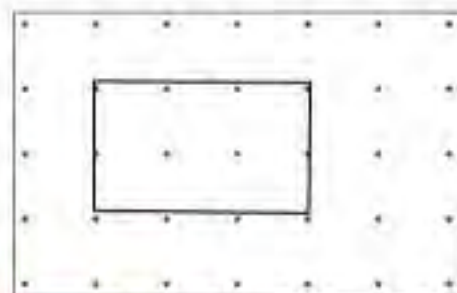
3) Perimeter = _____



4) Perimeter = _____



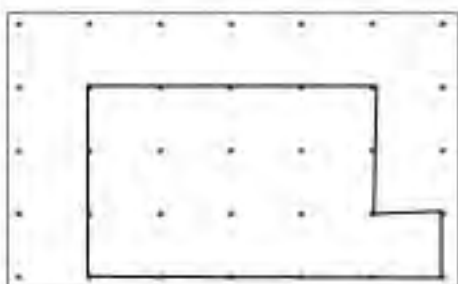
5) Perimeter = _____



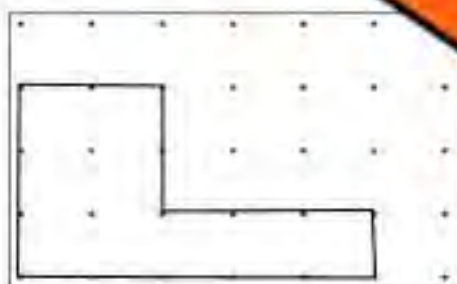
6) Perimeter = _____

Part 2

Find the perimeter of the polygons below



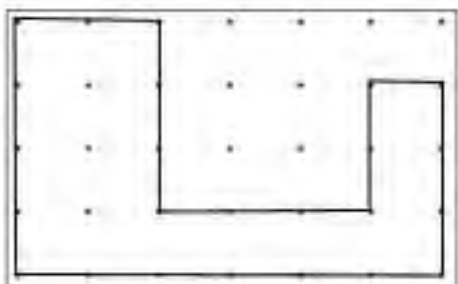
1) Perimeter = _____



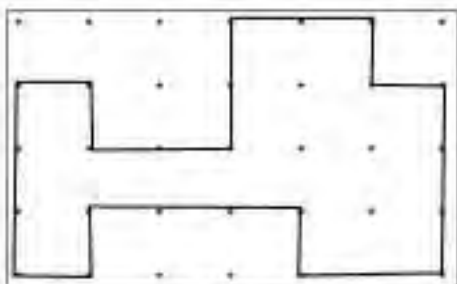
2) Perimeter = _____



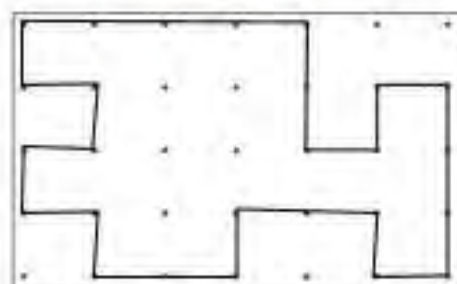
3) Perimeter = _____



4) Perimeter = _____



5) Perimeter = _____

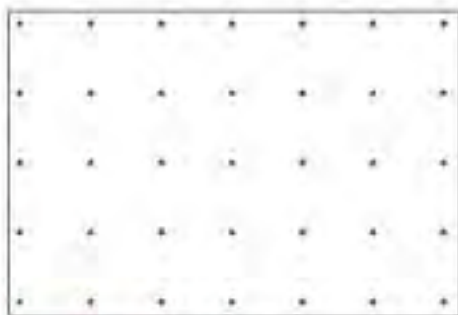


6) Perimeter = _____

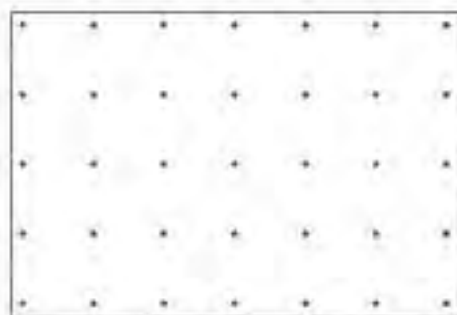
Drawing Shapes Using Perimeter

Part 1Draw a **square** with the perimeter that is given to you

1) Perimeter = 8



2) Perimeter = 4



3) Perimeter = 12

Part 2Draw a **rectangle** with the perimeter that is given to you

4) Perimeter = 6



5) Perimeter = 10



6) Perimeter = 16



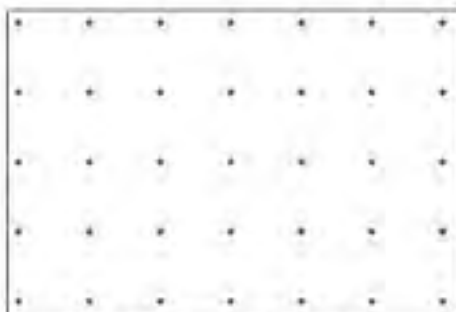
7) Perimeter = 8



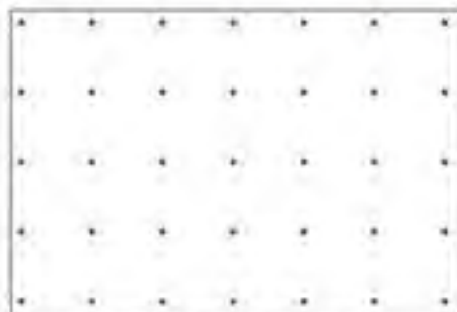
8) Perimeter = 14



9) Perimeter = 18



10) Perimeter = 20



11) Perimeter = 12

Perimeter of Regular Polygons

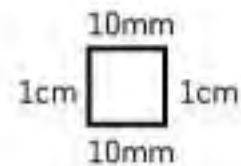
Part 1

Step 1 - Convert the units so they are all the same
Step 2 - Use a formula to calculate the perimeter

1)



2)



3)



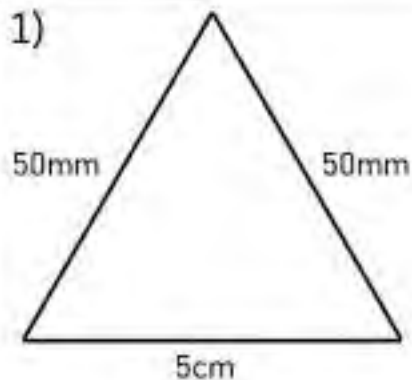
4)



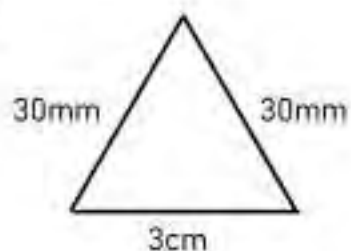
Part 2

Find the perimeter of the equilateral triangles below

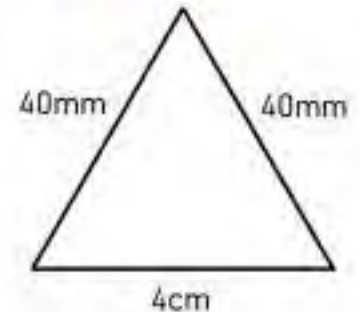
1)



2)



3)

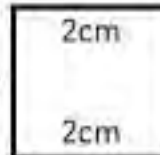


Finding the Perimeter of Shapes

The perimeter is the distance around a shape. We can find the perimeter by adding up all of the side lengths.

Example: $2 + 2 + 2 + 2 = 8\text{cm}$

2cm

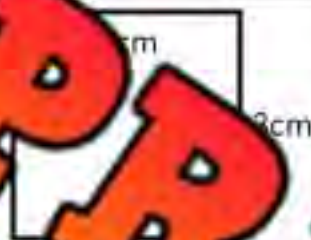


2cm

Part 1

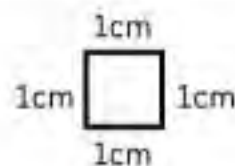
Find the perimeter of the squares below

1)



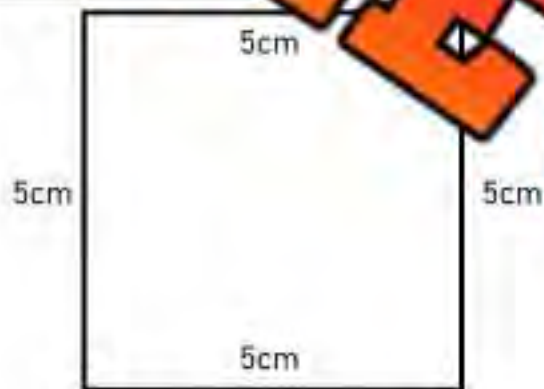
Perimeter= _____

2)

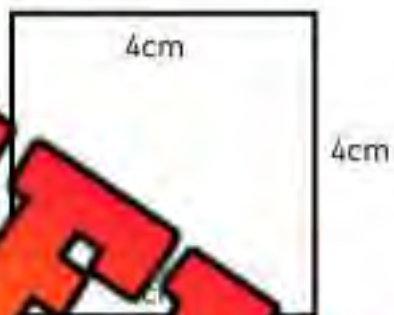


Perimeter= _____

3)



Perimeter= _____

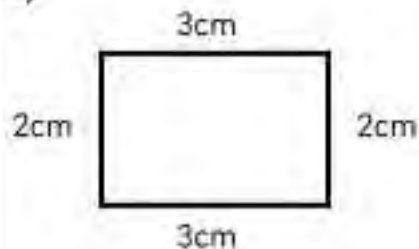


Perimeter= _____

Part 2

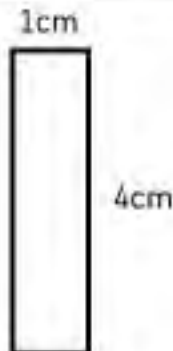
Find the perimeter of the rectangles below

1)



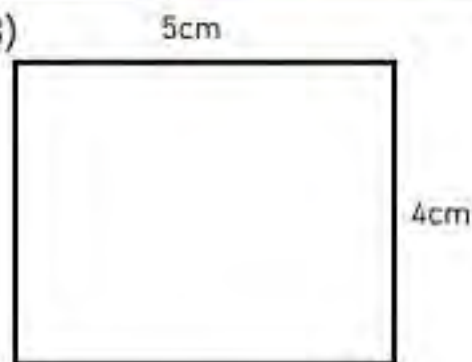
Perimeter= _____

2)



Perimeter= _____

3)



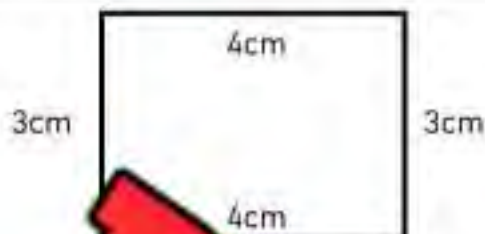
Perimeter= _____

Finding the Perimeter of Rectangles

Part 1

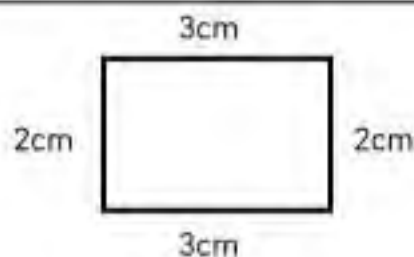
Find the perimeter of the rectangles below

1)



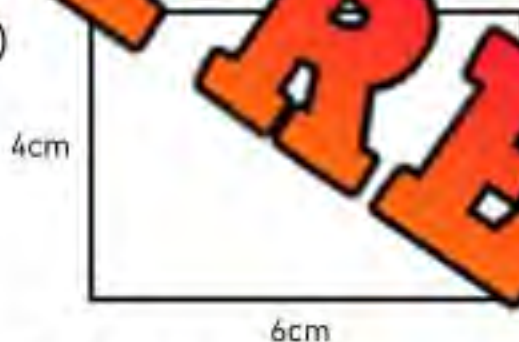
Perimeter = _____

2)



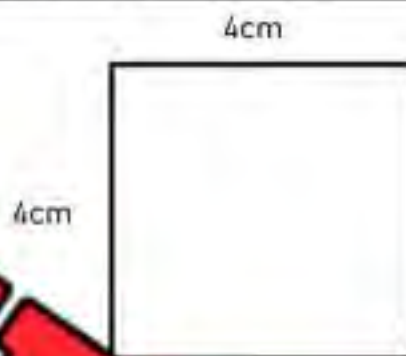
Perimeter = _____

3)



Perimeter = _____

4)



Perimeter = _____

Part 2

Answer the word problems below

1) A rectangular basement has a length of 15m and a width of 7m. What is the perimeter of the basement?



2) The perimeter of a rectangular playground is 40m. If the length of the playground is 15m, what is the width?



3) The basketball court has a width of 12 metres and a perimeter of 72 metres. What is the length of the basketball court?

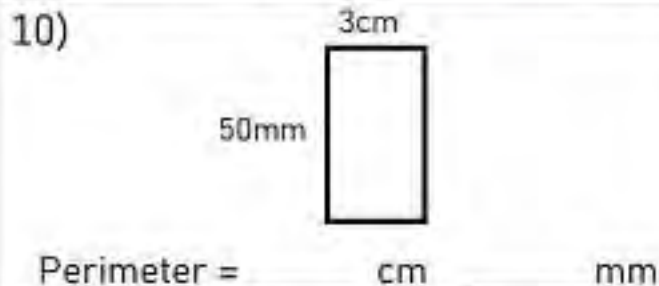
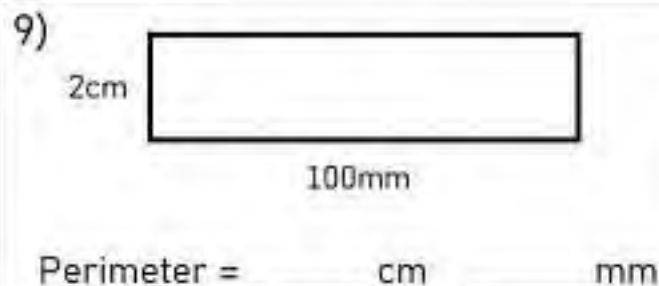
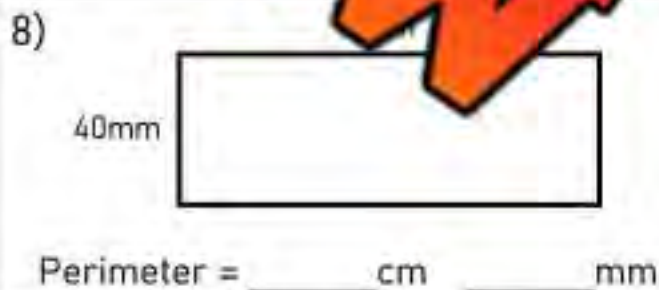
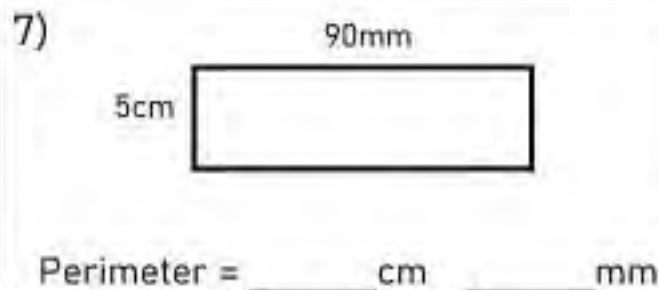
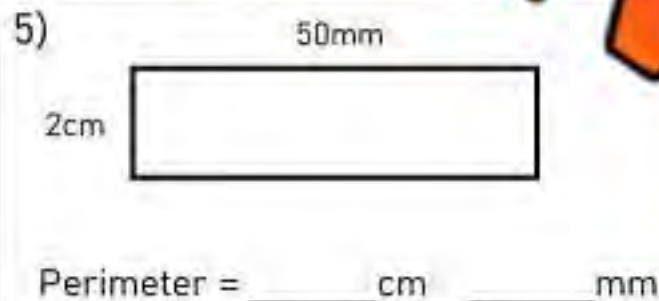
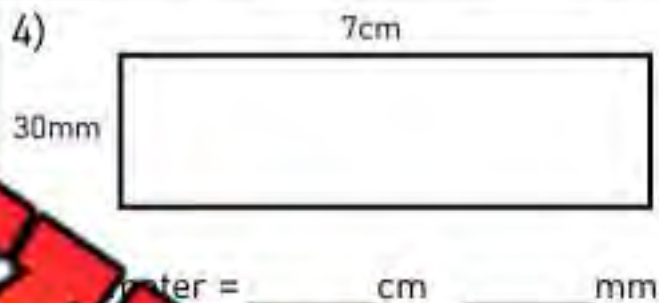
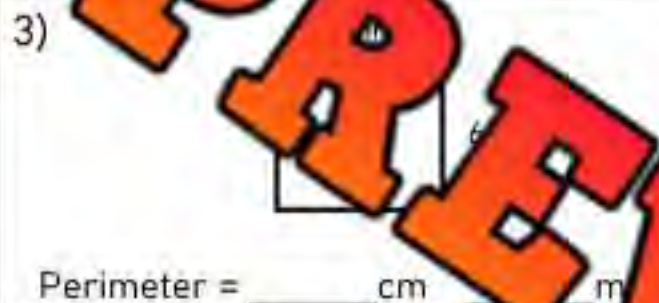
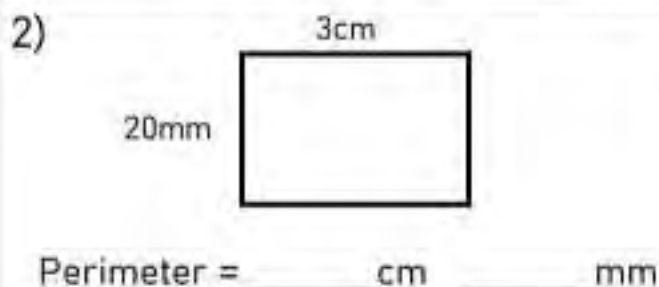
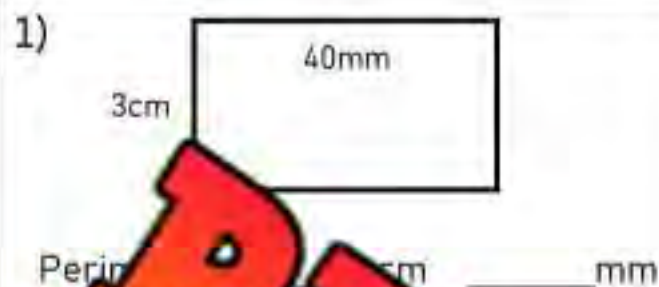


Finding Perimeter – Converting cm and mm

Instructions

Step 1 - Convert the units so they are all the same
Step 2 - Add up all the units

*** not to scale



Perimeter Word Problems**Instructions**

Draw a picture of the problem and then find the perimeter

1) A computer screen is 22cm by 12cm. What is the perimeter of the screen?

2) Paul is walking around his yard. His yard is 25m by 12m. What is the perimeter of his yard?



3) The school yard is a rectangle that is 30m by 20m. What is the perimeter of the yard?

4) A poster is 1.2m by 160cm. What is the perimeter of the poster?



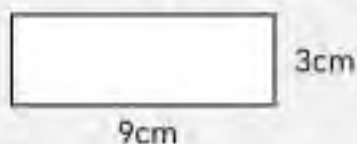
5) Mrs. Wilson is putting a border around her bulletin board. The board is 320cm by 1.6m. What is the perimeter of the bulletin board?



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
 $a + b + a + b$
 $9 + 3 + 9 + 3 = 24\text{cm}$



Formula 2
 $a + b \times 2$
 $9 + 3 \times 2 = 24\text{cm}$

Instruction: Use both formulas to calculate the perimeter of the quadrilaterals

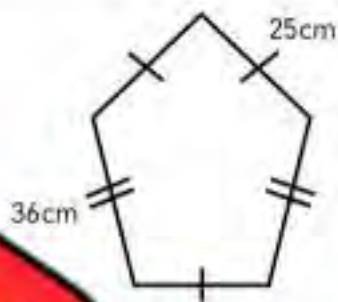
		Formula 1	Formula 2
1)	 5cm		
2)	 11cm		
3)	 15m		
4)	 22mm		
5)	 17cm		
6)	 7cm		

Perimeter – Compound Shapes

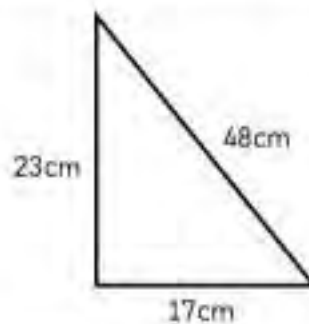
Instructions

Convert the units and calculate the perimeter of the shapes

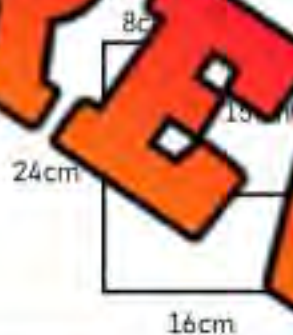
1)



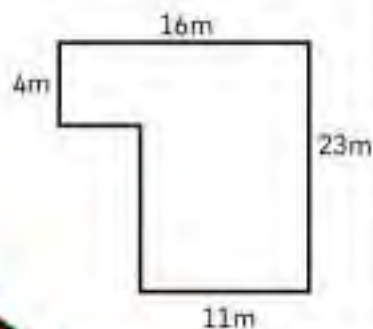
2)



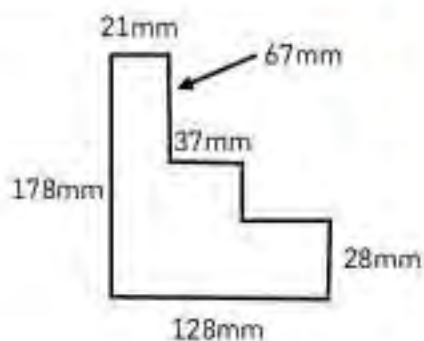
3)



4)



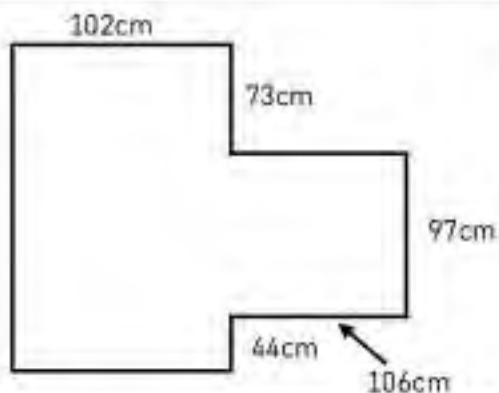
5)



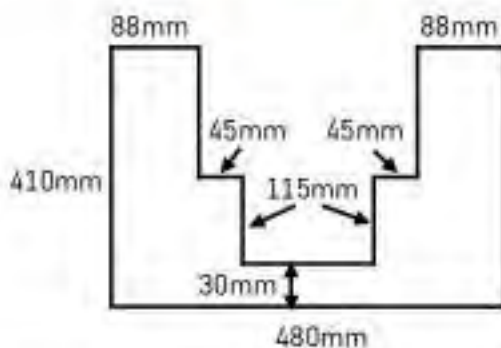
6)



7)



8)



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 taped off a crime scene in an irregular shape. The irregular shape had 6 sides with the following measurements: 9m, 28m, 16m, 35m, 12m, and 47m. What is the distance of the perimeter?



3) Jayden ran a perimeter around his neighbourhood. The perimeter he ran around was a regular hexagon. Each side was 415m long. What is the distance Jayden ran?



Name: _____

Title: Perimeter Patrol: Measuring Shapes!**Objective**

What are we learning about?

Students will learn to find the perimeter of regular and irregular polygons by measuring and adding the lengths of their sides.

Materials

What you will need for the activity.

- Large sheets of paper or graph paper
- Markers
- Rulers or measuring tapes
- Scissors

**Instructions**

How you will complete the activity.

1. Start the activity by explaining what a perimeter is and how to calculate it by adding up the lengths of all sides of a polygon.
2. Hand out graph paper, rulers, pencils, and erasers to each student.
3. Have the students draw several different polygons on their graph paper, both regular (e.g., squares, rectangles) and irregular (e.g., shapes with sides of different lengths).
4. Ask students to carefully measure each side of their polygons using the rulers and write down the measurements.
5. Instruct students to add up the lengths of all sides for each polygon to find the perimeter.
6. Optional: Once students have calculated the perimeters, let them cut out their polygons and create a display on a bulletin board.

Draw

Draw regular polygons below. Label their perimeter inside the shape.

Regular Polygons

PREVIEW

Name: _____

40

Curriculum Connection
SS.1

Draw

Draw irregular polygons below. Label their perimeter inside the shape.

Irregular Polygons

PREVIEW

Reflection

Answer the questions below.

1) How did you measure the sides of your polygons accurately?

2) What strategies did you use to add up the side lengths?

3) Were there any shapes that were easier to find the perimeter of? Why?

4) How does the perimeter change if you make one side longer or shorter?

5) How did working in a team help you in this activity?

PREVIEW

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.

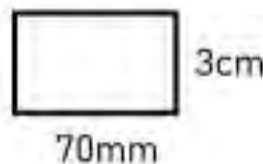


Perimeter = _____ cm _____ mm

- 2) A soccer field has a length of 20m and a perimeter of 90m. What is the width of the soccer field?

Name: _____

- 1) Convert the units so they are all the same and calculate the perimeter.

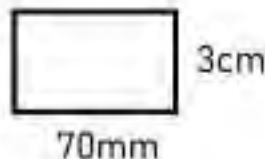


Perimeter = _____ cm _____ mm

- 2) A soccer field has a length of 20m and a perimeter of 90m. What is the width of the soccer field?

Name: _____

- 1) Convert the units so they are all the same and calculate the perimeter.



Perimeter = _____ cm _____ mm

- 2) A soccer field has a length of 20m and a perimeter of 90m. What is the width of the soccer field?

Name: _____

- 1) Convert the units so they are all the same and calculate the perimeter.



Perimeter = _____ cm _____ mm

- 2) A soccer field has a length of 20m and a perimeter of 90m. What is the width of the soccer field?

Introduction to Area

Area is the amount of surface or space inside a two-dimensional region.

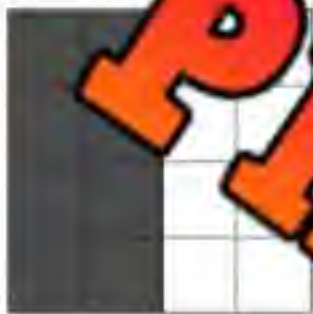
Example - The area of the shape is 7 squares.



Instructions

What is the area of the shape in squares?

1)



_____ squares

3)



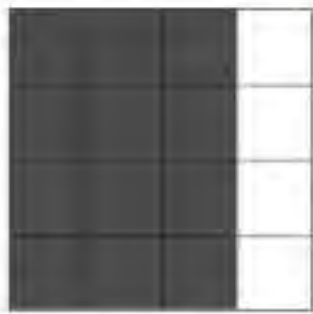
_____ squares

4)



_____ squares

5)



_____ squares

6)



_____ squares

7)



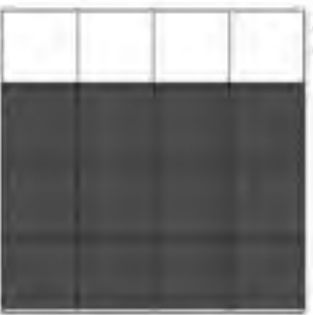
_____ squares

8)



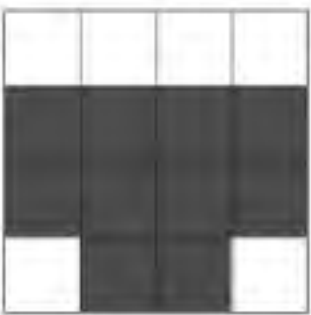
_____ squares

9)



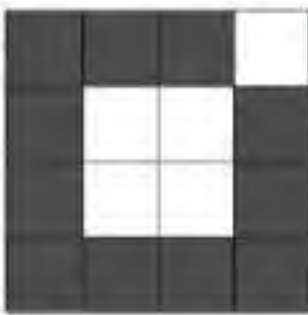
_____ squares

10)



_____ squares

11)



_____ squares

12)



_____ squares

Introduction to Area

Instructions

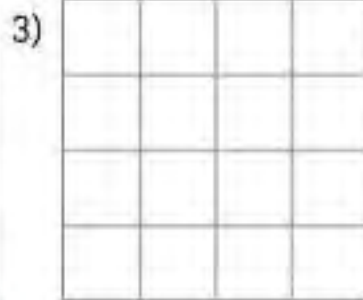
Shade in the area



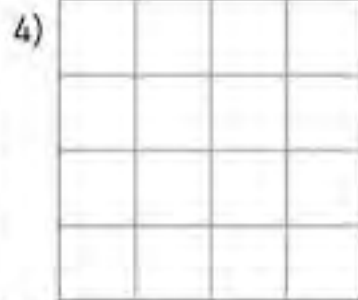
1 square



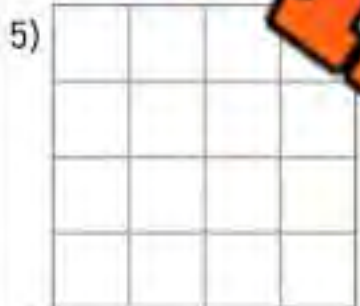
10 squares



7 squares



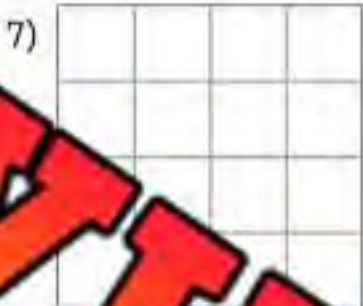
9 squares



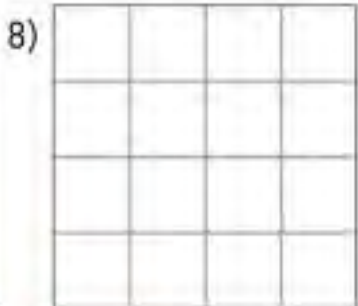
14 squares



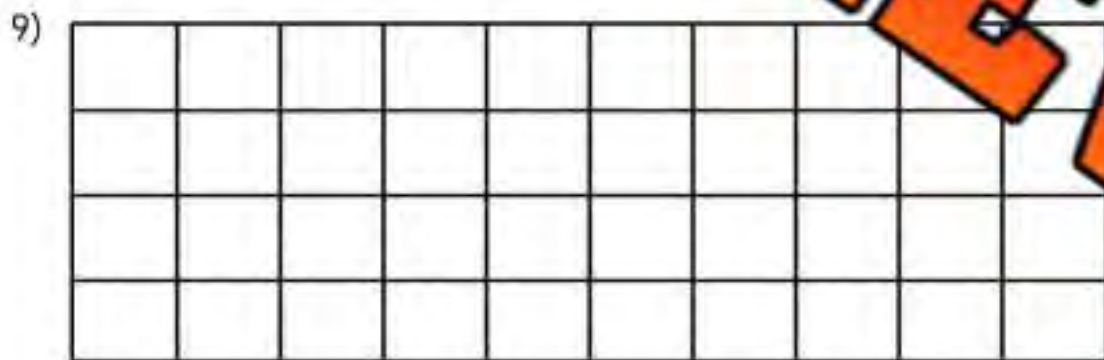
12 squares



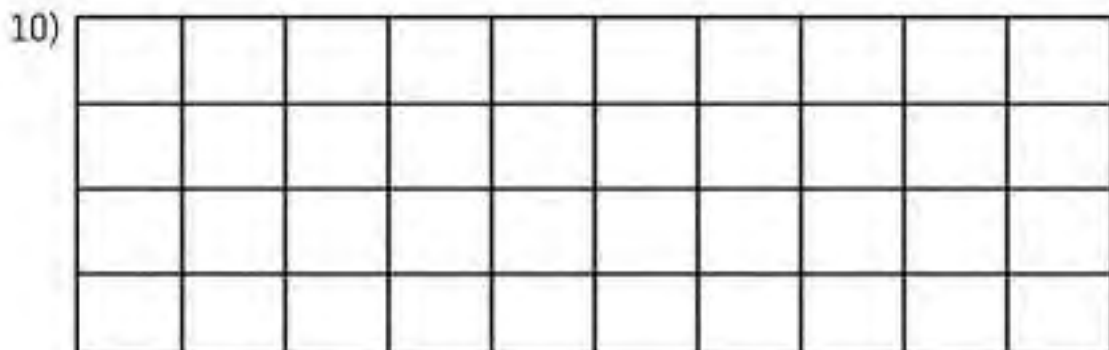
13 squares



16 squares



40 squares



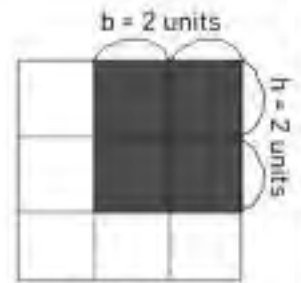
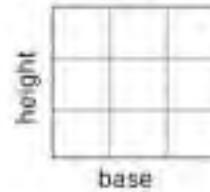
36 squares

PREVIEW

Area - Units Squared

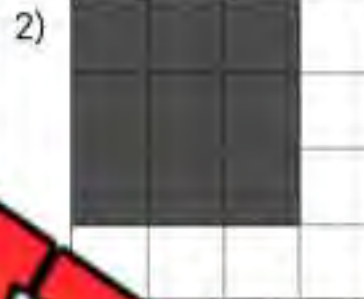
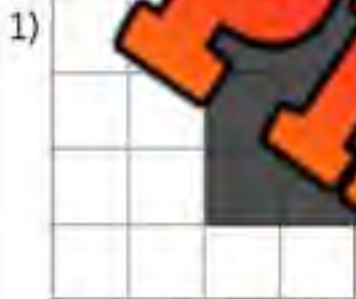
When we calculate the area of a shape, we can use the following formula

$$A = \text{base (b)} \times \text{height (h)}$$

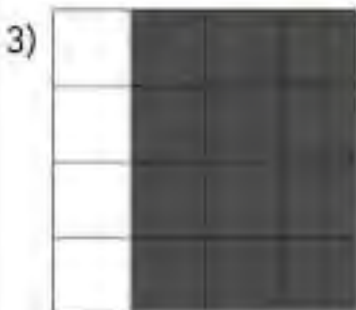


$$\begin{aligned} A &= b \times h \\ A &= 2 \times 2 \\ A &= 4 \text{ units}^2 \end{aligned}$$

Instructions Find the area of the shapes below



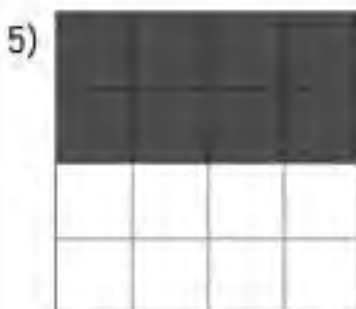
$$\begin{aligned} A &= b \times h \\ A &= _ \times _ \\ A &= _ \text{ units}^2 \end{aligned}$$



$$\begin{aligned} A &= b \times h \\ A &= _ \times _ \\ A &= _ \text{ units}^2 \end{aligned}$$



$$\begin{aligned} A &= b \times h \\ A &= _ \times _ \\ A &= _ \text{ units}^2 \end{aligned}$$



$$\begin{aligned} A &= b \times h \\ A &= _ \times _ \\ A &= _ \text{ units}^2 \end{aligned}$$



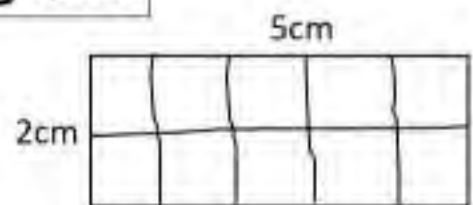
$$\begin{aligned} A &= b \times h \\ A &= _ \times _ \\ A &= _ \text{ units}^2 \end{aligned}$$




$$\begin{aligned} A &= b \times h \\ A &= _ \times _ \\ A &= _ \text{ units}^2 \end{aligned}$$


Calculating Area Using CM


We can draw lines on shapes to segment them into cm squares. Try your best to make the squares equal.





Instructions Draw lines in the shapes below to create cm squares. Then count the squares


1) 
Area = _____

2) 
Area = _____ cm²

3) 
Area = _____

4) 
Area = _____

5) 
Area = _____

6) 
Area = _____

Finding the Area of Rectangles**Instructions**Find the area ($A = b \times h$)

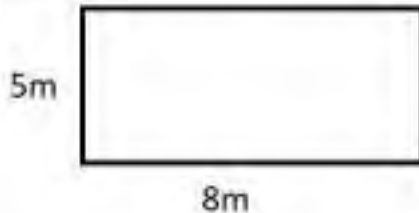
*Not to Scale

1)



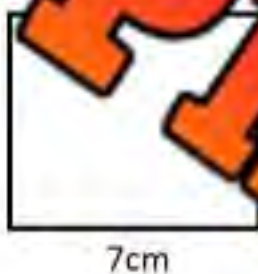
Area = _____

2)



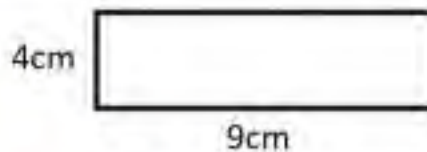
Area = _____

3)



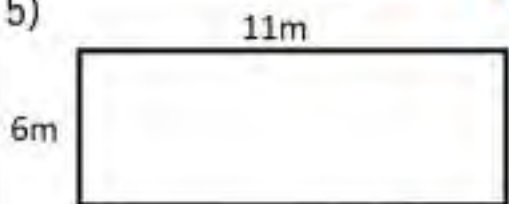
Area = _____

4)



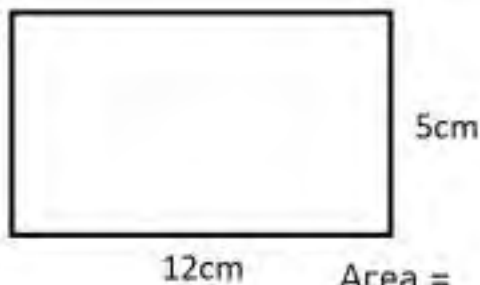
Area = _____

5)



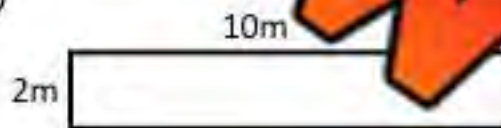
Area = _____

7)



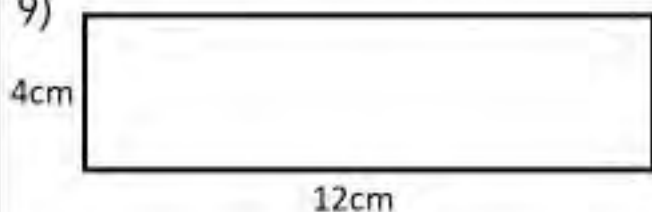
Area = _____

8)



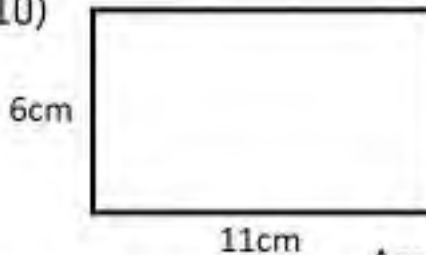
Area = _____

9)



Area = _____

10)



Area = _____

Exit Cards

Cut Out

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

Name: _____

Find the area ($A = b \times h$)

a)

3cm



8cm

Area = _____

b)



11m

7m

A = _____

A = _____ m²

Name: _____

Find the area ($A = b \times h$)

a)

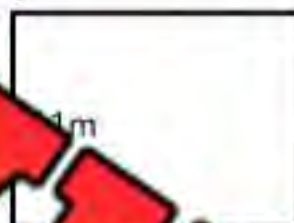
3cm



8cm

Area = _____

b)



11m

7m

A = b x h

A = _____ x _____

A = _____ m²

Name: _____

Find the area ($A = b \times h$)

a)

3cm



8cm

Area = _____

b)



11m

7m

A = b x h

A = _____ x _____

A = _____ m²

Name: _____

Find the area ($A = b \times h$)

a)

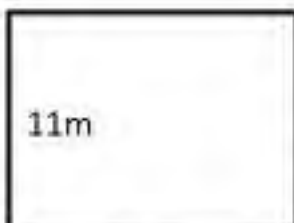
3cm



8cm

Area = _____

b)



11m

7m

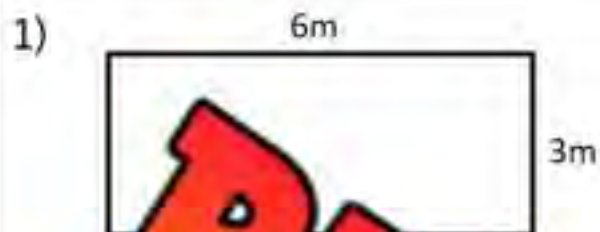
A = b x h

A = _____ x _____

A = _____ m²

Perimeter and Area**Instructions**

Step 1 – Find the perimeter (add up all the sides)
Step 2 – Find the area ($A = b \times h$)

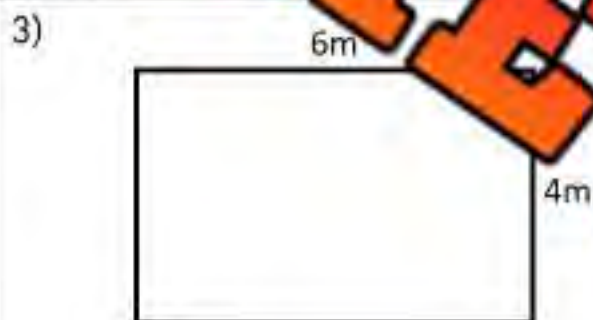


Perimeter: _____

Area: _____

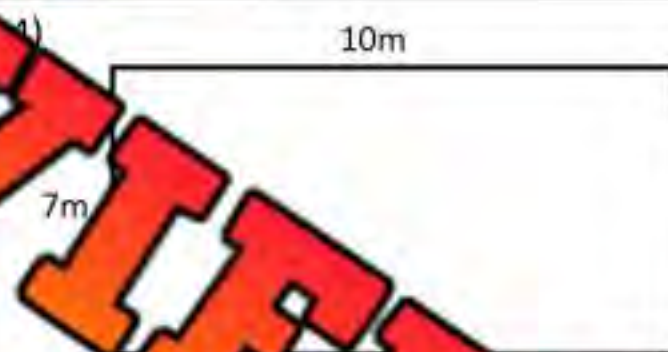


Perimeter: _____ m

Area: _____ m²

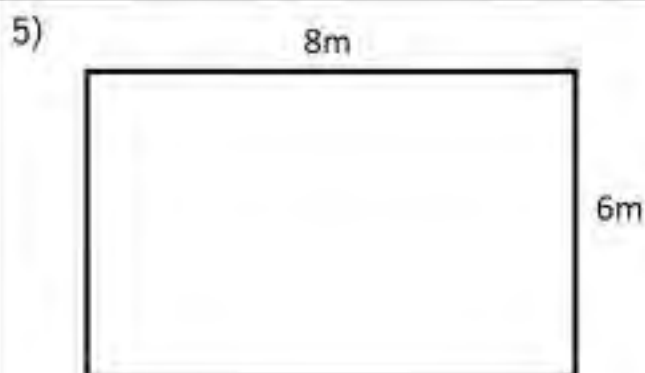
Perimeter: _____

Area: _____



Perimeter: _____

Area: _____



Perimeter: _____

Area: _____



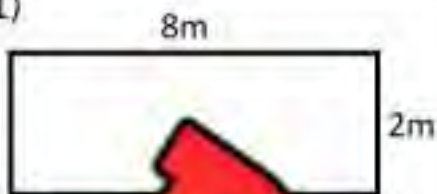
Perimeter: _____

Area: _____

Same Area – Different Perimeter**Instructions**

Is it possible for a shape to have the same area and a different perimeter?

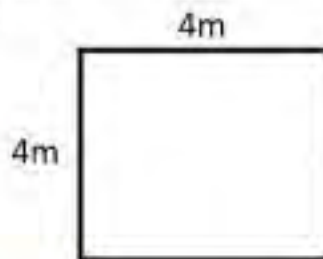
1)



Perimeter: _____ m

Area: _____ m^2

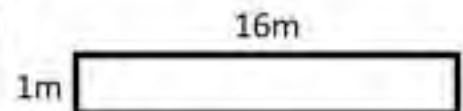
2)



Perimeter: _____ m

Area: _____ m^2

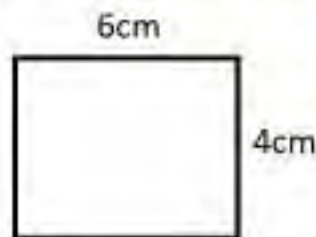
3)



Perimeter: _____ m

Area: _____ m^2

4)



Perimeter: _____ cm

Area: _____ cm^2

6)



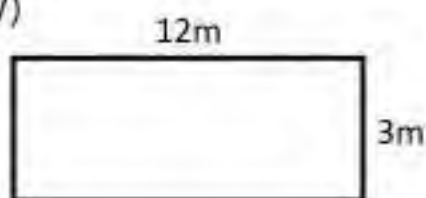
Perimeter: _____ cm

Area: _____ cm^2

Perimeter: _____ cm

Area: _____ cm^2

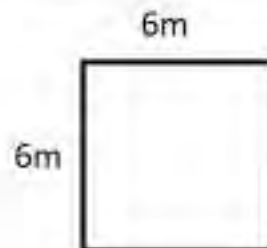
7)



Perimeter: _____ m

Area: _____ m^2

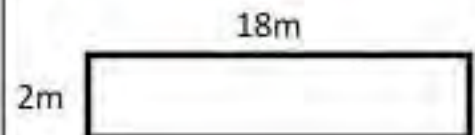
8)



Perimeter: _____ m

Area: _____ m^2

9)



Perimeter: _____ m

Area: _____ m^2

Area Word Problems**Instructions**

Draw a picture of the problem and then find the area

1) A phone is 12cm by 6cm. What is the area of the phone?



2) A pool is 11m by 5m. What is the area of the pool?



3) A candy wrapper is 4cm wide and 3cm long. What is the area of the wrapper?



4) A square box is 12cm wide. What is the area of the box?



5) A door is 2m by 1.5m. What is the area of the door?



Exit Cards

Cut Out

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

Name: _____

- 1) Find the perimeter and the area of the shape below



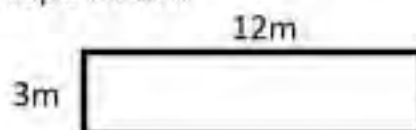
Perimeter: _____ m

Area: _____ m²

- 2) A kitchen table is 3m by 100cm. What is the area of the kitchen table?

Name: _____

- 1) Find the perimeter and the area of the shape below



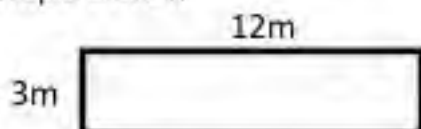
Perimeter: _____ m

Area: _____ m²

- 2) A kitchen table is 3m by 100cm. What is the area of the kitchen table?

Name: _____

- 1) Find the perimeter and the area of the shape below



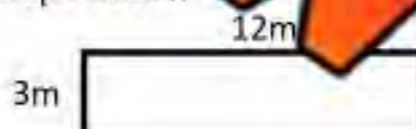
Perimeter: _____ m

Area: _____ m²

- 2) A kitchen table is 3m by 100cm. What is the area of the kitchen table?

Name: _____

- 1) Find the perimeter and the area of the shape below


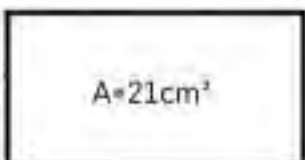
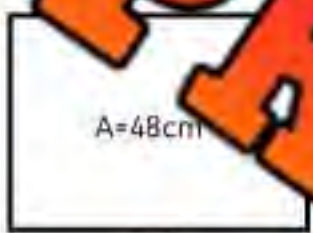
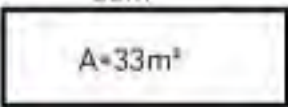
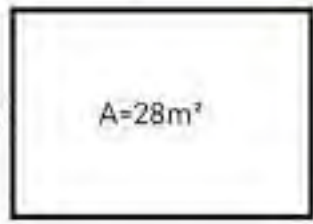

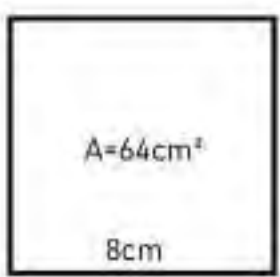
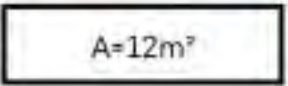
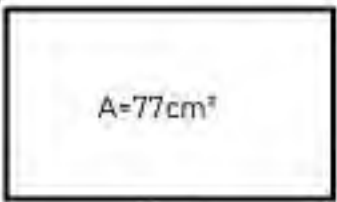
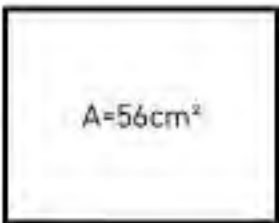


Perimeter: _____ m

Area: _____ m²

- 2) A kitchen table is 3m by 100cm. What is the area of the kitchen table?

Finding the Missing Information**Instructions**Find the missing value ($A = b \times h$)

1)  A=30cm ² 5cm Base = _____ Height = _____ Area = _____	2)  3cm A=21cm ² Base = _____ Height = _____ Area = _____
3)  A=48cm ² 8cm Base = _____ Height = _____ Area = _____	4)  11m A=33m ² Base = _____ Height = _____ Area = _____
5)  4m A=28m ² Base = _____ Height = _____ Area = _____	6)  7m A=7m ² Base = _____ Height = _____ Area = _____
7)  A=64cm ² 8cm Base = _____ Height = _____ Area = _____	8)  1m A=12m ² Base = _____ Height = _____ Area = _____
9)  A=77cm ² 11cm Base = _____ Height = _____ Area = _____	10)  7cm A=56cm ² Base = _____ Height = _____ Area = _____

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 88cm^2 . The base of the paper is 8cm . What is the height of the paper?



2) Jack's yard has an area of 56m^2 . The height of the yard is 8m . What is the base?



3) A bus has an area of 24m^2 . The height of the bus is 3m . What is the base?



4) A square poster has an area of 36cm^2 . What is the base and height?



5) A cookie sheet has an area of 72cm^2 . The base of the sheet is 9cm . What is the height of the cookie sheet?



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 value ($A = b \times h$)

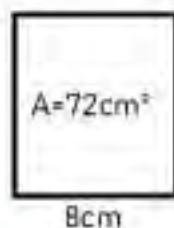
Base = _____

= _____

= _____

2) A garden has an area of 45m^2 . The base of the sheet is 9m. What is the height of the garden?

Name: _____

1) Find the missing value ($A = b \times h$)

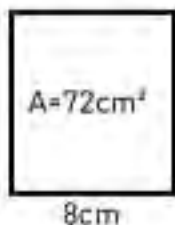
Base = _____

Height = _____

Area = _____

2) A garden has an area of 45m^2 . The base of the sheet is 9m. What is the height of the garden?

Name: _____

1) Find the missing value ($A = b \times h$)

Base = _____

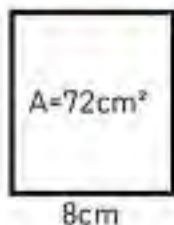
Height = _____

Area = _____

2) A garden has an area of 45m^2 . The base of the sheet is 9m. What is the height of the garden?

Name: _____

1) Find the missing value



Base = _____

Height = _____

Area = _____

2) A garden has an area of 45m^2 . The base of the sheet is 9m. What is the height of the garden?

Calculating Area and Perimeter - House



Instructions Calculate the area and perimeter for each room in the house

Room	Perimeter	Area
Garage		
Front Porch		
Living Room		
Entrance		
Hallway		
Dining Room		
Kitchen		
Balcony		

Room	Perimeter	Area
Back Deck		
Bathroom 1		
Bathroom 2		
Bathroom 3		
Bedroom 1		
Bedroom 2		
Bedroom 3		

Perimeter and Area – Room Size**Instructions**

Answer the word problems below



Ben and Brayden are arguing over who's room is larger. Both of their rooms are rectangular. Ben's room has a perimeter of 14 metres and Brayden's room has a perimeter of 18 metres.

- 1) Whose room is larger? Explain why you think that?
- 2) Draw rectangles for Ben's room and Brayden's room below. Label them with the dimensions (length and width in metres).

_____om

A large empty rectangular box for drawing Ben's room.

Brayden's Room

A large empty rectangular box for drawing Brayden's room.

- 3) a) What is the area of Ben's room? _____
b) What is the area of Brayden's room? _____
- 4) Could Brayden and Ben have different shaped rooms? Draw _____ again.

Ben's Room

A large empty rectangular box for drawing a different version of Ben's room.

Brayden's Room

A large empty rectangular box for drawing a different version of Brayden's room.

- 5) a) What is the area of this version of Ben's room? _____
b) What is the area of this version of Brayden's room? _____

Calculating Area and Perimeter - Gym

Questions

Answer the word problems below



Roger is building a gym. His walls can have a perimeter of 44 metres. He wants the largest area possible for his gym.

1) Draw the gym below. Label the walls with the dimensions (measurements in metres).

2) What is the area of the gym?

3) What is the perimeter of the gym?

4) What shape is the gym? Why does this shape give the largest area?

5) What perimeter of the gym would provide the smallest area? Draw the gym and label the walls with the new dimensions.

PREVIEW

Perimeter and Area - Garden**Questions**

Answer the word problems below

Rob is building a flower garden in his backyard. His garden has an area of 36m^2 .

- 1) What is the least amount of fencing that he needs to enclose the garden?



- 2) What is the perimeter of the garden?

- 3) What shape is the garden?

PREVIEW

Scavenger Hunt: Area and Perimeter

Objective

What are we learning about?

Students will practice calculating the area and perimeter of various shapes, enhancing their understanding of these geometric concepts through a fun and engaging scavenger hunt.

Materials

What you will need for the activity.

- Set of index cards with area and perimeter questions (provided)
- Small bags or envelopes for teams to collect their cards
- Small prizes or checkmarks for correct answers
- Tape to hide cards around the classroom or designated safe outdoor area

$$5 + 3 = 8$$



Instructions

How you will complete the activity.

- 1) **Prepare the Cards:** Write different area and perimeter questions on index cards. Use the questions generated above.
- 2) **Hide the Cards:** Hide the cards around the classroom or designated safe outdoor area. Tape them under chairs, desks, or tuck them into non-obvious places.
- 3) **Divide into Teams:** Divide the class into small teams and give each team a small bag or envelope to collect their cards.
- 4) **Explain the Game:** Explain the game to the students. Each team will hunt for a card, solve the problem on it as quickly as they can, and return to you for verification.
- 5) **Start the Game:** Say "Go!" and each team rushes to find their first card.
- 6) **Verify Answers:** When a team thinks they have the correct answer, they come back to you. If correct, they receive a small prize (or a checkmark) and move on to find the next card.
- 7) **Continue Playing:** The game continues until all cards are found or you call time. The team with the most correct answers wins.
- 8) **Discuss:** After the game, discuss the problems and solutions each team encountered, focusing on the methods used to calculate the area and perimeter.

Index cards

Cut out the cards below

A garden has an area of 45m^2 . The base of the garden is 9m . What is the height of the garden?

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?

Find the missing value (A)
Base = 8cm , Height = 7cm
Area = _____

A computer screen is 22cm by 12cm . What is the perimeter of the screen?

A piece of paper has an area of 88cm^2 . The base of the paper is 8cm . What is the height of the paper?

A rectangular basement has a length of 12m and a width of 7m . What is the perimeter of the basement?

A phone is 12cm by 6cm . What is the area of the phone?

A square has a side length of 10cm . What is the area of the square?

Index cards

Cut out the cards below

A rectangle has a perimeter of 50m. If the length is 15m, what is the width?

A rectangle has an area of 120cm^2 . If the height is 10cm, what is the base?

A rectangular garden has a length of 12m and a width of 8m. What is the area of the garden?

A rectangular field has an area of 200m^2 . If the width is 10m, what is the length?

A square playground has an area of 81m^2 . What is the length of one side of the playground?

A square garden has a side length of 6m. What is the area of the garden?

A rectangular sheet of paper has a perimeter of 60cm. If the width is 10cm, what is the length?

A rectangular box has a length of 10cm, a width of 5cm, and a height of 3cm. What is the perimeter of the base?

PREVIEW

Index cards

Cut out the cards below

A rectangular plot of land has a length of 50m and a width of 20m. What is the perimeter of the plot?

A rectangular garden has an area of 64m^2 . If the length is 8m, what is the width?

A square has a side length of 10m. What is the area of the square?

A rectangle has a length of 14m and a width of 5m. What is the perimeter of the rectangle?

A rectangle has a length of 8m and a width of 5m. What is the perimeter of the rectangle?

A rectangle has an area of 72cm^2 and a base of 9cm. What is the height?

A rectangular pool has a length of 30m and a width of 10m. What is the area of the pool?

A rectangular classroom has a length of 10m and a width of 6m. What is the perimeter of the classroom?

Index cards

Cut out the cards below

A rectangular piece of fabric has an area of 42cm^2 . If the width is 6cm , what is the length?

A rectangular fence has a length of 15m and a width of 9m . What is the perimeter of the fence?

A square tile has a side length of 9cm . What is the area of the tile?

A rectangular piece of wood has an area of 32cm^2 . If the height is 4cm , what is the base?

A rectangular field has a width of 10m and a length of 25m . What is the area of the field?

A rectangular glass has a perimeter of 40m . If the width is 12m , what is the length?

A rectangle has an area of 84cm^2 . If the base is 7cm , what is the height?

A rectangle has an area of 48m^2 . If the width is 6m , what is the length?

Measurement Unit Test**Part 1**

Measure the side lengths and then find the area and perimeter

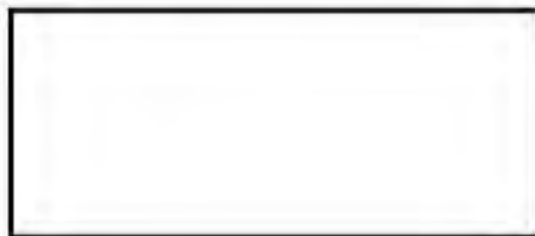
1)



Perimeter: _____ cm

Area: _____ cm²

2)



Perimeter: _____ cm

Area: _____ cm²

3)



Perimeter: _____ cm

Area: _____ cm²

4)

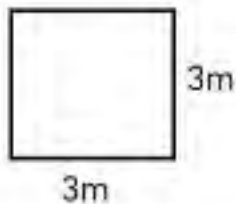


Perimeter: _____ cm

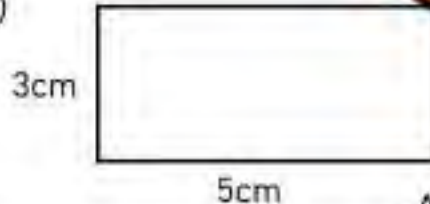
Area: _____ cm²**Part 2**

Find the area

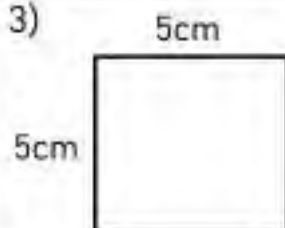
1)

Area: _____ m²

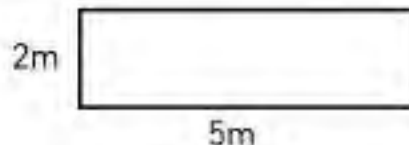
2)

Area: _____ cm²

3)

Area: _____ cm²

4)

Area: _____ m²

Part 3

Solve the word problems below. Make sure to show your work

1) A piece of paper is 8cm wide and 10cm tall. What is the area of the paper?

2) Henry's picture frame has an area of 56cm^2 . The frame has a base of 7cm. What is the height of the frame?

3) The side of a bus is an area of 100m^2 . The height of the bus is 4m. What is the base?

Part 4

Solve the word problem below. Make sure to show your work



Brad is building a flower garden in his backyard. His garden will be a square with an area of 49m^2 .

1) What is the least amount of fencing that he needs to enclose the garden? How many metres will Brad need?

2) What is the perimeter of the garden?

3) What shape is the garden?

Measuring Volume – CM Cubed and M Cubed

Centimetre Cubed (cm ³)	Metre Cubed (m ³)
Used to measure the volume of smaller objects	Used to measure volume of larger objects
	

Part 1 Use the information to decide which unit you would use to measure

1) House	6) Juice box
2) Pool	7) Recycling bin
3) Lunch box	8) Transport container
4) Living room	9) Bookshelves
5) Classroom	10) Clothing Dryer

Part 2 Write something that you would measure using the unit of measurement

1) cm ³		5) cm ³	
2) m ³		6) m ³	
3) cm ³		7) cm ³	
4) m ³		8) m ³	

Estimating Volume Using Referents

Centimetre Cubed (cm ³)	Metre Cubed (m ³)
Rubik's Cube = 216cm ³ 	3 Story Building = 2000m ³ 

Instruct

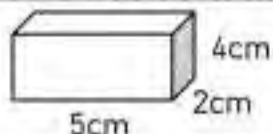
Circle which volume matches the description

1) Juice box a) 300cm ³ b) 10cm ³ c) 300m ³ 	2) Train car a) 20cm ³ b) 1000m ³ c) 20m ³ 
3) Recycling bin a) 42000cm ³ b) 200cm ³ c) 750m ³ 	4) School a) 2000m ³ b) 2000cm ³ c) 2000m ³ 
5) Skyscraper a) 2500cm ³ b) 250,000m ³ c) 1000m ³ 	6) Pencil case a) 750cm ³ b) 50cm ³ c) 1000m ³ 
7) Pool a) 80cm ³ b) 80m ³ c) 1000m ³ 	8) Shoe box a) 3000m ³ b) 3000cm ³ c) 1000m ³ 
9) House a) 750m ³ b) 750cm ³ c) 2000m ³ 	10) Candy Box a) 320cm ³ b) 2000cm ³ c) 300m ³ 

Calculating Volume - Blocks

Rectangular Prism - Calculating Volume

To find the volume of a rectangular prism, multiply the length by the width by the height.



$$v = l \times w \times h$$

$$v = 5\text{cm} \times 2\text{cm} \times 4\text{cm}$$

$$v = 40\text{cm}^3$$

Instructions

Label the rectangular prisms and then calculate the volume

1)



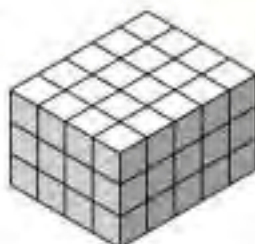
l = _____
w = _____
h = _____
v = _____

2)



l = _____
w = _____
h = _____
v = _____

3)



l = _____
w = _____
h = _____
v = _____

4)



l = _____
w = _____
h = _____
v = _____

5)



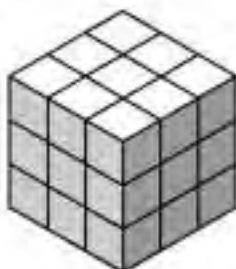
l = _____
w = _____
h = _____
v = _____

6)



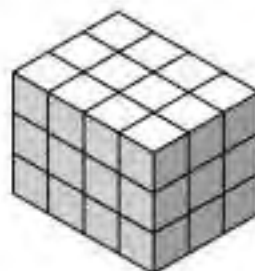
l = _____
w = _____
h = _____
v = _____

7)

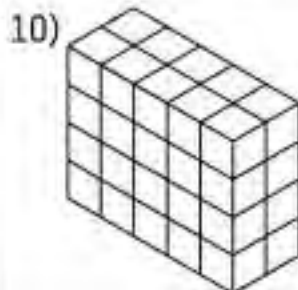
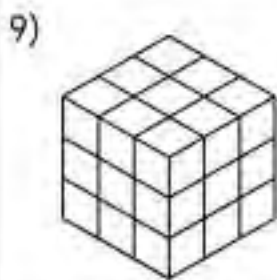
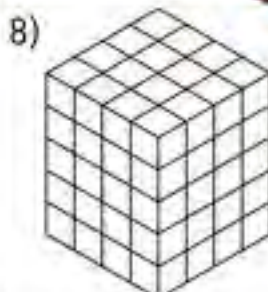
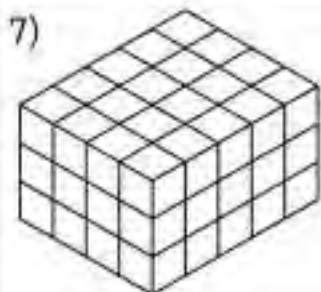
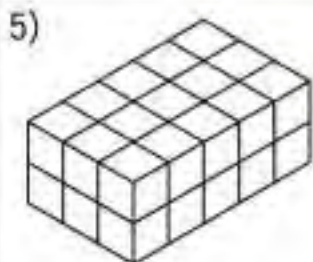
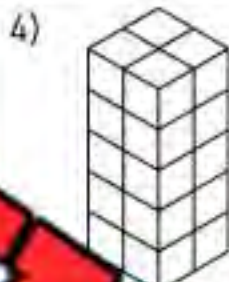
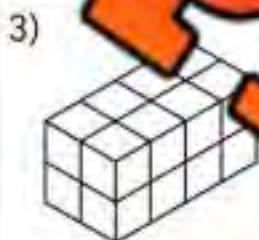
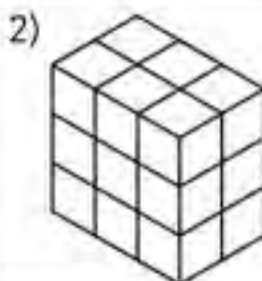
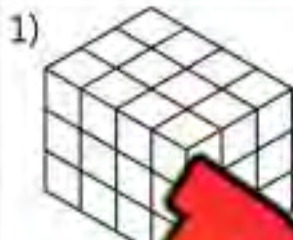


l = _____
w = _____
h = _____
v = _____

8)

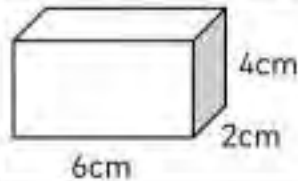


l = _____
w = _____
h = _____
v = _____

Calculating Volume - Blocks**Instructions**Calculate the volume of the rectangular prisms below - $l \times w \times h$ **PREVIEW**

Calculating Volume of Rectangular Prisms**Rectangular Prism - Calculating Volume**

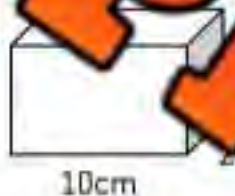
To find the volume of a rectangular prism, multiply the length by the width by the height.



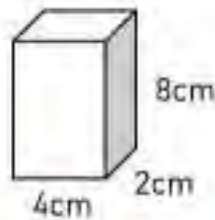
$$v = l \times w \times h$$
$$v = 6\text{cm} \times 2\text{cm} \times 4\text{cm}$$
$$v = 48\text{cm}^3$$

Instructions: Calculate the volume of the rectangular prisms

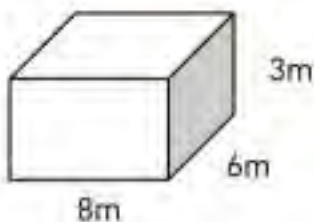
1)



2)



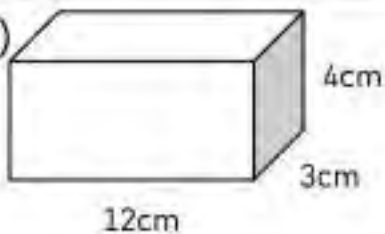
3)



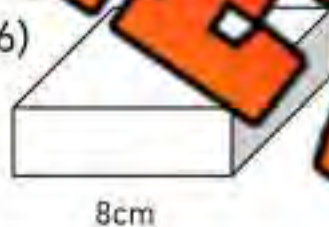
4)



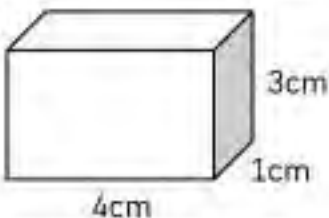
5)



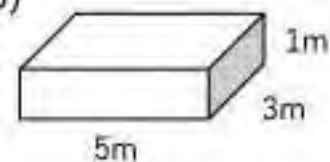
6)



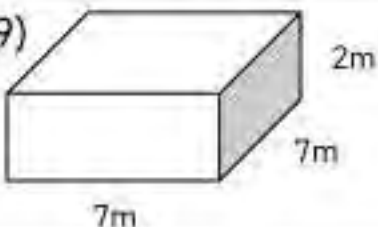
7)



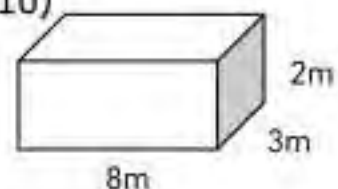
8)



9)



10)

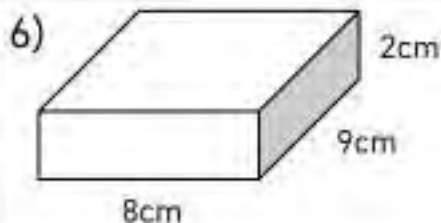
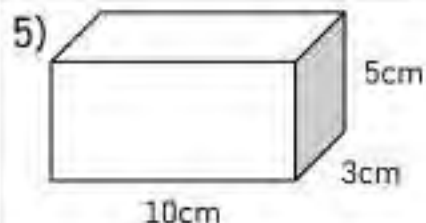
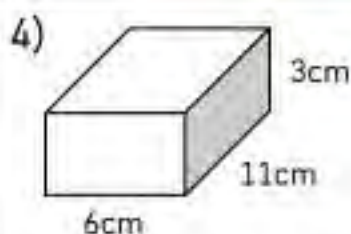
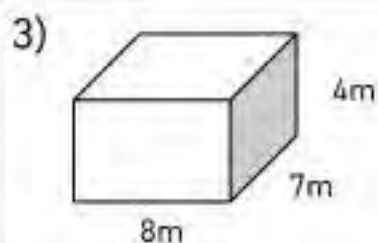
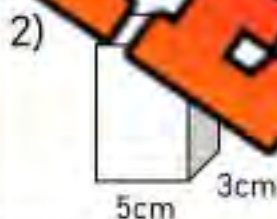
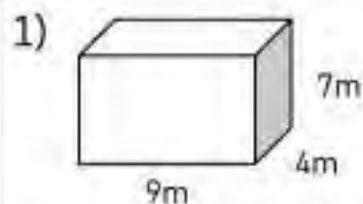


Calculating Volume of Rectangular Prisms

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	10cm	8cm	2cm	
Box 2	6cm	7cm	10cm	
Box 3	8cm	9cm	2cm	
Box 4	7cm	8cm	5cm	
Box 5	6cm	9cm	7cm	
Box 6	8cm	6cm	7cm	
Box 7	9cm	7cm	3cm	

Part 2 Calculate the volume of the rectangular prism.



Calculating Volume of Rectangular Prisms

Instructions

Label the rectangular prisms and then calculate the volume

1)



$$\begin{aligned} l &= 5\text{cm} \\ w &= 3\text{cm} \\ h &= 5\text{cm} \end{aligned}$$

$$v = \underline{\hspace{2cm}}$$

2)



$$\begin{aligned} l &= 3\text{m} \\ w &= 2\text{m} \\ h &= 9\text{m} \end{aligned}$$

$$v = \underline{\hspace{2cm}}$$

3)



$$\begin{aligned} l &= 10\text{cm} \\ w &= 5\text{cm} \\ h &= 3\text{cm} \end{aligned}$$

$$v = \underline{\hspace{2cm}}$$

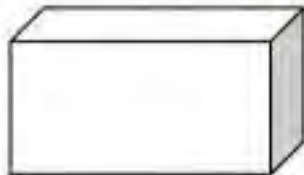
4)



$$\begin{aligned} l &= 6\text{cm} \\ w &= 11\text{cm} \\ h &= 3\text{cm} \end{aligned}$$

$$v = \underline{\hspace{2cm}}$$

5)



$$\begin{aligned} l &= 10\text{cm} \\ w &= 2\text{cm} \\ h &= 5\text{cm} \end{aligned}$$

$$v = \underline{\hspace{2cm}}$$

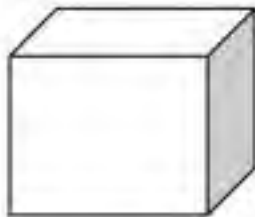
6)



$$\begin{aligned} l &= 7\text{m} \\ w &= 10\text{m} \\ h &= 2\text{m} \end{aligned}$$

$$v = \underline{\hspace{2cm}}$$

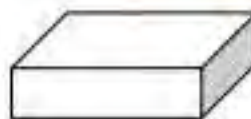
7)



$$\begin{aligned} l &= 8\text{m} \\ w &= 3\text{m} \\ h &= 6\text{m} \end{aligned}$$

$$v = \underline{\hspace{2cm}}$$

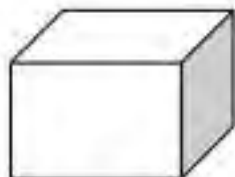
8)



$$\begin{aligned} l &= 5\text{m} \\ w &= 3\text{cm} \\ h &= 1\text{cm} \end{aligned}$$

$$v = \underline{\hspace{2cm}}$$

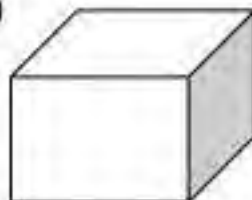
9)



$$\begin{aligned} l &= 7\text{cm} \\ w &= 6\text{cm} \\ h &= 5\text{cm} \end{aligned}$$

$$v = \underline{\hspace{2cm}}$$

10)



$$\begin{aligned} l &= 10\text{m} \\ w &= 9\text{m} \\ h &= 8\text{m} \end{aligned}$$

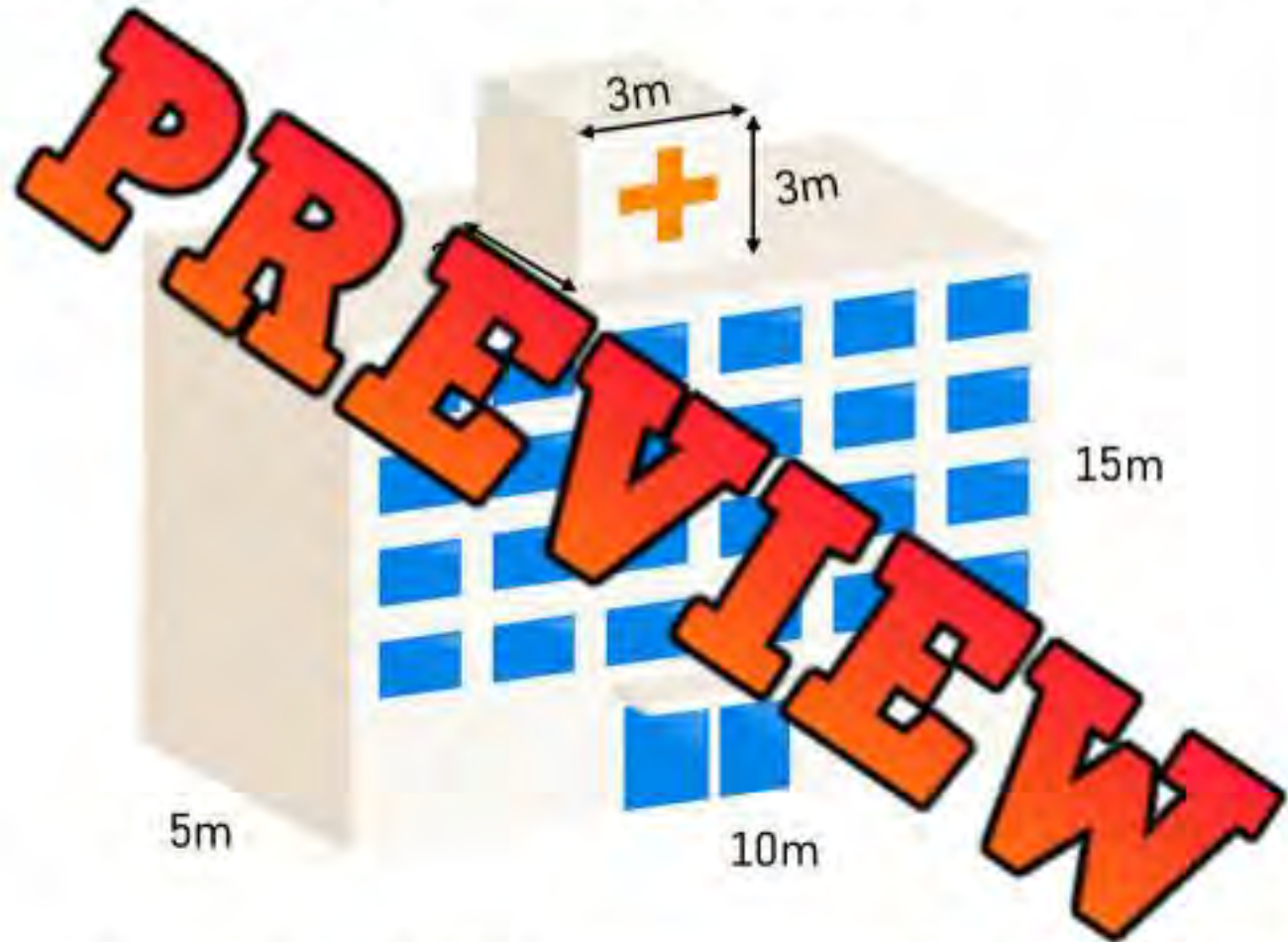
$$v = \underline{\hspace{2cm}}$$

Volume – Word Problem

Instructions

Solve the word problem below

The hospital below is made of 2 rectangular prisms. Calculate the volume of both rectangular prisms and add your answers together to find the total volume.



Volume of large part of the hospital = _____ x _____ x _____ = _____

Volume of structure on top of the hospital = _____ x _____ x _____ = _____

Total volume of the hospital = _____ + _____ = _____

Volume – Word Problem**Instructions**

Solve the word problem below

1) Howard can build a box that has a volume of 36m^3 . Draw the box and label the dimensions of the box.



2) Nora needs a box that has a volume of 400cm^3 . Draw the box and label the dimensions of the box below.



3) Kennedy has started building a box. The length is 10cm and the height is 7cm. The volume of the box needs to be 420cm^3 . What does the width need to be?



4) Alexa is measuring the volume of a cereal box. She's figured out that the height is 40cm and the width is 8cm. The volume is $4,800\text{cm}^3$. What is the length of the cereal box?



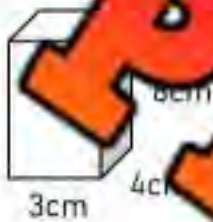
Exit Cards

Cut Out

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

Name: _____

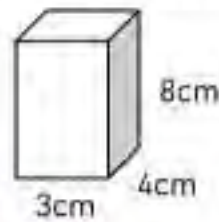
- 1) What is the volume of the rectangular prism?



- 2) A water tank has a volume of 60m^3 . If the base area is 12m^2 , what is the height of the tank?
- _____

Name: _____

- 1) What is the volume of the rectangular prism?

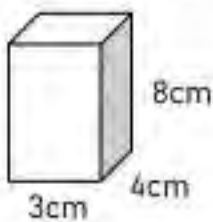


V = _____

- 2) A water tank has a volume of 60m^3 . If the base area is 12m^2 , what is the height of the tank?
- _____

Name: _____

- 1) What is the volume of the rectangular prism?

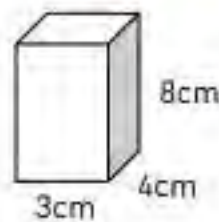


V = _____

- 2) A water tank has a volume of 60m^3 . If the base area is 12m^2 , what is the height of the tank?
- _____

Name: _____

- 1) What is the volume of the rectangular prism?



V = _____

- 2) A water tank has a volume of 60m^3 . If the base area is 12m^2 , what is the height of the tank?
- _____

Capacity

Capacity is the amount a container can hold. We can use smaller containers to fill a larger container. It is important to not underfill or overfill when we are measuring the capacity of a container.

Example – 4 smaller paper cups fill the larger cup



Instructions: Write how many of the smaller things will fit into the container



x _____



x _____



x _____



x _____



x _____



x _____





x _____



x _____



Measuring Capacity – Millilitre (mL) and Litre (L)

Millilitre (mL)	Litre (L)
Used to measure capacity of small containers	Used to measure capacity of mid to large sized containers
	

Part 1 Use the information above to decide which unit you would use to measure

1) Cup of apple juice	6) Wheelbarrow of liquid	
2) Dump truck of cement	7) Suitcase box	
3) Can of pop	8) Water in bathtub	
4) Spoonful of medicine	9) Soup in medicine	
5) Bucket of water	10) Bathtub of water	

Part 2 Write something that you would measure using the unit of measurement

1) Millilitre		5) Millilitre	
2) Litre		6) Litre	
3) Millilitre		7) Millilitre	
4) Litre		8) Litre	

Metric System Units – Capacity – Decimal Conversions

Millilitre (mL)	Litre (L)
1000 mL = 1L 1800 mL = 1.8L 	1.5L = 1500mL 3.3L = 3300mL 

Part 1 Fill in the tables below

mL	L
1000	1
2000	
3000	
	5
6000	
7000	
8000	
	9
	10

mL	L
1500	
	2.5
	3.5
4500	
6500	
	7.5
10500	

Part 2 Convert the units of measurement below

1) 1.7L = _____ mL

5) 2100mL = _____ L

9) 4.5L = _____ mL

2) 5.4L = _____ mL

6) 4700mL = _____ L

10) 5500mL = _____ L

3) 8400mL = _____ L

7) 3.6L = _____ mL

11) 4500mL = _____ L

4) 3L = _____ mL

8) 7200mL = _____ L

12) 2500mL = _____ L

Which has the Largest Capacity?



Part 1

Which measurement has the largest capacity?

1)	5.2L	510mL	2300mL	1.9L
2)	10.3L	3500mL	2.1L	1600L
3)	67L	608L	2300L	3.5L
4)	1.2L	4500mL	6500L	1.6L
5)	3600mL	2200mL	3.1L	

Part 2

Read the problem and choose the correct answer below.

- Henry and Ruby both have juice boxes. Henry's juice box is 231ml and Ruby's juice box is 0.5L. Who's juice box has a larger capacity?

- Jesse is ordering soup from a restaurant. She can choose between a bowl of 1100mL soup or a can of 1.2L soup. Which option should she choose if she wants the larger amount of soup?

- Traci and Emma are arguing over who's water bottle has the larger capacity. Traci's bottle has a capacity of 2.2L and Emma's bottle holds 1955mL.

Around the World Math Race: Converting L and ML

Objective What are we learning about?

Students will practice converting between liters and milliliters by quickly answering conversion questions in a competitive and engaging game format.

Materials What you will need for the activity.

- Liters and milliliters conversion questions (e.g., converting liters to milliliters and vice versa)
- Optional: Timer
- Chairs arranged in a circle



Instructions How to complete the activity

1. **Setup:** Arrange chairs in a circle, with one student seated in a chair. One student stands behind a seated student to start the game.
2. **Explain the Game:** Explain to the students they will be participating in a race around the circle by answering conversion questions. The student who answers correctly first moves around the entire circle and return to their original position.
3. **Start the Game:** The teacher reads out a conversion question (e.g., "How many milliliters are in 2.2 liters?").
4. **Answering the Question:** The standing student and the seated student in 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.

Questions

Use the questions below for the game

Questions

What is the equivalent of 1.5 liters in milliliters?

How many milliliters are in 2.2 liters?

How many liters are in 600 milliliters?

How many liters are in 6200 milliliters?

What is the equivalent of 0.75 liters in milliliters?

How many milliliters are in 3.5 liters?

How many liters are in 450 milliliters?

How many liters are in 1800 milliliters?

What is the equivalent of 0.25 liters in milliliters?

How many milliliters are in 4.2 liters?

How many liters are in 1200 milliliters?

How many liters are in 5000 milliliters?

What is the equivalent of 1.25 liters in milliliters?

How many milliliters are in 6.3 liters?

How many liters are in 700 milliliters?

How many liters are in 3600 milliliters?

What is the equivalent of 2.5 liters in milliliters?

How many milliliters are in 5.8 liters?

How many liters are in 900 milliliters?

How many liters are in 4700 milliliters?

What is the equivalent of 0.5 liters in milliliters?

How many milliliters are in 7.4 liters?

Questions

Use the questions below for the game

Questions

How many liters are in 300 milliliters?

How many liters are in 2400 milliliters?

What is the equivalent of 3 liters in milliliters?

How many milliliters are in 8.5 liters?

How many liters are in 1500 milliliters?

How many liters are in 3000 milliliters?

What is the equivalent of 1.5 liters in milliliters?

How many milliliters are in 0.5 liters?

How many liters are in 1000 milliliters?

How many liters are in 4200 milliliters?

What is the equivalent of 0.9 liters in milliliters?

How many milliliters are in 10.1 liters?

How many liters are in 2000 milliliters?

How many liters are in 5600 milliliters?

What is the equivalent of 4.5 liters in milliliters?

How many milliliters are in 12 liters?

How many liters are in 800 milliliters?

How many liters are in 3300 milliliters?

What is the equivalent of 0.4 liters in milliliters?

How many milliliters are in 2.75 liters?

How many liters are in 950 milliliters?

How many liters are in 3750 milliliters?

Capacity - Comparing mL

There are 250 mL in one cup. The average juice box holds 200mL. A can of soda holds 355 mL, while a larger bottle of soda could hold 591 mL, 710 mL, or up to 2000 mL (2L). A tablespoon holds 15 mL.



Part 1

Does the container hold more or less than 500 mL?

1)



more

2)



less

3)



more less

4)



more less

6)



more less

7)



more less

8)



more less

more less

Part 2

Give examples of containers that hold more or less than 500 mL

Containers More Than 500 mL	Containers Less Than 500 mL

Which Capacity is the Largest?

Instructions

Which measurement makes the most sense for the picture shown

1) A pool

- a) 30,000L
- b) 1000mL
- c) 50L



2) A cup

- a) 300L
- b) 250mL
- c) 3L



3) A bottle

- a) 1L
- b) 100mL
- c) 5000mL



4) A spoon

- a) 10kL
- b) 1L
- c) 500mL



5) A wheelbarrow

- a) 100L
- b) 10L
- c) 500mL



6) A bucket

- a) 10L
- b) 100mL
- c) 300mL



7) A hot tub

- a) 20L
- b) 2000L
- c) 500mL



8) A juice box

- a) 250mL
- b) 1L
- c) 20L



9) A bath tub

- a) 5L
- b) 300L
- c) 500mL



10) A gas tank

- a) 50L
- b) 500mL
- c) 1000mL



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 of measurement below:

a) _____ mL

b) _____ L

c) 6.8 L = _____ mL

2) Solve the problem below:

Alice is buying a drink. She can choose the 1.2 L bottle or the 900 mL bottle. Which option should she choose if she wants more to drink?

Name: _____

1) Convert the units of measurement below:

a) 2.4 L = _____ mL

b) 9800 mL = _____ L

c) 6.8 L = _____ mL

2) Solve the problem below:

Alice is buying a drink. She can choose the 1.2 L bottle or the 900 mL bottle. Which option should she choose if she wants more to drink?

Name: _____

1) Convert the units of measurement below:

a) 2.4 L = _____ mL

b) 9800 mL = _____ L

c) 6.8 L = _____ mL

2) Solve the problem below:

Alice is buying a drink. She can choose the 1.2 L bottle or the 900 mL bottle. Which option should she choose if she wants more to drink?

Name: _____

1) Convert the units of measurement below:

a) 2.4 L = _____ mL

b) 9800 mL = _____ L

c) 6.8 L = _____ mL

2) Solve the problem below:

Alice is buying a drink. She can choose the 1.2 L bottle or the 900 mL bottle. Which option should she choose if she wants more to drink?

Measurement Unit Test

Part 1 Would you measure the containers below using litres or millilitres?

1) Cup of apple juice	
2) Dump truck of cement	
3) Can of	

4) Wheelbarrow of liquid	
5) Juice box	
6) Water in a hot tub	

Part 2 Fill in the blanks below

mL	
1000	
2000	
3000	
	4
	5
6000	
7000	
8000	
	9
	10

mL	L
1500	
	2.5
	3.5
6500	
8500	
	9.5
10500	

Part 3 Convert the units of measurement below

1) 1.7L _____ mL

2) 2100mL _____ L

3) 4.5L _____ mL

4) 5.4L _____ mL

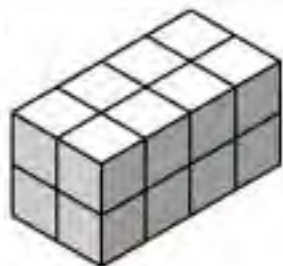
5) 4700mL _____ L

6) 5500mL _____ L

Part 4

Fill in the blanks and determine the volume

1)



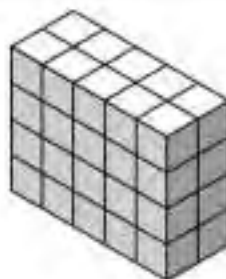
l = _____

w = _____

h = _____

v = _____

2)



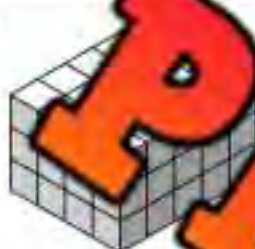
l = _____

w = _____

h = _____

v = _____

3)



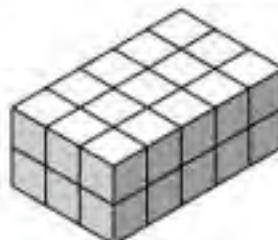
l = _____

w = _____

h = _____

v = _____

4)



l = _____

w = _____

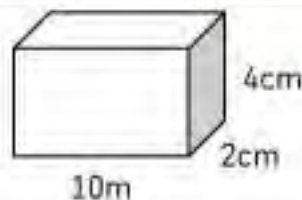
h = _____

v = _____

Part 5

Calculate the volume of the rectangular prisms below

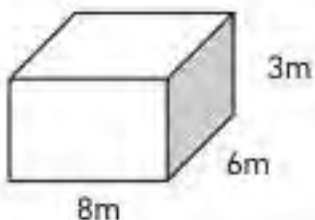
1)



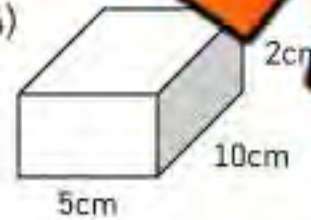
2)



3)



4)



Part 6

Solve the word problem below. Make sure to show your work

Elissa is making a box that needs to have a volume of 180cm^3 . What could the dimensions of the box be?

Horizontal and Vertical Lines

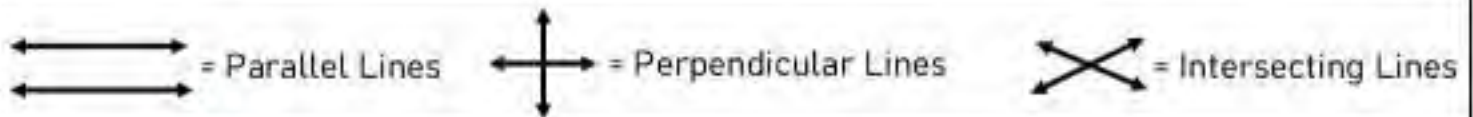
Part 1 Draw a circle around the vertical lines and a rectangle around the horizontal lines



Part 2 Label the lines in the house as either horizontal or vertical



Parallel, Perpendicular and Intersecting Lines



Part 1

Label the lines parallel, perpendicular, or intersecting

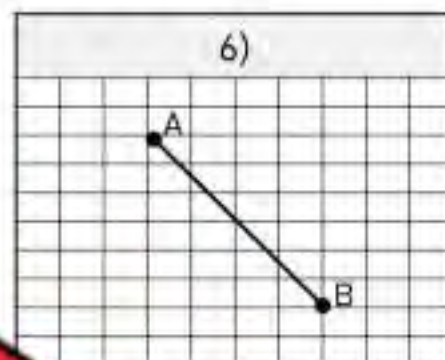
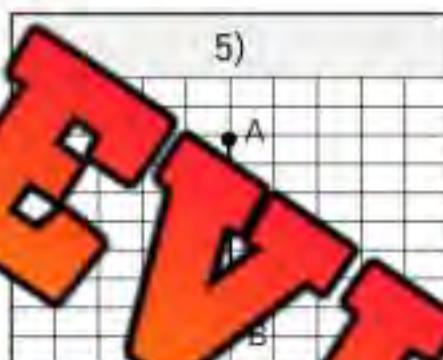
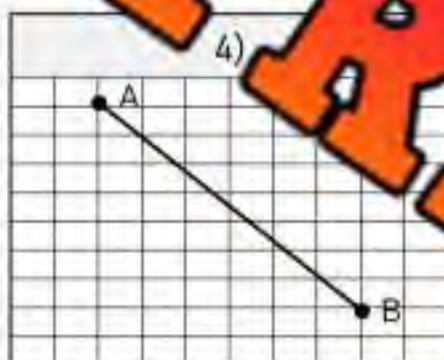
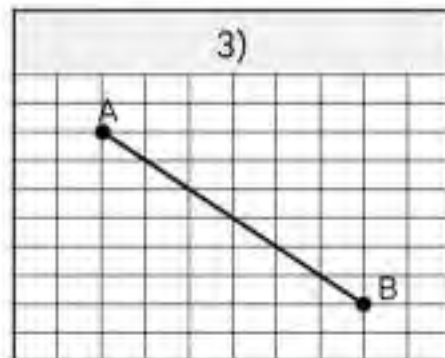
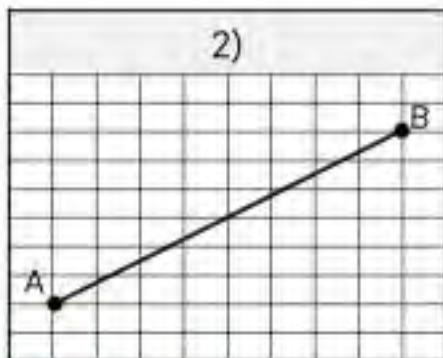
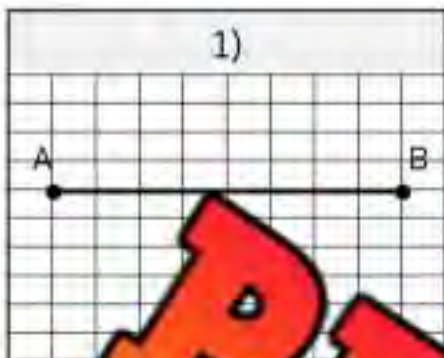
1)	2)	3)	4)
5)	6)	7)	8)

Part 2

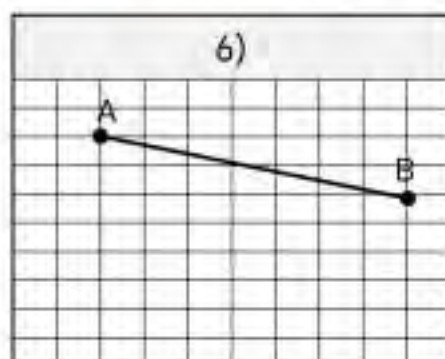
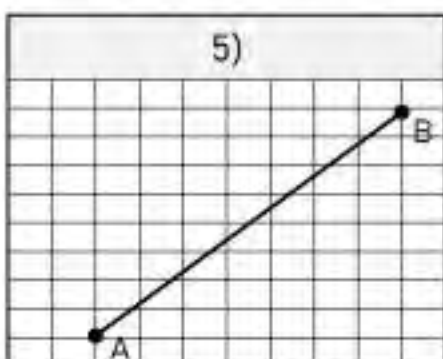
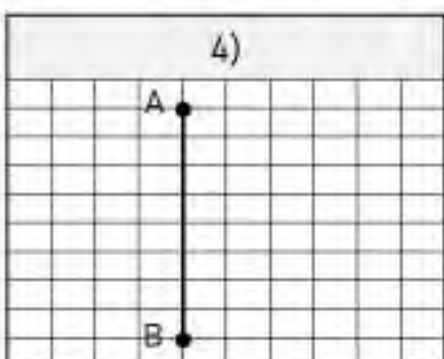
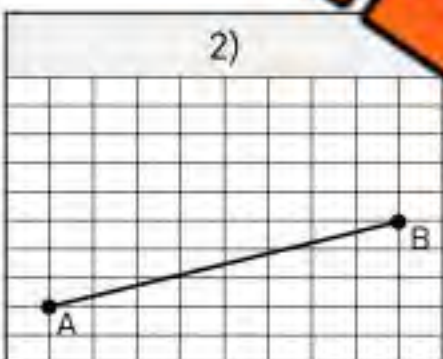
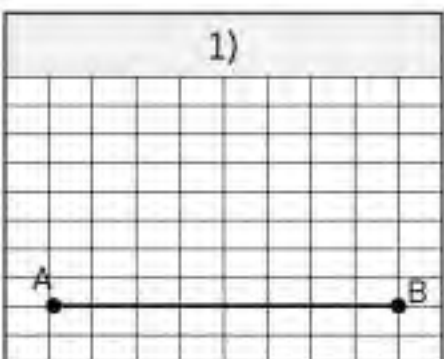
Draw a second line that is intersecting, perpendicular, or parallel to the other line

1) Perpendicular	2) Parallel	3) Intersecting	4) Parallel
5) Intersecting	6) Perpendicular	7) Intersecting	8) Parallel

Perpendicular and Parallel Line Segments

Part 1Construct perpendicular lines of the line segments \overline{AB} **Part 2**

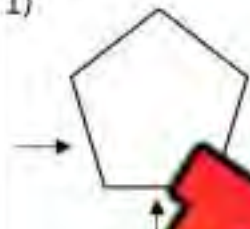
Construct parallel lines of the line segment



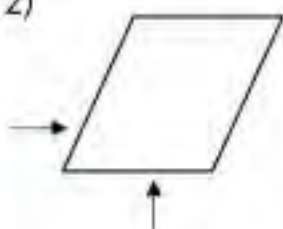
Parallel, Perpendicular and Intersecting Lines in Shapes**Instructions**

What is the relationship between the two lines with the arrows?

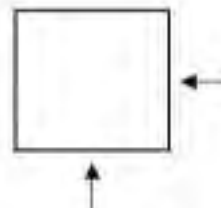
1)



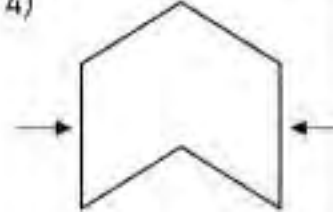
2)



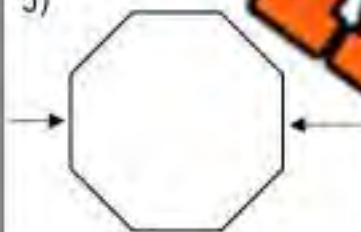
3)



4)



5)



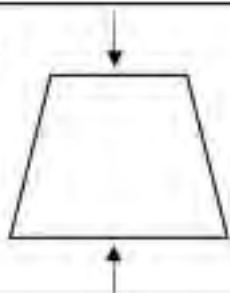
7)



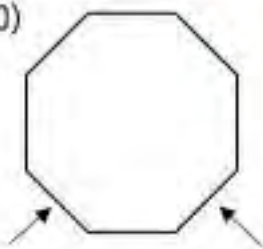
8)



9)



10)



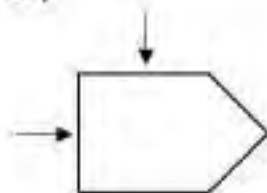
11)



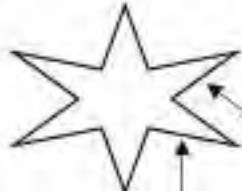
13)



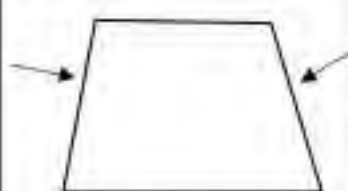
14)



15)



16)












Quadrilaterals - Lines

Word Bank

Kite Trapezoid Parallelogram Rectangle Rhombus Square

Practice

1. Label the quadrilaterals using the word bank (can be used twice).
2. How many pairs of perpendicular, intersecting, and parallel lines are there?

<p>1) </p>	<p>2) </p>	<p>3) </p>
Name: _____	Name: _____	Name: _____
Perpendicular Lines: _____	Perpendicular Lines: _____	Perpendicular Lines: _____
Parallel Lines: _____	Parallel Lines: _____	Parallel Lines: _____
Intersecting Lines: _____	Intersecting Lines: _____	Intersecting Lines: _____
<p>4) </p>	<p>5) </p>	<p>6) </p>
Name: _____	Name: _____	Name: _____
Perpendicular Lines: _____	Perpendicular Lines: _____	Perpendicular Lines: _____
Parallel Lines: _____	Parallel Lines: _____	Parallel Lines: _____
Intersecting Lines: _____	Intersecting Lines: _____	Intersecting Lines: _____
<p>7) </p>	<p>8) </p>	<p>9) </p>
Name: _____	Name: _____	Name: _____
Perpendicular Lines: _____	Perpendicular Lines: _____	Perpendicular Lines: _____
Parallel Lines: _____	Parallel Lines: _____	Parallel Lines: _____
Intersecting Lines: _____	Intersecting Lines: _____	Intersecting Lines: _____

Math Activity: Line Hunt Explorers

Objective

What are we learning about?

To help students identify and understand parallel, perpendicular, and intersecting lines in both 2D shapes and 3D objects through an interactive and exploratory "line hunt" around the classroom or school.

Materials

What you will need for the activity.

- Coloured pencils/markers
- Grid paper
- Rulers
- Notebooks and paper pads



Instructions

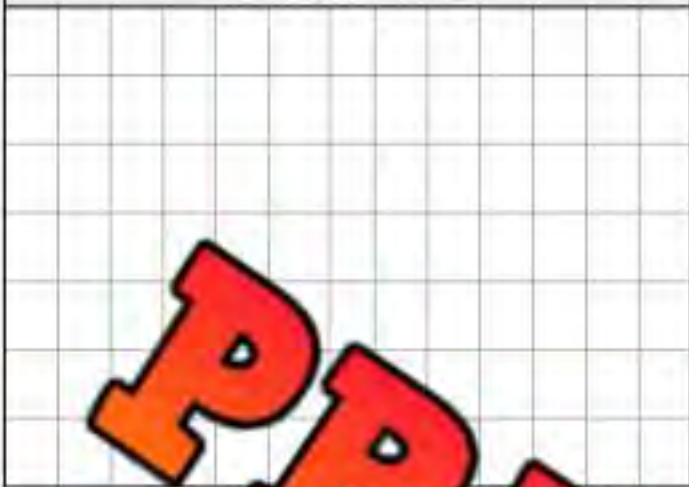
How you will complete the activity

1. Begin the activity by explaining the concepts of parallel lines (lines that never meet), perpendicular lines (lines that intersect at a 90-degree angle), and intersecting lines (lines that cross at any angle).
2. Hand out grid paper, rulers, coloured pencils, and markers (optional) to each student.
3. Instruct students to start the activity by exploring their classroom or school environment to find examples of parallel, perpendicular, and intersecting lines.
4. Ask students to sketch the examples they find on their grid paper, labeling each type of line (parallel, perpendicular, intersecting) directly on the sketches. Encourage them to include both 2D shapes (like windows or doors) and 3D objects (like chairs or trees) in their sketches.
5. After students have completed their sketches, have them highlight the parallel, perpendicular, and intersecting lines within these 2D shapes and 3D objects using different colored pencils or markers.
6. Encourage students to compare their findings and sketches with a partner and discuss any patterns or interesting observations they made.
7. Gather the class together to share their discoveries and discuss the importance of these types of lines in everyday life.

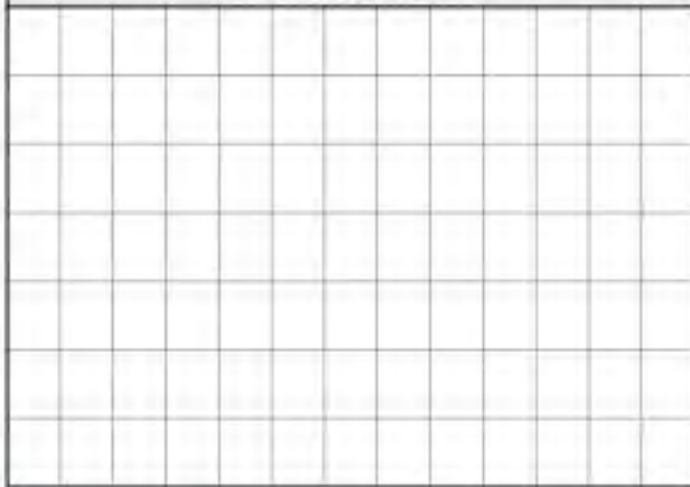
Draw

Option 1: Draw examples in the spaces below

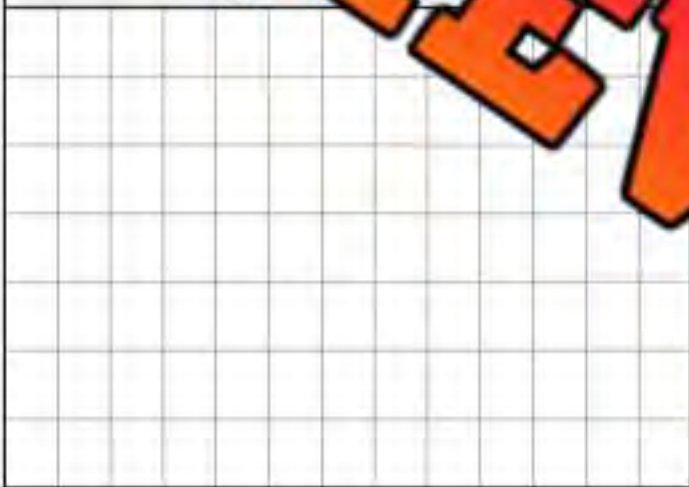
Parallel Lines



Parallel Lines



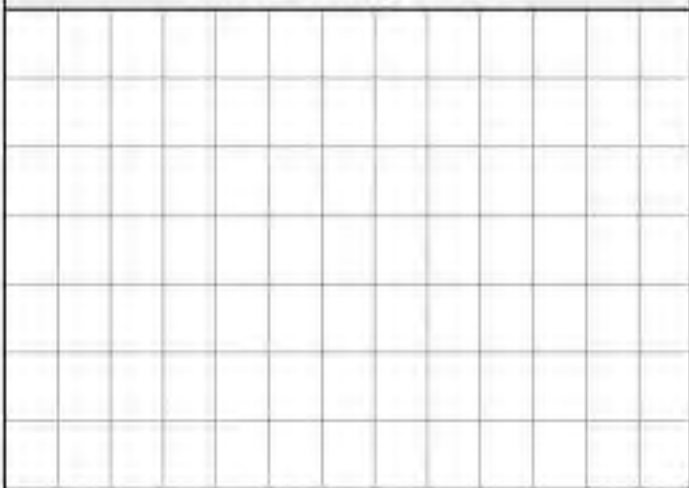
Perpendicular Lines



Perpendicular Lines



Intersecting Lines



Intersecting Lines



PREVIEW

Exit Cards

Cut Out

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

Name: _____

Draw arrows that point to intersecting, parallel, and perpendicular lines.



Parallel



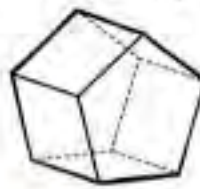
Intersecting



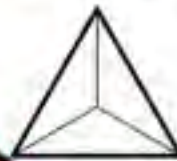
Perpendicular

Name: _____

Draw arrows that point to intersecting, parallel, and perpendicular lines.



Parallel



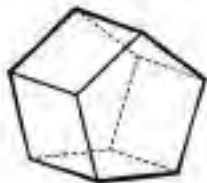
Intersecting



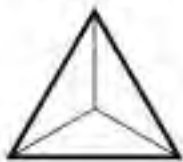
Perpendicular

Name: _____

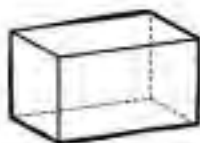
Draw arrows that point to intersecting, parallel, and perpendicular lines.



Parallel



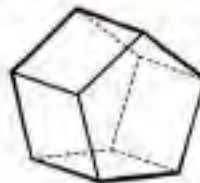
Intersecting



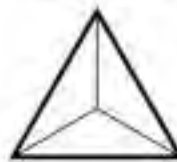
Perpendicular

Name: _____

Draw arrows that point to intersecting, parallel, and perpendicular lines.



Parallel



Intersecting



Perpendicular

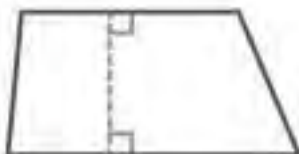
Quadrilaterals

Trapezium



No sides are parallel

Trapezoid



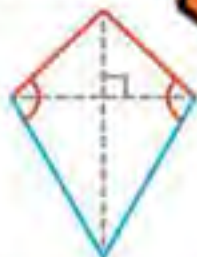
Two sides are parallel

Parallelogram



Two pairs of parallel sides

Kite



Two pairs of adjacent sides are of equal length

Rhombus

Four sides are of equal length

Rectangle



right

Square

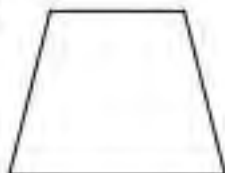


All four sides are of equal length

Directions

Write the names of the quadrilaterals.

1)



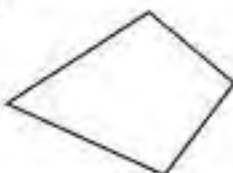
2)



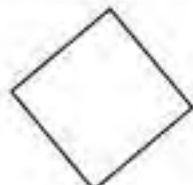
3)



5)



6)



7)



8)



Quadrilaterals

Directions

Describe the geometric properties and draw each of the quadrilaterals



Quadrilateral	Geometric Properties	Draw Shape
Kite		
Rhombus		
Trapezoid		
Trapezium		
Square		
Rectangle		
Parallelogram		



PREVIEW

Quadrilaterals

Explain

What are the differences between a rectangle and a...



Square	Rectangle
	
	Differences



Rhombus	Rectangle
	
Similarities	Differences

Quadrilaterals

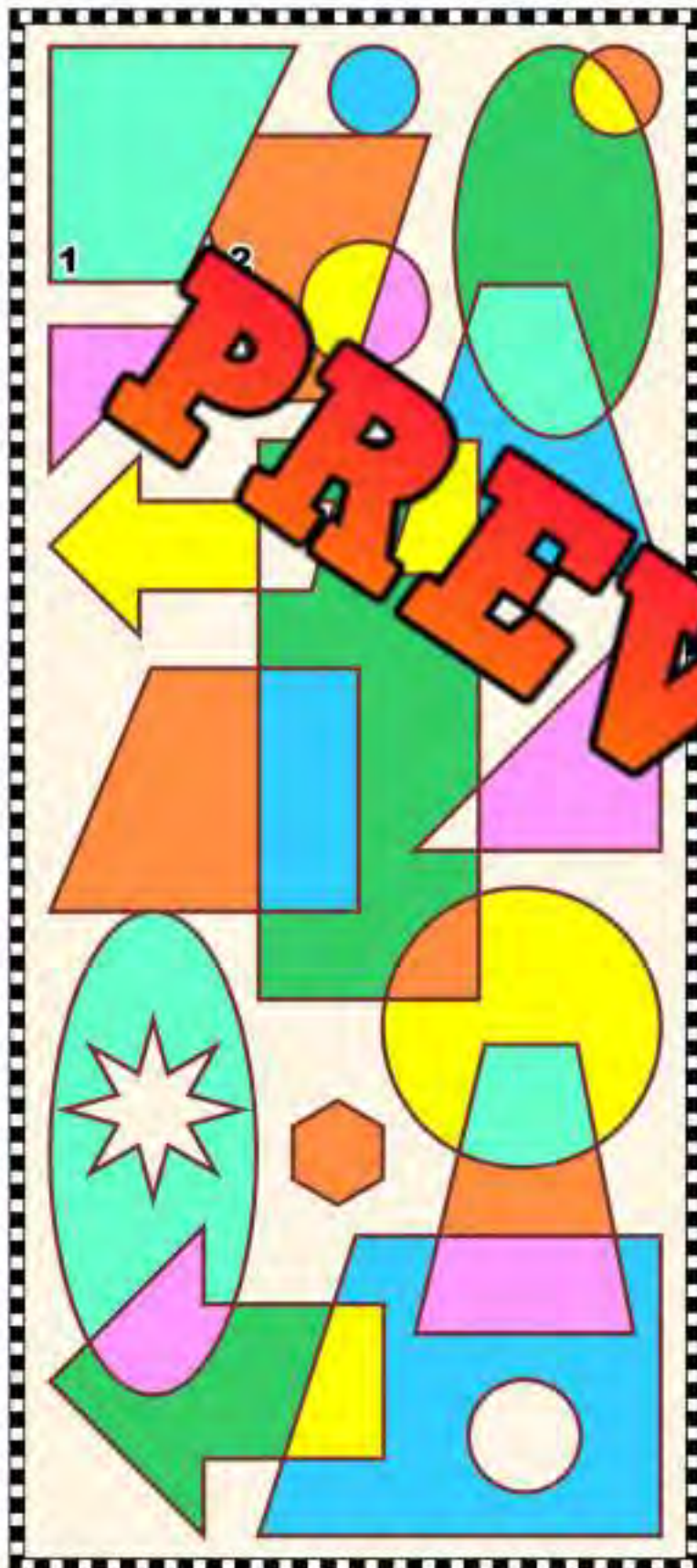
Explain

What are the differences between a rectangle and a...

Trapezoid	Rectangle
	
Differences	

Parallelogram	Rectangle
	
Similarities	
Differences	

Quadrilaterals



Directions

How many trapezoids are there?
Count only those that have the entire perimeter outline visible. For example, 1, and not 2.

Reminder

A trapezoid is a 4-sided shape with at least one pair of parallel sides.

Interesting Fact:

In the world, the terms trapezoid and trapezium are used interchangeably.

In the United States, a trapezoid is a quadrilateral with at least one pair of parallel sides.

In other English countries, a trapezoid is called a trapezium. The difference in these two terms was a result of an error in Charles Hutton's mathematical dictionary!

Answer: _____

Diagonals

A **diagonal** is a line segment that links 2 non-adjacent vertices of a polygon. This means it is a line that connects two corners that are not beside each other.




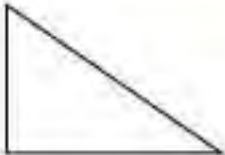


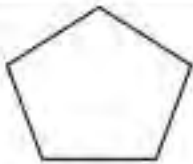




A rectangle has 2 diagonals



A pentagon has 5 diagonals

Part 1 How many diagonal lines do the polygons have? Draw them and write the number

1) 	3) 	4) 
5) 	6) 	8) 
9) 	10) 	11) 

Part 2 Draw a polygon with the specified number of diagonals

13) 9	14) 0	15) 14

Diagonals

Diagonals can be categorized based on the following:



Whether they are of equal length



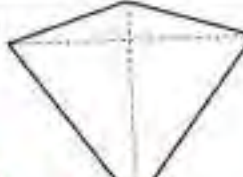
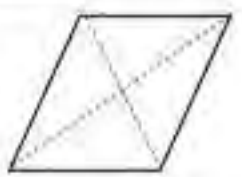


Whether they intersect at their midpoint

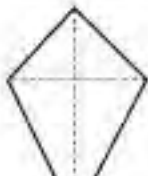





Whether they intersect at right angles

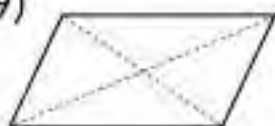
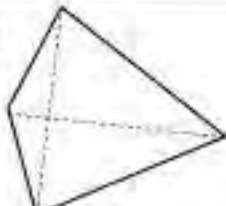


Part 1 Do the diagonals have equal length?

1) 	2) 	3) 	4) 
Yes No	Yes No	Yes No	Yes No

Part 2 Do the diagonals intersect at their midpoint?

5) 	6) 	7) 	8) 
Yes No	Yes No	Yes No	Yes No

Part 3 Do the diagonals intersect at right angles?

9) 	10) 	11) 	12) 
Yes No	Yes No	Yes No	Yes No

Exit Cards

Cut Out

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

Name: _____

How many diagonal lines do the polygons have? Draw them and write the number.

1)



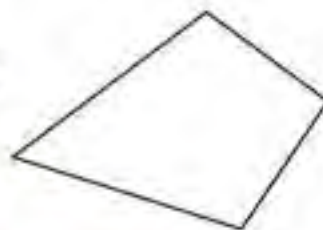
2)



Name: _____

How many diagonal lines do the polygons have? Draw them and write the number.

1)



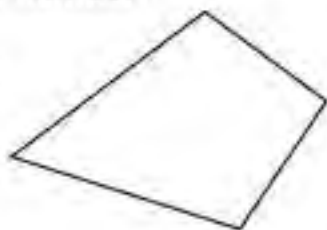
2)



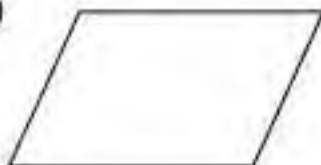
Name: _____

How many diagonal lines do the polygons have? Draw them and write the number.

1)



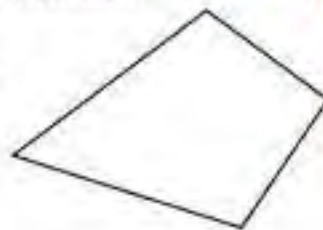
2)



Name: _____

How many diagonal lines do the polygons have? Draw them and write the number.

1)



2)



Quadrilaterals - Trapezoids

A trapezoid has at least one pair of parallel sides



2 pairs of parallel lines



1 pair of parallel lines

This means parallelograms, rectangles, and squares are all considered trapezoids.

Part 1 Color or circle the trapezoids in the collection of quadrilaterals below



Part 2 Describe the trapezoids below using geometric properties

1)



2)



Intersect at Midpoint? Y N

Intersect at Right Angle? Y N

Diagonals Same Length? Y N

Circle the parallel lines above

How many sides does the trapezoid have?

Intersect at Midpoint? Y N

Intersect at Right Angle? Y N

Diagonals Same Length? Y N

Circle the parallel lines above

How many sides does the trapezoid have?

Quadrilaterals - Kite

A kite can look like a traditional kite that we fly or a dart that has a reflex angle and a diagonal outside of its shape.



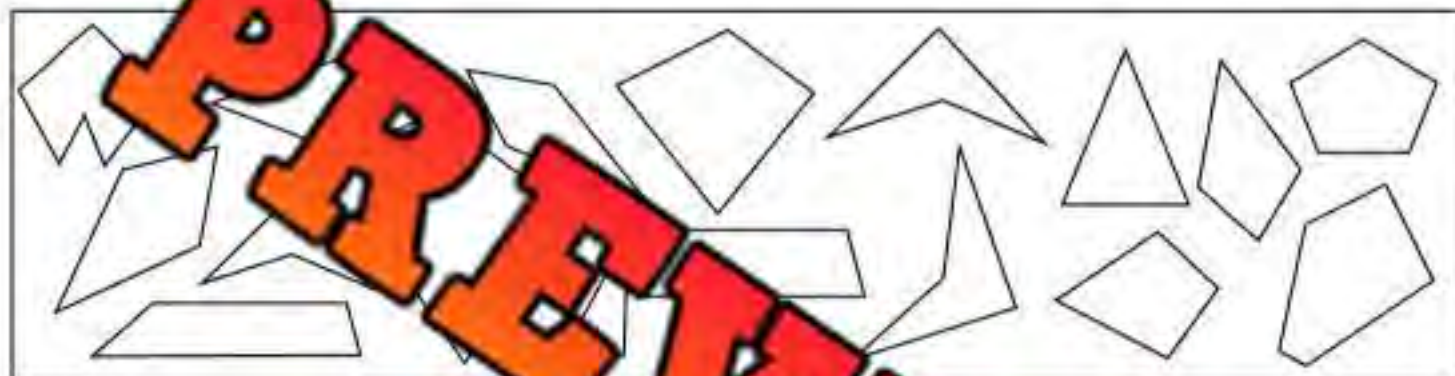
Traditional Kite



Dart

Part 1

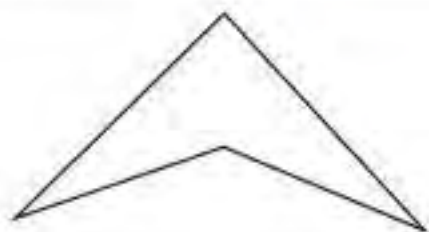
Colour or circle the kites in the collection of polygons below



Part 2

Describe the kites below using their general properties

1)



2)



Intersect at Midpoint? Y N

Intersect at Right Angle? Y N

Diagonals Same Length? Y N

Circle the perpendicular lines

Put a square on the intersecting lines

Intersect at Midpoint? Y N

Intersect at Right Angle? Y N

Diagonals Same Length? Y N

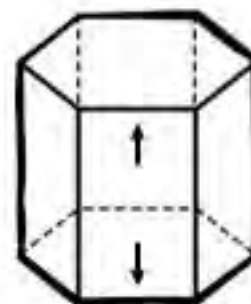
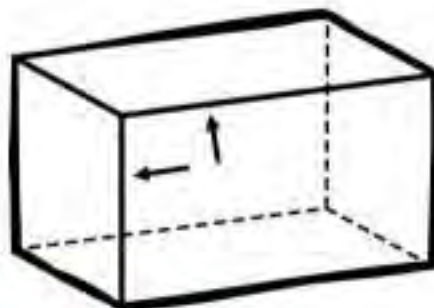
Circle the perpendicular lines

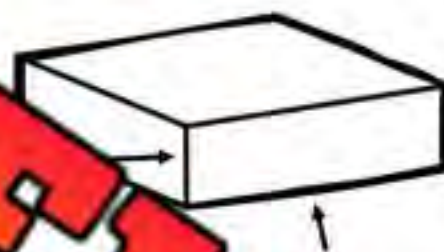
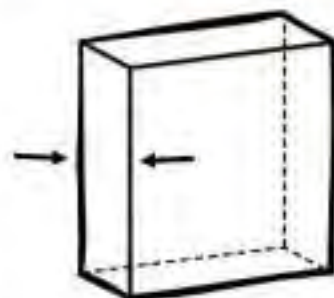
Put a square on the intersecting lines

Quiz – Lines

Part 1

Are the lines parallel, intersecting, or perpendicular?

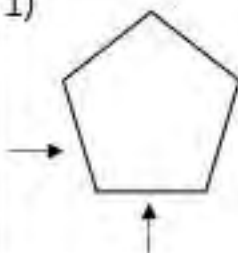




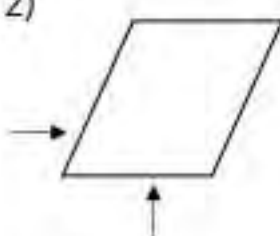
Part 2

What is the relationship between the two lines with the arrows

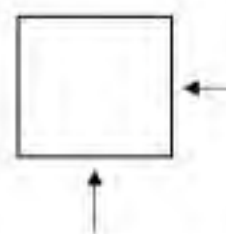
1)



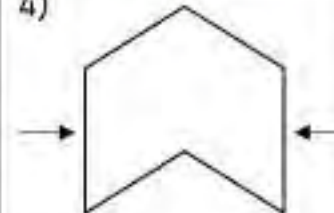
2)



3)



4)



Intersecting

Part 3

Label the lines parallel, perpendicular, or intersecting

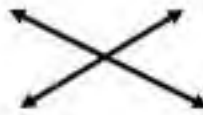
1)



2)



3)



4)



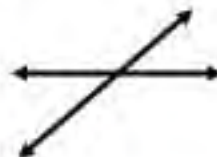
5)



6)



7)



8)



Part 4

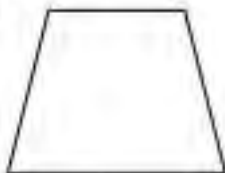
Draw a circle around the vertical angle around the horizontal lines



Part 5

Write the names of the quadrilaterals below

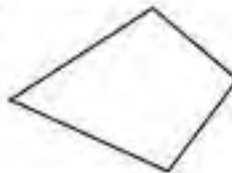
1)



2)



3)



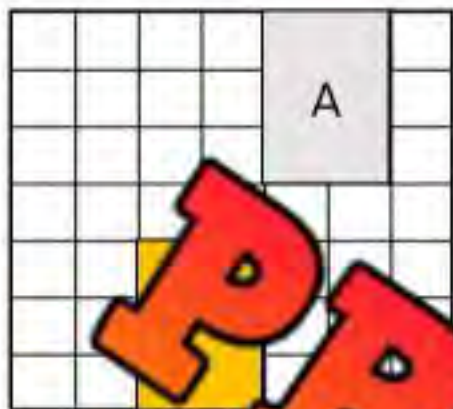
4)



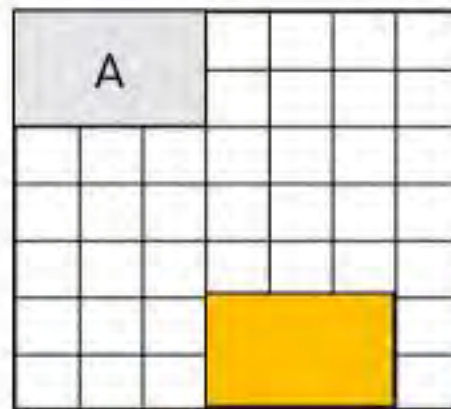
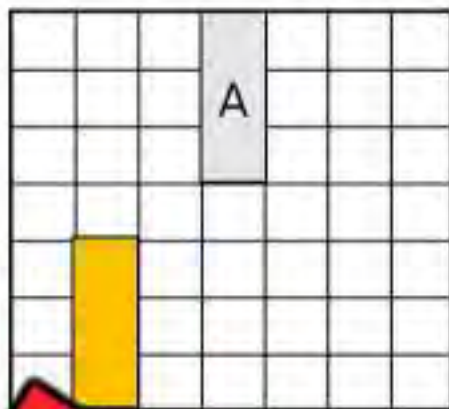
Describing Translation

Instructions

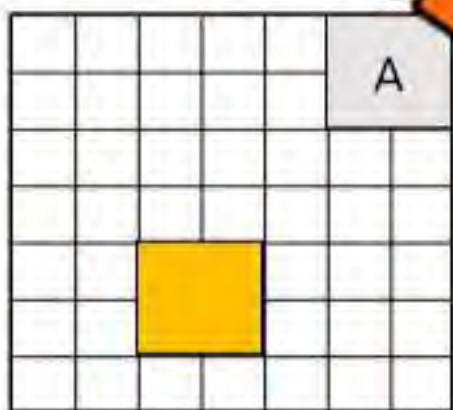
Describe the translations below using arrows. Shape A is the original object



1) 4 ↓, 2 ←



3) _____



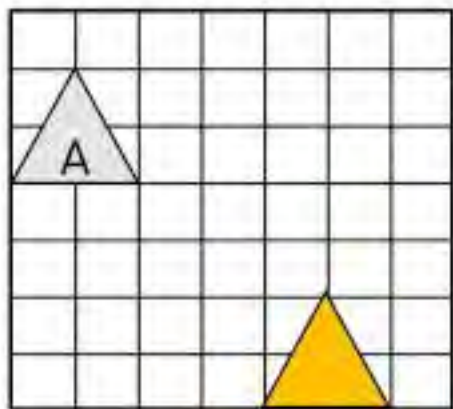
4) _____



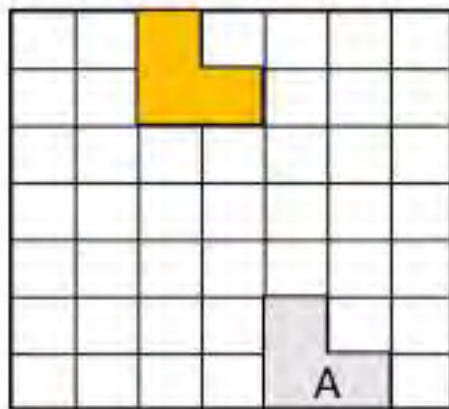
5) _____



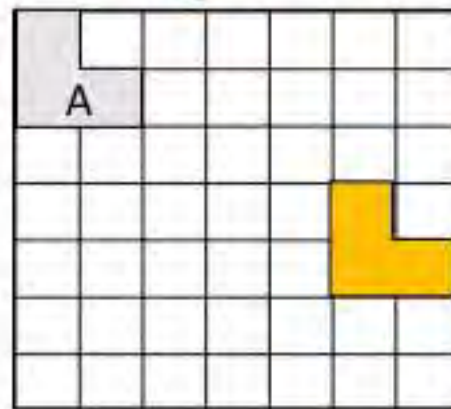
6) _____



7) _____



8) _____



9) _____

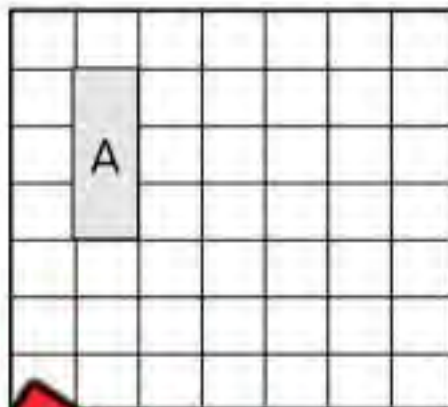
Performing Translation

Questions

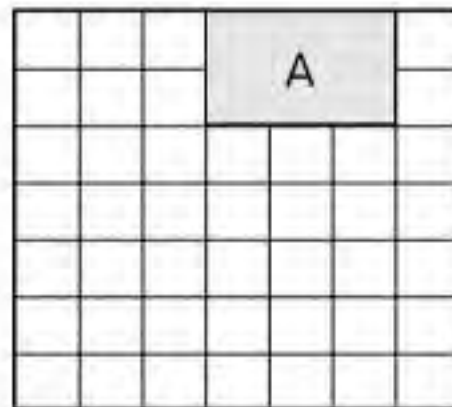
Draw the new shape after reading the 3 steps



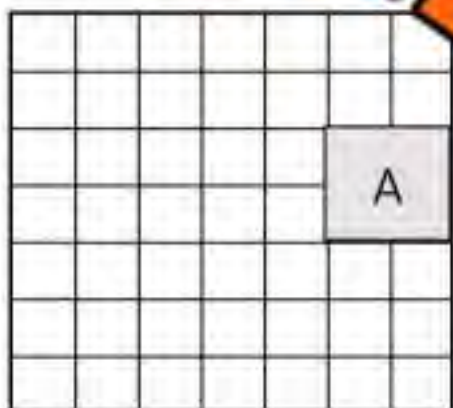
1) 3↑, 4→



2) 1↓, 4→, 1↓



3) 3↓, 2←, 2↓



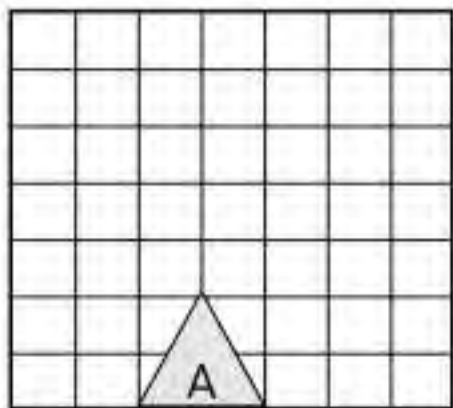
4) 3↓, 4←, 1↑



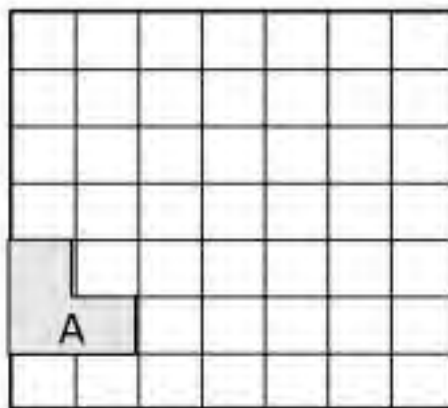
5) 2↓, 4→, 3↑



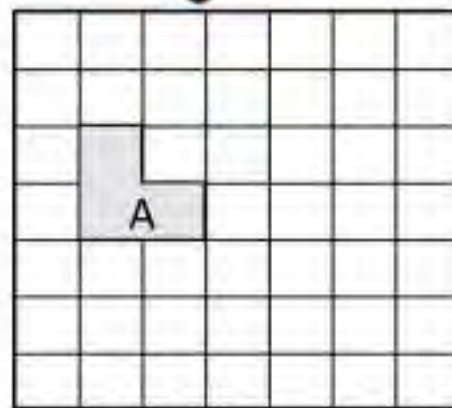
6) 1↑, 1↓



7) 4↑, 2→, 3←



8) 4↑, 4→, 5↓



9) 3↓, 3→, 2↑

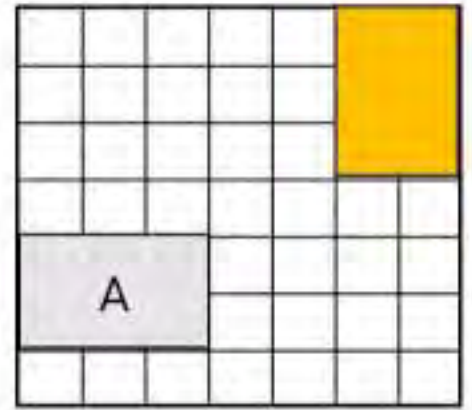
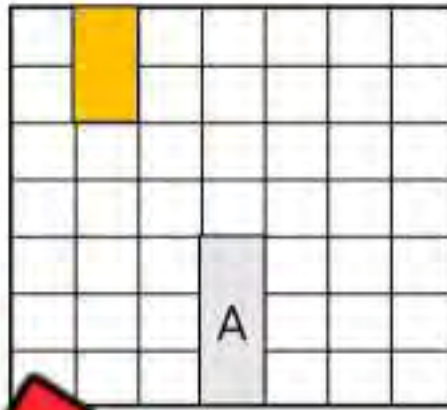
Translation or Not?

Instructions

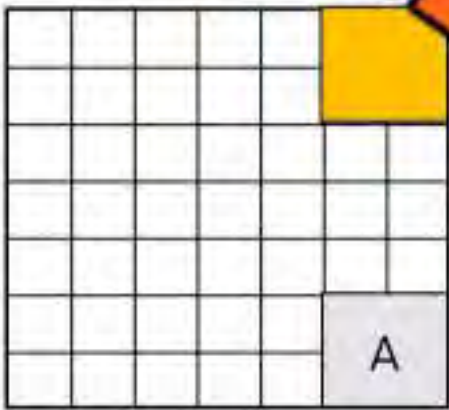
Is the transformation a translation or not? Write yes or no.



1) _____



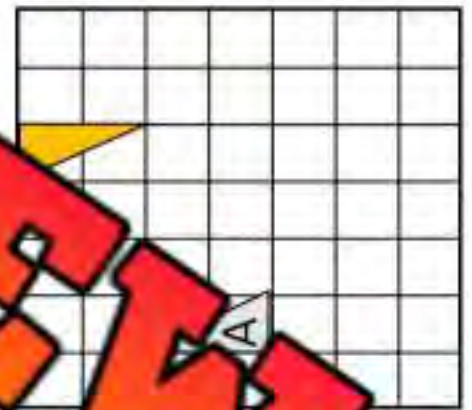
3) _____



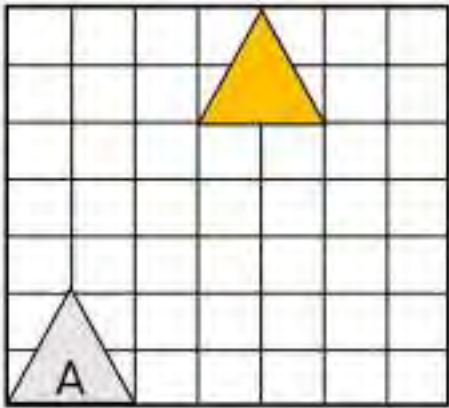
4) _____



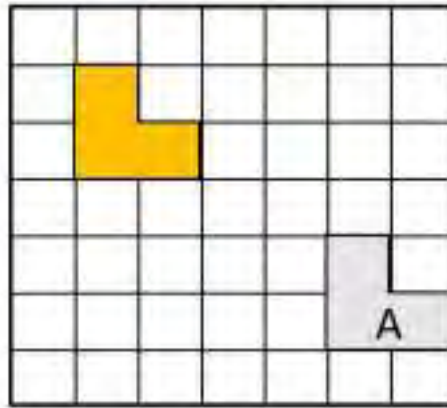
5) _____



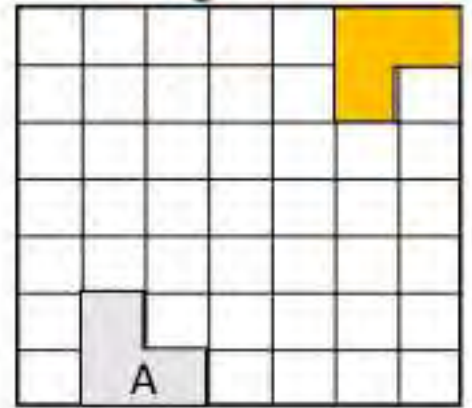
6) _____



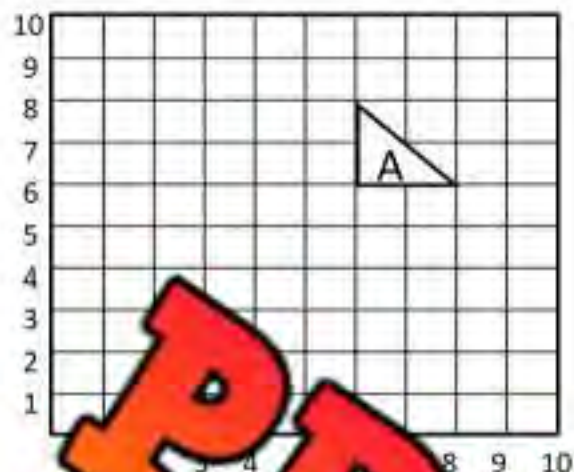
7) _____



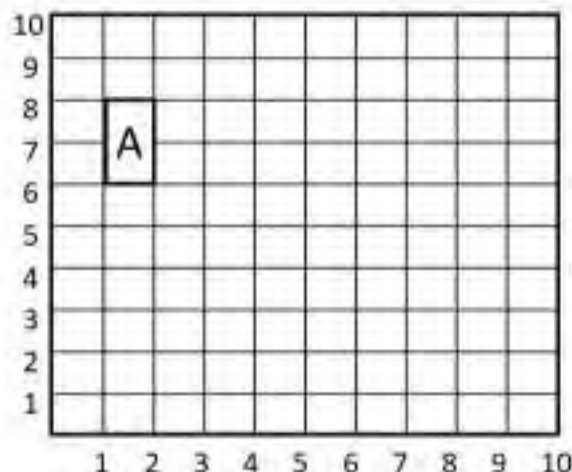
8) _____



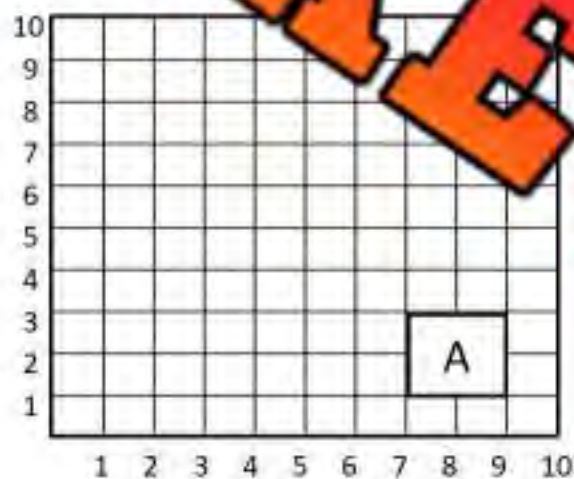
9) _____

Translating Shapes – Cartesian Plane

1) Left 6



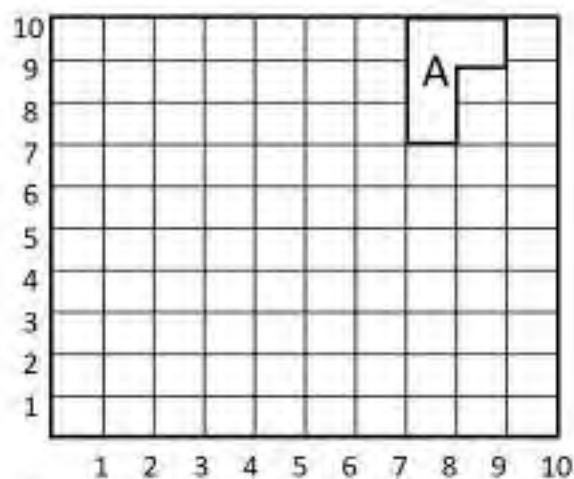
2) Right 5, down 4



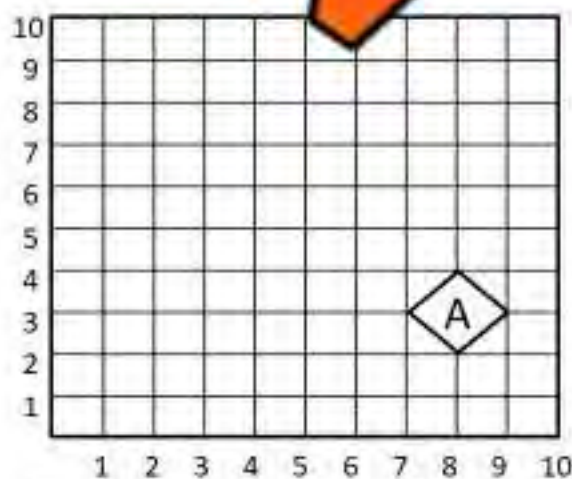
3) Left 6, up 2



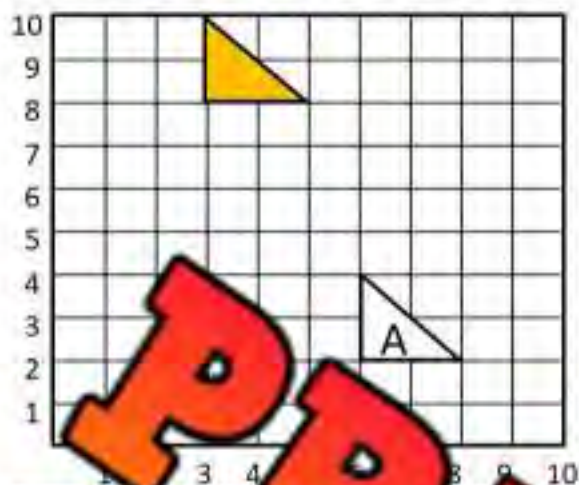
4)



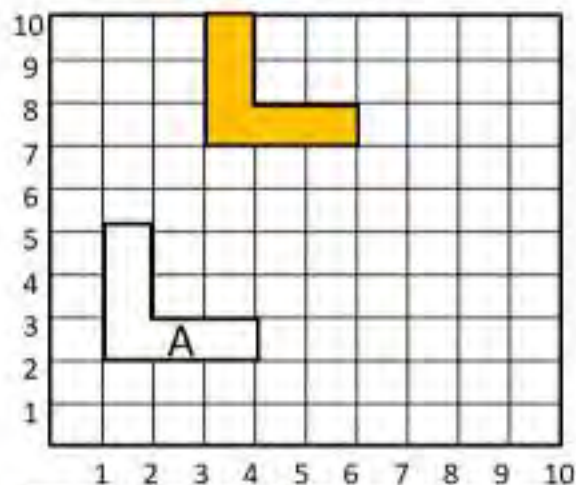
5) Left 3, down 6



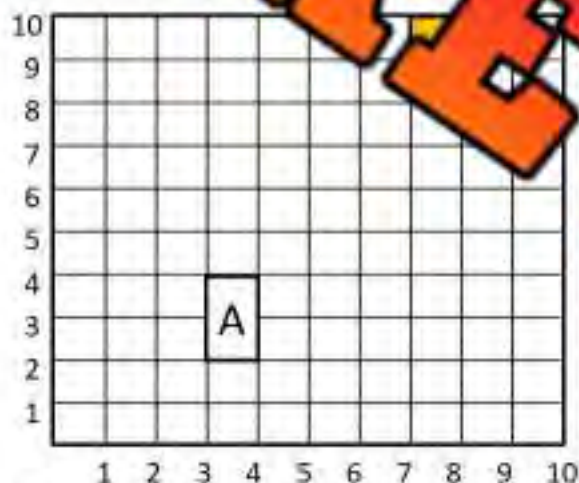
6) Left 2, up 4

Describing Translations – Cartesian Plane**Instructions:** Describe the translations below. Shape A is the original shape.

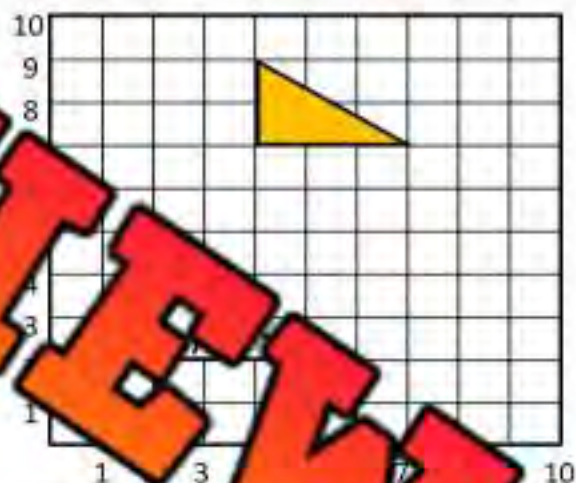
1)



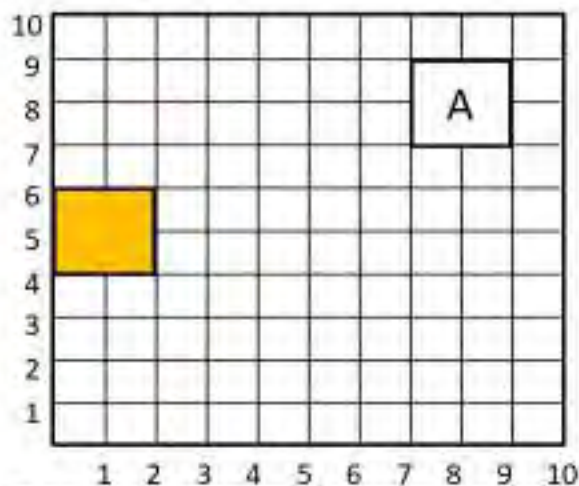
2)



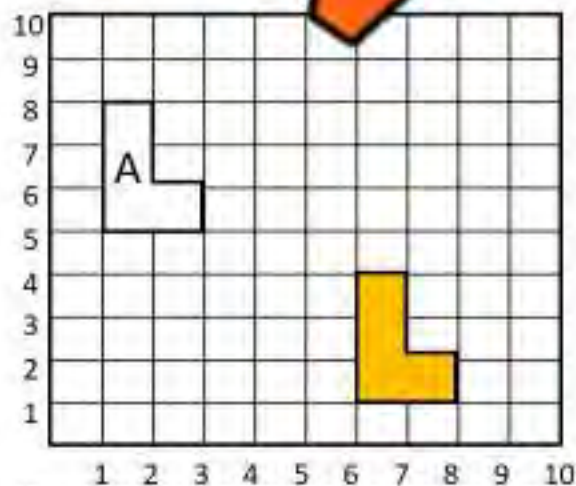
3)



4)



5)



6)

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.

- Graph paper
- Ruler
- Colored pencils
- Pencils and erasers
- Translation task cards



Instructions

How you will complete the activity

1. **Explain Translations:** Start by explaining that translations on the Cartesian plane involve moving shapes without rotating or resizing them.
2. **Distribute Materials:** Provide each team with a grid of graph paper and a set of translation task cards.
3. **Form Teams:** Divide the class into small teams, each standing up behind a desk with their graph paper and task cards.
4. **Translation Task:** The first student in each team picks a translation task card and then strategically draws a shape on the grid, ensuring it can fit after the translation.
5. **Perform Translation:** The student then moves the shape according to the 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.

Task Cards

Cut out the cards below

Card 1:Move 2 units \rightarrow and 1 unit \uparrow **Card 6:**Move 2 units \leftarrow and 3 units \uparrow Move 3 units \leftarrow and 2 units \downarrow **Card 7:**Move 1 unit \rightarrow and 4 units \downarrow **Card 3:**Move 1 unit \rightarrow and 3 units \uparrow **Card 8:**Move 3 units \leftarrow and 2 units \uparrow **Card 4:**Move 4 units \rightarrow and 2 units \uparrow **Card 9:**Move 2 units \rightarrow and 2 units \downarrow **Card 5:**Move 1 unit \leftarrow and 2 units \downarrow **Card 10:**Move 1 unit \leftarrow and 3 units \uparrow **PREVIEW**

Task Cards

Cut out the task cards below

Card 11:Move 4 units \rightarrow and 1 unit \downarrow **Card 16:**Move 2 units \leftarrow and 2 units \uparrow **Card 17:**Move 2 units \rightarrow and 3 units \downarrow **Card 13:**Move 3 units \rightarrow and 2 units \downarrow **Card 18:**Move 5 units \rightarrow and 2 units \downarrow **Card 14:**Move 3 units \leftarrow and 5 units \uparrow **Card 19:**Move 5 units \rightarrow and 4 units \downarrow **Card 15:**Move 4 units \rightarrow and 3 units \uparrow **Card 20:**Move 5 units \leftarrow and 1 unit \uparrow **PREVIEW**

Name: _____

144

Curriculum Connection
SS5.7










Grid Paper

1 x 1 cm grid paper

PREVIEW






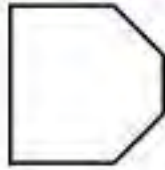


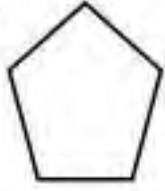
Reflection or Not?**Part 1**

Is the transformation a reflection? Yes or no?

1)  []	2)  []	3)  []
4)  []	5)  []	6)  []
7)  []	8)  []	9)  []

Part 2

Draw the shape across the reflection line.

1) 	2) 	3) 
4) 	5) 	6) 
7) 	8) 	9) 

Exit Cards

Cut Out

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

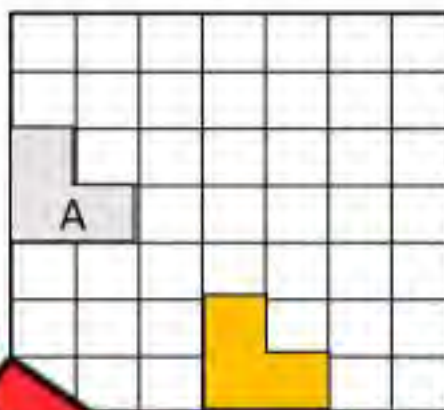
Name: _____

Describe the translation below. Shape A is the original object.



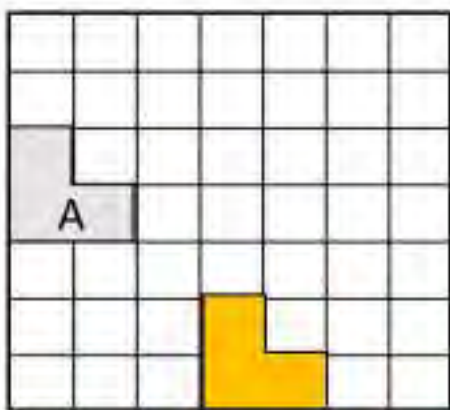
Name: _____

Describe the translation below. Shape A is the original object.



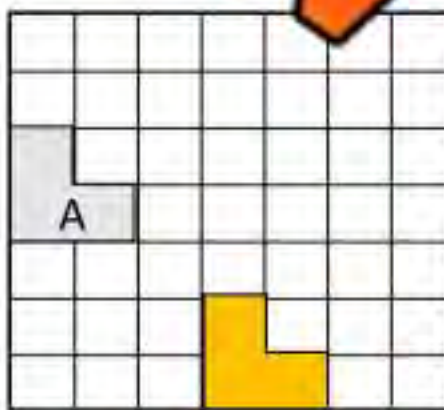
Name: _____

Describe the translation below. Shape A is the original object.



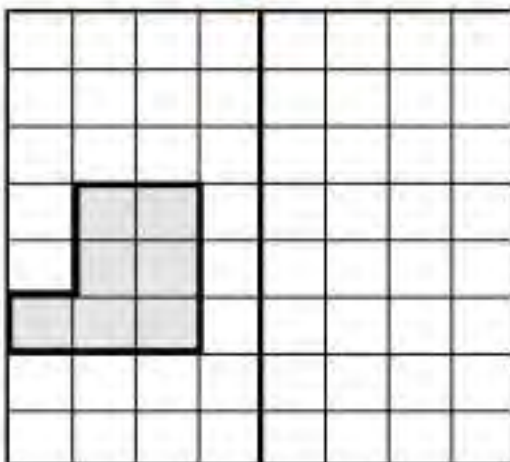
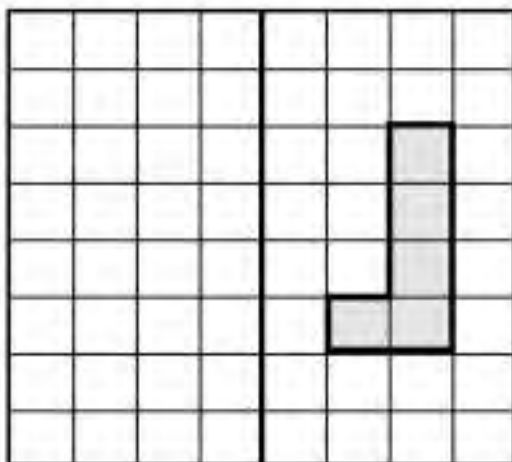
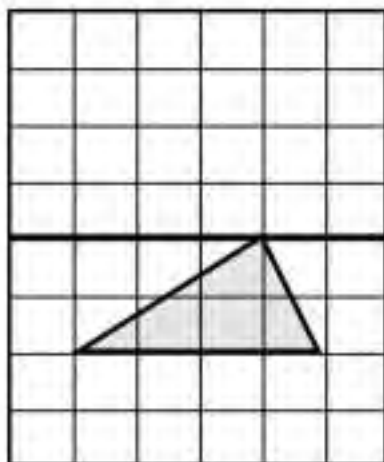
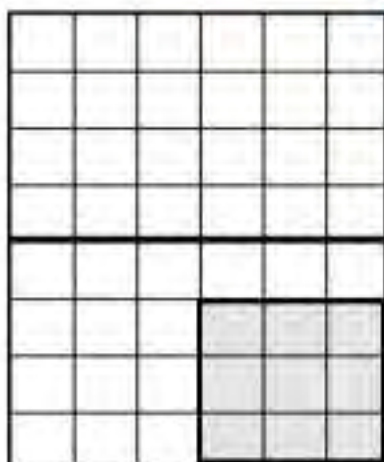
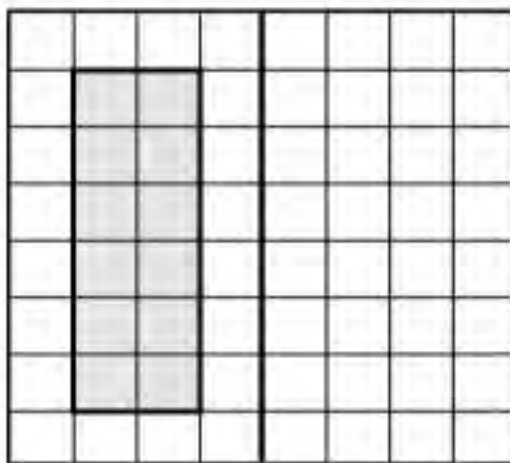
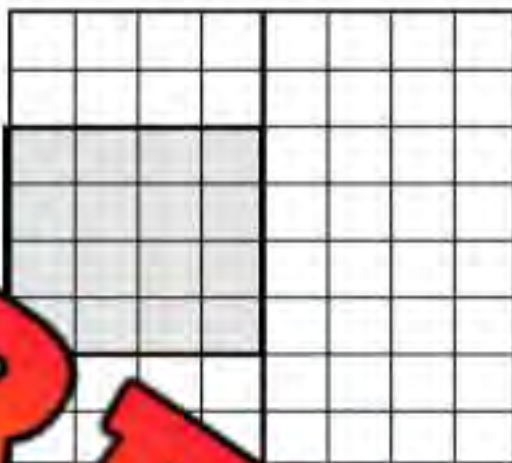
Name: _____

Describe the translation below. Shape A is the original object.



Drawing Reflections**Instructions**

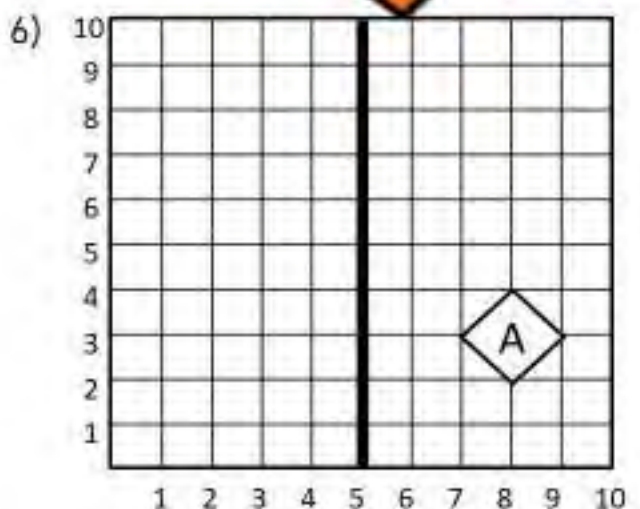
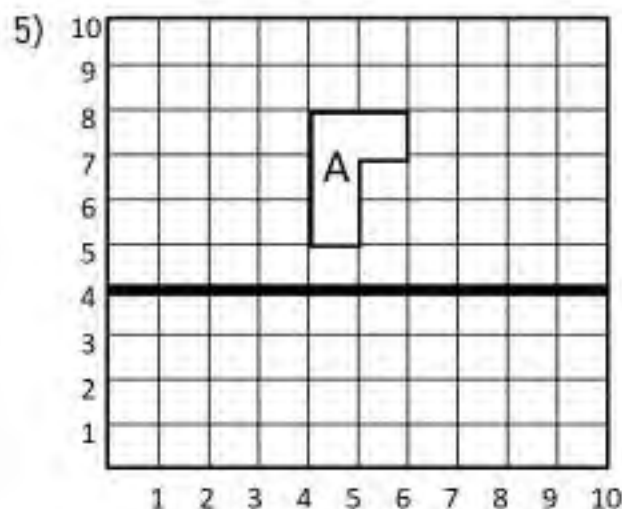
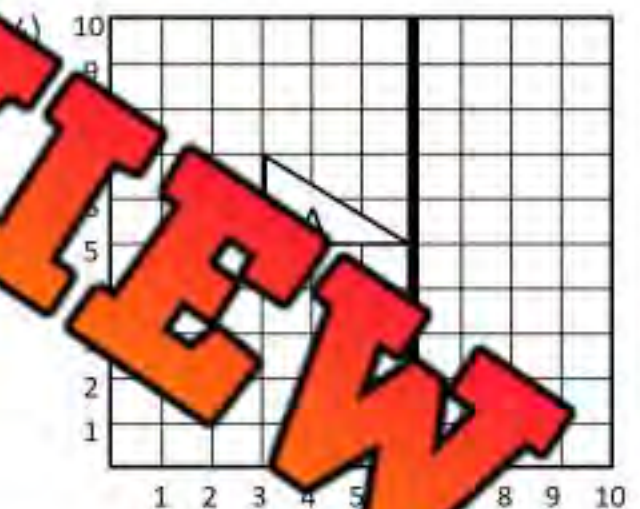
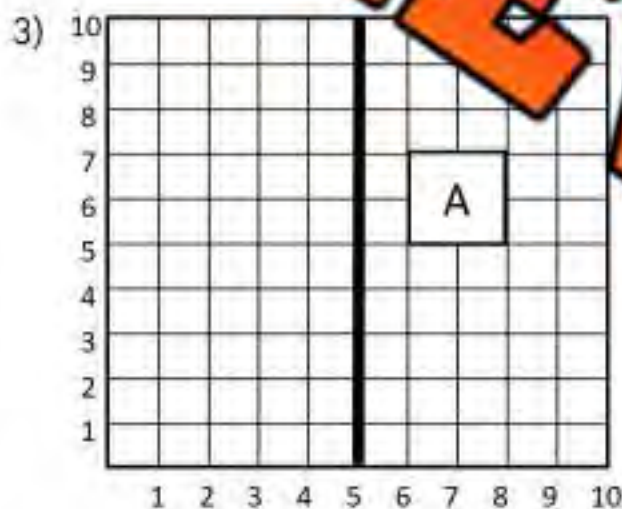
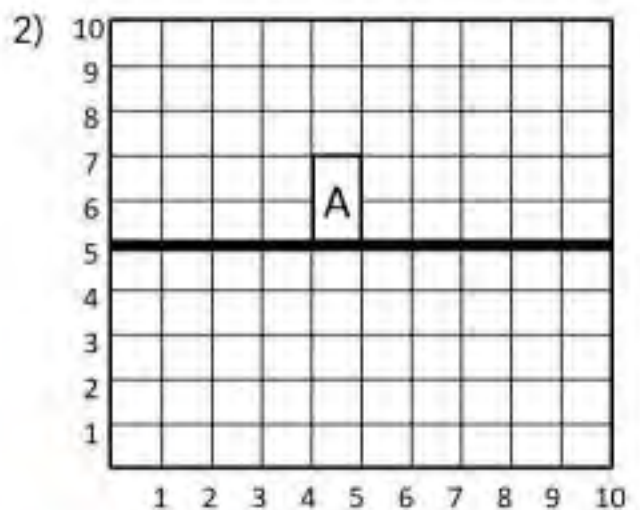
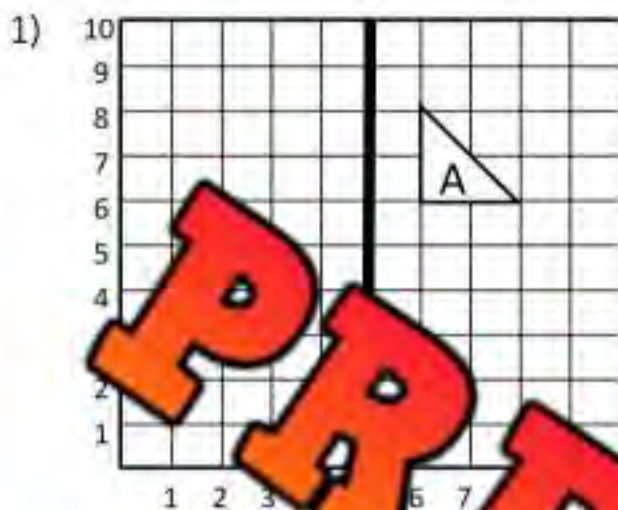
Reflect the shapes across the mirror line

**PREVIEW**

Reflecting Shapes – Cartesian Plane

Instructions

Reflect the shapes across the mirror line



Exit Cards

Cut Out

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

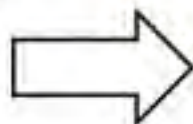
Name: _____

Draw the shape across the reflection line.

1)



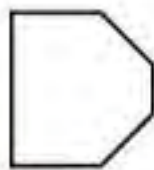
2)



Name: _____

Draw the shape across the reflection line.

1)



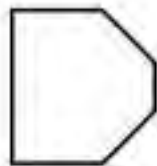
2)



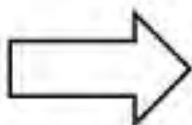
Name: _____

Draw the shape across the reflection line.

1)



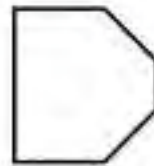
2)



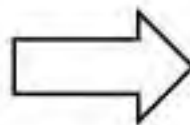
Name: _____

Draw the shape across the reflection line.

1)



2)



Clockwise and Counterclockwise Rotations

Rotations can either be **clockwise** or **counterclockwise**.

A **clockwise** rotation moves the same way the minute, second, and hour hands move on a clock.

A **counterclockwise** rotation moves the opposite way of a clockwise turn.

We can rotate things a lot or a little. Check out the three turns below.

360°
rotation



Clockwise
90° rotation

180°
rotation

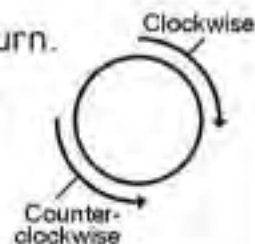


Counterclockwise
180° rotation

90°
rotation



Counterclockwise
90° rotation



Clockwise/Counterclockwise
360° rotation

Part 1

Draw how the arrow turned on the clock



Clockwise
90° rotation



Counterclockwise
360° rotation



Counterclockwise
90° rotation



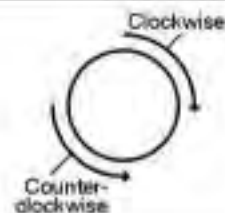
Clockwise
180° rotation

Part 2

Describe how the arrow turned on the clock



Clockwise and Counterclockwise Rotations

360°
rotation180°
rotation90°
rotation

Instruction

Draw the controller after it has been rotated

1)



Clockwise 180° rotation

2)



Counterclockwise 90° rotation

3)



Clockwise 90° rotation

4)

Counterclockwise 360°
rotation

5)



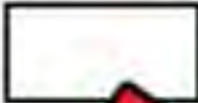


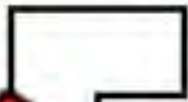





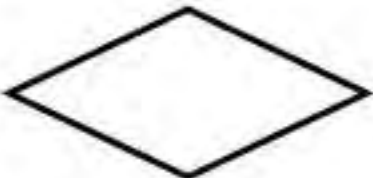

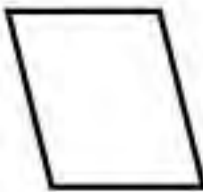
Clockwise 360° rotation

6)

Counterclockwise 180°
rotation

Rotations**Instructions**


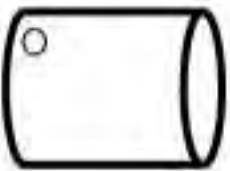




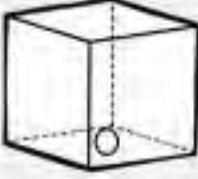
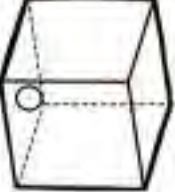

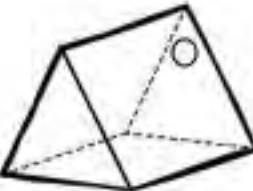

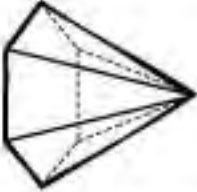
Has the shape been rotated? Yes or No?

1)			Yes	No
2)			Yes	No
3)			Yes	No
4)			Yes	No
5)			Yes	No
6)			Yes	No

Rotations – 3D Objects

Instructions

Has the shape been rotated? Yes or No?

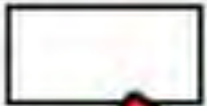
1)			Yes	No
2)			Yes	No
3)			Yes	No
4)			Yes	No
5)			Yes	No
6)			Yes	No

Rotations

Instructions

Draw two rotations of the shapes below

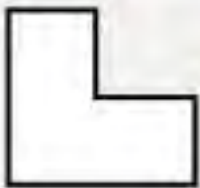
1)



2)



3)



4)



5)



6)

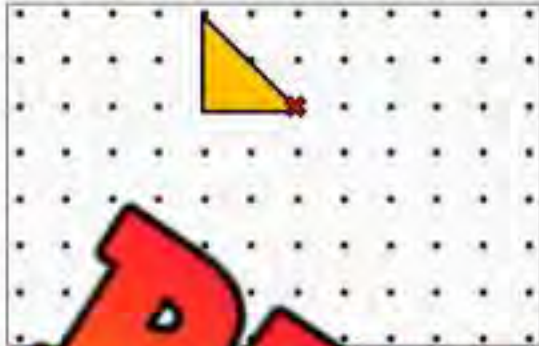


PREVIEW

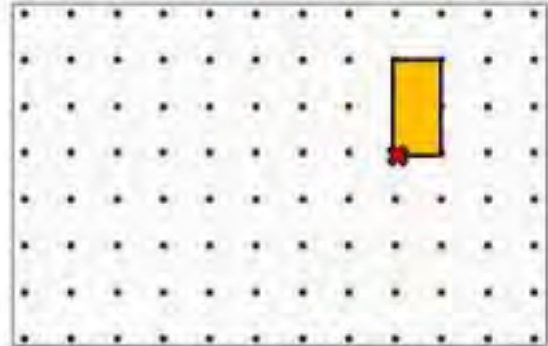
Drawing Rotations

Instructions

Rotate the shapes around the point marked ✖



1) 90° clockwise rotation



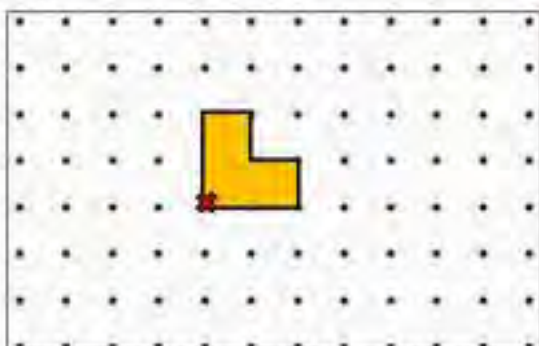
2) 180° clockwise rotation



3) 90° counter-clockwise rotation



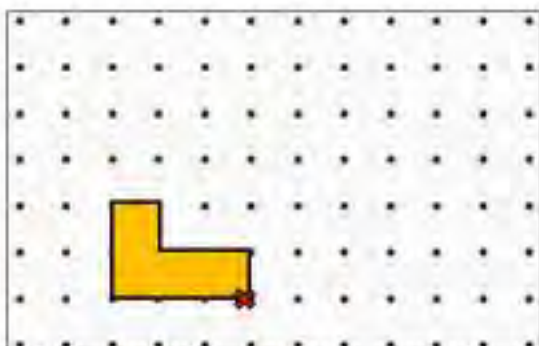
4) 360° clockwise rotation



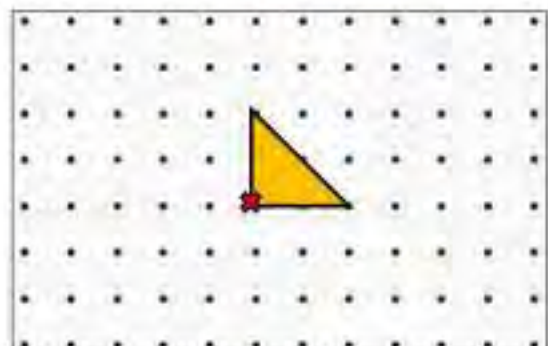
5) 90° counter-clockwise rotation



6) 180° counter-clockwise rotation



7) 90° clockwise rotation

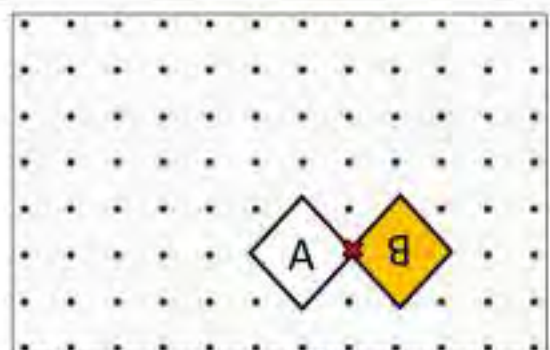
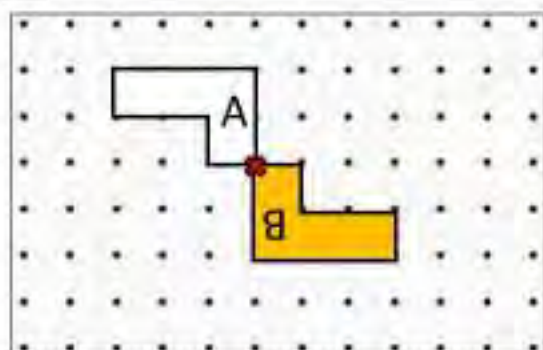
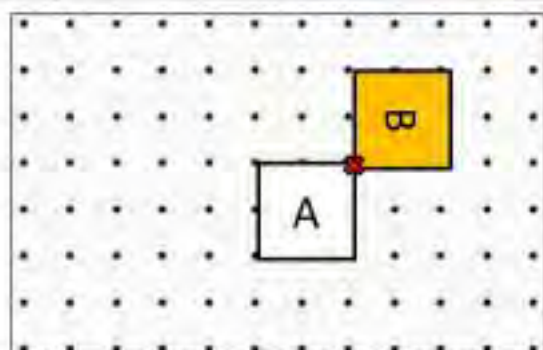
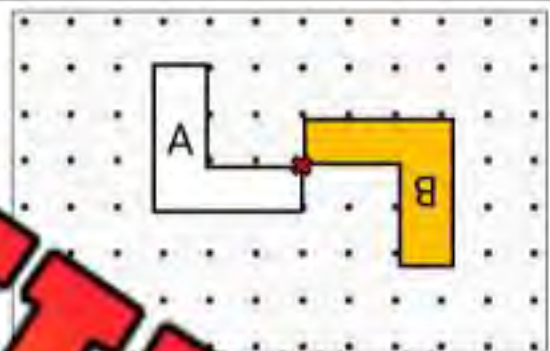
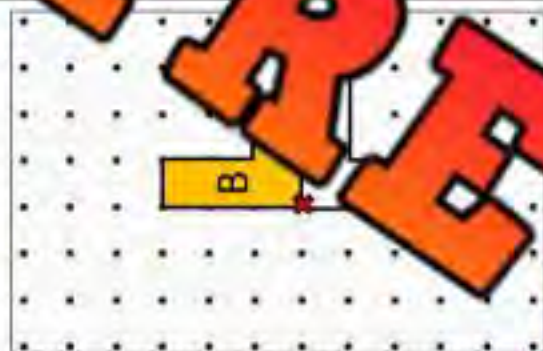
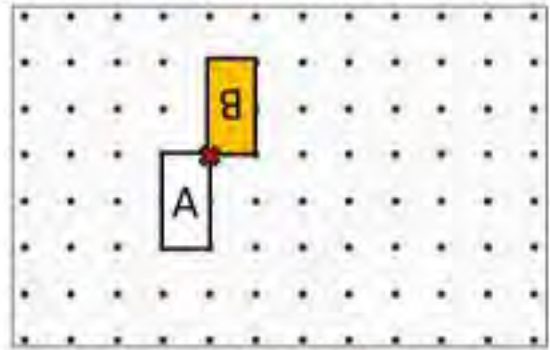


8) 180° counter-clockwise rotation

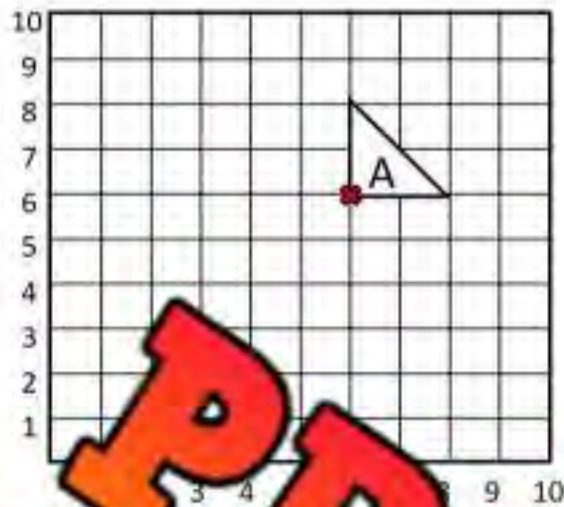
Describing Rotations

Instructions

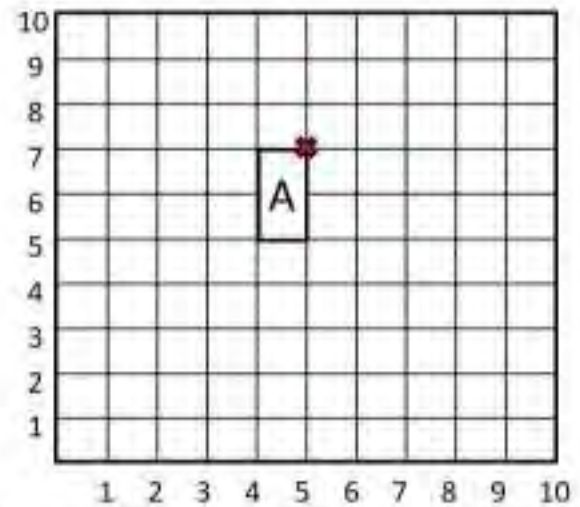
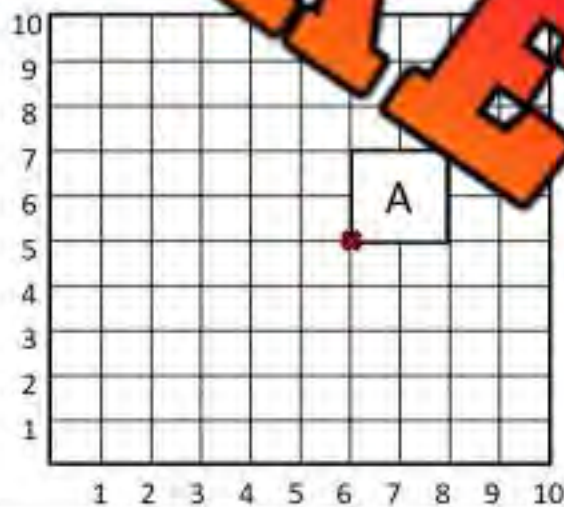
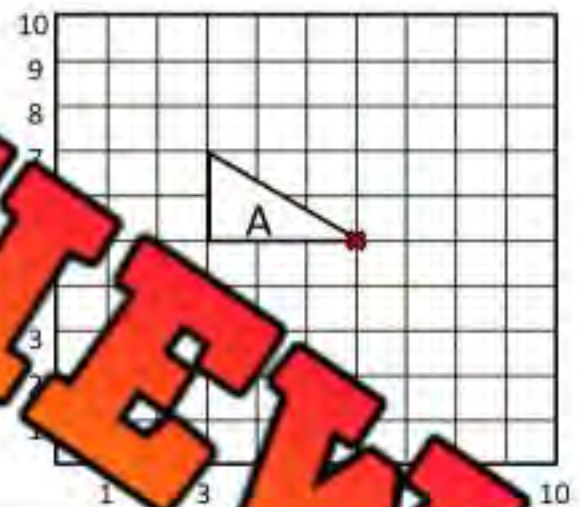
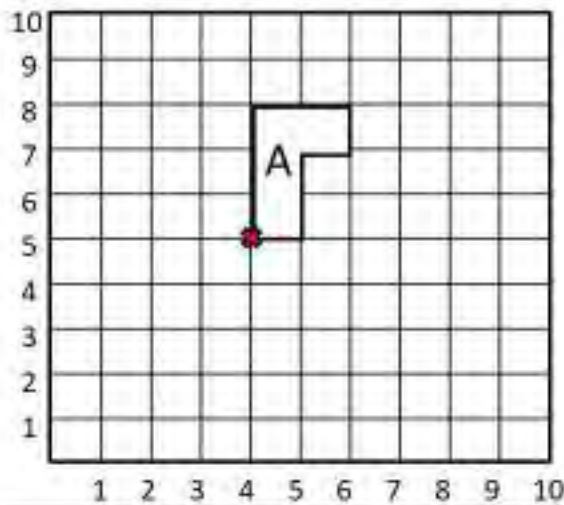
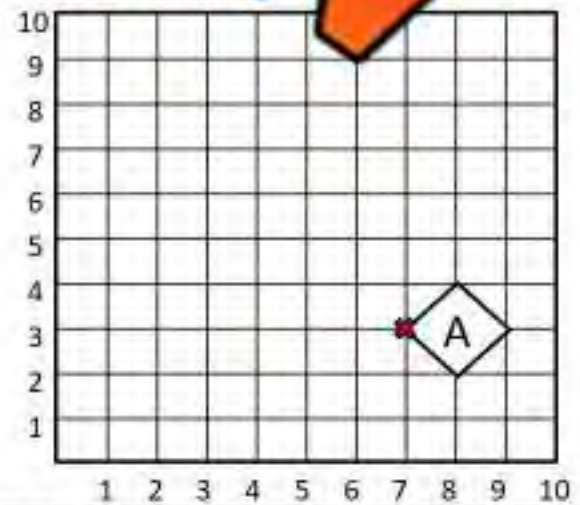
Describe the rotations. Shape A is the original shape.



Rotating Shapes - Cartesian Plane



1)

2) 90° counter-clockwise rotation3) 90° clock-wise rotation4) 90° clock-wise rotation5) 180° rotation6) 90° counter-clockwise rotation

Exit Cards

Cut Out

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

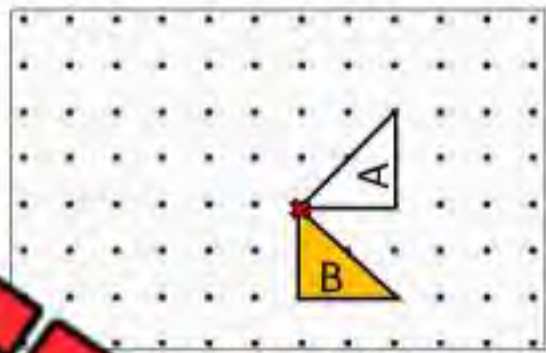
Name: _____

Describe the rotations. Shape A is the original shape.



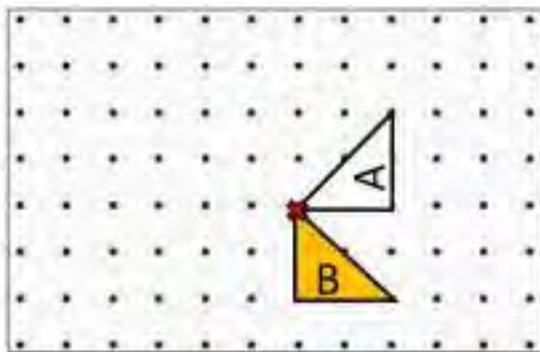
Name: _____

Describe the rotations. Shape A is the original shape.



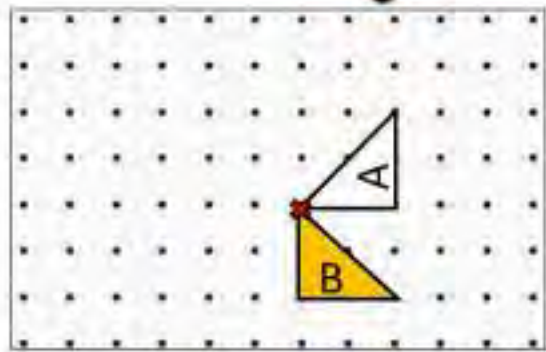
Name: _____

Describe the rotations. Shape A is the original shape.



Name: _____

Describe the rotations. Shape A is the original shape.



Transformation

Instructions

Is the transformation a translation, reflection or rotation?

1)



Translation Reflection Rotation

2)



Translation Reflection Rotation

3)



Translation Reflection Rotation

4)



Translation Reflection Rotation

5)



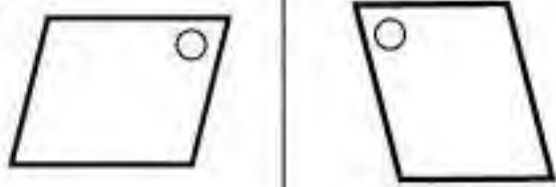
Translation Reflection Rotation

6)



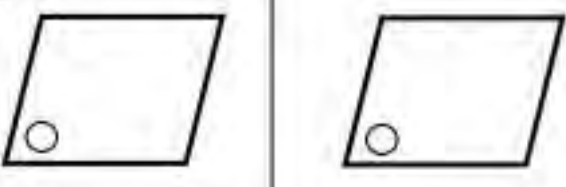
Translation Reflection Rotation

7)



Translation Reflection Rotation

8)



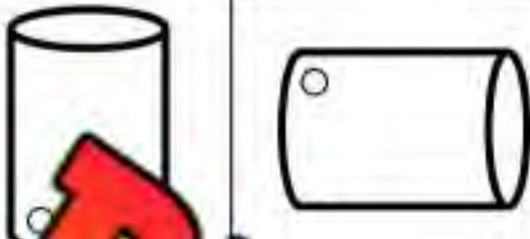
Translation Reflection Rotation

Transformations of 3D Objects

Instructions

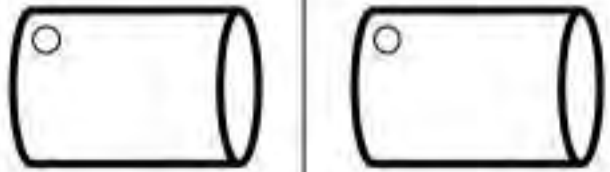
Is the transformation a translation, reflection or rotation?

1)



Translation	Reflection	Rotation
-------------	------------	----------

2)



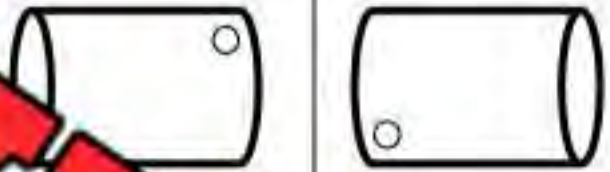
Translation	Reflection	Rotation
-------------	------------	----------

3)



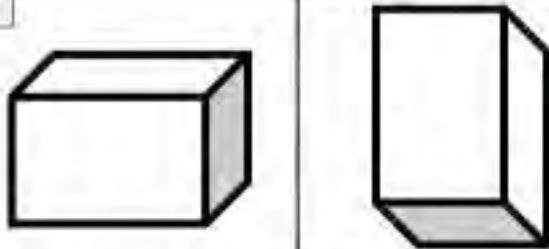
Translation	Reflection	Rotation
-------------	------------	----------

4)



Translation	Reflection	Rotation
-------------	------------	----------

5)



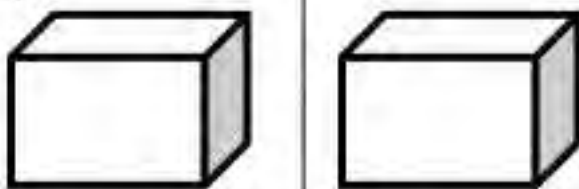
Translation	Reflection	Rotation
-------------	------------	----------

6)



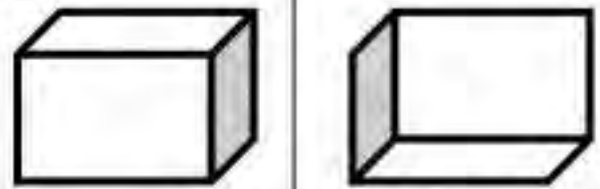
Translation	Reflection	Rotation
-------------	------------	----------

7)



Translation	Reflection	Rotation
-------------	------------	----------

8)

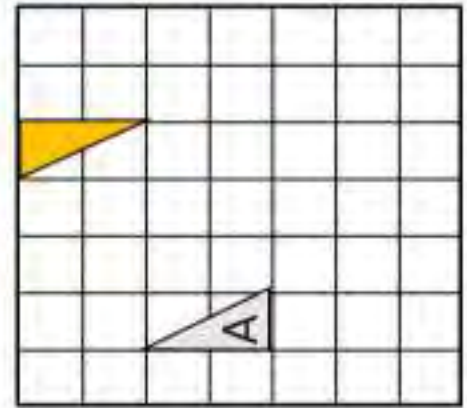
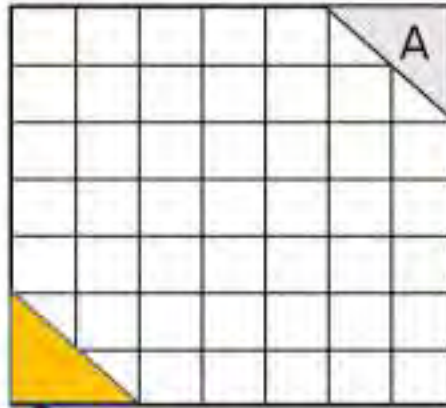


Translation	Reflection	Rotation
-------------	------------	----------

Unit Quiz - Transformations

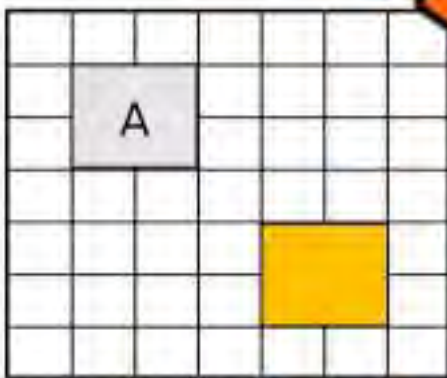
Part 1

Is the transformation a translation or not? Write yes or no.



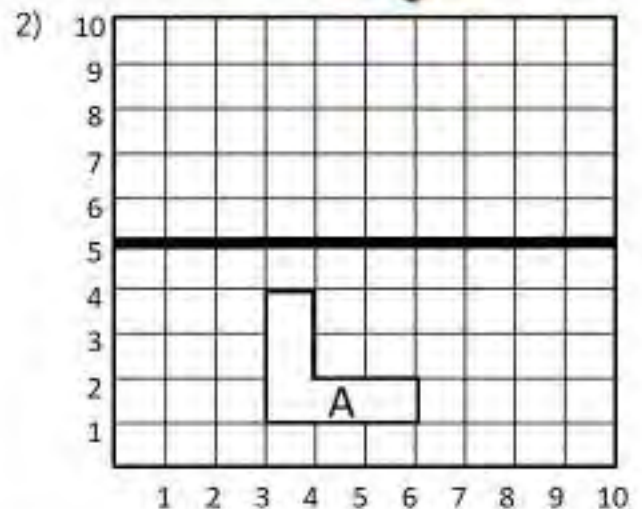
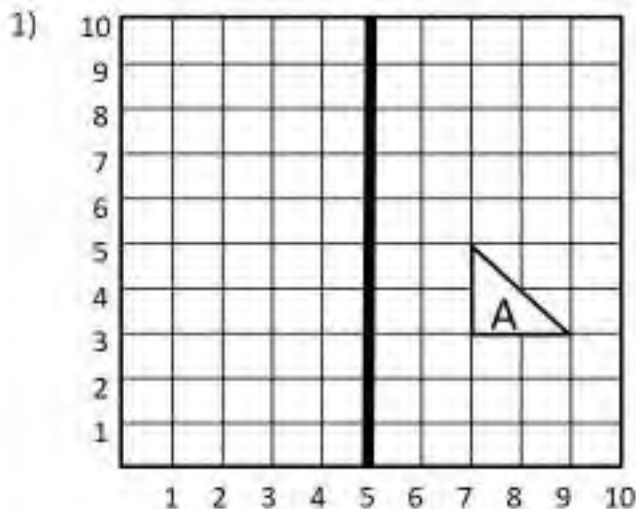
Part 2

Describe the transformation using arrows. Shape A is the original object



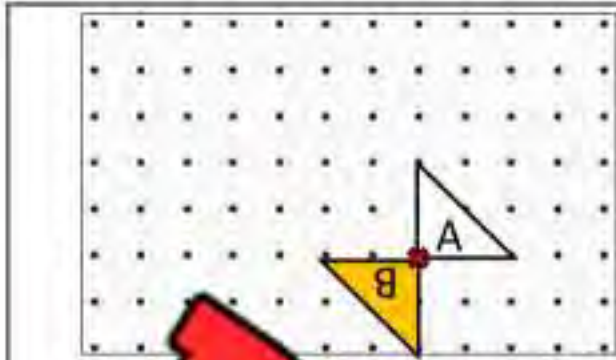
Part 3

Reflect the shapes across the mirror line

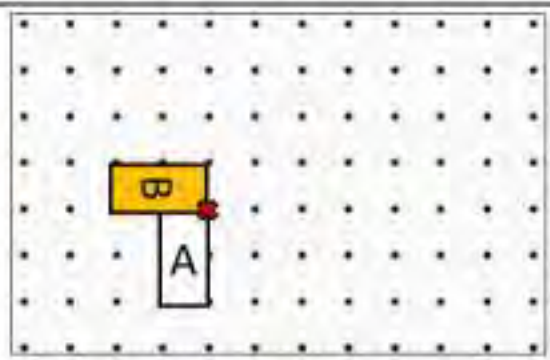


Part 4

Describe the rotations. Shape A is the original shape



1) _____



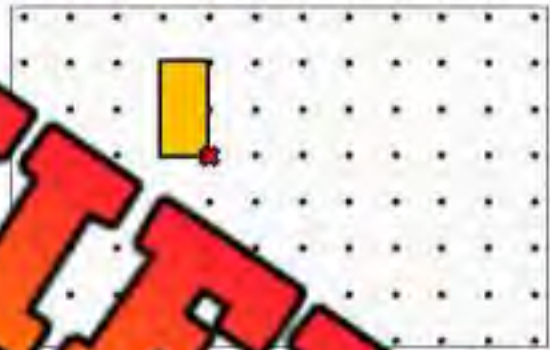
2) _____

Part 5

Rotate shape and the point marked ✖



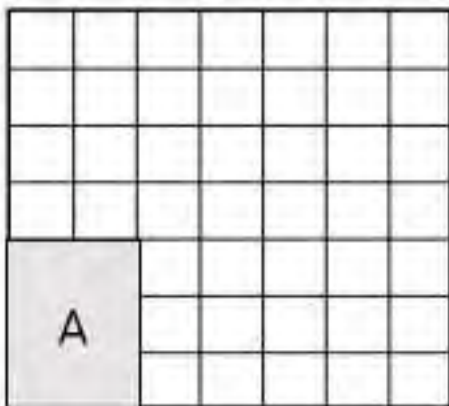
1) 90° counter-clockwise rotation



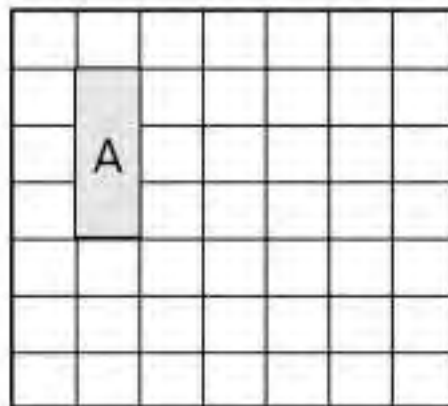
2) 180° clockwise rotation

Part 6

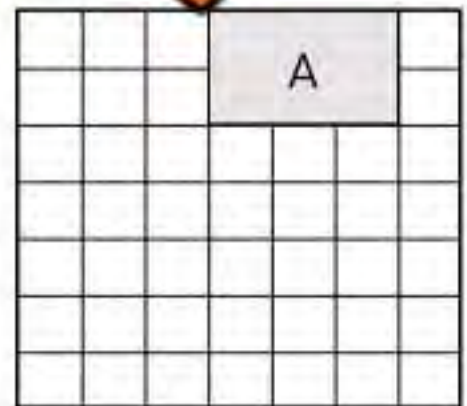
Draw the new shape after reading the 3 steps



3 ↑, 4 → 1 ↓



2 ↓, 4 → 1 ↓



3 ↓, 2 ←, 2 ↓

Grade 5

Statistics and Probability



	Curriculum Expectations	Pages
SP5.1	Differentiate between first-hand and second-hand data.	5-11
SP5.2		
SP5.3	Describe, compare, predict, and test the likelihood of outcomes in probability situations.	58-90
TQ	Tests and quizzes	55-57, 91-92

Preview of 70 pages from
this product that contains
159 pages total.

Sampling a Population

What is a Population

A **population** is the total set of subjects that fit a particular description. For example, students in Saskatchewan is a population that would include all the students in Saskatchewan.



Sampling a Population

When we want to know something about a population, it is easier to ask a sample of the population than asking everyone within that population. For example, if we wanted to know if the students in Saskatchewan preferred Geography or Science, we could ask 10% of the population instead of every student in Saskatchewan. We can assume that the remainder of the population would have voted in the same way.

Sampling a population saves us a lot of time and money. It works well if we sample the population correctly. For example, if we went to a Science and Technology school in Saskatchewan and asked the students if they preferred Geography or Science better, they would likely all say Science. This would be a bad sample of the population.

Instruction

Write a sample question for each population that would **not** be a good representation of the population.

Population	Survey Question	Bad Sample
Pet Owners in Saskatchewan	What is the best pet?	_____
Parents of Saskatchewan	Which sport is best for kids?	_____
Students in Saskatchewan	Which city is the best?	_____
University Students in Saskatchewan	Which university is the best?	_____
Kids who own a PS5	Which PS5 game is the best?	_____
Hockey players in Saskatchewan	Which sports store is the best?	_____
Teachers in Saskatchewan	Which school is the best in Saskatchewan?	_____

First-Hand vs Second-Hand Data

First-Hand Data

Data that you have collected yourself

Example

- asking your classmates their favourite food

Second-Hand Data

Data that has been collected by someone else

Example

- How much rainfall landed in Saskatoon in May

Part 1

Read the description and circle if it is first-hand or second-hand data

1) You look up how many goals per game in the playoffs last year and get the data	First-Hand Second-Hand
2) You measure the heights of everyone in your class	First-Hand Second-Hand
3) You measure the snow in your yard each week	First-Hand Second-Hand
4) You look up how much snow fell each day in December	First-Hand Second-Hand
5) You record how many minutes you play video games each day	First-Hand Second-Hand
6) You look up the distances from your house to different countries around the world	First-Hand Second-Hand

Part 2

Write your own first-hand and second-hand data description below

1) First-Hand	
2) Second-Hand	
3) First-Hand	
4) Second-Hand	

Exit Cards

Cut Out

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

Name: _____

Read the description and circle if it is first-hand or second-hand data.

1) You interview your classmates to find out their favourite movies.	First-Hand
	Second-Hand
2) You research the average temperature in your city over the past decade using online resources.	First-Hand
	Second-Hand
3) You analyze the scores from your school's basketball team for the past season.	First-Hand
	Second-Hand
4) You take photos of different types of leaves you find in your neighbourhood and classify them.	First-Hand
	Second-Hand

Name: _____

Read the description and circle if it is first-hand or second-hand data.

1) You interview your classmates to find out their favourite movies.	First-Hand
	Second-Hand
2) You research the average temperature in your city over the past decade using online resources.	First-Hand
	Second-Hand
3) You analyze the scores from your school's basketball team for the past season.	First-Hand
	Second-Hand
4) You take photos of different types of leaves you find in your neighbourhood and classify them.	First-Hand
	Second-Hand

Name: _____

Read the description and circle if it is first-hand or second-hand data.

1) You interview your classmates to find out their favourite movies.	First-Hand
	Second-Hand
2) You research the average temperature in your city over the past decade using online resources.	First-Hand
	Second-Hand
3) You analyze the scores from your school's basketball team for the past season.	First-Hand
	Second-Hand
4) You take photos of different types of leaves you find in your neighbourhood and classify them.	First-Hand
	Second-Hand

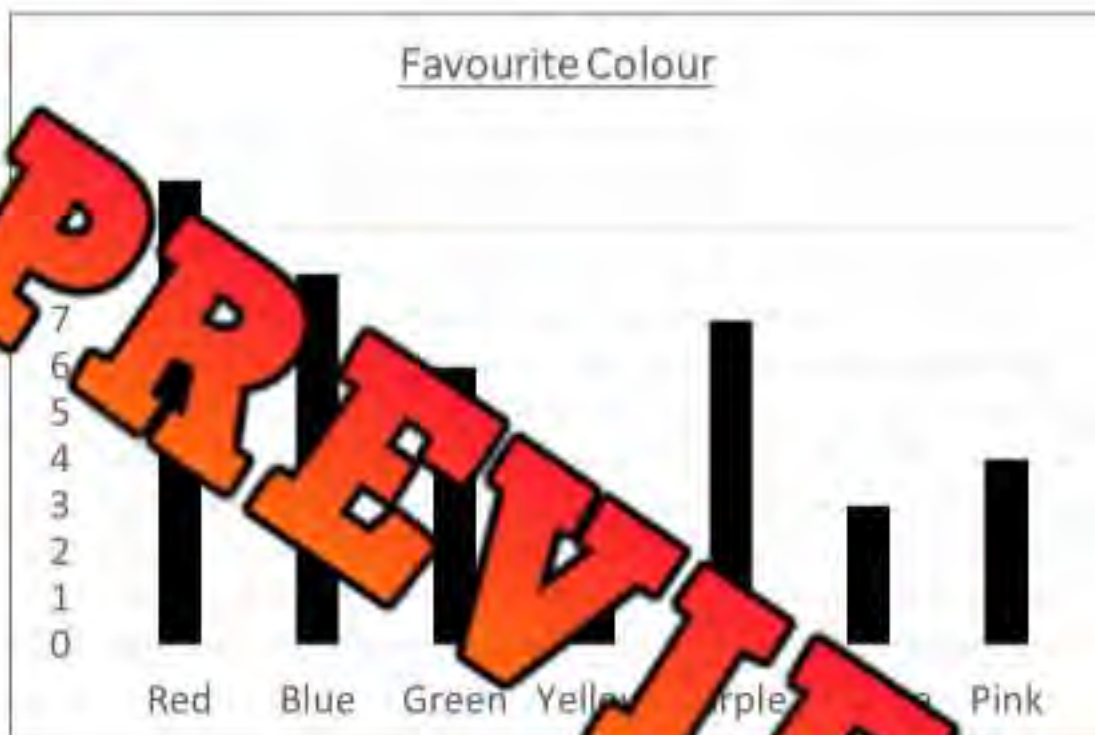
Name: _____

Read the description and circle if it is first-hand or second-hand data.

1) You interview your classmates to find out their favourite movies.	First-Hand
	Second-Hand
2) You research the average temperature in your city over the past decade using online resources.	First-Hand
	Second-Hand
3) You analyze the scores from your school's basketball team for the past season.	First-Hand
	Second-Hand
4) You take photos of different types of leaves you find in your neighbourhood and classify them.	First-Hand
	Second-Hand

Vertical Bar Graph – Favourite Colour

The students in grade 5 were asked which colour was their favourite. The results of the survey have been displayed in the one-to-one bar graph below.



a) Which colour was most popular?

b) Which colour was the least popular?

c) How many people chose yellow as their favourite?

d) How many people liked red and blue the best?

e) How many more people liked red than orange?

f) What two colours add up to the amount of red?

g) How many people were surveyed?

Horizontal Double-Bar Graph

The grade 4s and 5s were asked which sport they liked the best. The results have been displayed below in the one-to-one horizontal double bar graph.

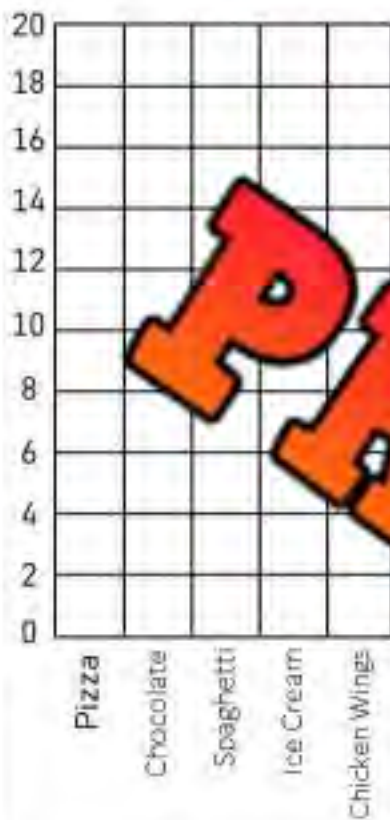


Sport	Baseball	Gymnastics	Soccer	Football	Basketball	Hockey
Grade 4						
Grade 5						

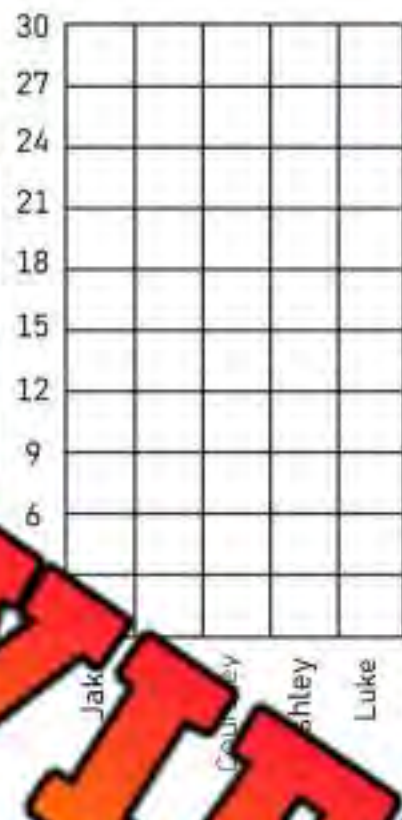
- | | |
|--|--|
| a) Which sport was most popular? | |
| b) Which sport was the least popular? | |
| c) How many grade 4's and 5's chose gymnastics as their favourite? | |
| d) How many kids liked basketball and soccer the best? | |
| e) How many kids liked hockey more than football? | |
| f) How many grade 5's were surveyed? | |
| g) How many total kids were surveyed? | |

Drawing Bar Graphs

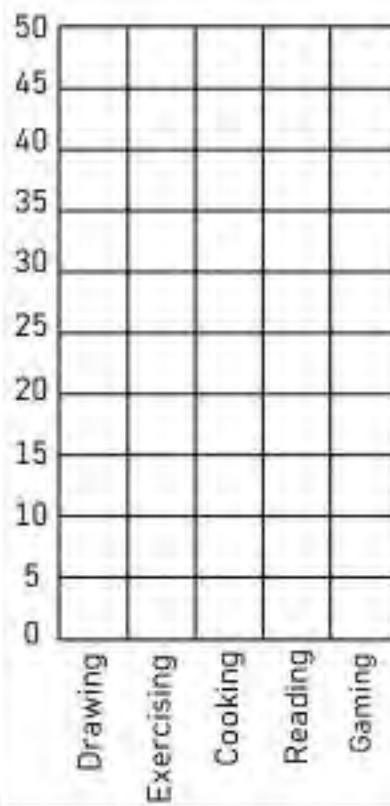
Instruction Draw the bars for each of the many-to-one bar graphs below



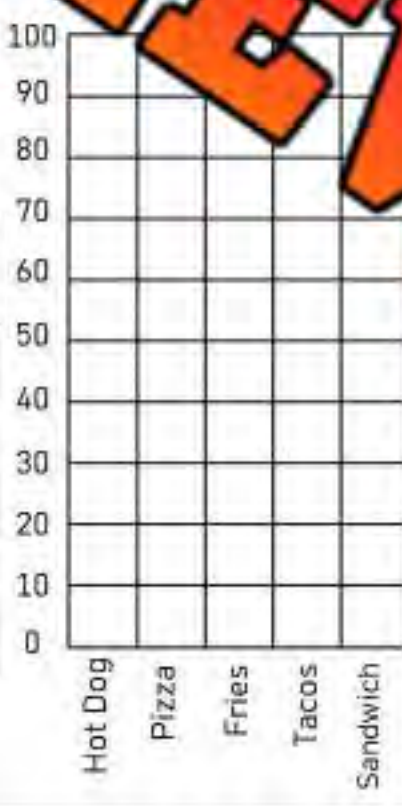
Favourite Food	# of votes
Pizza	14
Chocolate	10
Spaghetti	4
Ice Cream	6
Chicken Wings	6



Player	# of points
Jake	30
Nathan	12
Courtney	18
Ashley	24
Luke	6



Favourite Hobby	# of votes
Drawing	10
Exercising	20
Cooking	35
Reading	25
Gaming	40



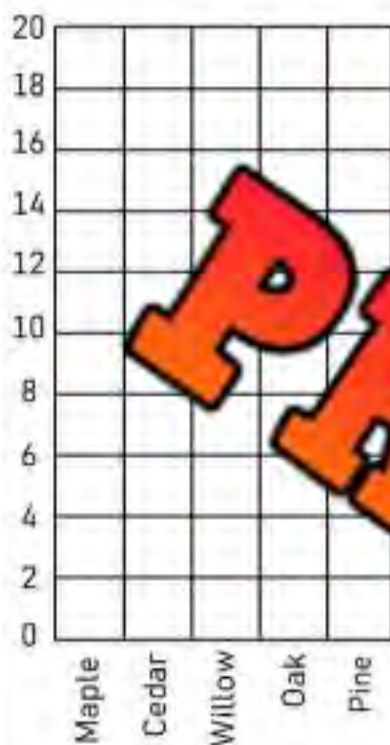
Favourite Food	# of votes
Hot Dog	30
Pizza	60
Fries	50
Tacos	80
Sandwich	35

PREVIEW

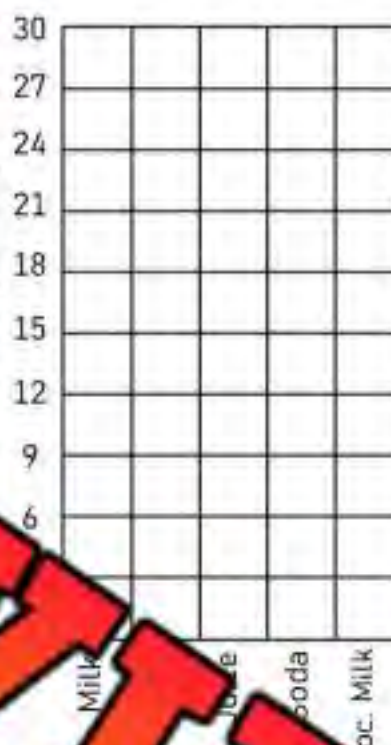
Drawing Bar Graphs

Instruction

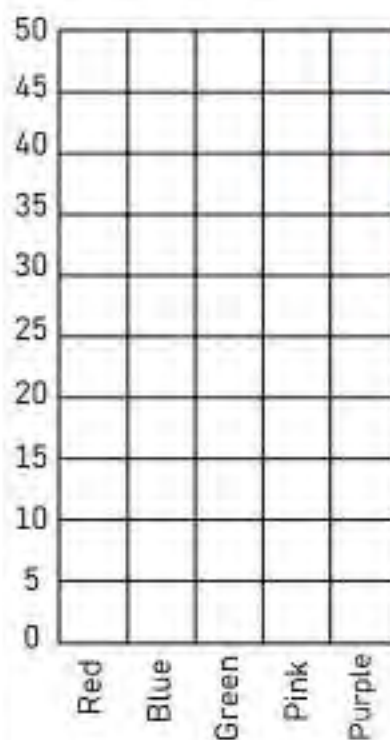
Draw the bars for each of the many-to-one bar graphs below



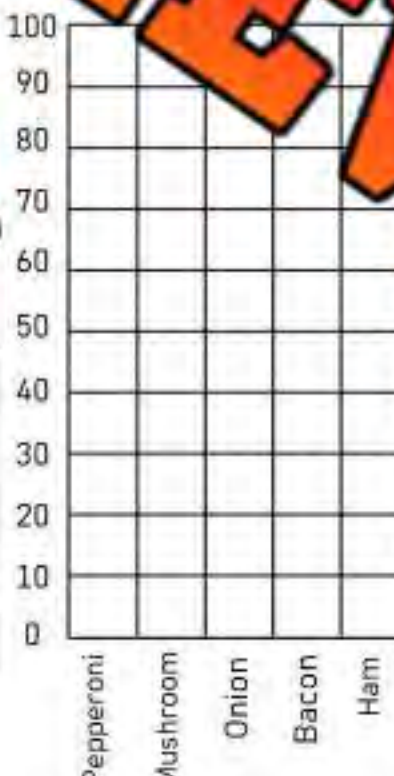
Favourite Tree	# of votes
Maple	8
Cedar	11
Willow	6
Oak	1
Pine	1



Favourite Drink	# of points
Milk	9
Water	3
Juice	16
Soda	21
Choc. Milk	25



Favourite Colour	# of votes
Red	40
Blue	30
Green	15
Pink	8
Purple	20



Favourite Pizza Topping	# of votes
Pepperoni	80
Mushroom	40
Onion	30
Bacon	60
Ham	25

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 graphs below

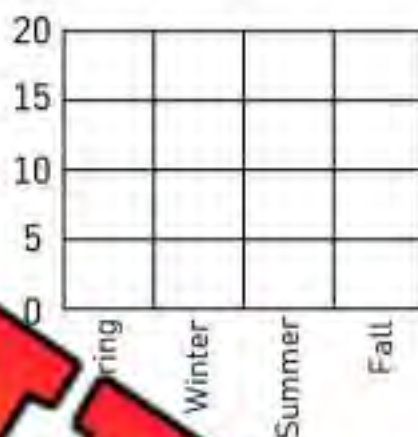
Season	Winter	Summer	Fall
Votes	10	5	15



Name: _____

Draw the bars for the bar graphs below.

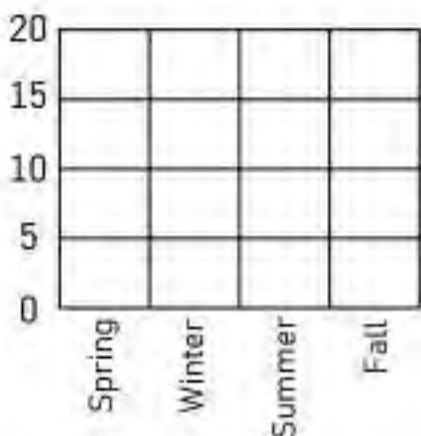
Season	Spring	Winter	Summer	Fall
Votes	20	10	5	15



Name: _____

Draw the bars for the bar graphs below.

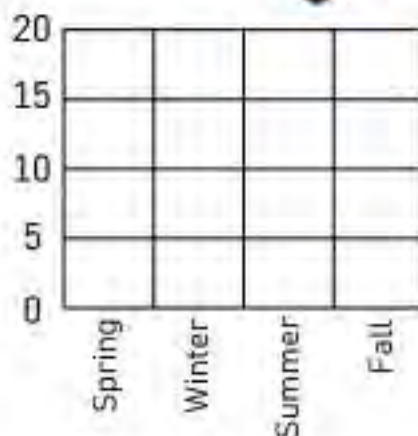
Season	Spring	Winter	Summer	Fall
Votes	20	10	5	15



Name: _____

Draw the bars for the bar graphs below.

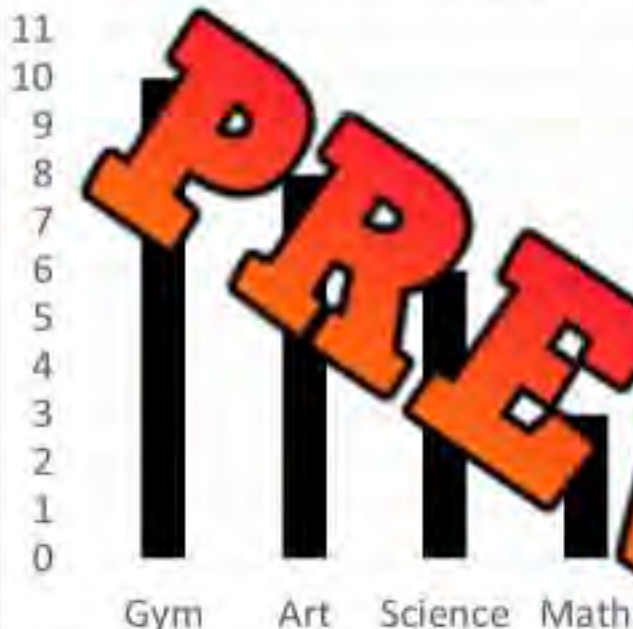
Season	Spring	Winter	Summer	Fall
Votes	20	10	5	15



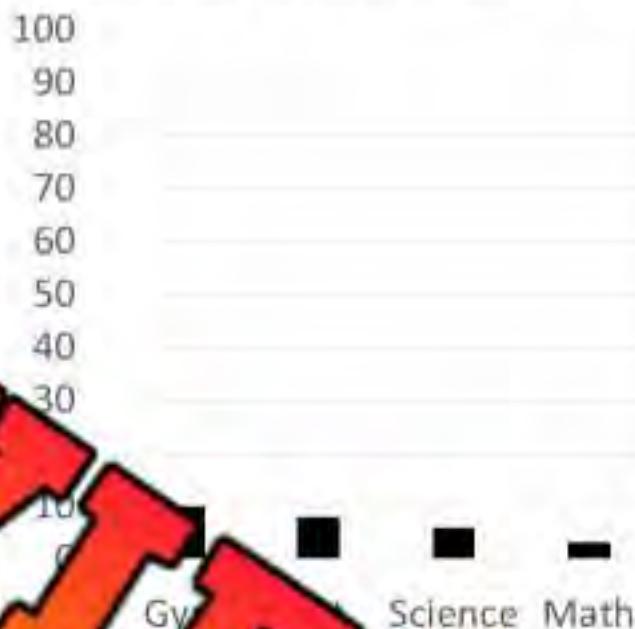
Favourite Subject – Examining Scale

The two graphs below display the same data. Examine both graphs and answer the questions below.

Favourite Subject – Graph A



Favourite Subject – Graph B



Instruction

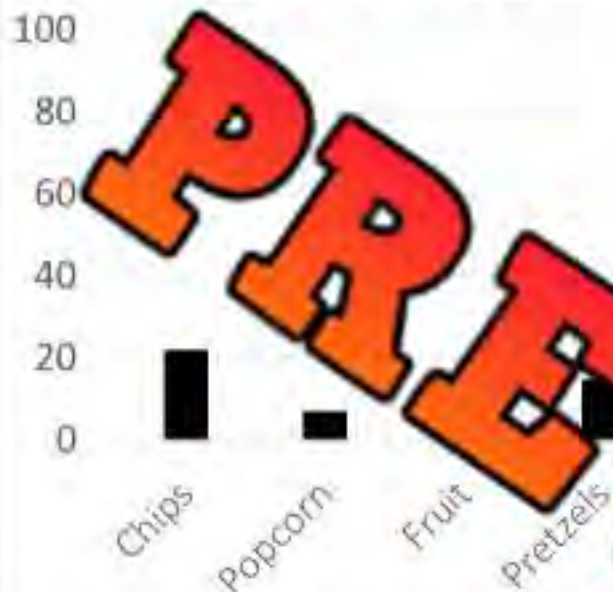
What do you notice about the two graphs?

- What is the scale in Graph A?
- What is the scale in Graph B?
- Which graph uses more of the space?
- Which graph is easier to read and interpret? Why is that graph better?
- Why is it important to choose an appropriate scale?

Favourite Snack – Examining Scale

The two graphs below display the same data. Examine both graphs and answer the questions below.

Favourite Snack – Graph A



Favourite Snack – Graph B



Instruction

What do you notice about the y-axis scales?

- What is the scale in Graph A?
- What is the scale in Graph B?
- Which graph uses more of the space?
- Which graph is better? Why?
- What other scales could you use for the data?
 - Go up by _____
 - Go up by _____

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.



Brownie
Ice Cream
Cookie
Donut
Pudding

Favourite Dessert	# of votes
Brownie	14
Ice Cream	12
Cookie	2
Donut	16
Pudding	6



Favourite Transportation Method	# of votes
Bus	5
Car	15
Airplane	30
Train	25
Boat	40



Bus
Car
Airplane
Train
Boat

Creating Scale

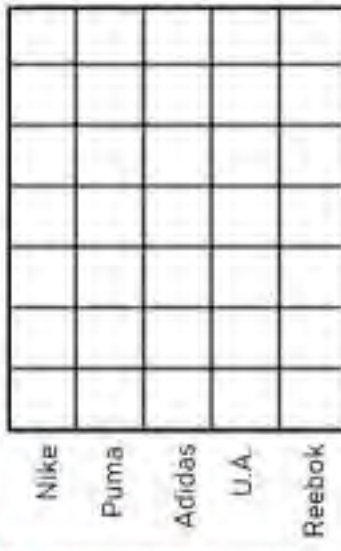
Instruction

Read the numbers and decide which scale to use. Next, draw your bar graphs



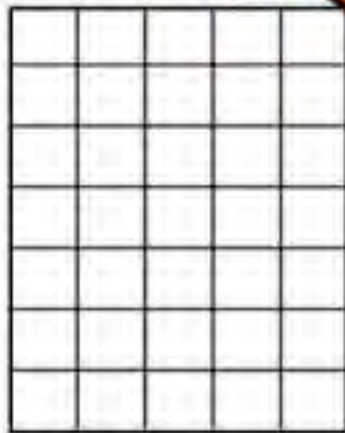
Dog
Cat
Bunny
Hamster
Rabbit

Pets	Votes
Dog	8
Cat	14
Bunny	2
Hamster	6
Rabbit	10



Nike
Puma
Adidas
U.A.
Reebok

Brand	Votes
Nike	7
Puma	2
Adidas	4
Under Armour	5
Reebok	3



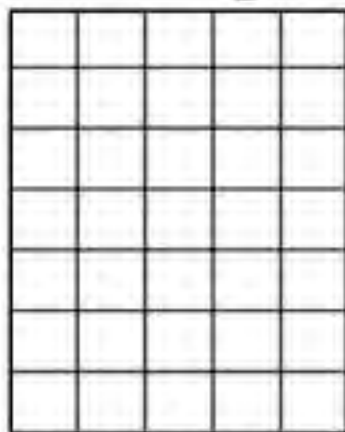
Cookies
Cake
Candy
Ice Cream
Donuts

Food	Votes
Cookies	9
Cake	12
Candy	21
Ice Cream	15
Donuts	18



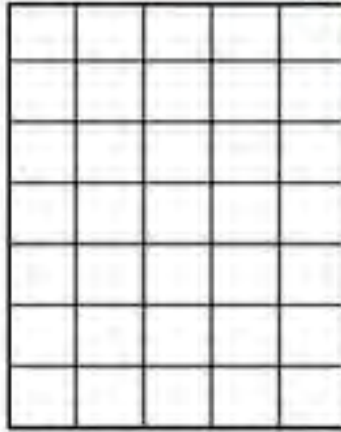
Math
Science
Gym
Art
Language

Subject	Votes
Math	20
Science	30
Gym	70
Art	50
Language	40



Honda
BMW
Toyota
Tesla
Ford

Cars	Votes
Honda	40
BMW	100
Toyota	60
Tesla	120
Ford	30

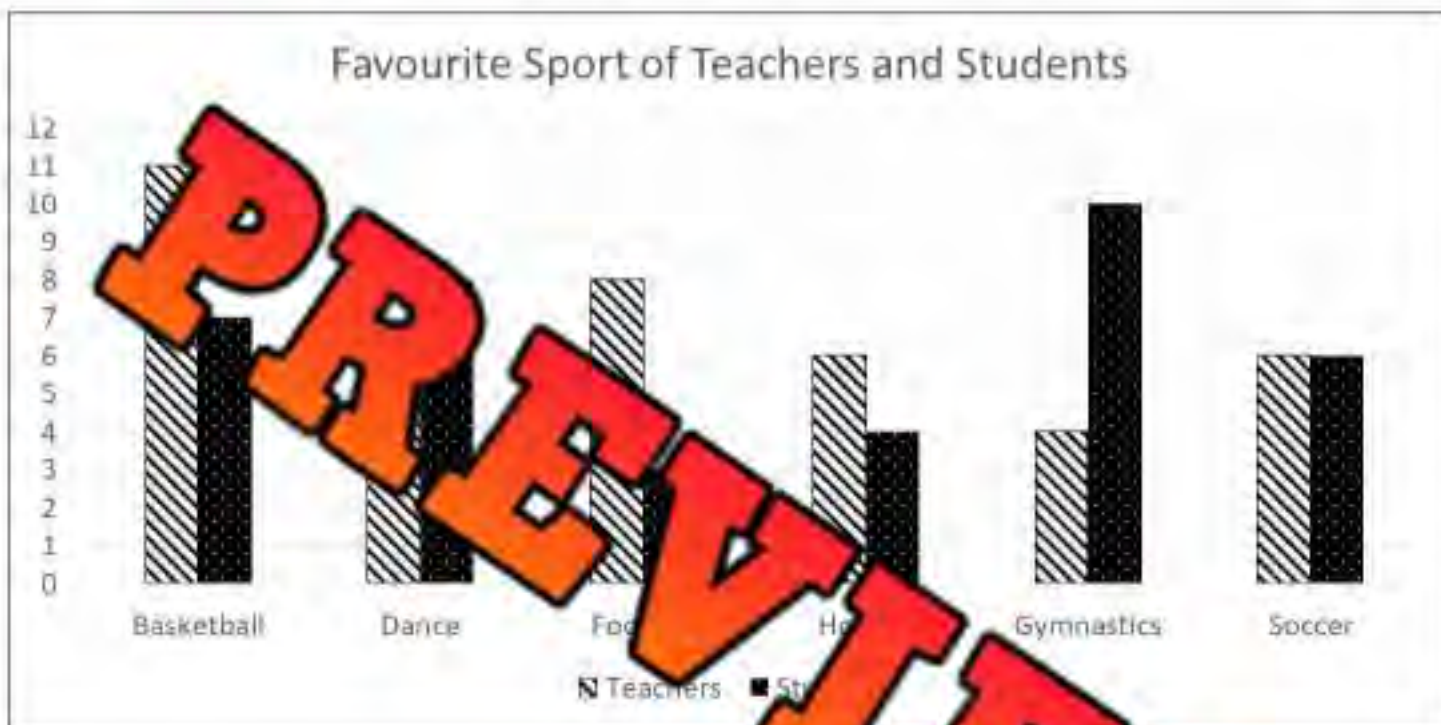


Water
Pop
O.J.
Milk
A.J.

Drinks	Votes
Water	200
Pop	500
Orange Juice	400
Milk	300
Apple Juice	600

Interpreting a Double Bar Graph

The teachers at Pineview Public School and students in grade 5 were asked which sport is their favourite. The results are displayed in the double bar graph below.



a) Which sport did the teachers like the most?

b) Which sport did the students like the most?

c) Which sport got the most votes combined?

d) Which sport did the teachers and students like the same?

e) Did more teachers or students participate in the survey?

f) How many people participated in the survey?

g) What could the title be for the x-axis → ?

h) What could the title be for the y-axis ↑ ?

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) Approximately 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: _____

Number of Students Who Walk or Bike to School

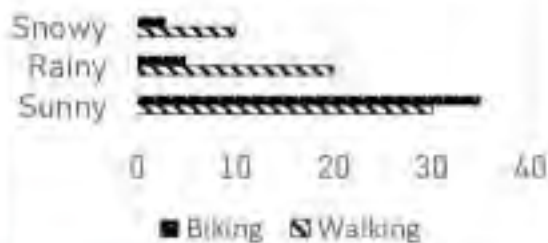


1) Which condition has the highest number of students walking to school?

2) In which weather condition is the number of students who bike to school the lowest?

Name: _____

Number of Students Who Walk or Bike to School

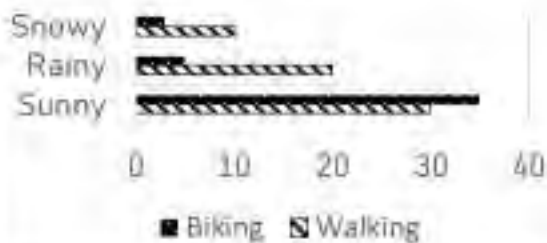


1) Which condition has the highest number of students walking to school?

2) In which weather condition is the number of students who bike to school the lowest?

Name: _____

Number of Students Who Walk or Bike to School



1) Which condition has the highest number of students walking to school?

2) In which weather condition is the number of students who bike to school the lowest?

Name: _____

Number of Students Who Walk or Bike to School



1) Which condition has the highest number of students walking to school?

2) In which weather condition is the number of students who bike to school the lowest?

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.

- Bottle or cups for flipping
- A smartboard or projector to display bar graphs
- Timer (stopwatch or smartboard app)
- Question cards based on the data
- Scoreboard to keep track of team performance



Instructions

How you will complete the activity.

1. Divide the class into small teams, ideally of 5 students each.
2. Prepare a series of bar graphs to display on the smartboard, each with corresponding question cards that ask about the data in the graph.
3. One team at a time comes to the front where the graphs are displayed.
4. Display the first bar graph on the smartboard.
5. The first student from the active team reads the graph and selects a question 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.

Graph 1

Analyze the graph below

Average Test Scores in Math and Science by Grade



Graph 2

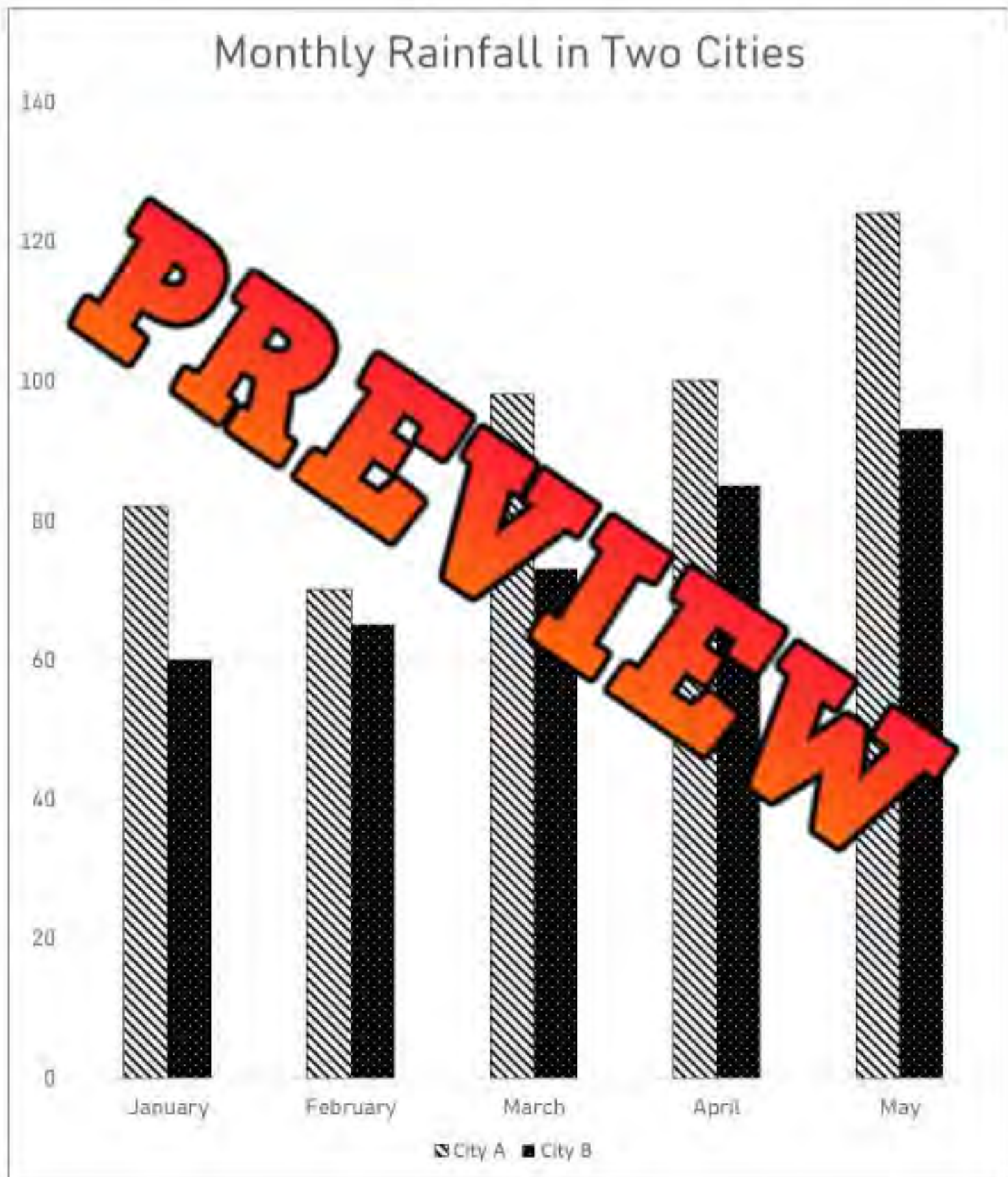
Analyze the graph below

Participation in Extracurricular Activities by Gender



Graph 3

Analyze the graph below



Graph 4

Analyze the graph below



Graph 5

Analyze the graph below

Daily Screen Time on Weekdays vs.
Weekends

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 shows the lowest values for both bars?

How many categories are displayed on the graph?

What is the range of values 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 for both bars?

How does the value of one specific category compare to the other?

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?

Double Bar Graph – Favourite Social Media

You surveyed the students in grade 5 and 6 asking which social media app was their favourite. The results have been sorted by grade in the double-bar graph below.



Part 1

Fill in the frequency table by reading the double bar graph.

Grades	Snapchat	YouTube	Tik Tok	Facebook	Instagram
5					
6					

Part 2

Answer the questions below

a) How many students in each grade were surveyed?	Gr. 5	Gr. 6
b) Which social media was the most popular? How many votes did it get?		
c) How many more grade 6's liked Tik Tok than grade 5's?		
d) Which type of data is this – first-hand or second-hand?		

Interpreting a Double Bar Graph – Favourite Beverage

A restaurant wants to know which drinks to keep in stock. They decide to sample two different age groups – adults (18+) and people under 18. They randomly select 30 individuals from each group.



Part 1

Fill in the frequency table by reading the graph above

Age Group	Coffee	Juice	Pop	Tea	Milk
Under 18					
Adults (18+)					

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 type of data is this: first-hand or second-hand?	
d) How many more adults preferred coffee than people under 18?	
e) How many more people under 18 preferred pop than adults?	

Interpreting a Double Bar Graph – James vs Wade

Lebron James and Dwyane Wade started their NBA careers in the same year. Their points per game have been displayed in the double bar graph below.

Average Points Per Game – First 5 Seasons



Part 1

Fill in the frequency table by reading the double bar graph above

Season	First	Second	Third	Fourth	Fifth
Lebron James					
Dwyane Wade					

Part 2

Answer the questions below

a) What number does the graph start with on the y-axis ↑ ?	
b) What is the title of the x-axis → ?	
c) Which type of data is this: first-hand or second-hand?	
d) Which season did Wade score more points than James?	
e) How many more points per game did James score in the first 5 seasons together?	

Tally Marks

= 1	= 2	= 3	= 4	= 5
= 6	= 7	= 8	= 9	= 10

Part 1 Count the tally marks

_____	_____	_____	_____
_____	_____	_____	_____

Part 2 Draw tally marks that match the number

3 =	7 =	
12 =	15 =	18 =
26 =	31 =	

Part 3 Which is greater? Use the < > or =

8 _____	13 _____	14 _____
---------	----------	----------

Tally Marks and Frequency Tables

Part 1 Fill in the table by writing in the frequency of the tally marks

1. The students in a class were asked what their favourite sport is. The results are listed below. Fill in the frequency of the tally marks in each category below.

Category	Football	Hockey	Basketball	Soccer
Tally				
Frequency				

- a) How many people were in the class? _____
- b) Which sport is the most popular in the class? _____
- c) Which sport was the least popular in the class? _____
- d) How many more people liked hockey than basketball? _____



Part 2 Fill in the table by drawing the tally marks based on the frequency

2. Henry asked his friends what food they liked the best. He forgot to write down the categories, but he wrote down the frequency. Help him fill in the table by drawing the tally marks.

Category	Pizza	Sandwich	Hot Dogs	French Fries
Tally				
Frequency	13	5	12	9

- a) How many friends participated in the survey? _____
- b) Which food is the most popular? _____
- c) How many more friends liked French fries than sandwiches? _____

Exit Cards

Cut Out

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

Name: _____

Fill in the tally table below

Favourite Subject		
Subject	Tallies	Frequency
Math		
Science		16
English		9
Sport		
Music		24

Name: _____

Fill in the tally table below

Favourite Subject		
Subject	Tallies	Frequency
Math		
Science		16
English		9
Sport		
Music		24

Name: _____

Fill in the tally table below

Favourite Subject		
Subject	Tallies	Frequency
Math		
Science		16
English		9
Sport		
Music		24

Name: _____

Fill in the tally table below

Favourite Subject		
Subject	Tallies	Frequency
Math		
Science		16
English		9
Sport		
Music		24

Survey – Double Bar Graph – Eye Colour

Directions

- 1) Create two groups that you will ask the survey question, "what is your eye colour?"
- 2) Record the results in the table below. Make sure to keep the data from the two groups separate.

Survey Question		What is your eye colour?			
Group 1	Group				
Tally	Tally				

Interpreting Your Survey Results

- 1) Did any of the survey results surprise you?

- 2) Was there a big difference between the two groups? Explain why or why not.

- 3) Is this first-hand data or second-hand data? Explain why.

Name: _____

41

Creating a Double-Bar Graph – Eye Colour

Use the data you collected to plot your graph. Remember the following labels:

X axis label Y axis label Title Scale Options Legend



Survey – Double Bar Graph – Favourite Food

Directions

- 1) Create two groups that you will ask the survey question, "what is your favourite food?"
- 2) Record the results in the table below. Make sure to keep the data from the two groups separate.

Survey Question		What is your favourite food?					
Group 1	Group 2						
Tally	Tally						

Interpreting Your Survey Results

- 1) Did any of the survey results surprise you?

- 2) Was there a big difference between the two groups? Explain why you think this was the case.

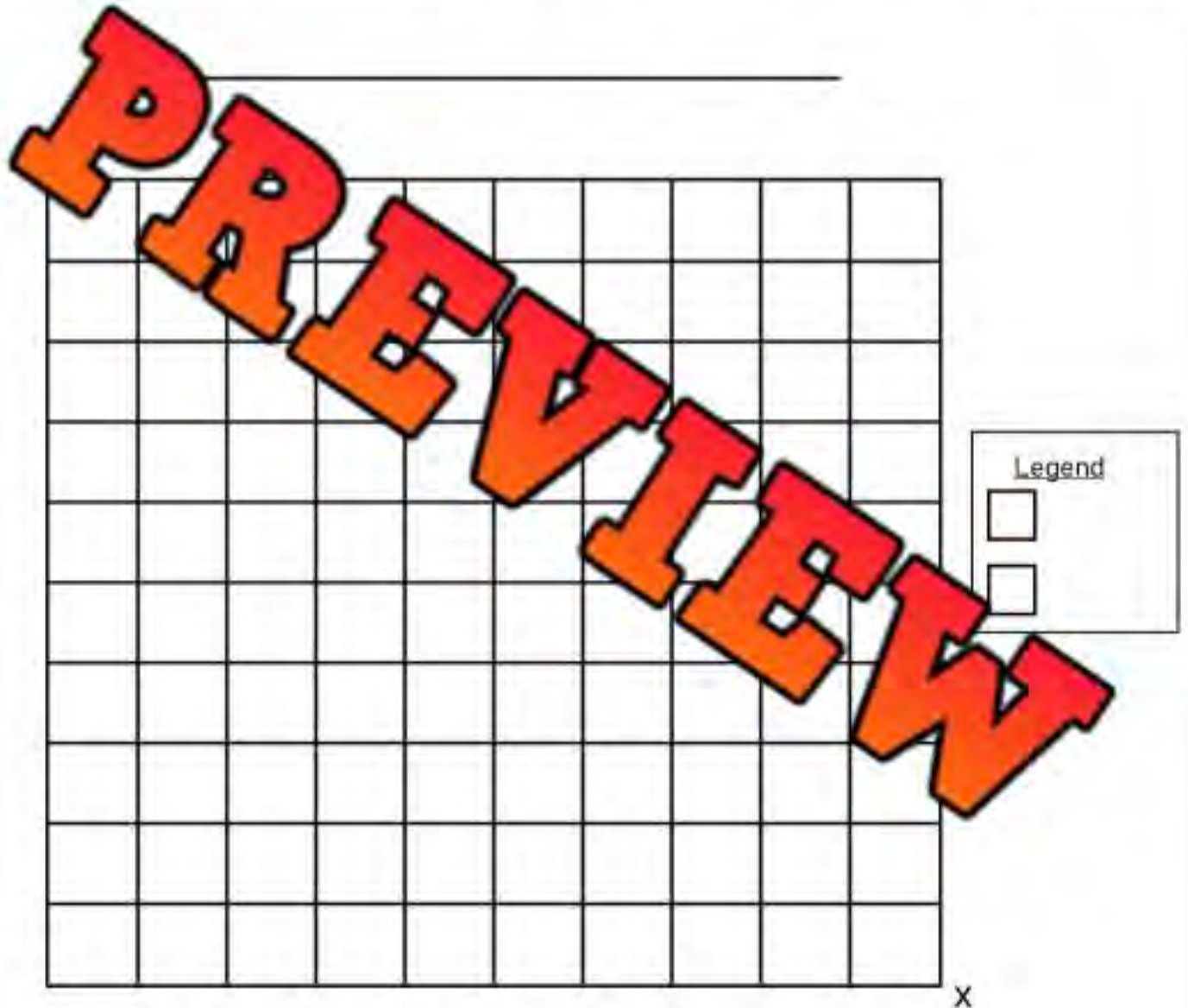
- 3) Why do you think we use a double-bar graph?

Name: _____

Creating a Double-Bar Graph – Favourite Food

Use the data you collected to plot your graph. Remember the following labels:

X axis label Y axis label Title Scale Options Legend



Double Bar Graph – First-Hand Data

Directions

- 1) Create your own survey question that you will ask two different groups
- 2) Decide on two groups to ask the survey question to
- 3) Fill in the organizer below

Survey Question		_____					
Options		_____					
Group 1	Group 2						
Tally	Tally						

Interpreting Your Survey Results

- 1) Did any of the survey results surprise you?

- 2) Was there a big difference between the two groups? Explain why you think this was the case.

- 3) Which other groups could you ask this survey question to? List 3 more groups.

Name: _____

45

My Double Bar Graph – First Hand Data

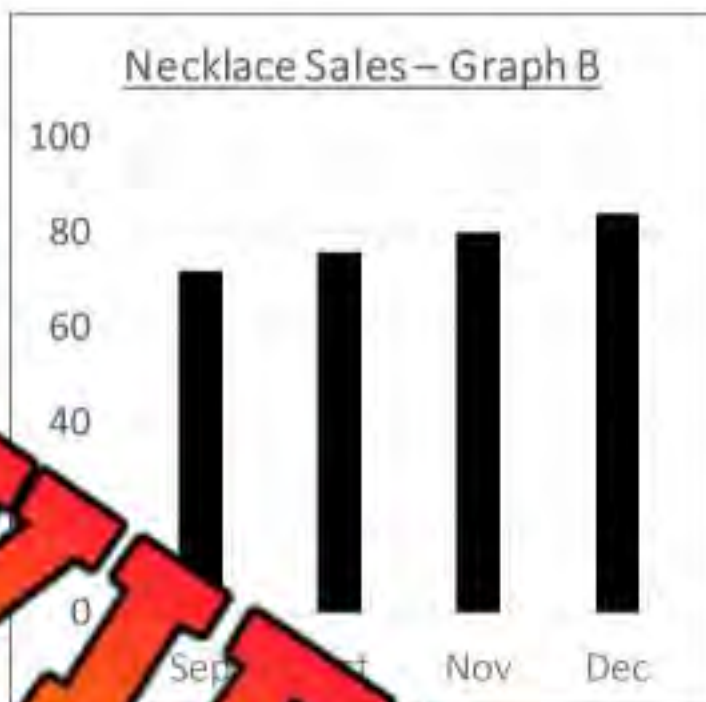
Use the data you collected to plot your graph. Remember the following labels:

X axis label Y axis label Title Scale Options Legend



Misleading Graphs

Pretend you just started a necklace making business. You want to show your customers that business is growing like crazy, and they need a necklace to fit in. Which graph would you choose for an infographic?



Questions

What do you notice about the two graphs?

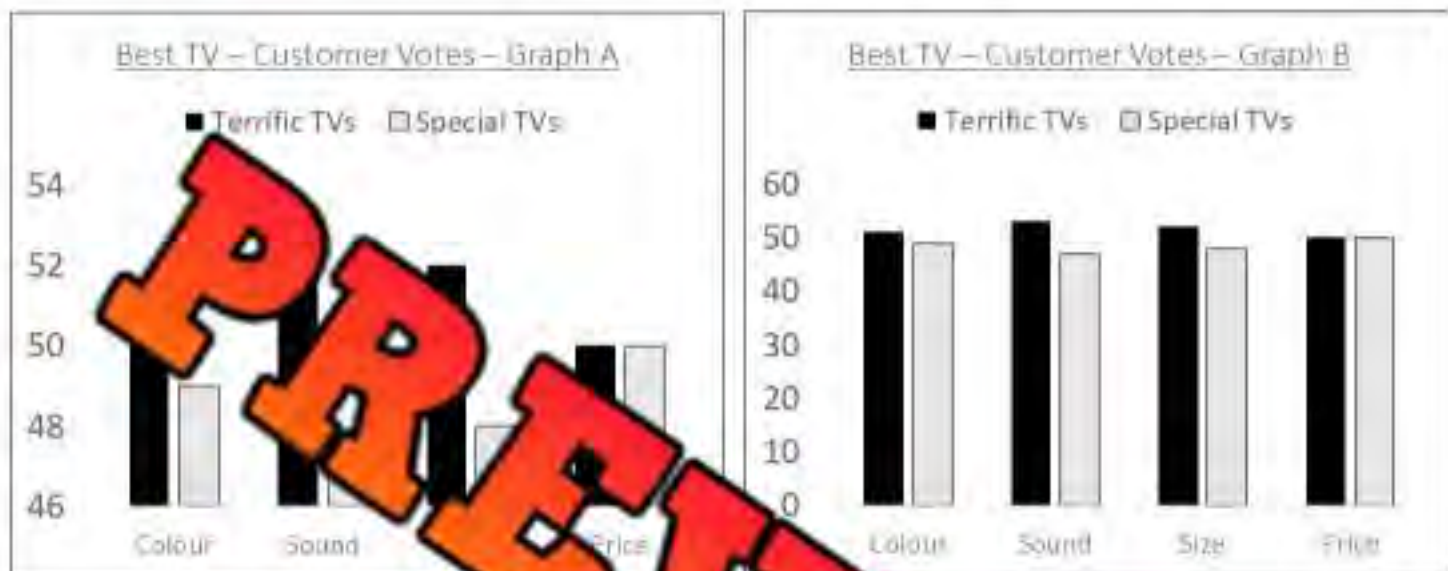
a) Which graph would you use to show customers that your sales are growing massively? Why?

b) How are the graphs different? Do they have the same data?

c) Why is it important to read a graph carefully?

Misleading Graph – Multiple-Bar Graph

Terrific TVs sells televisions. Their biggest competition is a company named, Special TVs. Terrific TVs completed a study that compared the two brands. The results are below.



Questions

What do you notice about the two graphs?

a) Which graph would you use if you were Terrific TVs? Why?

b) How many more votes in total did Terrific TVs get over Special TVs?

c) Is Terrific TVs a lot better than Special TVs? Explain.

d) Do you think it is fair that businesses create misleading graphs like this one? Explain.

Misleading Graphs

Part 1

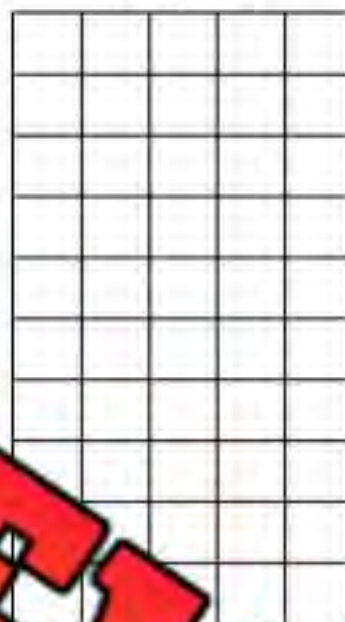
Draw two graphs – one that is misleading and one that is honest

If you were selling cola as a business, how would you graph the data to make it look like your product is much more popular than the other products?



Favourite Pop	# of votes
Cola	10
Soft B	20
Energy	5
Ginger Ale	5

Graph 2



Part 2

What do you notice about the two graphs?

a) Which graph would the cola business use? Explain why.

b) How did you make the graphs different?

Unit Quiz – Data Literacy

Part 1

Draw the bars for each of the bar graphs below



Favourite Food	# of votes
Pizza	12
Chocolate	6
Spaghetti	10
Ice Cream	15
Chicken Wings	9

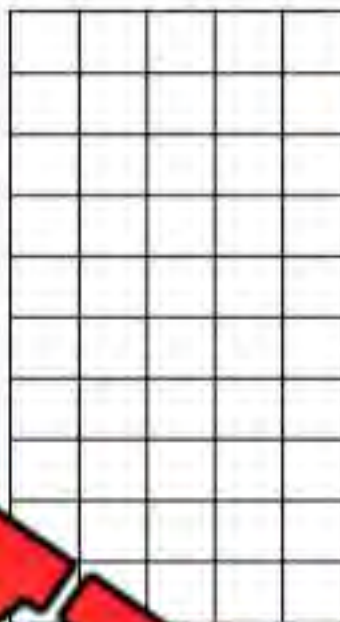
12

6

10

Ice Cream
Chicken Wings

Pizza
Chocolate
Spaghetti
Ice Cream
Chicken Wings



Player	# of points
Jake	15
Nathan	30
Courtney	15
Ashley	21
Luke	9

15

30

15

21

9

Jake
Nathan
Courtney
Ashley
Luke

Part 2

Read the description of the data and circle if it is First-Hand or Second-Hand

1) You count how many cars drive by each hour in front of your house	<input type="checkbox"/> First-Hand <input type="checkbox"/> Second-Hand
2) You measure the shoe sizes of the students in your class	<input type="checkbox"/> First-Hand <input type="checkbox"/> Second-Hand
3) You look up which YouTubers had the most views last year	<input type="checkbox"/> First-Hand <input type="checkbox"/> Second-Hand
4) You research how much snowfall each province had last year	<input type="checkbox"/> First-Hand <input type="checkbox"/> Second-Hand
5) You ask your classmates how many siblings they have	<input type="checkbox"/> First-Hand <input type="checkbox"/> Second-Hand

Part 3

Read the graph and answer the questions below

Customers at a pet store were surveyed to see which pet was their favourite.

Favourite Pet



Answer the following questions about the graph above

1. Fill in the frequency table

	Dog	Cat	Hamster	Bunny	Fish
Under 18					
Adults					
Totals					

2. How many customers were surveyed? _____

3. What is the scale of the graph? _____

4. Which pet do kids like the most? _____ Adults? _____

5. How much more popular are dogs than bunnies? _____

Part 4

Graph the data below in a double bar graph

You surveyed the grade 4s and 5s by asking which sport they liked the best. The results are below.

Hockey		Basketball		Soccer		Baseball		Gymnastics	
Gr 4	Gr 5	Gr 4	Gr 5	Gr 4	Gr 5	Gr 4	Gr 5	Gr 4	Gr 5
8	7	6	10	6	3	7	5	8	5



Legend



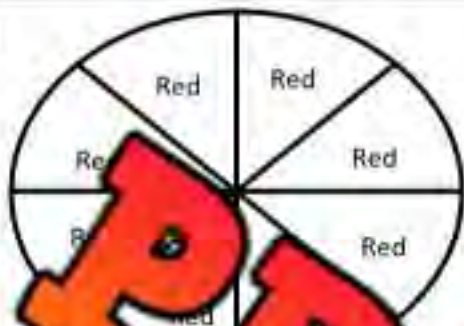
- Which sport is the most popular? _____
- Which sport is the least popular? _____
- How many grade 4s were surveyed? _____ Grade 5s: _____
- Is this first-hand or second-hand data? _____
- How would you sample the grade 4 and 5 students in your school for this survey?

Describing Probability – Certain or Impossible?

Instruction

 Read the spinner and describe if the event is certain or impossible

1)

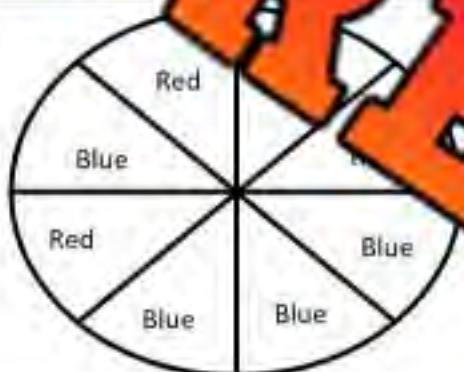


a) Spinning a red is _____

b) Spinning a blue is _____

c) Spinning a yellow is _____

2)

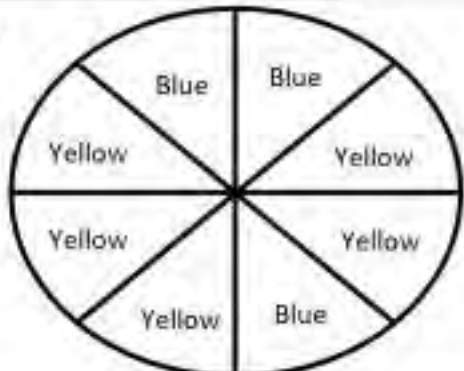


a) Spinning a purple is _____

b) Spinning a blue or red is _____

c) Spinning a yellow is _____

3)

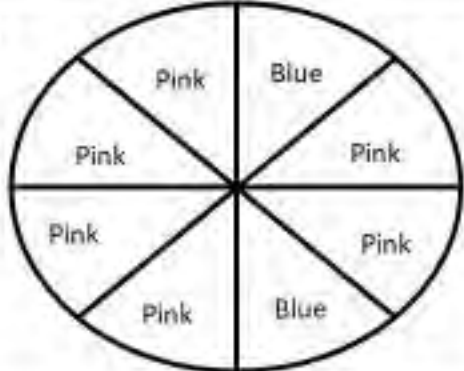


a) Spinning a yellow or blue is _____

b) Spinning a green is _____

c) Spinning a red is _____

4)



a) Spinning a pink or blue is _____

b) Spinning a red is _____

c) Spinning a green is _____

Describing the Likelihood of Events

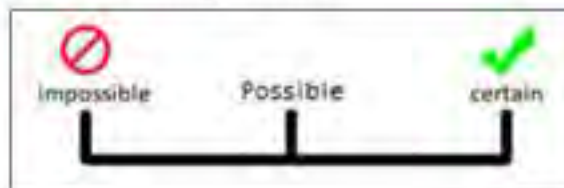
We can describe the likelihood of events by using the following terms:

impossible, possible, certain

Impossible = Cannot happen (seeing a dinosaur)

Possible = It could happen (eating a treat today)

Certain = Will definitely happen (breathing today)



Instructions Use the terms to describe the likelihood of the events below

1. You will grow up today.

2. You will have recess today.



3. You will sleep tonight.

4. You will find money on the ground today.



5. You will buy a lottery ticket and win.

6. It will rain or snow today.



7. You will teleport to Africa today.

8. You will roll a 2 when you roll a dice.



9. You will watch TV today.

10. Your teacher will give you free time today.



Activity: Probability Charades

Objective

What are we learning about?

Students will learn to identify and classify events as certain, possible, or impossible by acting out various scenarios and engaging in critical thinking.

Materials

What you will need for the activity.

- A set of cards with different events written on them (e.g., "It will rain tomorrow," "You will grow wings and fly," "You will be wise tomorrow").
- A timer (optional) to keep the game moving.
- A classroom where students can easily act out their scenarios.
- Whiteboard and markers.



Instructions

How you will complete the activity.

1. Begin by explaining the concepts of certain, possible, and impossible events. Give examples to ensure students understand the probability concepts.
2. Divide the class into two teams. If you prefer, you can have students take turns individually instead of dividing into teams.
3. Provide each team or individual student with a scenario card. The student acting out the scenario must not speak but can use gestures and movements to convey the event or they can draw it on the chalkboard/whiteboard.
4. The remaining students or the opposite team will try to guess the event being acted out and decide whether it is a certain, possible, or impossible event.
5. The student or team correctly identifying the event and its probability classification earns a point (or have this student have the choice to go next). Continue the game until all scenario cards have been acted out.
6. At the end of the game, discuss some of the scenarios with the class to reinforce understanding and clarify any misconceptions.

Scenario Cards

A set of scenario cards with different events

Turning into a cat

Jumping to the moon

Getting an A on a test

Finding a coin on the ground

Meeting a dinosaur

winning a race and flying

The sun rising tomorrow

Brushing your teeth before bed

Riding a bicycle

Catching a fish

PREVIEW

Scenario Cards

A set of scenario cards with different events

Raining cats and dogs

A cat driving a car

A tree falling on a house

Shooting a basketball and making it

A cow jumping over the moon

Following a treasure map and finding the treasure

Winning a race

Catching a butterfly




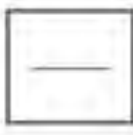






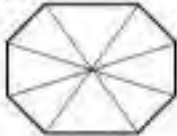
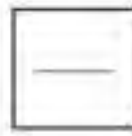
Breathing

Opening a door

PREVIEW

Probability – Finding Halves

Part 1 Shade in half of the shapes. Write the fraction of shaded in shapes to total shapes












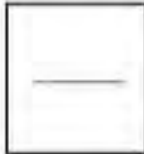
a)  	b)  	c)  
d)  	e)  	f)  

Part 2 What is half of the number? Write the fraction

#	Number	Half	Fraction	#	Number	Half	Fraction
1	20	10	$\frac{10}{20}$	8	50		
2	18			9			
3	24			10	88		
4	42			11	94		
5	48			12	76		
6	64			13	62		
7	82			14	98		

Probability - Quarters

Part 1 Shade in one quarter of the shapes. Write the fraction of shaded shapes to total shapes

a) 		b) 		c) 	
d) 		e) 		f) 	

Part 2 Shade one quarter of the shapes. Write the fraction of shaded in shapes

a) 		b) 		c) 	
---	--	---	--	---	--

Part 3 Fill in the tables below

	#	One Quarter	Fraction
1	20	5	$\frac{5}{20}$
2	40		
3	80		
4	16		
5	8		
6	12		
7	44		

	#	One Quarter	Fraction
1	60	15	$\frac{15}{60}$
2	88		
3	52		
4	68		
5	100		
6	36		
7	76		

Describing the Likelihood of Events

Instruction

Circle the likelihood of the event happening

1) You will have a substitute teacher tomorrow.



Certain

More Likely

Equally Likely

Less Likely

Impossible

2) You will go to the bathroom today.



Certain

More Likely

Equally Likely

Less Likely

Impossible

3) You will see a bird today.



Certain

More Likely

Equally Likely

Less Likely

Impossible

4) You will eat some chocolate today?



Certain

More Likely

Equally Likely

Less Likely

Impossible

5) It will snow on a warm day.



Certain

More Likely

Equally Likely

Less Likely

Impossible

6) You will get heads when flipping a coin.



Certain

More Likely

Equally Likely

Less Likely

Impossible

7) You will see a motorcycle today.



Certain

More Likely

Equally Likely

Less Likely

Impossible

8) You will slam dunk a basketball today.



Certain

More Likely

Equally Likely

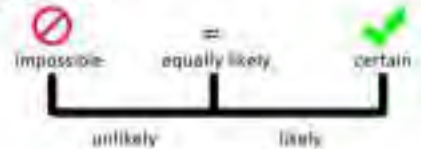
Less Likely

Impossible

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

Unlikely = Will probably not happen

Equally likely = There is an equal chance it could happen and that it won't happen

Likely = Will probably happen

Certain = Will definitely happen

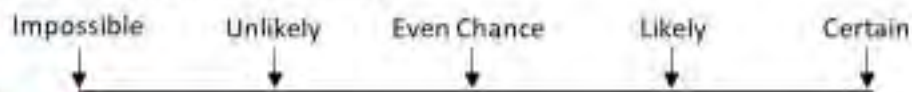
Instructions: Use the terms to describe the likelihood of the events below

1) You will have a ham 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	

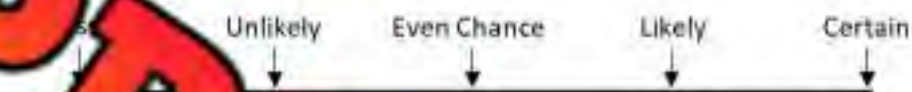
Describing the Likelihood of Events

Instruction Circle the probability of each event happening on the probability line

1. You will win the lottery today.



2. You will see a dog today.



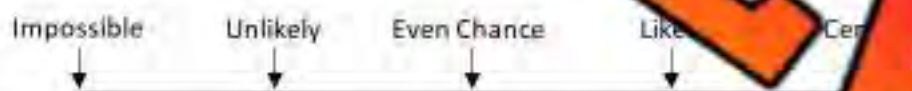
3. You will see a cat today.



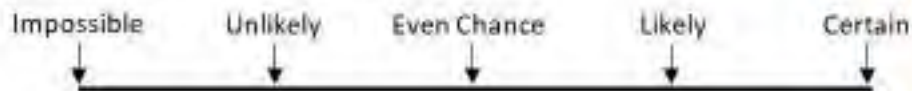
4. You will find treasure when you go on an expedition.



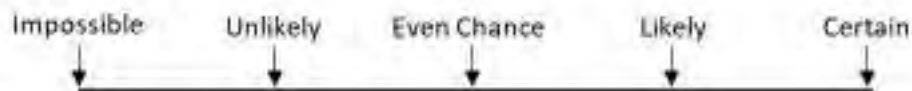
5. You will drive a motorcycle today.



6. You will go on a computer today.



7. You will eat pizza today.



8. You will grow wings and fly away.



Exit Cards

Cut Out

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

Name: _____

Circle the probability of each event happening on the probability line.

1. You will have pizza for dinner tonight.



2. You will get a surprise present today.



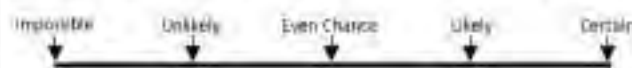
3. You will see a bird flying in the sky today.



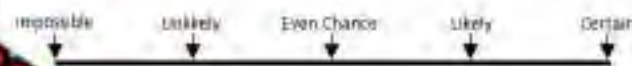
Name: _____

Circle the probability of each event happening on the probability line.

1. You will have pizza for dinner tonight.



2. You will get a surprise present today.



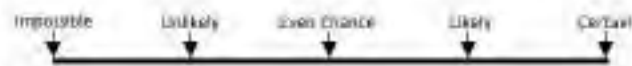
3. You will see a bird flying in the sky today.



Name: _____

Circle the probability of each event happening on the probability line.

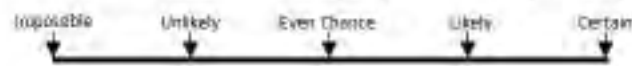
1. You will have pizza for dinner tonight.



2. You will get a surprise present today.



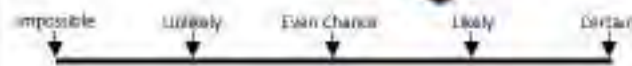
3. You will see a bird flying in the sky today.



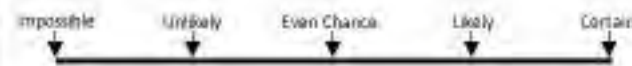
Name: _____

Circle the probability of each event happening on the probability line.

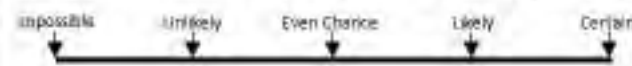
1. You will have pizza for dinner tonight.



2. You will get a surprise present today.

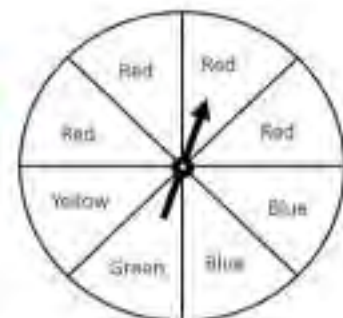
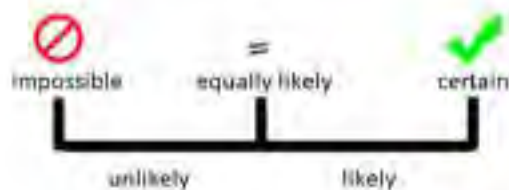


3. You will see a bird flying in the sky today.



Describing the Likelihood of Events

The spinner has different coloured parts on it. When you spin the arrow, it will land on one of the colours. The likelihood of landing on a green part is unlikely.

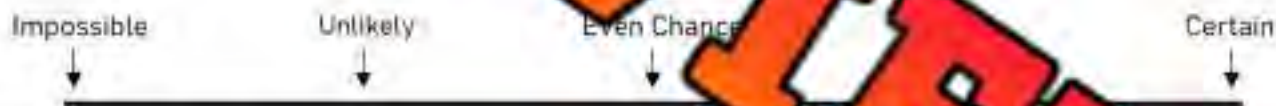


Instructions: Place the likelihoods of the events below using the probability line

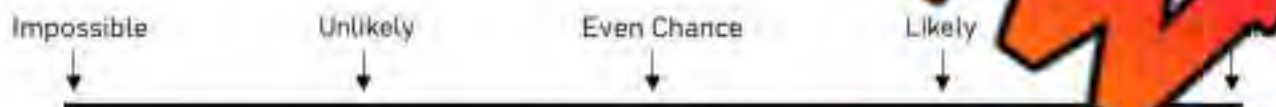
1. What is the likelihood of landing on a red part?



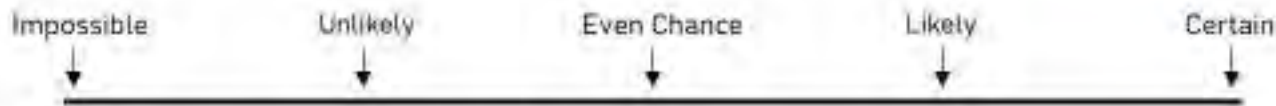
2. What is the likelihood of landing on a blue part?



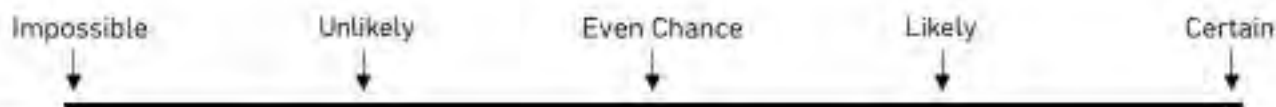
3. What is the likelihood of landing on a yellow part?



4. What is the likelihood of landing on a red or yellow part?



5. What is the likelihood of landing on a red, blue, green, or yellow part?



Describing the Likelihood of Events – Probability Line

Instruction

Circle the likelihoods of the events below using the probability line

1) It has rained 6 out of the last 8 days. What is the probability it will rain tomorrow?

Impossible Unlikely Even Chance Likely Certain

↓ ↓ ↓ ↓ ↓



2) Steve made 4 goals out of 16. What is the probability he will make his next shot?

Impossible Unlikely Even Chance Likely Certain

↓ ↓ ↓ ↓ ↓



3) Heather hits 5 out of 10 balls in bowling. What is the probability she will hit the next ball?

Impossible Unlikely Even Chance Likely Certain

↓ ↓ ↓ ↓ ↓



4) Ryan is flipping a coin. What is the probability she gets a tail?

Impossible Unlikely Even Chance Likely Certain

↓ ↓ ↓ ↓ ↓



5) In a box of 4 chocolates, 3 are caramel. What is the probability you will get a caramel?

Impossible Unlikely Even Chance Likely Certain

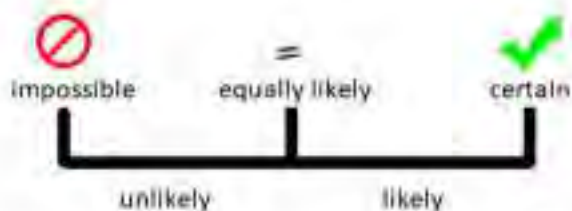
↓ ↓ ↓ ↓ ↓



Likelihood of Events – 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.



Part 1

Use the terms to describe the likelihood:
impossible, unlikely, equally likely, likely, certain

- | | |
|---|--|
| 1. What is the likelihood of you rolling a 1? | |
| 2. What is the likelihood of you rolling a 5? | |
| 3. What is the likelihood of you rolling a 3? | |
| 4. What is the likelihood of you rolling a 6, 0? | |
| 5. What is the likelihood of you rolling an odd number? | |
| 6. What is the likelihood of you rolling a 7? | |

Part 2

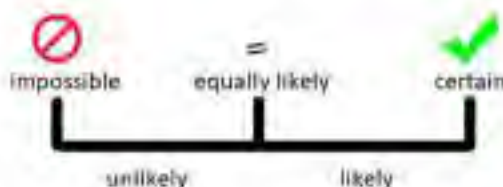
Write your own dice rolling events that would represent the likelihood.

- | | |
|-------------------|--|
| 1) Impossible | |
| 2) Certain | |
| 3) Likely | |
| 4) Unlikely | |
| 5) Equally likely | |

Describing the Likelihood of Events

Cookie Jar

There were 12 cookies in a cookie jar. 7 of the cookies were chocolate chip (cc), 2 were oatmeal raisin (or), and 3 were double chocolate (dc).



Part 1 Use the terms to describe the likelihood:
impossible, unlikely, equally likely, likely, certain

- | | |
|---|--|
| 1. What is the likelihood of you picking out a double chocolate cookie? | |
| 2. What is the likelihood of you picking out a chocolate chip cookie? | |
| 3. What is the likelihood of you picking out an oatmeal raisin cookie? | |
| 4. What is the likelihood of you picking out a chocolate chip cookie or an oatmeal raisin cookie? | |
| 5. What is the likelihood of you picking out an oatmeal raisin cookie or a double chocolate cookie? | |
| 6. What is the likelihood of you picking out a peanut butter cookie? | |

Part 2 Write your own events that would represent the probabilities below

1) Impossible	
2) Likely	
3) Unlikely	

Describing the Likelihood of Events

There are 24 candies in a bag. Describe the likelihood of the events below.

Frequency Table

Fill in the frequency table below

Candy Colour	Frequency
Red	



Part 1

Use these words to describe the likelihood:
Impossible, unlikely, equally likely, likely, certain

- | | |
|---|--|
| 1. What is the likelihood of pulling out a yellow candy? | |
| 2. What is the likelihood of pulling out a blue candy? | |
| 3. What is the likelihood of pulling out a green candy? | |
| 4. What is the likelihood of pulling out a red, blue, or green candy? | |
| 5. What is the likelihood of pulling out a red or green candy? | |
| 6. What is the likelihood of pulling out a red candy? | |

Part 2

Write your own events that would represent the probabilities below

1) Impossible	
2) Likely	
3) Unlikely	

Describing the Likelihood of Events

There are 14 marbles in a bag. What is the likelihood of you pulling out a white, grey, or black marble?



Frequency Table

Fill in the frequency table below

Marble Colour	Frequency
Black	

Part 1

Use the words to describe the likelihood:
Impossible, unlikely, likely, certain

- | | |
|--|--|
| 1. What is the likelihood of pulling out a black marble? | |
| 2. What is the likelihood of pulling out a grey marble? | |
| 3. What is the likelihood of pulling out a white marble? | |
| 4. What is the likelihood of pulling out a black, white, or grey marble? | |
| 5. What is the likelihood of pulling out a black or white marble? | |
| 6. What is the likelihood of pulling out a green marble? | |

Part 2

Write your own events that would represent the probabilities below

1) Impossible	
2) Likely	
3) Unlikely	

Activity Title: 4-Corners Probability Game

Objective

What are we learning about?

Students will learn to describe the likelihood of events using the terms impossible, unlikely, equally likely, likely, and certain.

Materials

What you will need for the activity.

- A list of events or scenarios prepared by the teacher
- Four signs labeled A, B, C, and D (one for each corner of the room)



Instructions

How you will complete the activity

1. Begin by explaining the different terms used to describe the likelihood of events: impossible, unlikely, equally likely, likely, and certain. Provide examples to ensure students understand each term.
2. Show the students one of the events or scenarios from the list. You will need to project the question to the class.
3. Present multiple-choice options for the events that could be used for the event. Each corner of the room will represent one of the multiple-choice answers.
4. Read out the term options and ask the students to move to the corner that they believe represents the event.
5. Once all students have chosen a corner, discuss the correct answer and explain why it is the best choice.
6. Optionally: You could play this game several different ways. Another option could be to give each student a whiteboard and marker and have them write their answer down. Then countdown 3-2-1 and have everyone show their answer. Another option if you have no whiteboards is to have students use their fingers to show their answer. A = 1 finger, B = 2 fingers, C = 3 fingers, and D = 4 fingers. Complete a countdown and have students show their answer using their fingers.

Event 1 Analyze the event and then move to one of the corners of the room

There are 15 balls in a bag. 5 are red, 5 are blue, and 5 are yellow.

What is the likelihood of picking a red ball from the bag?

Event Options:

- A: Impossible
- B: Unlikely
- C: Equally Likely
- D: Certain

PREVIEW

Event 2 Analyze the event and then move to one of the corners of the room

You have a deck of cards numbered 1 through 5.

What is the likelihood of drawing a card with a number greater than 4?

Event Options:

- A: Impossible
- B: Unlikely
- C: Equally Likely
- D: Likely

PREVIEW

Event 3 Analyze the event and then move to one of the corners of the room

A standard die has 6 sides, numbered 1 through 6.

What is the likelihood of rolling a number more than 2?

Event Options:

- A: Impossible
- B: Unlikely
- C: Equally Likely
- D: Likely

PREVIEW

Event 4 Analyze the event and then move to one of the corners of the room

You have a deck of cards numbered 1 through 10.

What is the likelihood of drawing a card with a number less than 1?

Event Options:

- A: Impossible
- B: Certain
- C: Equally Likely
- D: Likely

PREVIEW

Event 5 Analyze the event and then move to one of the corners of the room

The word "CANADA" contains 3 consonants (C, N, D) and 3 vowels (A, A, A).

What is the likelihood of choosing a consonant if you only select a letter from the word "CANADA"?

Event Options:

- A: Impossible
- B: Certain
- C: Equally Likely
- D: Certain

PREVIEW

Event 9 Analyze the event and then move to one of the corners of the room

The English alphabet has 26 letters. 5 of them are vowels (A, E, I, O, U).

What is the likelihood of randomly choosing a vowel if you select a letter from the alphabet?

Event Options:

- A: Impossible
- B: Unlikely
- C: Equally Likely
- D: Likely

PREVIEW

Event 10 Analyze the event and then move to one of the corners of the room

Imagine there are 100 traffic lights on your way to school. 25 of them are red, and the rest are green.

What is the likelihood of stopping at a yellow light?

Event Options:

- A: Impossible
- B: Unlikely
- C: Equally Likely
- D: Likely

PREVIEW

Probability Experiment – Coin Flip



Part 1

What do you think will happen?

- Describe the probability of getting a heads when flipping a coin.
- If you flip a coin 10 times, how many times do you think you will get heads?
- If you flip a coin 10 times, how many times do you think you will get tails?
- Describe the probability of getting 2 heads in a row?
- Describe the probability of getting 3 heads in a row?

Part 2

Perform the experiment below.

- Flip a coin 10 times and record your results below using tally marks.

Heads	Tails

- Flip a coin 20 times and record your results below using tally marks.

Heads	Tails

- Were your results the same as what you thought would happen? Explain.

Probability Experiment - Dice

**Part 1**

What do you think will happen?

1) Describe the probability of rolling a 1 when rolling one dice?

2) If you roll a dice 12 times, how many times do you think you'd roll a 6?

3) If you roll a dice 6 times, how many times do you think you'd roll a 3?

4) Describe the probability of rolling a 6, twice in a row?

5) Describe the probability of rolling a 1, 6 times in a row?

Part 2

Perform the experiment

1) Roll a dice 12 times. Record your results below using tallies.

1	2	3	4	5	6

2) Roll a dice 24 times. Record your results below using tallies.

1	2	3	4	5	6

3) Were your results the same as what you thought would happen? Explain.

Unit Quiz – Probability**Part 1**

Circle the likelihood of the event happening

a) You will drink something today

Impossible

Certain

b) You will fly home today

Impossible

Certain

c) You will watch a game today

Even Chance

Likely

Unlikely

d) You will play basketball today

Even Chance

Likely

Unlikely

Part 2

Use the terms to describe the likelihood of the events below

1. The Toronto Blue Jays will win the World Series next year.

2. You will have a lunch break today.

3. You will have a nap today.

4. You will find a diamond on the ground today.

5. You will read a book today.

6. It will rain or snow today.

7. You will roll an 8 when rolling a single six sided dice.

Marbles

There are 12 marbles in a bag. What is the likelihood of you pulling out a white, grey, or black marble?



Frequency Table Fill in the frequency table below

Marble Colour	Frequency
White	

Part 1

Use these words to describe the likelihood:
Impossible, unlikely, equally likely, likely, certain

- | | |
|--|--|
| 1. What is the likelihood of pulling out a grey marble? | |
| 2. What is the likelihood of pulling out a grey marble? | |
| 3. What is the likelihood of pulling out a white marble? | |
| 4. What is the likelihood of pulling out a black, white, or grey marble? | |
| 5. What is the likelihood of pulling out a black or white marble? | |
| 6. What is the likelihood of pulling out a green marble? | |

Part 2

Write your own events that would represent the probabilities below

1) Impossible	
3) Likely	
4) Unlikely	