



Preview – Information



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Google Slides Lessons Preview





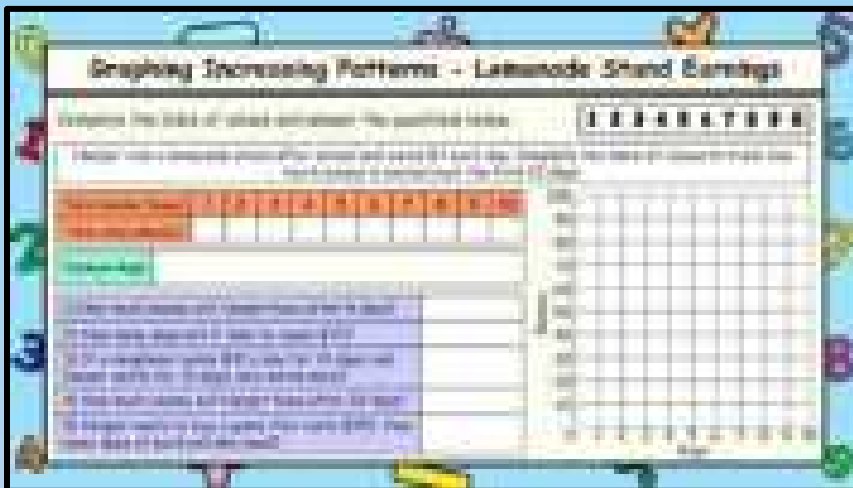
BC Math Curriculum

Patterning & Equations – Grade 6

3-Part Lesson Format

Part 1 – Minds On!

- Learning Goals
- Discussion Questions
- Quotes
- And More!



Part 2 – Action!

- Writing
- Matching
- Drag and Drop
- Drawing
- And More!

Part 3 – Consolidation!

- Exit Cards
- Quizzes
- Reflection
- And More!





BC Math Curriculum

Patterning & Equations – Grade 6

Decreasing Patterns - Emojis

Drag the shapes to fill the missing line of the decreasing pattern.

Complete the missing line in the pattern.

Line 1: 10 🍌

Line 2: 8 🍌

Line 3: 6 🍌

Line 4: 4 🍌

Line 5: 2 🍌

Complete the missing line in the pattern.

Line 1: 10 🍌

Line 2: 8 🍌

Line 3: 6 🍌

Line 4: 4 🍌

Line 5: 2 🍌

Complete the missing line in the pattern.

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Line 5: 2 🍌

Complete the missing line in the pattern.

Line 1: 10 🍌

Line 2: 8 🍌

Line 3: 6 🍌

Line 4: 4 🍌

Line 5: 2 🍌

Decreasing Patterns - Table of Values and Graph

A pattern that decreases by 1 unit in a pattern, showing the total number of units in the pattern. Use a table of values and a graph to describe the pattern.

Pattern 1: 10 units

Pattern 2: 8 units

Pattern 3: 6 units

Pattern 4: 4 units

Pattern Number	1	2	3	4	5	6	7
Units in Pattern							

Decreasing Patterns - Table of Values and Graph

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Pattern 1: 10 units

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Units in Pattern							



BC Math Curriculum

Patterning & Equations – Grade 6

1 2 3 4 5 6 7 8 9 0

Increasing Patterns Within Number Strings - 2s

Continue the increasing patterns below

756	758	760				
813	815	817				
7850	7852	7854				
9249	9251	9253				

Patterning with Numbers

A pattern is a sequence of numbers in a shape over 3 days.

40 Each day, the number of flowers in the garden increases by 2. The garden has 1 flower on day 1, 3 flowers on day 2, and 5 flowers on day 3. Complete the table below to show the pattern.

Day	Flowers
1	1
2	3
3	5
4	7
5	9
6	11

Day	Flowers
1	1
2	3
3	5
4	7
5	9
6	11

Day	Flowers
1	1
2	3
3	5
4	7
5	9
6	11

Write the pattern rule in words below.

The pattern rule is: Each day, the number of flowers increases by 2.

Day	Flowers
1	1
2	3
3	5
4	7
5	9
6	11

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Patterning with Numbers

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The pattern rule is: Each day, the number of flowers increases by 2.

Day	Flowers
1	1
2	3
3	5
4	7
5	9
6	11



Workbook Preview



Grade 6

Patterning

	Curriculum Expectations	Pages
PE.1	Increasing and decreasing patterns, using expressions, tables, and graphs as functional relationships	5 - 79

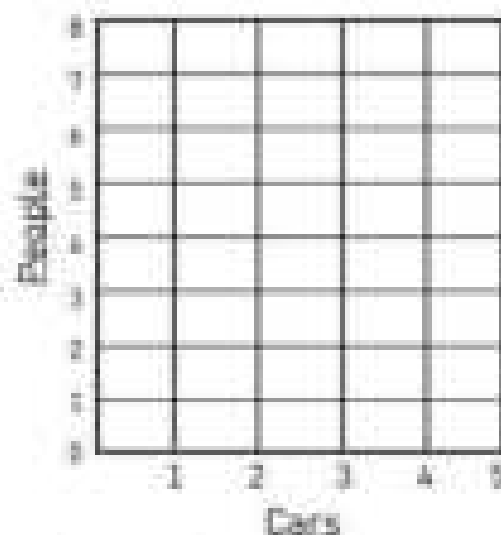
**Preview of 100 pages from
this product that contains
308 pages total.**

Graphing Increasing Patterns

Questions

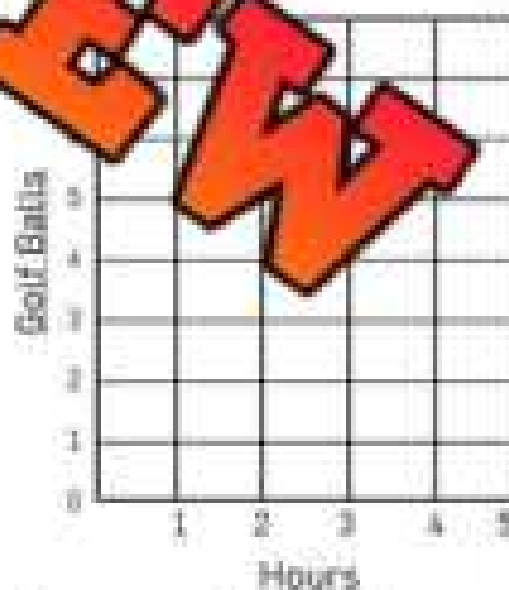
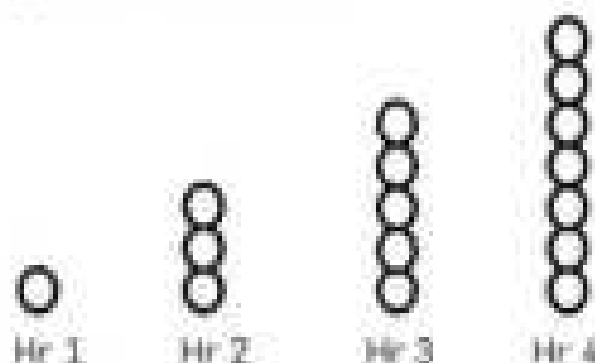
Translate the increasing patterns into a table of values and a line graph.

1) A train has the following people in each train car.



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

2) Steven is looking for golf balls in the woods. He finds the following number of golf balls each hour.



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

Name: _____

11

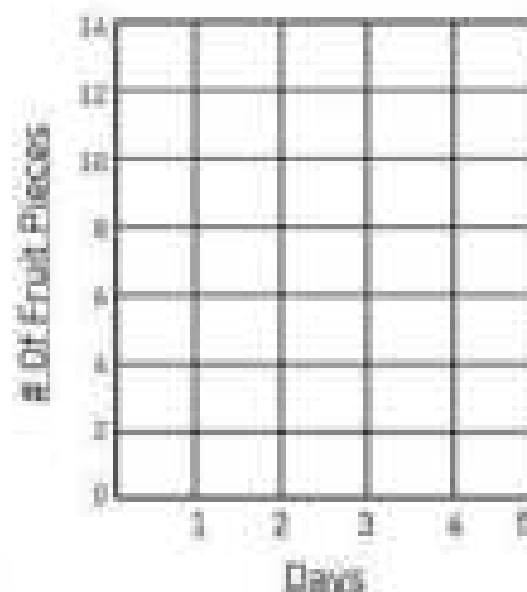
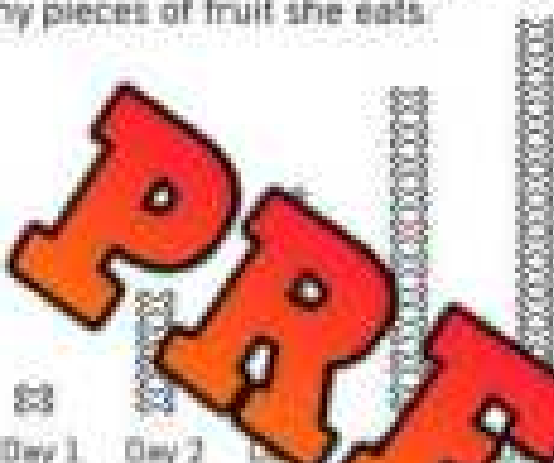
Curriculum Connection
24.2

Graphing Increasing Patterns

Questions

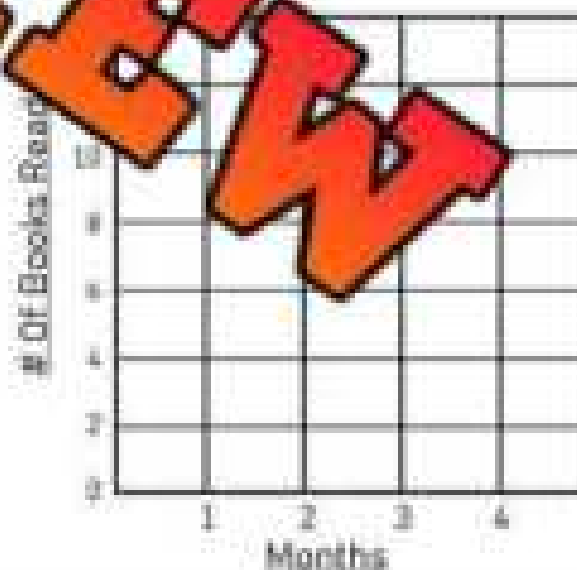
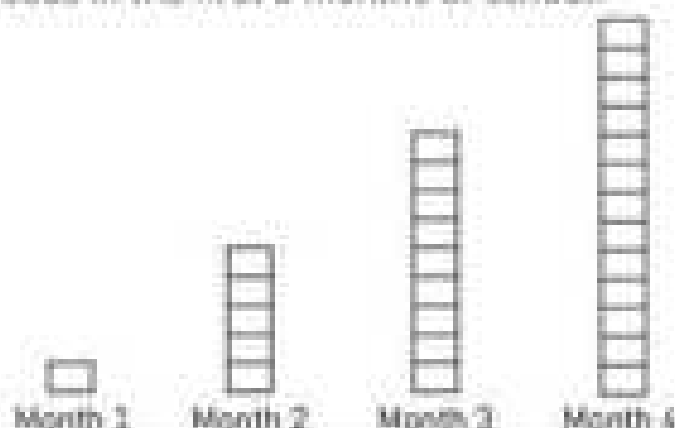
Translate the increasing patterns into a table of values and a line graph.

1) 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)							

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



Term Number (Month)	1	2	3	4	5	9
Term Value (Books Read)						

Name: _____

9

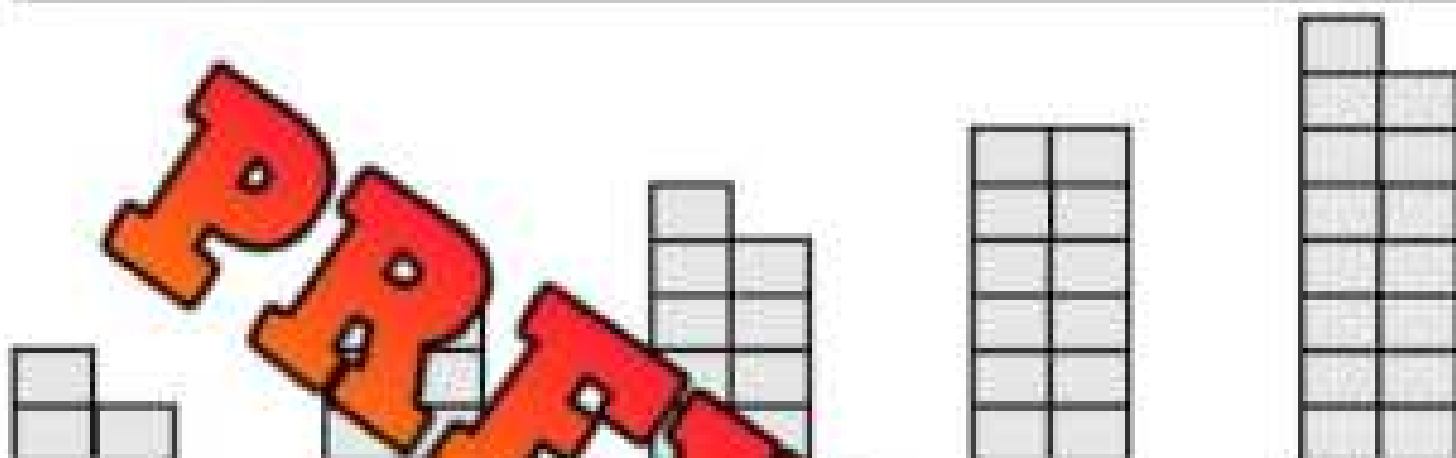
Increasing Pattern
24.2

Increasing Pattern Challenge

Questions

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

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



Term Number	Term Value

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

2) Write an expression that represents the function

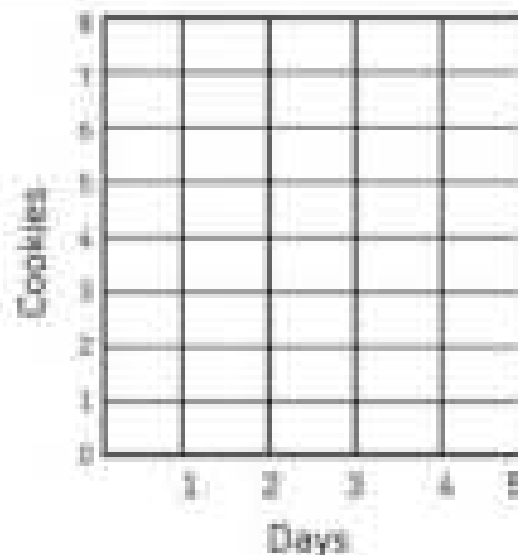
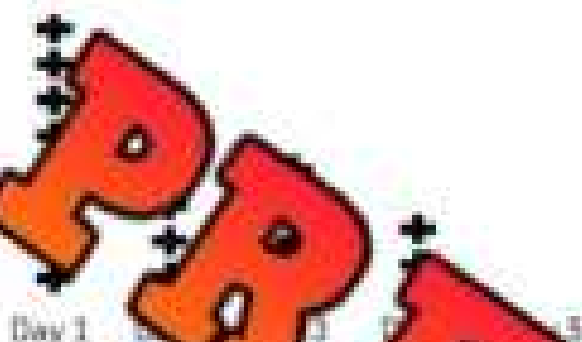
3) Which shape would use 63 blocks?

Graphing Decreasing Patterns

Questions:

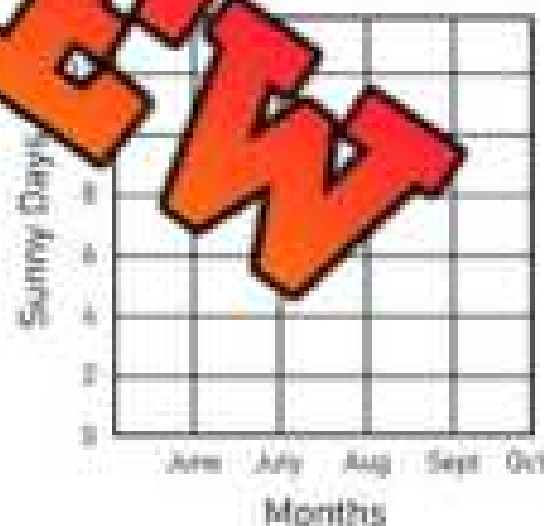
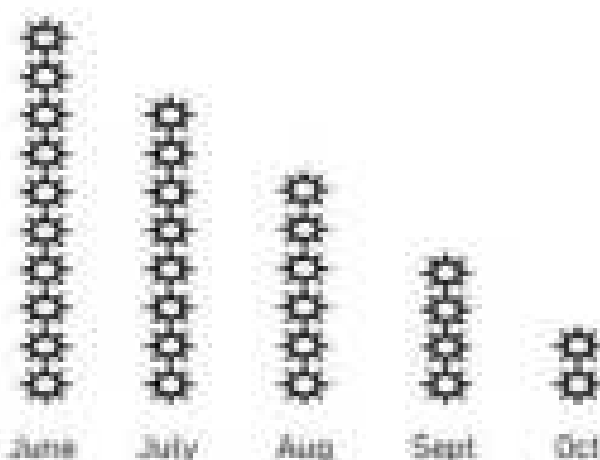
Translate each decreasing pattern into a table of values and a line graph.

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



Term Number (Day)				
Term Value (Cookies)				

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



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

Graphing Decreasing Patterns

Questions

Translate each decreasing pattern into a table of values and a line graph.

1) Jane kept track of how many times she smiled in an hour.

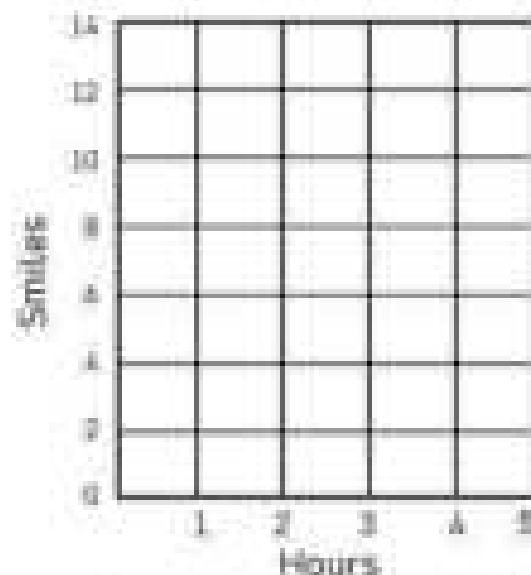
Hr 1

Hr 2

Hr 3

Hr 4

Hr 5



Term Number

Term Value

2) Sam counted how many push-ups he could do every minute for 5 minutes.

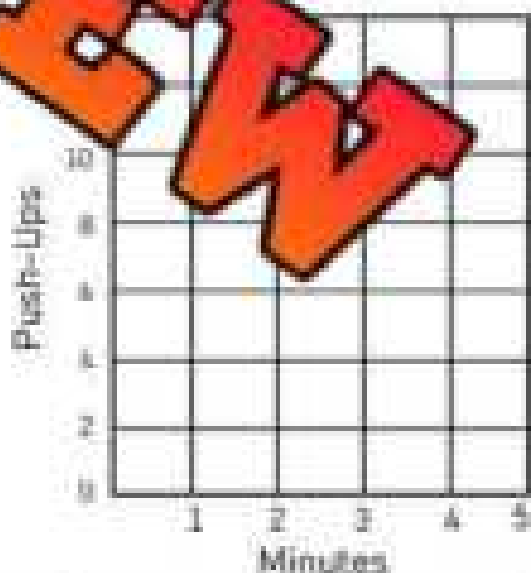
Min 1

Min 2

Min 3

Min 4

Min 5



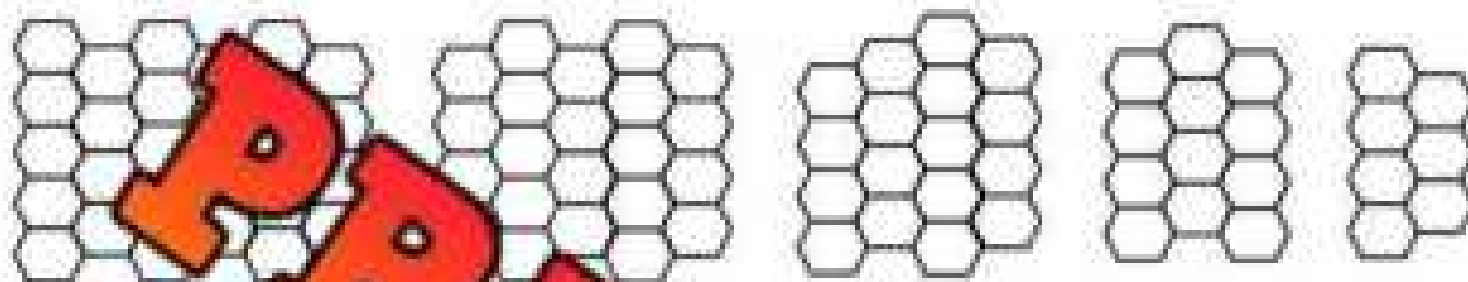
Term Number

Term Value

Decreasing Pattern Challenge**Questions**

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

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



Term Number	Term

- 1) What is the pattern Shrinking by each time?
- 2) 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	
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10	

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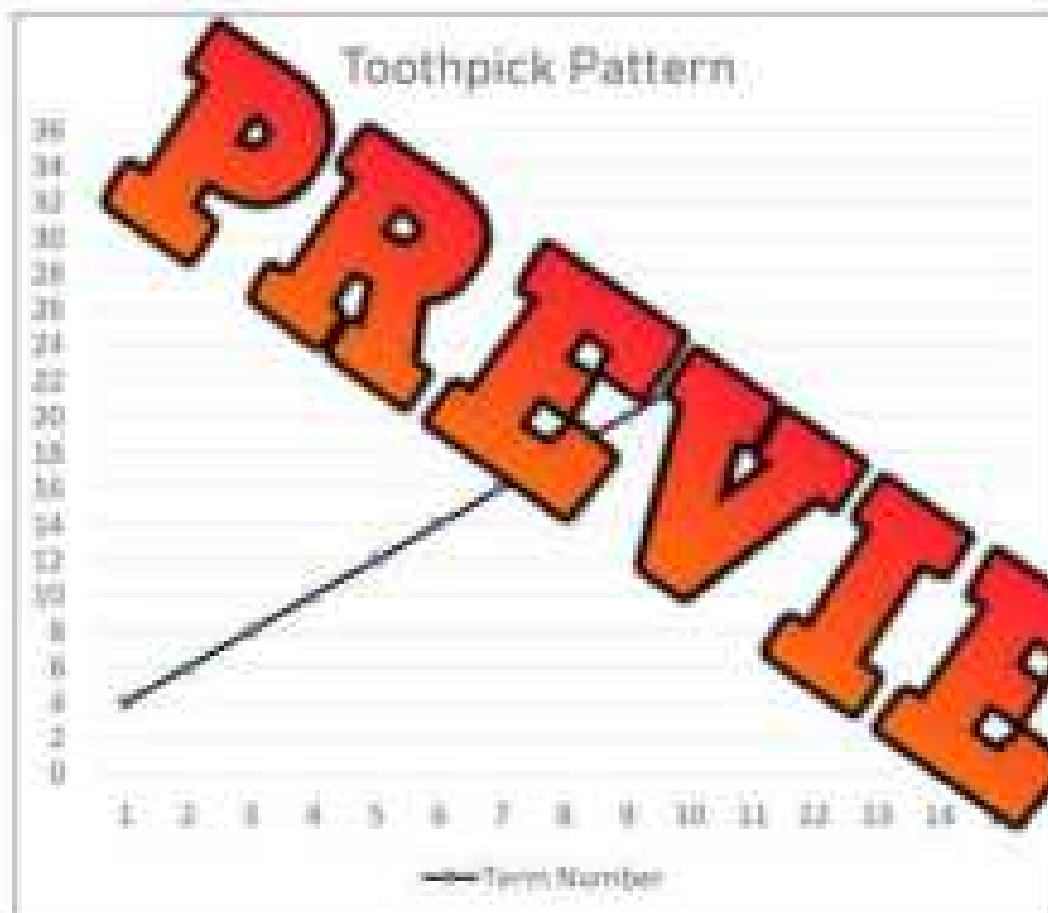
# of Worksheets	Points Earned
2	
4	
6	
8	
10	

Reading a Linear Pattern - Graph

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

Instruction

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



Term Number	Term Value
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

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

Term 1	Term 2	Term 3	Term 4	Term 5

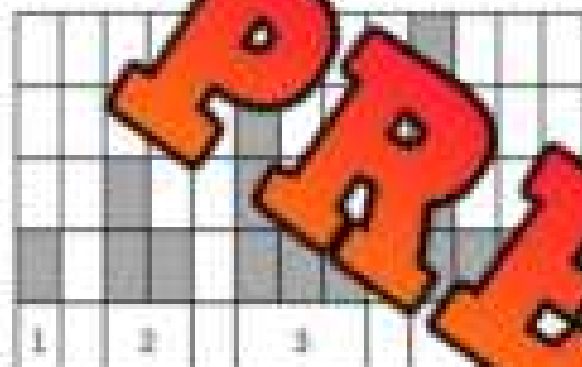
2) Why is this graph a linear pattern?

Linear and Non-Linear Patterns

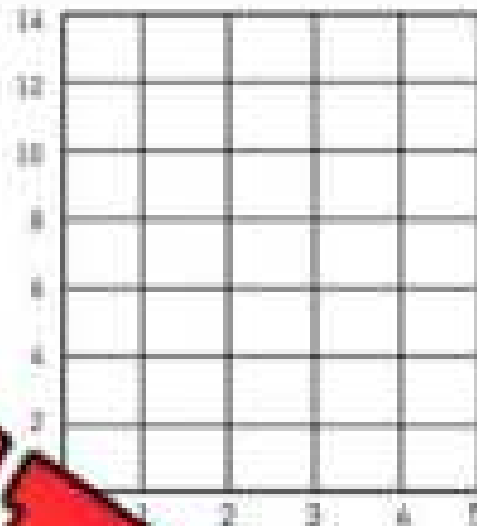
Not all patterns are linear. Some patterns increase/decrease by the same amount each time, while others grow/shrink at different rates. When the pattern grows or shrinks by different amounts, it is called **non-linear**.

Instruction

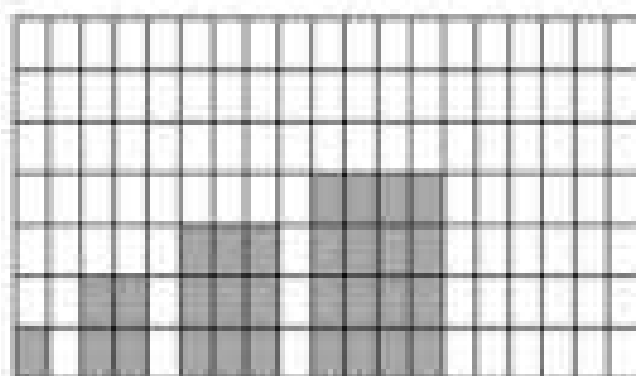
Look at the patterns below and fill in the table of values. Then complete the graph. Is the line straight?



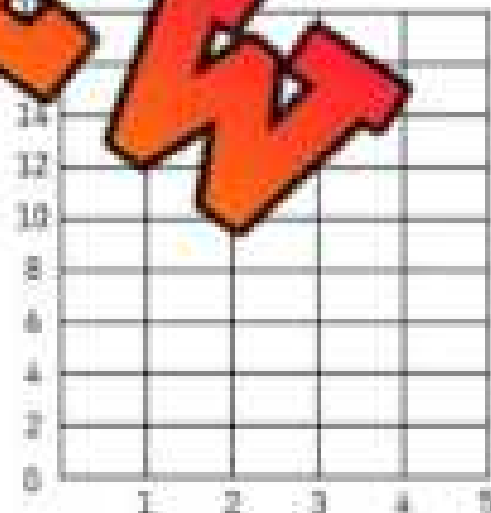
Term Number	Term Value
1	
2	
3	
4	
5	



Is this pattern linear or non-linear? Explain.



Term Number	Term Value
1	
2	
3	
4	
5	



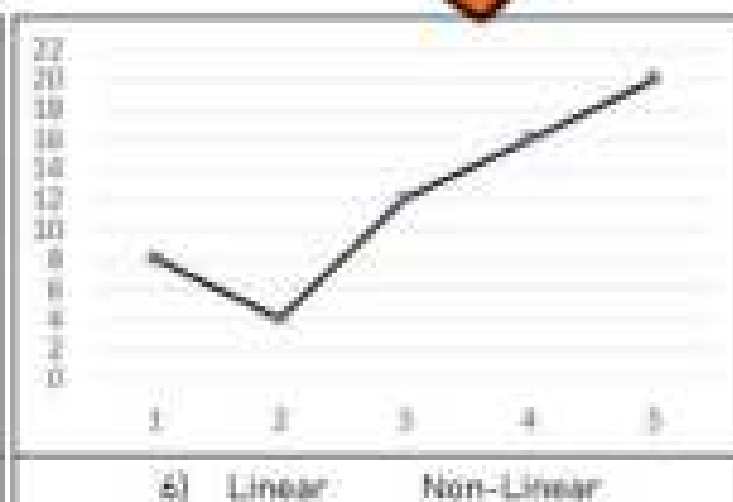
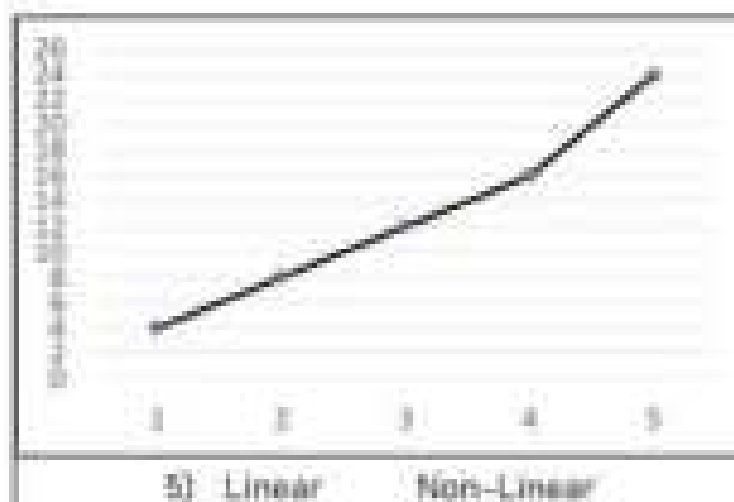
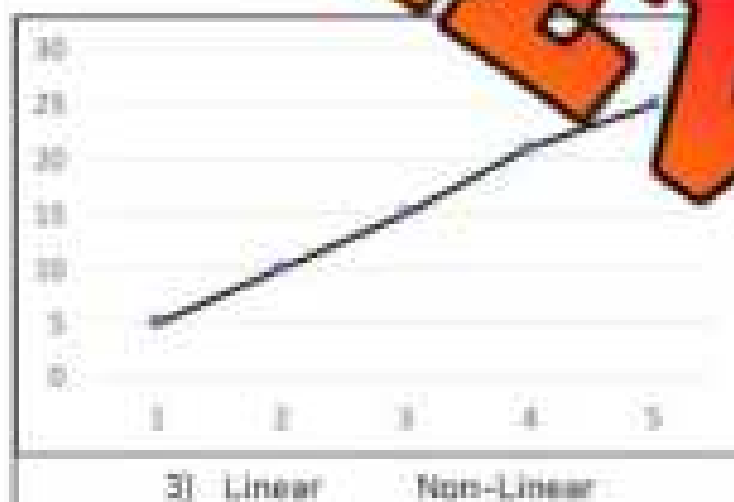
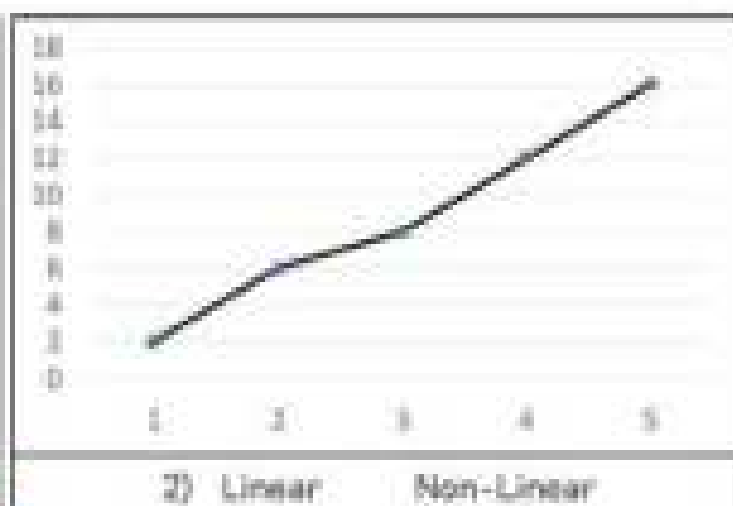
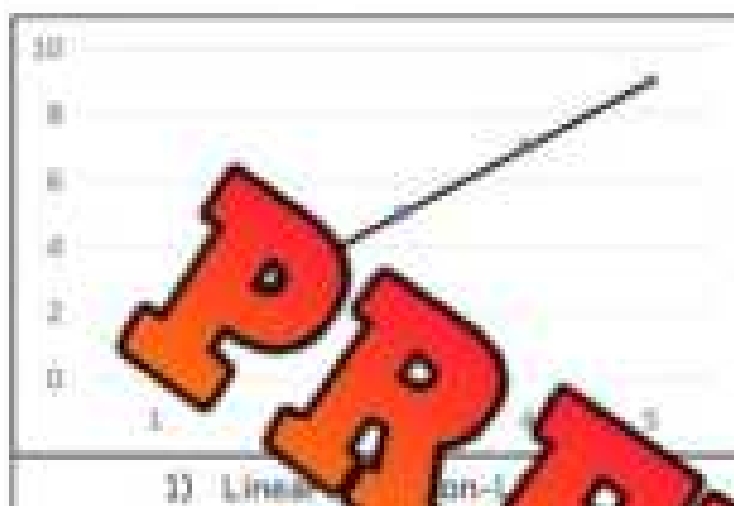
1) Is this pattern linear or non-linear? Explain.

2) How many blocks would be in term number 10?

Increasing Linear Patterns – Yes or No?

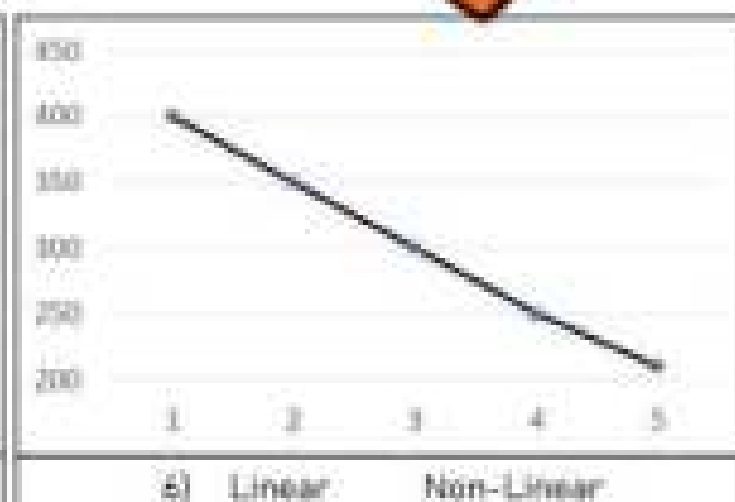
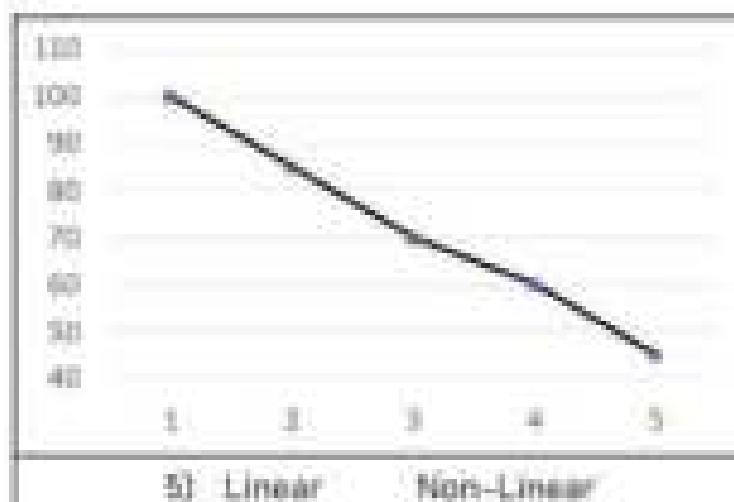
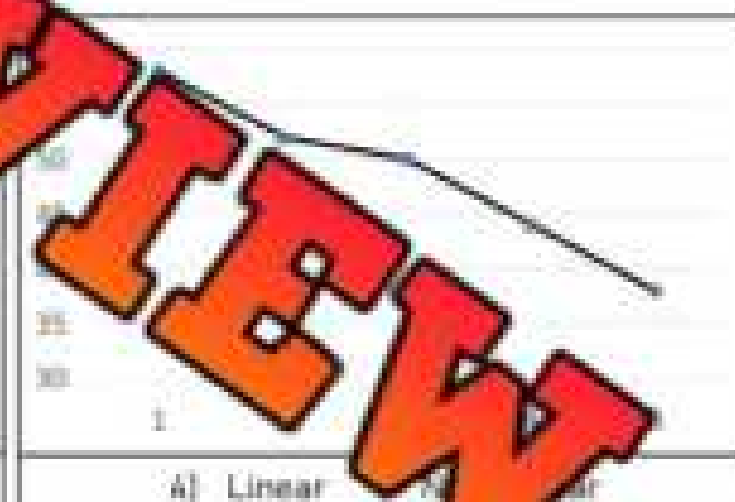
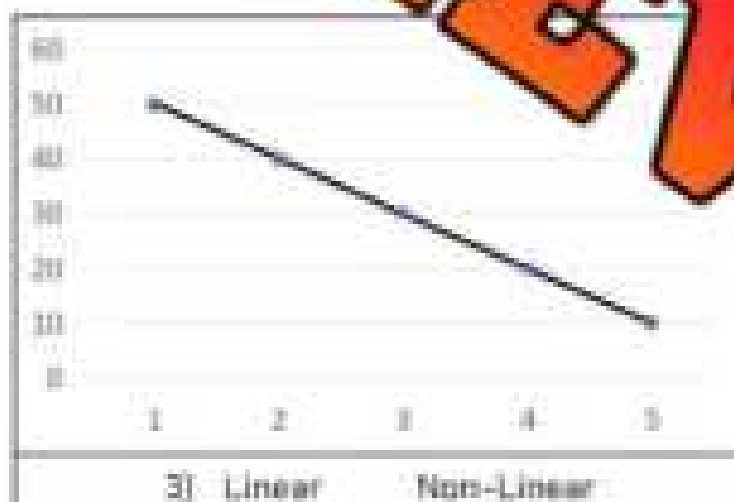
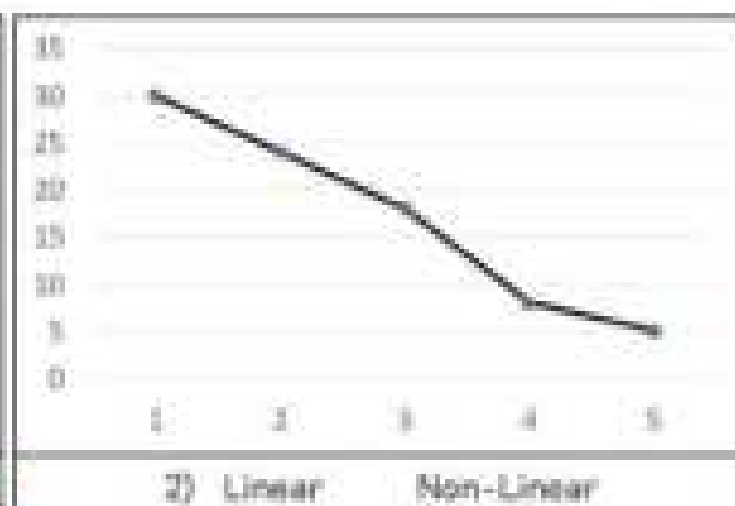
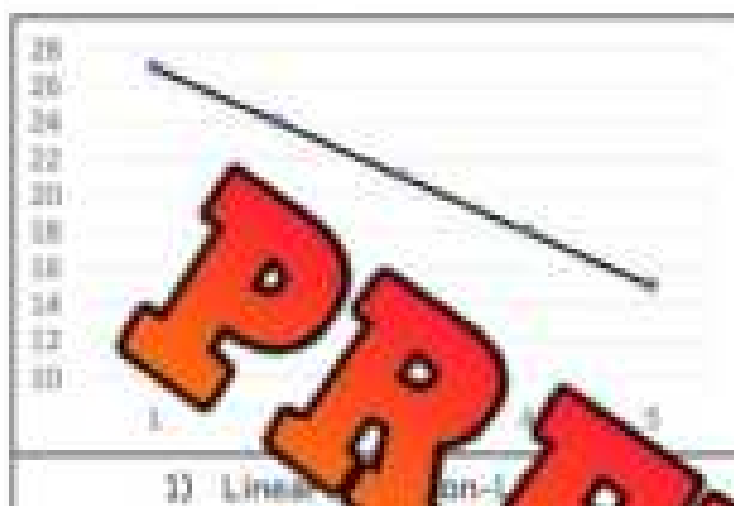
Questions

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



Decreasing Linear Patterns – Yes or No?**Questions**

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



Increasing Linear Patterns – Yes or No?

Questions

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

Term Number	Term Value
1	2
2	6
3	18
4	42
5	90
Linear	Non-Linear

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

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

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

Term Number	Term Value
1	5
2	10
3	15
4	20
5	24
Linear	Non-Linear

Term Number	Term Value
1	25
2	75
3	125
4	175
5	225
Linear	Non-Linear

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

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

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

Decreasing Linear Patterns – Yes or No?

Questions

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

Term Number	Term Value
1	20
2	17
3	14
4	11
5	8
Linear	Non-Linear

Term Number	Term Value
1	48
2	42
3	38
4	32
5	26
Linear	Non-Linear

Term Number	Term Value
1	70
2	55
3	40
4	25
5	10
Linear	Non-Linear

Term Number	Term Value
1	120
2	114
3	108
4	102
5	96
Linear	Non-Linear

Term Number	Term Value
1	164
2	160
3	156
4	152
5	148
Linear	Non-Linear

Term Number	Term Value
1	215
2	200
3	195
4	180
5	165
Linear	Non-Linear

Term Number	Term Value
1	300
2	275
3	245
4	225
5	200
Linear	Non-Linear

Term Number	Term Value
1	550
2	535
3	510
4	495
5	480
Linear	Non-Linear

Term Number	Term Value
1	675
2	650
3	625
4	600
5	575
Linear	Non-Linear

Toothpick Linear Patterns

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

Questions

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

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

				
Term 1	Term 2	Term 3	Term 4	Term 5

Term Number	Term Value																		
		18																	
		16																	
		14																	
		12																	
		10																	
		8																	
		6																	
		4																	
		2																	
		0																	

- Why is this a linear pattern?
- Extend the line on the graph. What will be the 7th and 10th term values?

7th term _____ 10th term _____

Increasing Addition Patterns



Growing/Increasing Patterns

$+10$ $+10$ $+10$ $+10$ $+10$
 $\wedge$ $\wedge$ $\wedge$ $\wedge$ $\wedge$
 10, 20, 30, 40, 50, 60

$+5$ $+5$ $+5$ $+5$ $+5$
 $\wedge$ $\wedge$ $\wedge$ $\wedge$ $\wedge$
 3, 8, 13, 18, 23, 28



Part 1

Follow the rule by adding the next number in the pattern.

1) 47, 54, 55, _____	2) (Add 3) 71, 74, 77, _____
3) (Add 6) 102, 108, 114, _____	4) (Add 5) 149, 154, 159, _____
5) (Add 10) 277, 287, 297, _____	6) (Add 7) 312, 319, _____
7) (Add 8) 415, 423, 431, _____	8) (Add 9) 500, 509, _____

Part 2

Increasing Patterns - Addition

1) $\wedge$ $\wedge$ 33, 39, 45, _____	2) $\wedge$ $\wedge$ 52, 58, 64, _____
3) $\wedge$ $\wedge$ 91, 94, 97, _____	4) $\wedge$ $\wedge$ 142, 170, 178, _____
5) $\wedge$ $\wedge$ 201, 212, 223, _____	6) $\wedge$ $\wedge$ 314, 323, 332, _____
7) $\wedge$ $\wedge$ 473, 485, 499, _____	8) $\wedge$ $\wedge$ 614, 629, 644, _____

Increasing Pattern Rules - Adding**Part 1**

Continue the increasing patterns below

1) 47, 55, 63, _____

Pattern Rule: Start at 47, add _____ each time

2) 108, 115, _____

Pattern Rule: Start at _____ add _____ each time

3) 205, 212, 227, _____

Pattern Rule: Start at _____ add _____ each time

4) 126, 342, 358, _____

Pattern Rule: Start at _____ add _____ each time

5) 482, 499, 516, _____

Pattern Rule: Start at _____ add _____ each time

BONUS

Lily gets paid based on how fast she works. She is getting faster each day! Check out her paycheck for the last 5 weeks.

Week	Pay
1	100
2	120
3	150
4	190
5	240

Question

How much will she make in week 10 if the pattern continues?

Part 2

Write your own patterns using the rules

1) _____

Pattern Rule: Start at 124, add 7 each time

2) _____

Pattern Rule: Start at 465, add 15 each time

3) _____

Pattern Rule: Start at 382, add 6 each time

4) _____

Pattern Rule: Start at 505, add 12 each time

Exit Cards

Cut Out

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

Name: _____

Continue the increasing patterns below and determine the pattern rule.

1) 465, 479, 493, _____, _____, _____

Pattern Rule: _____

2) 748, 770, 792, _____, _____, _____

Pattern Rule: _____

Name: _____

Continue the increasing patterns below and determine the pattern rule.

1) 465, 479, 493, _____, _____, _____

Pattern Rule: _____

2) 748, 770, 792, _____, _____, _____

Pattern Rule: _____

Name: _____

Continue the increasing patterns below and determine the pattern rule.

1) 465, 479, 493, _____, _____, _____

Pattern Rule: _____

2) 748, 770, 792, _____, _____, _____

Pattern Rule: _____

Name: _____

Continue the increasing patterns below and determine the pattern rule.

1) 465, 479, 493, _____, _____, _____

Pattern Rule: _____

2) 748, 770, 792, _____, _____, _____

Pattern Rule: _____

Writing Pattern Rules – Word Problems

Questions

Write the pattern rule for each of the word problems below

1) A baby is born 50cm long. It grows 2cm each month for one year.



2) Gerry has money in his bank account. He is paid \$12 each week for his allowance.



3) A tree that is 10m tall grows 1m in its size each year.



4) Claire is raking the leaves together from all over her property, and she cleans up half of the leaves every day.



5) There are 48 yogurt drinks in a pack. The child drinks 2 drinks every day.



6) The family has to drive 500km to get home. They drive 100km every day.



7) There is 8cm of snow on the ground. During a snowstorm, 4cm of snow falls every hour.



8) A baby's hair is 3cm long. It grows triple its length each month.



Increasing Patterns – Word Problems

Questions

Solve the word problems below

1) Courtney is heading to college in 6 months. She begins saving more and more money. Her savings are represented in the table of values.



Month	Savings
April	500
May	800
June	1200
July	1700
August	

a) What is the pattern rule?

b) If the pattern continues, how much will she save at the end of the 6 months she goes to college?

2) Billy is improving at basketball. In the first 5 games of the season, his points per game have been represented in the table.



Games	Points
1	3
2	8
3	9
4	15
5	23

a) What is the pattern rule?

b) If the pattern continues, how many points will he score in the 10th game?

3) Emmett has a math test next week. He plans to study each night for the next 7 nights. The first night he will study for 10 minutes. The second night he will study for 10 minutes plus an additional 10 minutes. The third night he will study for 10 minutes plus an additional 20 minutes. The fourth night he will study for 10 minutes plus an additional 30 minutes.

Night	1	2	3	4	5	6	7
Minutes							

a) Complete the table of values

b) If his studying pattern continues, how many minutes will he study on the 10th night?



Decreasing Subtraction Patterns

Shrinking/Decreasing Patterns

-10 -10 -10 -10 -10
 $\wedge \quad \wedge \quad \wedge \quad \wedge \quad \wedge$
 60, 50, 40, 30, 20, 10

-5 -5 -5 -5 -5
 $\wedge \quad \wedge \quad \wedge \quad \wedge \quad \wedge$
 45, 40, 35, 30, 25, 20



Part 1

Follow the rule by subtracting the number in the pattern.

1) (subtract 2)

100, 98, 96, _____

2) (subtract 3)

108, 105, 102, _____

3) (subtract 4)

184, 178, 172, _____

4) (subtract 5)

209, 204, 199, _____

5) (subtract 10)

284, 274, 264, _____

6) (subtract 7)

331, _____

7) (subtract 8)

436, 428, 420, _____

8) (subtract 9)

17, _____

Part 2

Decreasing Patterns - Subtracting

1)

$\wedge \quad \wedge$
 53, 49, 45, _____

2)

$\wedge \quad \wedge$
 82, 77, 72, _____

3)

$\wedge \quad \wedge$
 115, 112, 109, _____

4)

$\wedge \quad \wedge$
 185, 179, 173, _____

5)

$\wedge \quad \wedge$
 218, 208, 198, _____

6)

$\wedge \quad \wedge$
 347, 339, 331, _____

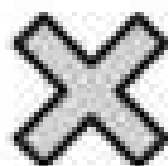
7)

$\wedge \quad \wedge$
 485, 473, 461, _____

8)

$\wedge \quad \wedge$
 563, 552, 541, _____

Increasing Patterns - Multiplication



$\times 2$ $\times 2$ $\times 2$
 $\nearrow$ $\nearrow$ $\nearrow$
 2, 4, 8, 16, 32, 64

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



Questions

Increasing Patterns - Multiplication

1) 1, _____

Pattern Rule: _____

6) 2, 8, 32, _____

Pattern Rule: _____

2) 4, 20, 100, _____

Pattern Rule: _____

7) 16, _____

Pattern Rule: _____

3) 3, 18, 108, _____

Pattern Rule: _____

8) 3, 15, _____

Pattern Rule: _____

4) 10, 100, 1000, _____

Pattern Rule: _____

9) 7, 21, 63, _____

Pattern Rule: _____

5) 10, 50, 250, _____

Pattern Rule: _____

10) 6, 24, 96, _____

Pattern Rule: _____

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) 7, 49, 343, 2401, 16807, 117649

Start at _____, multiply by _____ each time

3) _____

Pattern Rule: Start at 1, multiply by _____ each time.

Name: _____

Growing Multiplication Patterns

1) (Multiply by 2)

2, 4, 8, _____

2) 7, 49, 343, 2401, 16807, 117649

Start at _____, multiply by _____ each time

3) _____

Pattern Rule: Start at 1, multiply by 5 each time.

Name: _____

Growing Multiplication Patterns

1) (Multiply by 2)

2, 4, 8, _____

2) 7, 49, 343, 2401, 16807, 117649

Start at _____, multiply by _____ each time

3) _____

Pattern Rule: Start at 1, multiply by 5 each time.

Name: _____

Growing Multiplication Patterns

1) (Multiply by 2)

2, 4, 8, _____

2) 7, 49, 343, 2401, 16807, 117649

Start at _____, multiply by _____ each time

3) _____

Pattern Rule: Start at 1, multiply by 5 each time.

Pattern Rule - Division**Part 1:**

Continue the decreasing patterns below.

#	Pattern	Rule = ____
1)	15 625, 3 125, 625, 125, 5	
2)	3 072, 768, 192, 48, 12, 3	
3)	5 184, 864, 144, 24, 4	
4)	1 024, 128, 16, 2, 1, 189, 63, 21, 7	
5)	1 024, 256, 64, 16, 4	
6)	18 750, 3 750, 750, 150	

Part 2:

Write your own patterns up.

1) _____

Pattern Rule: Start at 256, divide by 2 each time

2) _____

Pattern Rule: Start at 1 458, divide by 3 each time

3) _____

Pattern Rule: Start at 25 000, divide by 5 each time

4) _____

Pattern Rule: Start at 4 096, divide by 4 each time

Task Cards: Patterning – All Operations**Objective**

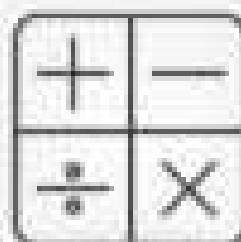
What are we learning about?

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

Materials

What you will need for the activity

- 24 task cards
- Answer recording sheet for answers
- Timer

**Instructions**

What you will do for the activity

1. Introduce the concept of patterning using the four basic operations 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 record their answers.
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 9:

Start with 36. Subtract 6 and then divide by 3 for the next number. What is the second number?

- a) 10
- b) 12
- c) 9

Card 13:

Start with 40. Subtract 5 and then add 10 for the next number. What is the second number?

- a) 50
- b) 45
- c) 55

Begin with 60. Add 15 and then add 15 for the next number. What is the second number?

- a) 35
- b) 20
- c) 25

Card 14:

Begin with 72. Divide by 6 and then add 3 for the next number. What is the second number?

- a) 15
- b) 12
- c) 18

Card 11:

Start with 18. Multiply by 2 and then subtract 6 for the next number. What is the second number?

- a) 30
- b) 36
- c) 24

Start with 40. Multiply by 2 and then subtract 6 for the next number. What is the second number?

- a) 80
- b) 48
- c) 32

Card 12:

Begin with 50. Add 10 and then subtract 5 for the next number. What is the second number?

- a) 45
- b) 55
- c) 60

Card 16:

Begin with 80. Subtract 10 and then divide by 2 for the next number. What is the second number?

- a) 30
- b) 35
- c) 40

Task Cards

Cut out the task cards below

Card 17:

Start with 90. Divide by 3 and then add 5 for the next number. What is the second number?

- a) 30
- b) 25
- c) 35

Card 21:

Start with 48. Subtract 8 and then multiply by 2 for the next number. What is the second number?

- a) 70
- b) 80
- c) 56

Card 22:

Begin with 28. Add 6 and then subtract 5 for the next number. What is the second number?

- a) 30
- b) 35
- c) 28

- a) 25
- b) 29
- c) 28

Card 19:

Start with 50. Add 10 and then multiply by 3 to get the next number. What is the third number?

- a) 315
- b) 325
- c) 330

Start with 12. Add 3 and then add 3 for the next number. What is the second number?

- a) 15
- b) 10
- c) 11

Card 20:

Begin with 64. Divide by 8 and then add 7 for the next number. What is the second number?

- a) 15
- b) 14
- c) 12

Card 24:

Begin with 45. Subtract 10 and then divide by 5 for the next number. What is the second number?

- a) 5
- b) 7
- c) 8

Input/Output Table – Addition



Rule: add 5	
In	Out
225	230
270	275
303	308
481	486



Instr. Complete each input/output table below.

Rule: add 4	
In	Out
105	
113	
134	
148	

Rule: add 6	
In	Out
215	
233	
261	
291	

Rule: add 5	
In	Out
295	
303	
321	
347	

Rule: add 3	
In	Out
303	
335	
373	
418	

Rule: add 6	
In	Out
452	
485	
498	
528	

Rule: add 5	
In	Out
551	
578	
593	

Rule: add 3	
In	Out
605	
631	
676	
689	

Rule: add 6	
In	Out
702	
726	
763	
799	

Rule: add 5	
In	Out
810	
831	
849	
876	

Input/Output Table – Subtraction

Rule: subtract 5	
In	Out
138	133
154	149
15	176
191	191



Instructions: Complete the input/output tables below.

Rule: subtract 1	
In	Out
112	
138	
163	
195	

Rule: subtract 5	
In	Out
206	
232	
261	
284	

Rule: subtract 3	
In	Out
297	
305	
321	
330	

Rule: subtract 7	
In	Out
308	
335	
367	
402	

Rule: subtract 24	
In	Out
508	
529	
543	
588	

Rule: subtract 8	
In	Out
637	
632	
648	

Rule: subtract 6	
In	Out
623	
647	
668	
705	

Rule: subtract 12	
In	Out
854	
879	
891	
903	

Rule: subtract 15	
In	Out
905	
945	
978	
999	

Input/Output Table – Multiplication



Rule: multiply by 2

In	Out
3	6
5	10
7	14
9	18

Instructions: Complete the input/output tables below.

Rule: multiply by 3

In	Out
5	
10	
20	
50	

Rule: multiply by 6

In	Out
3	
7	
10	
12	

Rule: multiply by 5

In	Out
5	
10	
20	
50	

Rule: multiply by 4

In	Out
7	
12	
15	
25	

Rule: multiply by 2

In	Out
21	
33	
50	
110	

Rule: multiply by 7

In	Out
5	
12	
20	

Rule: multiply by 8

In	Out
5	
10	
20	
100	

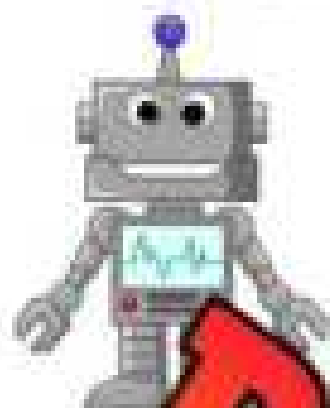
Rule: multiply by 10

In	Out
8	
11	
16	
31	

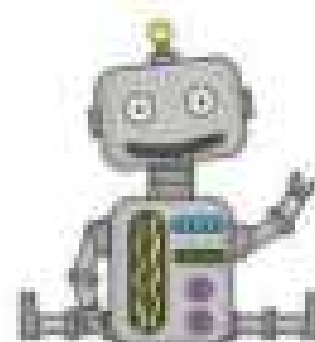
Rule: multiply by 11

In	Out
6	
8	
10	
20	

Input/Output Table – Division



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



Instructions: Complete the input/output tables below.

Rule: divide by 2	
In	Out
10	
25	
78	
98	

Rule: divide by 2	
In	Out
14	
30	
46	
72	

Rule: divide by 5	
In	Out
25	
65	
80	
90	

Rule: divide by 3	
In	Out
12	
24	
39	
45	

Rule: divide by 4	
In	Out
16	
36	
48	
64	

Rule: divide by 6	
In	Out
30	
54	
78	

Rule: divide by 7	
In	Out
18	
45	
72	
108	

Rule: divide by 10	
In	Out
20	
70	
120	
180	

Rule: divide by 8	
In	Out
16	
40	
72	
104	

Table of Values

Questions

Answer the questions below by using the table of values.

When you work an hour, you get paid 32 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 42km a week.

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

2) How many km will you run 42km for 10 weeks?

Chris is studying for a science test next week. Each night he studies for 45 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 585 minutes?

Nights	Minutes
1	
2	
3	
4	
5	
8	

Recursive vs Functional Relationships

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

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



Part 1: Jeffrey describing the recursive or functional relationship?

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

Part 2: Provide a recursive and functional description of the patterns.

	Pattern					Recursive	
1)	x	1	2	3	4	Functional	
	y	3	9	15	21		
	Pattern					Recursive	
2)	x	1	2	3	4	Functional	
	y	12	20	28	36		

Exit Cards

Cut Out

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

Name: _____

Provide a recursive and functional description of the pattern.

x	1	2	3	4
y	10	18	26	34

Recursive	
Functional	

Name: _____

Provide a recursive and functional description of the pattern.

x	1	2	3	4
y	10	18	26	34

Recursive	
Functional	

Name: _____

Provide a recursive and functional description of the pattern.

x	1	2	3	4
y	10	18	26	34

Recursive	
Functional	

Name: _____

Provide a recursive and functional description of the pattern.

x	1	2	3	4
y	10	18	26	34

Recursive	
Functional	

Functions – Finding Term N

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

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

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



Practice Find the function by determining the pattern between the variables

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

$3n$

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

$2n-1$

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

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

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

Term Number	Term Value
1	16
2	27
3	28
4	34
5	40
11	

Functions – Finding Term N

Practice

Find the function by determining the pattern between the variables

Term Number	Term Value
1	10
2	11
3	12
4	13
5	14
6	15

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

Term Number	Term Value
1	7
2	11
3	15
4	19
5	
6	

Term Number	Term Value
1	4
2	9
3	14
4	19
5	
6	

Term Number	Term Value
1	4
2	9
3	14
4	19
5	24
6	

Term Number	Term Value
1	8
2	18
3	28
4	
5	
6	

Word Problem

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

Shelly goes out looking for shells on a beach. She records how many shells she finds each day. She found 7 shells the first day, 11 shells the second day, 15 the third day, and 19 the fourth day. How many will she 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 30?



- 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: _____

Task Cards: Patterning – All Operations

Objective

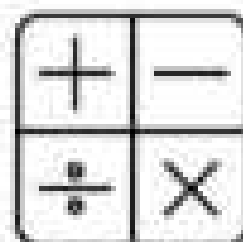
What are we learning about?

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

Materials

What you will need for the activity

- 32 Task Cards
- Recording sheet for answers
- Pencil

**Instructions**

How to do the activity

1. Introduce the concept of patterns and their relevance to problem-solving in everyday life.
2. Organize the students into pairs and provide each pair with a set of task cards.
3. Give each pair an answer recording sheet to record 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 write their answer on the recording sheet.
7. Consider using a timer to create a dynamic challenge, adjusting the duration to fit the lesson's objectives and complexity.
8. After the activity, review the answers collectively, discussing any challenging patterns and strategies used to solve them.
9. Have students reflect on the activity, sharing the methods they applied and obstacles they overcame.

Task Cards

Cut out the task cards below

Card 1

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

Card 2

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

Card 4

A train travels 80 km south each day. How far south will the train be after 5 days? How many seats are there in the sixth row?

Card 5

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

If a sequence starts with 1 and has the pattern of adding 3, what is the 4th term?

Card 7

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

Card 8

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

Task Cards

Cut out the task cards below

Card 9

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

Card 10

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

Card 12

An athlete runs 2 km on the first day, 4 km on the second day, 6 km on the third day. How many kilometers will the athlete run on the tenth day?

A plant grows 2 cm every day for a week, then doubles its growth rate every week. How many centimeters will it grow on the fourth week?

Card 13

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

A swimmer swims 1 km in the morning and then 2 km in the evening. How many kilometers will the swimmer swim in 10 days?

Card 15

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

Card 16

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

Task Cards

Cut out the task cards below

Card 17

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

Card 18

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

Card 20

A hiker starts at an altitude of 100 meters. Each day, he ascends 10 meters and descends 20 meters. What is his altitude after 12 days?

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

Card 21

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

A factory produces 50 widgets in the first hour, 90 widgets in the second hour, and 80 widgets in the third hour. How many widgets will be produced in the 6th hour?

Card 23

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

Card 24

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

Patterning Word Problems - Blocks

Challenge

Answer the problems below

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

- a) Matt decided to add the same number of blocks during each of the 5-phases. He had 4 different design ideas. Fill in the tables below.

Phases	Blocks
1	
2	
3	
4	22
5	

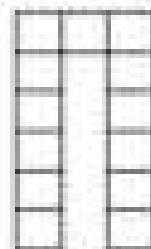
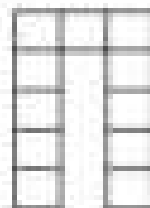
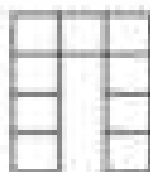
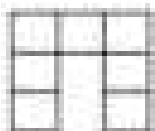
Phases	Blocks
1	
2	12
3	
4	
5	21

Phases	Blocks
1	8
2	
3	
4	
5	36

- b) Whoops, Matt made a mistake when he completed his table. His structure was supposed to add the same number of blocks each phase. Find his error and correct it.

Phases	1	2	3	
Blocks	12	17	21	

- c) You want to build a house out of blocks, but each block costs \$5. You have created 4 different design plans. You have \$70 to spend. Which design will you choose?



Design	Blocks	\$
1		
2		
3		
4		

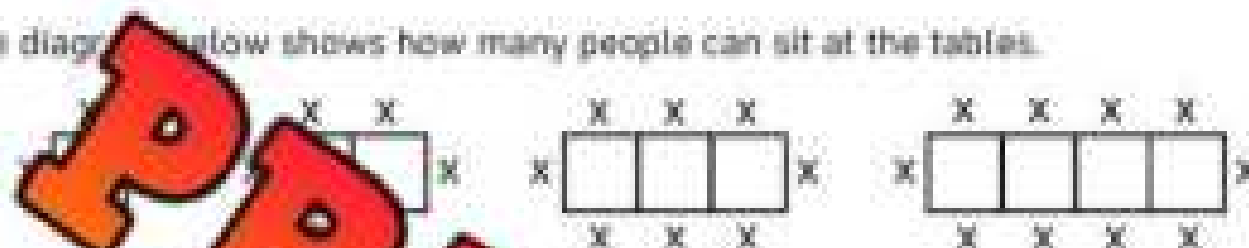
Picnic Word Problem – T-Tables

Challenge

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

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

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



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

Tables	1		4	5
# of Seats				

b) Write an algebraic expression that represents the pattern.

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

i) 10 tables: _____

ii) 15 tables: _____

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

Dog Walking Word Problem – T-Tables

Challenge

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

You start a summer dog-walking job. In the first week, you walk four dogs, earning five dollars for each dog. After that, you keep a steady schedule of three dogs a week, earning fifteen dollars each week.

a) Fill in the table to learn more about how your total earnings grow.

	1	2	3	4	5
Total Earned					

b) Write an algebraic expression that represents the pattern.

c) How much money would you earn if you worked

i) ten weeks: _____

ii) fifteen weeks: _____

d) If you could work all year, how much money would you earn?

e) What if you doubled your price and charged ten dollars per dog after Week 1? How much would you make after 5 weeks?



Granola Bars Word Problem – T-Tables

Challenge

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

You are helping run a snack stand at a weekend market. On the first day, you sell eight granola bars, earning two dollars for each bar. For every day after that, you sell 12 granola bars.

a) Fill in the table to learn more about how your earnings grow.

	1	2	3	4	5
Amount Earned					

b) Write an algebraic expression that represents the pattern.

c) How much money would you earn if you worked:

i) Ten days: _____

ii) Twenty-five days: _____

d) If you could work all year, how much money would you earn?

e) What if you doubled your price and charged 3 dollars per bar after Week 1? How much would you make after 10 weeks?



Basketball Skills Challenge

Instructions

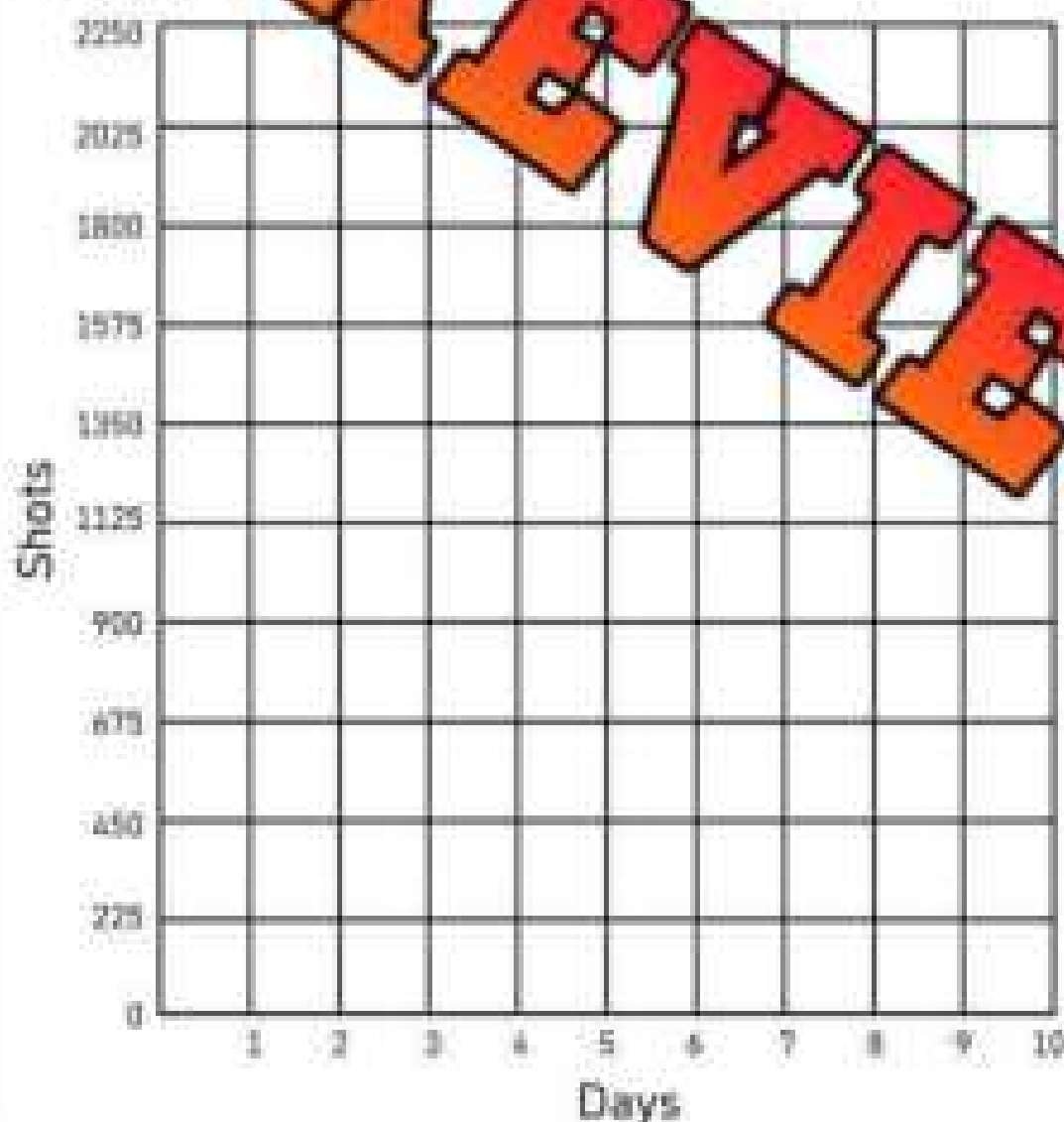
Complete the table of values and graph the results.



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

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

Pattern Rule



Questions

1. Which day did Connor finish 1500 shots?

2. How many shots would Connor take in 10 days?

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

Saving Money



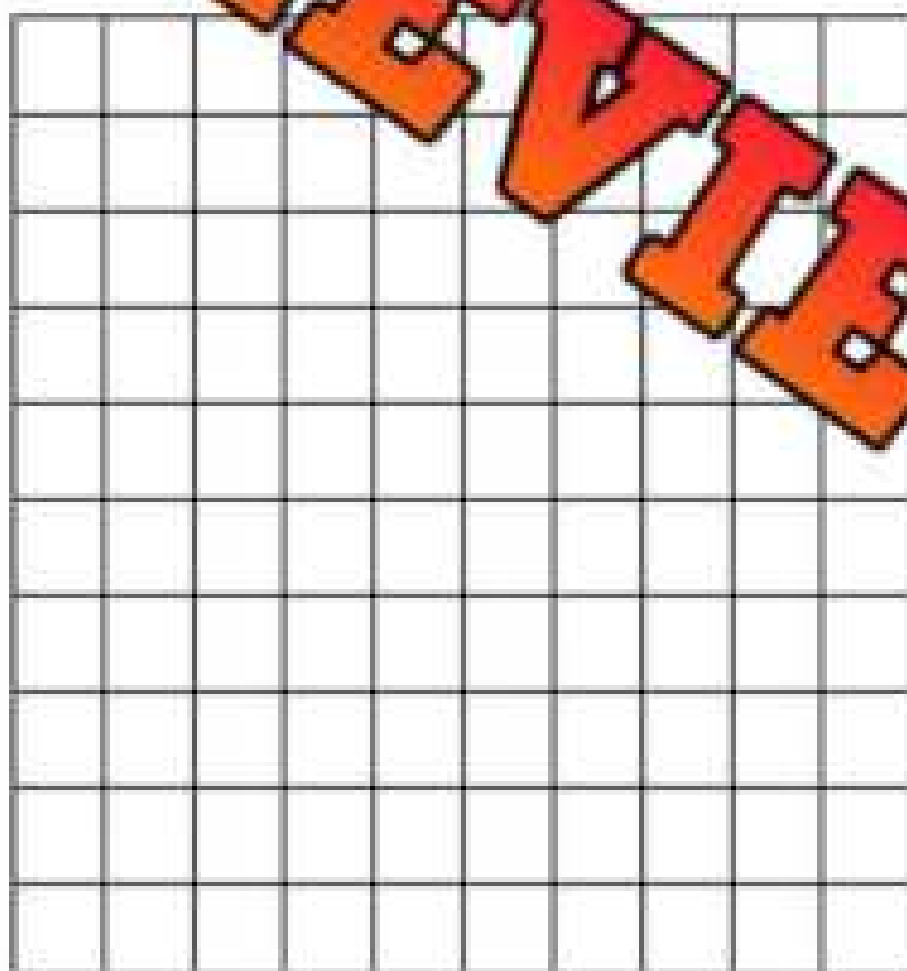
Instructions

Complete the table of values and graph the results

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

Term No. (Week)	1	2	3	4	5	6	7	8	9	10
Term										

Pattern Rule



Questions

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

2. How much did she have in 10 weeks?

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

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

Steven wants to buy a new gaming system that is on sale for \$386. The sale will end in 6 days. He has \$50 saved already and can make \$8 an hour for cutting grass.

- a) How much more money does he need to have enough to buy the gaming system?
- b) How many hours does he need to work to save enough money to buy the gaming system?
- c) How many hours should he work every day to make sure he can buy the gaming system within the next 6 days?
- d) He can cut 2 yards in each hour. How many yards will he need to cut to have enough money?
- e) Steven's parents decided to give him \$120 extra dollars for his gaming system. How many hours will he need to work now?

Part 5

Write an algebraic expression that represents the function

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

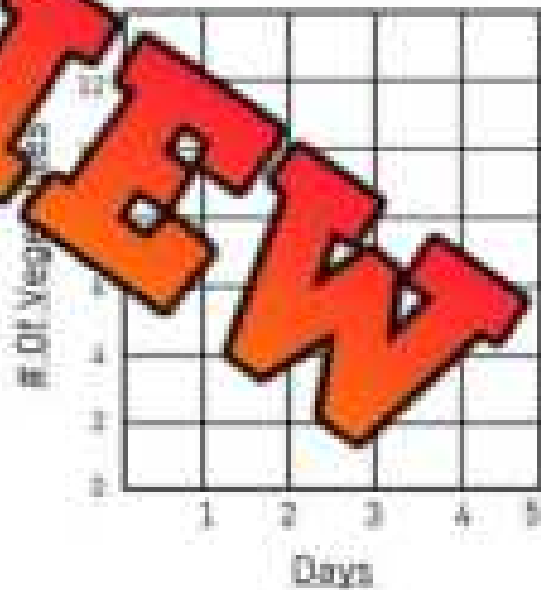
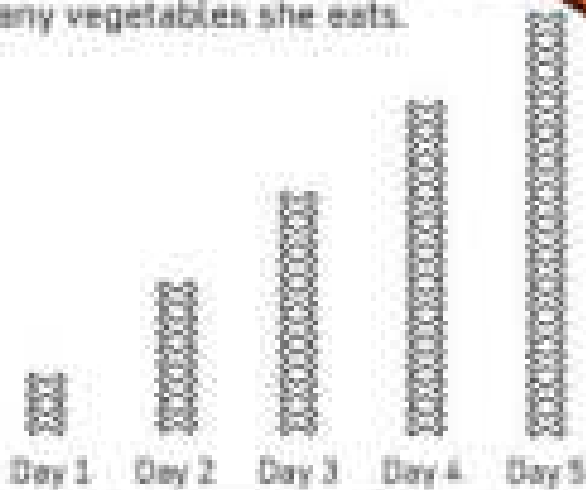
Term Number	Term Value
1	3
2	6
3	9
4	12
5	
20	

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

Part 6

Translate the following problem into a table of values and a graph.

Claire marks an x each day for how many vegetables she eats.



Term Number (Day)							10	25
Term Value (Vegetables)								

Grade 6

Equations

	Curriculum Expectations	Pages That Cover the Expectations
PE.2	one-step equations with whole-number coefficients and solutions	81 - 160

Pre-Algebra – Balancing Addition Equations

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

Examples:

$$\begin{array}{c} 52 \\ \swarrow \searrow \\ 37 + 15 = \boxed{52} \end{array}$$

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

Instructions:

Fill in the missing number to balance the equation.

1) $45 + \boxed{} = 78$

2) $53 + 9 = \boxed{}$

3) $67 + 12 = \boxed{}$

4) $15 + \boxed{} = 30$

5) $28 + \boxed{} = 57$

6) $68 + \boxed{} = 81$

7) $\boxed{} + 12 = 95$

8) $\boxed{} + 25 = \boxed{} + 59 = 66$

10) $72 + 14 = \boxed{}$

11) $64 + \boxed{} = 80$

12) $35 + \boxed{} = 15$

13) $68 + \boxed{} = 82$

14) $83 + 15 = \boxed{}$

15) $89 + \boxed{} = 102$

16) $105 + \boxed{} = 116$

17) $121 + 14 = \boxed{}$

18) $145 + \boxed{} = 160$

19) $177 + \boxed{} = 198$

20) $215 + 41 = \boxed{}$

21) $217 + \boxed{} = 229$

Addition – Find the Variable

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

Example: $15 + n = 35$

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



Part 1

Find out the value of the variable

$n + 13 = 20$ $n =$	$n + 13 = 20$ $n =$	$27 + n = 35$ $n =$
$41 + p = 79$ $p =$	$41 + p = 79$ $p =$	$p + 48 = 79$ $p =$
$85 + y = 101$ $y =$	$85 + y = 101$ $y =$	$124 + 15 = y$ $y =$
$165 + t = 181$ $t =$	$165 + t = 181$ $t =$	$305 + t = 220$ $t =$
$231 + a = 245$ $a =$	$256 + a = 271$ $a =$	$215 + s = 25$ $s =$
$281 + 9 = s$ $s =$	$290 + n = 300$ $s =$	$s + 15 = 300$ $s =$

Part 2

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

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

1) $a=4$ $b=7$ $c=10$	$P=$	4) $a=12$ $b=25$ $c=30$	$P=$
2) $a=7$ $b=12$ $c=14$	$P=$	5) $a=19$ $b=31$ $c=45$	$P=$
3) $a=9$ $b=17$ $c=23$	$P=$	6) $a=15$ $b=23$ $c=36$	$P=$



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 problems
- Chairs arranged in a circle
- Stopwatch or timer
- Whiteboard and markers

Instructions

How you will complete:

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" chair.
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.

The pet store sold 19 dogs and 13 cats. What was the total number of animals sold?

$$78 + a = 135$$

$$p + 32 = 96$$

$$56 + q = 112$$

The school choir performed at 3 different events. At the first event, they sang 27 songs. At the second event, they sang 19 songs. At the third event, they sang 14 songs. What was the total number of songs the choir sang?

$$28 + r + 14 = 87$$

$$y + 36 + 19 = 104$$

$$42 + z - 16 = 75$$

$$a + 63 - 27 = 91$$

The school library had 84 fiction books and 57 non-fiction books. They received 23 more fiction books and 18 more non-fiction books. How many books does the library have now?

$$b + 72 - 19 = 118$$

$$79 + c + 11 = 159$$

$$d + 16 + 23 = 86$$

The art classroom had 62 colored pencils and 54 markers. They received 31 more colored pencils and 24 more markers. How many art supplies does the classroom have now?

$$e + 72 - 19 = 118$$

$$93 + f + 11 = 159$$

$$g + 56 - 23 = 86$$

$$h + 82 + 21 = 139$$

$$115 + i - 43 = 172$$

$$j + 39 + 28 = 102$$

The school band had 75 trumpets and 54 trombones. They received 29 more trumpets and 18 more trombones. How many instruments do they have now?

$$k + 67 - 31 = 124$$

$$131 + l + 22 = 203$$

Equation Pairs - Addition

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

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

Instructions: Write 2 equations for the orders below



#	Fries (f)	Burgers (b)	Equation 1 (f + b = t)	Equation 2 (b + f = t)
1	3	8	$3 + 8 = 11$	$8 + 3 = 11$
2	5			
3	3	6		
4	7	8		
5	5	9		
6	7	6		
7	3	4		
8	5	7		
9	7	9		
10	5	8		

Addition Equations – Perimeter of a Rectangle

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

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

$$p = 12 + 4 + 12 + 4$$

$$p = 32$$

$$a = 12\text{cm}$$

$$b = 4\text{cm}$$

Formula 2

$$p = 2(a + b)$$

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

Part 1 Equations for the side lengths below

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

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

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

Writing Addition Equations – Candy Shop

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

Instructions

Write the equation and find the answer.



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

Word Problems – Writing Addition Equations

Instructions

Answer the questions below

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

$a + 21 = 37$	$37 + 21 = a$
$21 + a = 37$	$21 - a = 37$



2) Bruce and Harry made \$75 together at work. Bruce can't remember how much he made, but Harry made \$39. Which equation will tell us how much Bruce made?

$b + 39 = 75$	$39 + b = 75$
$75 + 39 = b$	$75 - 39 = b$



3) Mary and Brianna found 121 Easter eggs together. Mary found 65. Which equation will tell us how many Brianna found?



$121 + b = 65$	$65 + b = 121$
$b + 65 = 121$	$121 - b = 65$

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 first 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?



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

Word Problems – Solving Addition Equations**Questions**

Write the algebraic equations and answer the question

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



2) Carly earned points for beating level 1 in a video game. He got 238 more points than he had before. How many total points (t) did he have after level 2?

Bonus – He had 100 points before 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) Wyatt's boat can hold 500 litres of gas. He went out boating. When he docked the boat after he was done, the tank had 128 litres left. How many litres (L) did he use?



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



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: $x = j + s + h$

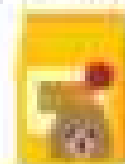
$x = 79 + 35 + 49$

$x = \$163$ Therefore, Jan spent \$163.



2) Adam bought some items. He bought dog food (f) for \$78 and bones (b) for \$49. He also bought a toy (t) for \$62. How much did he spend (s)?

Equation: _____



3) Josiah spent \$830 total (t) on new sports gear. He bought new skates (s) for \$475, new gloves (g) for \$190, and a new stick (n) for a number of dollars. How much is n worth?

Equation: _____



4) Barry bought 4 new t-shirts (s) that all cost the same amount total (t) price of \$208. How much is s worth?

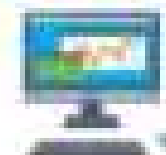
Equation: _____ = _____ + _____ + _____ + _____



Therefore, _____

5) Henry bought a new computer setup for a total (t) of \$999. He bought a computer for c number of dollars. He also bought a keyboard (k) for \$82 and a mouse (m) for \$58. How much is c worth?

Equation: _____



Therefore, _____

Pre-Algebra – Balancing Subtraction Equations

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

Examples

$$\begin{array}{r} 48 \\ 54 - 6 = \boxed{48} \end{array}$$

$$\begin{array}{r} 57 \\ 72 - 15 = \boxed{57} \end{array}$$

Instructions

Fill in the missing number to balance the equation

1) $36 - \square = 31$

2) $53 - 7 = \square$

3) $44 - 5 = \square$

4) $58 - \square = 45$

5) $62 - \square = 39$

6) $65 - \square = 55$

7) $\square - 5 = 52$

8) $\square - 3 = 68$

9) $\square - 7 = 71$

10) $83 - 11 = \square$

11) $91 - \square = 75$

12) $98 - \square = 86$

13) $105 - \square = 99$

14) $112 - 9 = \square$

15) $122 - \square = 111$

16) $132 - \square = 119$

17) $146 - 15 = \square$

18) $158 - \square = 136$

19) $173 - \square = 164$

20) $185 - 17 = \square$

21) $197 - \square = 182$

Subtraction – Find the Variable

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

Example: $39 - n = 25$

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



Part 1 Find out the value of the variable

1) $30 - n = 15$ $n =$	2) $n - 15 = 20$ $n =$	3) $47 - n = 35$ $n =$
4) $68 - 16 = p$ $p =$	5) $45 - p = 53$ $p =$	6) $p - 16 = 50$ $p =$
7) $76 - y = 61$ $y =$	8) $50 - y = 12$ $y =$	9) $92 - 13 = y$ $y =$
10) $105 - t = 91$ $t =$	11) $114 - t = 1$ $t =$	12) $21 - t = 119$ $t =$
13) $153 - a = 137$ $a =$	14) $168 - a = 145$ $a =$	15) $15 - a = 10$ $a =$

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

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

$m = 20$ $p = 15$	$c = 20 - 15$	$c = 5$	$m = 60$ $p = 51$	$c = \underline{\quad} - \underline{\quad}$	$c =$
$m = 30$ $p = 19$	$c = \underline{\quad} - \underline{\quad}$	$c =$	$m = 100$ $p = 77$	$c = \underline{\quad} - \underline{\quad}$	$c =$
$m = 50$ $p = 27$	$c = \underline{\quad} - \underline{\quad}$	$c =$	$m = 100$ $p = 61$	$c = \underline{\quad} - \underline{\quad}$	$c =$

Writing Subtraction Equations - Bakery

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



Instructions

Write the equations and find the answer.

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

Word Problems – Solving Subtraction Equations

Instructions

Write the equation using the variable and then solve the equation

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



2) Chrissy is training for a race. She has run 2931m already. How many metres does she have left to run?



3) Michael is driving to an amusement park. The park is 573km away. He will need to stop for gas at the 350km mark. How many km will he have left (L) after he stops?



4) Jacob is climbing Mount Everest to Base Camp. It is 5,464m. He takes a break with 1,650m left. How many metres has he climbed (c) already?



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



Solving Subtraction Equations - Vacation

Questions

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

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

Equation: $L = x - f - s$ or $x - f - s = L$

$L = 1350 - 415 - 480$

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



2) The family goes to a restaurant for dinner out for 3 nights. They spent \$95 on the first (f) dinner and \$75 on the second (s) dinner. How much do they have left for the third dinner (t)?

Equation: _____

_____ Therefore, _____



3) The family heads to the waterslide park. They bring a total (t). The two adults (a) cost \$48 each. The two kids (k) cost \$25 each. How much do they have left (L)?

Equation: _____

_____ Therefore, _____



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

Equation: _____

_____ Therefore, _____



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

Equation: _____

_____ Therefore, _____



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

What are we learning about?

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

**Materials**

What you will need for the activity:

- 1 plastic bottle (per pair/group) filled to approximately one-third with water
- 1 plastic cup (per pair/group)
- Set of subtraction algebra problem cards
- Answer sheet (per pair/group)

Instructions

How you will complete the activity:

1. Start with a short lesson on one-step and two-step subtraction algebra problems, using examples like $x - 3 = 4$.
2. Arrange the students into pairs or small groups. Each group receives a plastic 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 solves the subtraction algebra problem.
5. Once they believe they have the correct answer, they write it on the 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

$x - 15 = 85$	$b - 20 = 50$	$200 - d - 10 = 162$	$190 - 30 - 54 = w$
$22 - g = 75$	$b - 33 = 67$	$180 - 25 - k = 110$	$n - 144 - 30 = 82$
$150 - 10 = p$	$50 - c = 100$	$170 - j - 30 = 98$	$193 - t - 40 = 122$
Dylan had 150 candies and gave some away. Now he has 25. How many did he give away?	Eva had 90 pens and gave some away. Now she has 10. How many did she give away?	Sarah had 200 stickers, she gave 50 to one friend and 30 to another. How many stickers does she have left?	Sara set aside \$400 for school supplies. She spent \$90 on notebooks, \$125 on textbooks, and some amount on art supplies. She has \$125 left for pens and pencils. How much did she spend on art supplies?
Max had 150 marbles and lost some. Now he has 120. How many did he lose?	Ben had 200 pencils and gave some to his friends. Now he has 140. How many did he give away?	Jane had 100 books. She sold 20 and donated 80. How many books does she have left?	Emma saved \$500 for a vacation. She spent \$200 on a hotel, \$150 on food, and some amount on transportation. She has \$50 left. How much did she spend on transportation?
Lily had 120 stickers and used some. Now she has 90. How many did she use?	Charlie had 180 toys and gave some to charity. Now he has 130. How many did he give away?	Mike had 250 coins, he spent 70 and lost 50. How many coins does he have left?	Jack set aside \$600 for a new computer. He spent \$300 on the computer, \$150 on accessories, and some amount on software. He has \$50 left. How much did he spend on software?

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

Pre-Algebra – Balancing Multiplication Equations

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

Examples:

$$\begin{array}{c} 24 \\ \wedge \\ 8 \times 3 = 24 \end{array}$$

$$\begin{array}{c} 42 \\ \wedge \\ 7 \times 6 = 42 \end{array}$$

Instructions:

Fill in the missing number to balance the equation

1) $6 \times$

2) $5 \times 7 =$

3) $4 \times 5 =$

4) $8 \times \square = 16$

5) $\square \times 3 = 18$

6) $4 \times \square = 28$

7) $\square \times 5 = 25$

8) $\square \times 6 =$

$\square \times 3 = 18$

10) $9 \times 4 =$

11) $7 \times \square = 56$

12) $\square \times 8 = 40$

13) $3 \times \square = 33$

14) $10 \times 9 =$

15) $6 \times \square = 54$

16) $8 \times \square = 48$

17) $20 \times 3 =$

18) $4 \times \square = 44$

19) $12 \times \square = 48$

20) $14 \times 4 =$

21) $11 \times \square = 110$

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 - $n = 2$



Part 1 Find out the value of the variable

1) $5n = 20$ $n =$	2) $n \times 8 = 16$ $n =$	3) $s \times 6 = 48$ $s =$
4) $10 \times 4 = p$ $p =$	5) $3 \times 5 = q$ $q =$	6) $6k = 18$ $k =$
7) $3n = 18$ $n =$	8) $4 \times 3 = n$ $n =$	9) $n \times 6 = 66$ $n =$
10) $5n = 25$ $n =$	11) $6 \times 4 = t$ $t =$	12) $8 \times 4 = p$ $p =$
13) $3n = 24$ $n =$	14) $10n = 100$ $n =$	15) $7d = 28$ $d =$
16) $9s = 27$ $s =$	17) $5 \times 8 = s$ $s =$	18) $3 \times 7 = t$ $t =$

Part 2 Calculate the area using the variables for length and width

The formula for calculating area is: $A = L \times W$

Calculate the area in the questions below using the values for the variables L and W

$L = 5$ $W = 8$	$A =$
$L = 9$ $W = 7$	$A =$
$L = 6$ $W = 11$	$A =$

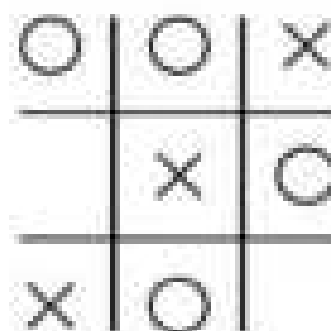
$L = 4$ $W = 12$	$A =$
$L = 8$ $W = 5$	$A =$
$L = 3$ $W = 13$	$A =$

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 you will need for the activity.

- Whiteboard or paper
- Markers or pens
- Math Tic-Tac-Toe grid template (to be drawn on the whiteboard or printed on paper)

Instructions

How you will complete the activity.

1. Draw a large tic-tac-toe grid on the whiteboard. In each cell of the grid, write a subtraction equation involving variables (e.g., $5 - x = 2$). Divide the class into two teams: Team X and Team O.
2. Explain to the students that they will play tic-tac-toe. When a student places an X or O in a cell, they must first correctly solve the equation written in that cell.
3. Team X will go first. A student from Team X will choose a cell, come to the board, and solve the equation written in that cell. If they solve it correctly, they place an X in that cell.
4. If the student answers incorrectly, they do not place their mark, and it becomes Team O's turn. A student from Team O will then choose a cell, solve the equation, and place an O if correct.
5. Continue alternating turns between the two teams. The first team to get three marks in a row (horizontally, vertically, or diagonally) wins the game.
6. After the game, discuss the different strategies used to solve the equations and any challenges faced during the activity.

Tic-Tac-Toe

Use the following tic-tac-toe grids for the game.

$5p = 40$	$6 \times 9 = g$	$7n = 21$
$8s = 64$	$3 \times 12 = f$	$4m = 28$
$9q = 81$	$2 \times 15 = v$	$10a = 20$

$7p = 35$	$5 \times 8 = w$	$6m = 36$
$9s = 63$	$4 \times 11 = c$	$8n = 56$
$2t = 14$	$3 \times 14 = z$	$10b = 80$

$4p = 28$	$6 \times 12 = e$	$5k = 25$
$8s = 72$	$3 \times 10 = m$	$7k = 42$
$9q = 54$	$2 \times 16 = v$	$10n = 90$

$3p = 21$	$7 \times 11 = q$	$6m = 18$
$5k = 25$	$4 \times 9 = j$	$8n = 64$
$2k = 20$	$3 \times 15 = y$	$10a = 100$

$2p = 14$	$5 \times 10 = d$	$7n = 49$
$9s = 81$	$3 \times 13 = e$	$4m = 32$
$8r = 40$	$6 \times 7 = y$	$10b = 70$

$6p = 30$	$4 \times 12 = t$	$9s = 27$
$5k = 25$	$3 \times 14 = r$	$7m = 21$
$8q = 64$	$2 \times 15 = b$	$10a = 50$

Equation Pairs – Area of a Rectangle - Multiplication

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

Remember – $a = l \times w$



3cm

7cm

Option 1

$$a = 7 \times 3$$

$$a = 21\text{cm}^2$$

Option 2

$$a = 3 \times 7$$

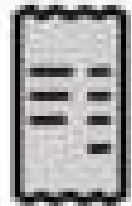
$$a = 21\text{cm}^2$$

Question Write two equations that represent the area of a rectangle

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

Writing Multiplication Equations – Lottery Tickets

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



Part 1

Use multiplication equations to fill in the table.

#	# of Tickets (t)	Equation 1 $t \times 15 = ?$	Equation 2 $15 \times t = ?$
1			
2			
3	8		
4	3		
5	7		
6	9		
7	10		
8	5		

Part 2

Amelia sells tickets to two different people in the same fraction.

#	# of Tickets Person 1	# of Tickets Person 2	Equation
1	5	3	$(5 \times 15) + (3 \times 15) = 120$
2	4	7	
3	9	2	
4	2	5	
5	6	6	

Matching Game: Do The Variables Match

Objective

What are we learning about?

To enhance students' understanding of equality within addition, subtraction, and multiplication equations. Students will identify and match pairs of equations that yield the same result, fostering critical thinking and problem-solving skills in a collaborative group setting.

Materials: _____ will need for the activity

- Pre-prepared matching game cards.
- Small bags or envelopes to hold cards for each group.



Instructions

How you will complete the activity

1. **Preparation:** Before the class, the teacher will create pairs of matching game cards. Each card will have an equation with a variable on one side and a numerical value on the other.
2. **Setup:** Divide the students into small groups and give each group a bag or envelope containing a set of the matching cards.
3. **Gameplay:** In their groups, students will spread out the cards face down on their table. Each person takes a turn to try to match two cards. They will need to solve both equations to see if they match (equal the same value for the variable). If they find a correct match, they keep the cards out and continue with their next turn. If the cards don't match, they turn them back over in the same place, and the next player takes a turn.
4. The activity continues until all pairs are correctly matched within each group.

Cards

Matching Game Cards

$$7c = 21$$

$$3c + 6 = 15$$

$$20 - m = 12$$

$$4y + 2 = 18$$

$$2y + 6 = 14$$

$$6 + z = 14$$

$$3z = 2$$

$$9b - 3 = 24$$

$$5b = 15$$

PREVIEW

Cards

Matching Game Cards

$$5 + k = 17$$

$$20 - k = 8$$

$$2h + 3 = 21$$

$$4 + q = 16$$

$$q + 2 = 21$$

$$2w + 3 = 13$$

$$w + 7 = 12$$

$$10 - t = 3$$

$$2t + 1 = 15$$

PREVIEW

Cards

Matching Game Cards

$$6d - 2 = 16$$

$$d + 8 = 11$$

$$3f - 2 = 22$$

$$7v + 1 = 29$$

$$v + 2 = 12$$

$$5 + u = 11$$

$$3u - 2 = 16$$

$$3 + g = 18$$

$$2g + 1 = 31$$

PREVIEW

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 through the equal sign ($\neq$) if it is not balanced.

1) 16

2) $25 \div 5 = 4$

3) $32 \div 4 = 8$

4) $36 \div 6 = 6$

5) $20 \div 4 = 5$

6) $28 \div 4 = 8$

7) $50 \div 5 = 10$

8) $48 \div 6 = 8$

9) $36 \div 4 = 8$

10) $99 \div 11 = 10$

11) $35 \div 7 = 5$

12) $40 \div 5 = 8$

13) $24 \div 4 = 8$

14) $49 \div 7 = 6$

15) $45 \div 9 = 5$

16) $72 \div 8 = 8$

17) $81 \div 9 = 9$

18) $36 \div 3 = 12$

19) $56 \div 7 = 9$

20) $48 \div 12 = 3$

21) $63 \div 9 = 7$

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: $27 \div n = 3$

We can figure out the unknown number by balancing the equation - $n = 9$

Part 1

Find out the value of the variable.

1) $24 \div n = 3$ $n =$	2) $n \div 9 = 3$ $n =$	3) $s \div 5 = 3$ $s =$
4) $24 \div p = 6$ $p =$	5) $24 \div p = 6$ $p =$	6) $48 \div r = 8$ $r =$
7) $36 \div n = 6$ $n =$	8) $48 \div n = 6$ $n =$	9) $t \div 11 = 5$ $t =$
10) $90 \div n = 9$ $n =$	11) $t \div 8 = 1$ $t =$	12) $81 \div 9 = p$ $p =$
13) $64 \div n = 8$ $n =$	14) $77 \div n = 7$ $n =$	15) $9 \div s = 11$ $s =$
16) $48 \div s = 4$ $s =$	17) $42 \div 7 = s$ $s =$	

Part 2

Solve the question below.

Servers at a restaurant share tips (t) equally at the end of the day. The number of people that share the tips depends on how many servers (s) were working. We can use a formula to find out how much money (m) each server takes home: $m = t \div s$

$t = 150$ $s = 5$	$m = 150 \div 5$	$m = 30$
$t = 180$ $s = 3$	$m =$ $\div$	$m =$
$t = 250$ $s = 5$	$m =$ $\div$	$m =$

$t = 120$ $s = 3$	$m =$ $\div$	$m =$
$t = 210$ $s = 7$	$m =$ $\div$	$m =$
$t = 320$ $s = 4$	$m =$ $\div$	$m =$

Writing Division Equations - Sharing

Riley is the best boss! Every week, she brings in treats for her staff to share. Each week, there are different treats and a different number of staff members working at the office.



Questions

Use a formula to find out how many treats (t) each person gets.

#		# of Staff (s)	Formula	Answer
1	16 donuts	8	$d \div s = t$	$16 \div 8 = 2$
2	12 cookies (c)	3	$c \div s = t$	
3	20 muffins (m)	5		
4	16 slices of pizza (p)	4		
5	10 bagels (b)	10		
6	15 donuts (d)	5		
7	24 cookies (c)	8		
8	18 muffins (m)	6		
9	28 pastries (p)	4		
10	32 cookies (c)	8		
11	36 slices of pizza (p)	9		
12	24 bagels (b)	3		
13	25 muffins (m)	5		

Solving Division Equations

Questions

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

1) Jonathon has 1000 potatoes (p) from his farm. He wants to sell them in bags (b) of 20. How many bags will he have in total (t)?

Equation : $t = p \div b$

$t = 1000 \div 20$

$t = 50$ Therefore, Jonathon will have 50 bags of potatoes to sell.



2) Mr. Jones teaches 5 subjects (s) for 225 minutes total (t). If he teaches the 5 subjects equally, how many minutes (m) will he teach each subject?

Equation : _____



3) Jayden is inviting 9 friends (f) to a party. He has a total of 117 cookies (c) for his friends to share evenly. How many cookies (g) will each friend get?

Equation : _____



Therefore, _____

4) Matthew has 228 toys (t) stored in 12 different boxes (b). How many toys are in each box?

Equation : _____



Therefore, _____

5) A group of friends go on a trip together. They all agree they will equally split up the driving duties. The total (t) distance is 1950km. Each friend drove (d) 325km. How many friends (f) went on the trip?

Equation : _____



Therefore, _____

Algebra Jeopardy

Objective

What are we learning about?

To reinforce students' understanding of basic algebraic concepts and their application to solve simple equations and word problems in a fun and competitive game for

Materials

What 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
$7 + 5 = ?$	$4y + 24$. Find y .	$4x - 5 = 15$. Find x .	If 5 apples cost \$10, what is the cost of one apple?	Sarah is 4 years older than twice her sister's age. If Sarah is 28, how old is her sister?
12		$24 = 3x + 18$. Find x .	If 4 cookies cost \$8, how much does each cookie cost?	Tam has 3 times as many books as Jerry. Together they have 44 books. How many books does each have?
$5 + 8 = a$. What is a ?	$5x = 25$. Find x .	$3x + 2 = 17$. What is x ?	Sarah bought 3 books for \$15. How much did each book cost?	Sarah has 5 times as many marbles as Ben. Together they have 42 marbles. How many marbles does each have?
$5x = 25$. Find x .	$2x + 3 = 13$. Find x .	$21n + 7 = 84$. Solve for n .	A shirt costs \$12. A pair of pants costs \$18. What is the total cost?	A triangle's perimeter is 36. One side is twice the second and the third side is 4. Find the length of the third side.
$14 - 9 = ?$	$4 + 7 - 4 = ?$	$12r - 4 = 32$. What is r ?	If a box contains 24 candies and you give 5 to each friend, how many friends can you give candies to?	A rope is cut into two pieces. One piece is 5 times as long as the other. Together, they are 72 meters long. How long is each piece?
$5 = x - 3$. What is x ?	$8 = 3 - 4 + ?$	$12 = 4 + 2 + ?$	If a movie ticket costs \$12 and you buy 3 tickets, what is the total cost?	In a garden, the number of roses is 2 times the number of tulips. If there are 45 flowers in total, how many roses and tulips are there?

Mixed Operations - BEDMAS

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

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

Example 1

$$2 = 6$$

Example 2

$$\begin{aligned} n - (2 \times 3) &= 4 \\ n - 6 &= 4 \\ n &= 10 \end{aligned}$$

Example 3

$$\begin{aligned} (4n) - 8 &= 20 \\ 4 \times 7 - 8 &= 20 \\ n &= 7 \end{aligned}$$

Questions

Solve the following equations using BEDMAS

1) $3 + (4 \times 5) = n$

3) $(8 \times 4) + (4 + 2) = t$

4) $n + (12 + 6) = 12$

5) $12 + (2 + 10) = 2 = 8$

7) $24 + 6 + (4 + 10) = t$

8) $17 - 2 \times 5 = n$

9) $25 - n + (5 \times 5) = 25$

10) $14 + n - 7 = 22$

11) $6n + 5 = 35$

12) $18 - 5 + (6 \times 8) = t$

Writing Algebraic Expressions

Using algebraic expressions helps us understand mathematical situations. We can use a variable to replace a changing number, like how many tickets are sold to a game: 108



Part 1

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

1) $9 - t$

Nine subtract

2) a

3) $6 + b$

4) $12r$

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

Part 2

Write an algebraic expression for each situation.

1) Twelve times a number subtract eight

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

3) A number is subtracted by fourteen divided by five

4) Triple a number subtracted by double a different number

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

Algebraic Expression - Terms

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

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

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

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



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

Instructions

Answer the questions below about the expression provided

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

Algebraic Expression - Terms

Part 1

Answer the questions below about the expression provided



Expression	$9 - 3n + 30t - (2y + 7x) - 5$
List the variables	
List the constants	
List the coefficients	
How many terms are there?	

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

Part 2

Write your own expressions by following the instructions

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

Evaluating Algebraic Expressions

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

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

Example 1 $y = 2$

$$2 + 6$$

$$2 + 6$$

$$2 + 6$$

$$14$$

Example 2 $y = 5$

$$y - (1 + 2)$$

$$5 - (1 + 2)$$

$$5 - 3$$

Example 3 $y = 3$

$$10 - 3 \times y$$

$$10 - 3 \times 3$$

$$10 - 9$$

$$1$$

Part 1

Evaluate the following expressions for $x = 4$

1) $x + 5 - 3$

2) $10 - x$

3) $42 - 3x$

4) $\frac{13}{x} + 5^2$

5) $15x - (20 + 5)$

Part 2

Evaluate the following expressions for $y = 6$

1) $y + 8 - 2^2$

2) $2^2 + (y - 4)$

3) $100 - (y^2 + 3)$

Evaluating Algebraic Expressions

Part 1

Evaluate the following expressions for $x = 4$

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

Part 2

Evaluate the following expressions for $y = 7$ and $n = 5$

1) $y - n + 22$ _____	2) $5n - y + n$ _____	4) $y + 7 + n$ _____
5) $35 + y + n$ _____	6) $11n - y$ _____	7) $y + n + y$ _____

Part 3

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

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

Writing Expressions

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

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

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

1)	2)
3)	

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

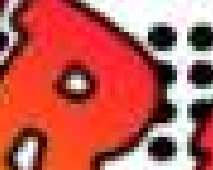
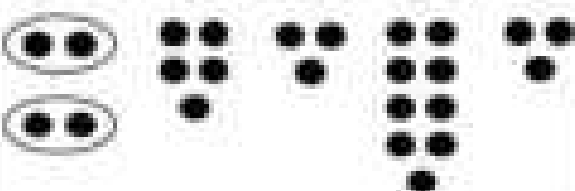
1)	2)
3)	4)

Equivalent Forms of an Equation

When we add or subtract the same amount from both sides of an equal sign, the equation does not change. Investigate this theory below.

Instructions

Draw circles to represent the equations

#	Original Equation	Change	New Equation
1	$5 = 9$ 	Add 3	$2n + 5 + 3 = 9 + 3$ 
2	$5 + n$		
3	$12 - n = 7$	Add 3	
4	$3n + 4 = 13$	Subtract 5	
5	$3 + 4n = 15$	Add 7	

Equivalent Forms of an Equation

Instructions

Write four equivalent forms of the equations below

#	Original Equation
1	$4n = 20$
	Add 4 to each side
	Subtract 4 from each side
	Multiply each side by 4
	Divide each side by 4

#	Original Equation
2	$3x - 8 = 2$
	Add 8 to each side
	Subtract 13 from each side
	Multiply each side by 3
	Divide each side by 6

#	Original Equation
3	$5n - 5 = 25$
	Add 50 to each side
	Subtract 20 from each side
	Multiply each side by 4
	Divide each side by 5

Equivalent Forms of an Equation

When we change an equation by adding, subtracting, multiplying, and dividing the same amount from both sides, does the equation change? Investigate below!

Instructions

Fill in the table below.

#	Original Equation	Change	New Equation
1	$5n + 10 = 20$	Add 10 to each side	$5n + 10 = 20 + 10$ $n = 4$
2	$8 = 1$	Add 7 to each side	
3	$15 + n = 1$ $n =$	Subtract 15 from each side	
4	$6n = 12$ $n =$	Multiply each side by 6	
5	$2n = 16$ $n =$	Divide each side by 2	
6	$52 - n = 34$ $n =$	Subtract 15 from each side	
7	$68 + n = 85$ $n =$	Add 13 to each side	
8	$5n = 50$ $n =$	Multiply each side by 4	
9	$3n = 27$ $n =$	Divide each side by 3	

Algebra Quiz - Equations

Part 1

Find out the value of the variable

$9 + n = 15$ $n =$	$124 + 15 = y$ $y =$	$p + 48 = 79$ $p =$
$9 - 3 = y$ $y =$	$76 - y = 61$ $y =$	$p - 16 = 50$ $p =$
$n \times 6 = 36$ $n =$	$n \times 6 = 36$ $n =$	$s \times 5 = 48$ $s =$
$45 + n =$ $n =$	$11 + 5 =$ $=$	$24 + 4 = p$ $p =$

Part 2

Find out the value of the variable

$a + b + c = d$ $a = 9$ $b = 10$ $c = 8$ ____ + ____ + ____ = d $d =$	$t + g = 6$ ____ + ____ = 6 $h =$
$r + y = t$ $r = 28$ $y = 7$ ____ + ____ = t $t =$	$en = f$ $e = 2$ ____ $\times$ ____ = f $f =$
$ab + c$ $a = 6$ $b = 8$ ____ $\times$ ____ = c $c =$	$e + c + g = t$ $e = 9$ $c = 6$ $g = 14$ ____ + ____ + ____ = t $t =$
$a - b = c$ $a = 108$ $b = 11$ ____ - ____ = c $c =$	$e - n = f$ $e = 125$ $n = 22$ ____ - ____ = f $f =$

Part 3

Solve the word problems below

1) Jacob picked 15 apples (a) from each row of apple trees. He picked 75 apples in total (t). How many apples did he pick in each row (r)?

Equation : _____

Therefore, _____

2) They had a budget (b) \$400 on dinner out for 4 nights. They spent \$90 on the first (f) dinner, the second (s) dinner and \$85 on the third (t) dinner. How much do they have left with dinner (l)?

Equation : _____

3) A family of 6 (f) buy donuts and each family member gets 4 donuts (d). How many donuts were there in total (t)?

Equation : _____

Therefore, _____

4) Hailey spent \$475 total (t) at a sporting goods store. She bought new shoes (s) for \$275, new gloves (g) for \$130, and a new stick for (s) \$70. How much is a dollar worth (w)?

Equation : _____

Therefore, _____

Part 4

Use two different equations to find the area using the given measurements

#	Length	Width	Equation 1	Equation 2
1	10m	7m		
2	7cm	8cm		
3	9km	4km		

Part 5

Find the perimeter using the side lengths given. Provide 2 equations.

#	Side length A	Side Length B	Equation 1	Equation 2
1	8	5		
2	9	6		
3	11	7		
4		9		
5		15		
6	20	16		

Part 6

Write the steps of the equations below

#	
1	$5n + 32$
	Add 7 to each side
	Subtract 12 from each side
	Multiply each side by 2
	Divide each side by 8

#	Original Equation
2	$5n + 7 = 32$
	Add 12 to each side
	Subtract 15 from each side
	Multiply each side by 3
	Divide each side by 5



Google Slides Lessons Preview





BC Math Curriculum Number Unit – Grade 6

3-Part Lesson Format

Part 1 – Minds On!

- Learning Goals
- Discussion Questions
- Quotes
- And More!



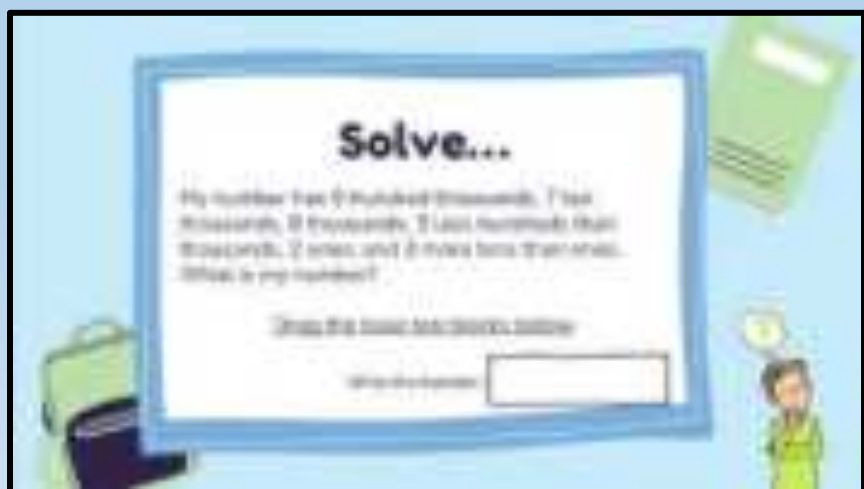
	Number	10's Millions	10's Thousands	10's Hundreds	10's Tens	10's Ones
1.	457,549					
2.	2,442,404					
3.	4,800,302					
4.	8,228,708					
5.	7,541,846					
6.	10,800,000					

Part 2 – Action!

- Writing
- Matching
- Drag and Drop
- Drawing
- And More!

Part 3 – Consolidation!

- Exit Cards
- Quizzes
- Reflection
- And More!





BC Math Curriculum Number Unit – Grade 6

Place Value - Matching

Draw a line from the base ten blocks to the number they represent.

Base Ten Blocks	Number
3 thousands, 3 hundreds, 3 tens, 3 ones	3333
3 thousands, 3 hundreds, 3 tens, 3 ones, 3 tenths	3333.3
3 thousands, 3 hundreds, 3 tens, 3 ones, 3 tenths, 3 hundredths	3333.33
3 thousands, 3 hundreds, 3 tens, 3 ones, 3 tenths, 3 hundredths, 3 thousandths	3333.333

Options: 3333, 33,300, 3,443, 33,333

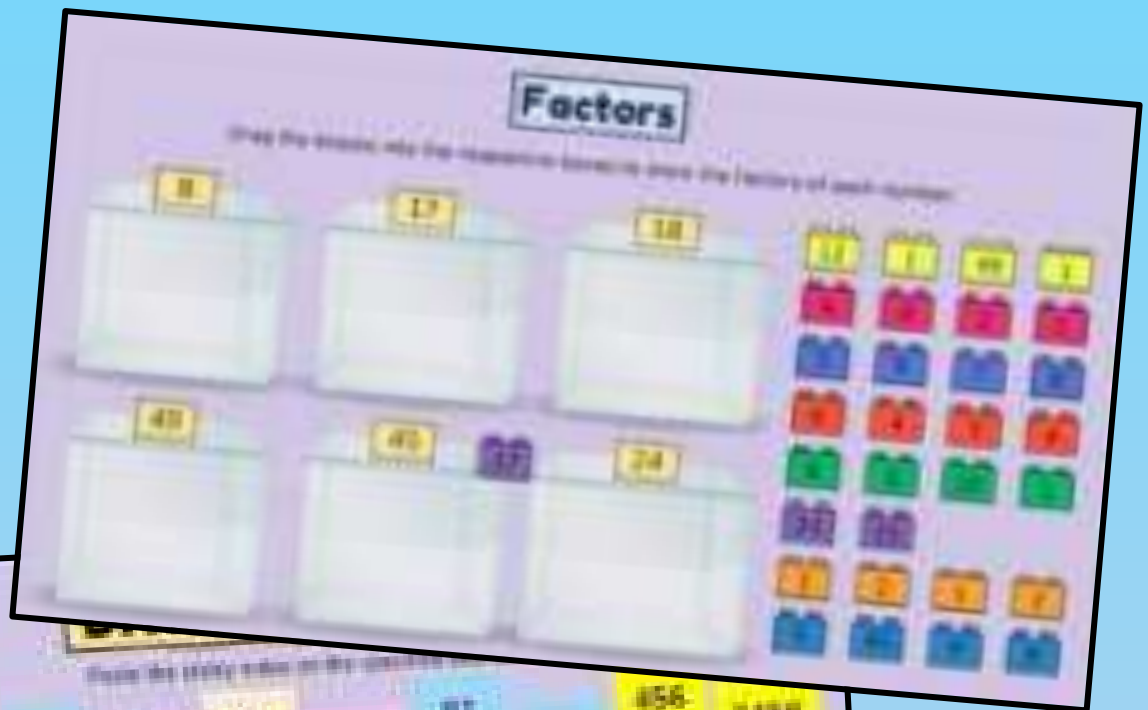
	Number 1	Answer	Number 2
1	100,000		100,000
2	100,000		100,000
3	1,000,000		10,000,000
4	1,000,000		10,000,000
5	1,000,000		10,000,000
6	1,000,000		10,000,000
7	1,000,000		10,000,000

	Number 1	Answer	Number 2
8	100,000		100,000
9	10,000,000		10,000,000
10	10,000,000		10,000,000
11	10,000,000		10,000,000
12	10,000,000		10,000,000
13	10,000,000		10,000,000
14	10,000,000		10,000,000

	Number		
15	$(4 \times 6) - 8$	16	16
16	$48 - (4 \times 2)$	17	42
17	$(9 \times 5) + 8$	18	16
18	$3 - 6 + 5 - 2$	19	11
19	$8 - 2 + (4 \times 6)$	20	96



BC Math Curriculum Number Unit – Grade 6





Workbook Preview



Grade 6

Number Elaborations

	Curriculum Elaborations	Pages
N.1	small to large numbers (thousandths to billions)	5 - 59
N.2	multiplication and division facts to 100 (developing computational fluency)	61 - 105
N.3	Preview of 125 pages from this product that contains 485 pages total.	
N.4		
N.5	improper fractions and mixed numbers	140 - 154
N.6	introduction to ratios	155 - 169
N.7	whole-number percents and percentage discounts	174 - 197
N.8	multiplication and division of decimals	198 - 250

Name: _____

6

Composites Semester
63

Place Value – How Many ...

Number	# of Millions	# of Thousands	# of Hundreds	# of Tens	# of Ones
3 322 457	3	322	4	5	7

Part 1

Fill in the table below

	Number	# of Millions	# of Thousands	# of Hundreds	# of Tens	# of Ones
1	2 000 000					
2	1 200 000					
3	7 584 251					
4	1 945 328					
5	3 854 198					
6	2 050 187					
7	8 756 054					
8	7 681 382					
9	4 685 114					
10	6 820 047					

Part 2

Fill in the blanks with the missing number

- 1) $4\,624\,323 = 4\,000\,000 + 600\,000 + 20\,000 + \underline{\hspace{2cm}} + 300 + 20 + 3$
- 2) $3\,641\,781 = \underline{\hspace{2cm}} + 600\,000 + \underline{\hspace{2cm}} + 1\,000 + 700 + 80 + 1$
- 3) $2\,379\,458 = \underline{\hspace{2cm}} + 300\,000 + \underline{\hspace{2cm}} + 9\,000 + 400 + 50 + 8$
- 4) $6\,217\,523 = 6\,000\,000 + 200\,000 + 10\,000 + \underline{\hspace{2cm}} + 500 + \underline{\hspace{2cm}} + 3$
- 5) $8\,802\,489 = \underline{\hspace{2cm}} + 600\,000 + 0 + 2\,000 + \underline{\hspace{2cm}} + 80 + 9$

Name: _____

8

Commutative Extension
8.3

Expanded Form

2 328 372 •

Standard Form

 $2\,000\,000 + 300\,000 + 20\,000 + 8\,000 + 300 + 70 + 2$ •

Expanded Form

Part 1

What is the standard form of the numbers below?

1) $7\,000 + 500 + 30\,000 + 1\,000 + 400 + 80 + 2$ 2) $2\,000 + 50 + 700 + 10\,000 + 6\,000 + 300 + 70 + 6$ 3) $8\,000\,000 + 50\,000 + 200 + 400 + 80 + 9$ 4) $4\,000\,000 + 300\,000 + 1\,000 + 70 + 5$ 5) $6\,000\,000 + 400\,000 + 10\,000 + 500 + 3$

Part 2

What is the expanded form of the numbers?

1) 5 262 847

2) 2 465 447

3) 9 758 682

4) 7 158 318

5) 9 427 207

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?

$$3\,000\,000 + 700\,000 + 60\,000 + 1\,000 + 200 + 40 + 1$$

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

7 591 309

Name _____

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

$$3\,000\,000 + 700\,000 + 60\,000 + 1\,000 + 200 + 40 + 1$$

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

7 591 309

Name _____

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

$$3\,000\,000 + 700\,000 + 60\,000 + 1\,000 + 200 + 40 + 1$$

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

7 591 309

Name _____

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

$$3\,000\,000 + 700\,000 + 60\,000 + 1\,000 + 200 + 40 + 1$$

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

7 591 309

Name: _____

10

Curriculum Connection:
6.1

Written Form

1 - One	5 - Five	9 - Nine	13 - Thirteen	17 - Seventeen	30 - Thirty	70 - Seventy
2 - Two	6 - Six	10 - Ten	14 - Fourteen	18 - Eighteen	40 - Forty	80 - Eighty
3 - Three	7 - Seven	11 - Eleven	15 - Fifteen	19 - Nineteen	50 - Fifty	90 - Ninety
4 - Four	8 - Eight	12 - Twelve	16 - Sixteen	20 - Twenty	60 - Sixty	100 - Hundred

1000 - Thousand

100,000 - Million

Part 1 Write the standard form of the written words below

1) One hundred thirty-two thousand, five hundred fifty-eight	2) Five million, seven hundred sixty-three thousand, three hundred twelve
3) Two million, four hundred sixty-two thousand, nine hundred	4) Nine million, eight hundred thirty-two thousand, one hundred thirty-nine
5) Seven million, five hundred eighty-four thousand, one hundred ninety-nine	6) Three million, three hundred twelve thousand, one hundred sixty-two

Part 2 Write the written form of the number

1) 1 345 142
2) 4 527 351
3) 6 512 257
4) 2 464 495
5) 7 450 246

Standard Form

Words

Expanded Form

Place Value Chart

Millions	H. Thousands	T. Thousands	Thousands	Hundreds	Tens	Ones

Pictures

Name: _____

13

Decomposing Numbers
83

Decomposing Numbers



Questions

Decompose the numbers below

1)

2 8

--	--	--	--	--	--	--	--	--	--	--	--	--

2)

3 247 521

--	--	--	--	--	--	--	--	--	--	--	--	--

3)

4 734 419

4 138 243

--	--	--	--	--	--	--	--	--	--	--	--	--

5)

6 821 757

--	--	--	--	--	--	--	--	--	--	--	--	--

6)

95

--	--	--	--	--	--	--	--	--	--	--	--	--

7)

8 947 446

--	--	--	--	--	--	--	--	--	--	--	--	--

8)

6 325 891

--	--	--	--	--	--	--	--	--	--	--	--	--

9)

9 743 589

--	--	--	--	--	--	--	--	--	--	--	--	--

10)

3 294 215

--	--	--	--	--	--	--	--	--	--	--	--	--

Place Value - Number Breakdown

Questions

Fill in the blanks below

Number Breakdown

3 846 853

Write the value of the underlined digit

1) 3 846 853 = _____

2) 3 8 46 853 = _____

3) 3 846 853 = _____

4) 3 846 8 53 = _____

M	H	Th	H	T	O

Fill in the blank using the number form below

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

Fill in the pattern below

$$\underline{3\ 846\ 853} + \underline{\hspace{2cm}} + \underline{3\ 846\ 855} + \underline{\hspace{2cm}} + \underline{3\ 846\ 858}$$

Fill in the pattern below

$$\underline{3\ 846\ 853} + \underline{3\ 856\ 853} + \underline{\hspace{2cm}} + \underline{3\ 876\ 853}$$

Fill in the pattern below

$$\underline{3\ 846\ 853}, \underline{4\ 846\ 853}, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}, \underline{7\ 846\ 853}$$

Compare using <, =, or >

3 846 853 3 846 795

3 825 455 3 846 853

3 846 853 3 837 246

3 836 457 3 846 853

3 846 853 3 846 482

3 846 853	+ 1000	
3 846 853	+ 10 000	
3 846 853	+ 1 000 000	
3 846 853	- 100 000	
3 846 853	- 1 000 000	

Name: _____

20

Duration: 20 minutes

Comparing Numbers

3 218 625, 4 335 251, 3 118 323, 3 734 482

Least to Greatest

3 118 323, 3 218 625, 3 734 482, 4 335 251

3 245 871, 3 189 784, 4 324 845, 2 189 218

Greatest to Least

4 324 845, 3 245 871, 3 189 784, 2 189 218

Part 1 Order the numbers below from least to greatest

1 148 982, 1 151 658

2 694 152, 2 451 874

4 945 254, 3 955 452, 3 118 323

Part 2 Order the numbers below from greatest to

5 314 854, 5 341 785, 5 341 235, 5 314 824

7 264 872, 7 298 412, 7 299 452, 6 278 258

8 581 775, 8 538 785, 7 581 655, 8 538 999

Name: _____

21

Composites Semester
63

Place Value Chart

5 213 572 483

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

Instruction: Fill in the place value charts below

1) 3 521 785 244

Billions			Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones

2) 5 432 167 890

Billions			Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones

3) 9 237 891 345

Billions			Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones

4) 2 125 284 275

Billions			Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones

5) 8 348 547 941

Billions			Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones

Task Cards: Place Value

Objective

What are we learning about?

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

Materials

What you will need for the activity:

- 24 Task Cards for answers
- Pencils

1 2 3 4 5
6 7 8 9 0

Instructions

What you will do for the activity:

1. Begin by explaining 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 record their answers.
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 9:

My number has 5 billion, 8 hundred million, 7 hundred forty thousand, 3 tens, and 5 ones.

- a) 5,800,704,305
b) 5,800,740,035
c) 5,800,740,305

Card 13:

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

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

Card 14:

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

- a) 4,867,523,914
b) 4,867,523,914
c) 4,876,523,914

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

Card 11:

6,209,314,875

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

Card 15:

- a) $3,000,000,000 + 400,000,000 + 2,000,000 + 100,000 + 50,000 + 7,000 + 900 + 40 + 6$
b) $3,000,000,000 + 400,000,000 + 2,000,000 + 100,000 + 50,000 + 7,000 + 900 + 40 + 6$
c) $3,000,000,000 + 400,000,000 + 2,000,000 + 100,000 + 50,000 + 7,000 + 900 + 40 + 6$

Card 12:

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

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

Card 16:

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

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

Task Cards

Cut out the task cards below

Card 17:

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

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

Card 21:

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

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

Card 22:

$6,000,000,000 + 800,000,000 + 90,000,000 + 4,000,000 + 500,000 + 30,000 + 7,000 + 600 + 40 + 8$

- a) 6,428,357,964
b) 6,428,357,964
c) 6,482,357,964

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

Card 19:

4,706,289,154

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

Card 23:

4,993,201

- a) $4,000,000,000 + 900,000,000 + 60,000,000 + 3,000 + 20 + 1$
b) $4,000,000,000 + 900,000,000 + 60,000,000 + 7,000 + 30,000 + 100 + 90,000 + 3,000 + 20 + 1$
c) $4,000,000,000 + 500,000,000 + 60,000,000 + 7,000,000 + 800,000 + 90,000 + 3,000 + 20 + 1$

Card 20:

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

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

Card 24:

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

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

Name: _____

31

Composites Extension
82**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

Name: _____

37

 Date: _____
 Page: _____

Place Value Quiz

Part 1 Fill in the place value charts below

1) 1 363 635

2) 3 352 399

M	H Th	T Th	Th	H	T	O

M	H Th	T Th	Th	H	T	O

Part 2 What is the value of the underlined number?
1) 2 1 32 5162) 4 2 6 683) 4 342 6 584) 3 514 2 485) 4 2 3 56) 4 762 1 34
Part 3 Fill in the table below

	Number	# of Millions	# of Thousands	# of Hundreds	# of Tens	# of Ones
1	3 194 325					
2	6 418 474					
3	9 873 126					

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

1) 4 000 000 + 300 000 + 20 000 + 7 000 + 100 + 40 + 7

2) 8 000 000 + 900 000 + 80 000 + 4 000 + 500 + 30 + 8

Part 5

What is the expanded form of the numbers below?

1) 3 372 285

2) 7 512 383

3) 8 784 178

Part 6

Write the standard form of the written words below

1) Four million, three hundred seventy-six thousand, two hundred eighty-four

2) Nine million, seven hundred eighty-nine thousand, two hundred seventy-four

Part 7

Write the written form of the numbers below

1) 2 337 284

2) 5 716 517

3) 8 347 628

Part 8

Solve the riddles

Amanda's number has:

- 2 ones
- Double the number of hundreds than ones
- Half as many thousands as ones
- 3 less hundred thousands than hundreds
- 6 millions
- Half as many ten thousands than millions
- The same number of tens than hundred thousands

Answer

Place Value Using Decimals

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

PLACE VALUE

9	3	1	.	6	4	2
Thousands	Hundreds	Ones	Decimal	Tenths	Hundredths	Thousandths

Part 1

What is the place value for the underlined number?

1) 7 72 <u>8</u> 122	3) 4 352.427	4) 1 713.688
5) 6 412.433	6) 2 454.72 <u>6</u>	7) 5 126
9) 2 364.521	10) 7 247.711	11) 2 479.542

Part 2

Fill in the place value table for the numbers below.

1) 5 731.538

Thousands	Hundreds	Tens	Ones	Decimal	Tenths	Hundredths	Thousandths

2) 3 272.319

Thousands	Hundreds	Tens	Ones	Decimal	Tenths	Hundredths	Thousandths

Name: _____

46

Rounding Worksheet
v.1**Rounding Decimal Numbers to the Nearest Tenth**

Round Down

Round Up

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

Rounding to the nearest tenth

 $0.73 \rightarrow 0.7$ $24.45 \rightarrow 24.5$ **Part 1** Round the following decimal number to the nearest tenth1) $0.41 \rightarrow$ _____2) $0.57 \rightarrow$ _____3) $0.32 \rightarrow$ _____4) $0.68 \rightarrow$ _____5) $0.91 \rightarrow$ _____6) $0.94 \rightarrow$ _____7) $0.86 \rightarrow$ _____8) $0.63 \rightarrow$ _____9) $0.76 \rightarrow$ _____**Part 2**

Round the following decimal numbers to the nearest tenth

1) $3.61 \rightarrow$ _____2) $4.18 \rightarrow$ _____3) $8.5 \rightarrow$ _____4) $9.24 \rightarrow$ _____5) $3.42 \rightarrow$ _____6) $11.59 \rightarrow$ _____7) $14.37 \rightarrow$ _____8) $12.73 \rightarrow$ _____9) $15.95 \rightarrow$ _____10) $22.43 \rightarrow$ _____11) $41.58 \rightarrow$ _____12) $36.39 \rightarrow$ _____13) $48.41 \rightarrow$ _____14) $51.84 \rightarrow$ _____15) $82.27 \rightarrow$ _____

Name: _____

48

Rounding Decimals
48**Rounding Decimal Numbers - Nearest Hundredths**

Round Down

Round Up

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

Rounding to the nearest hundredth

 $0.753 \rightarrow 0.75$ $22.745 \rightarrow 22.75$ **Part 1** Round the following decimal number to the nearest hundredth.1) $0.615 \rightarrow$ _____ $\rightarrow$ _____3) $0.238 \rightarrow$ _____4) $0.393 \rightarrow$ _____ $\rightarrow$ _____6) $0.296 \rightarrow$ _____7) $0.248 \rightarrow$ _____8) $0.939 \rightarrow$ _____9) $0.997 \rightarrow$ _____**Part 2** Round the following decimal number to the nearest hundredth.1) $3.604 \rightarrow$ _____2) $4.538 \rightarrow$ _____3) $2.7 \rightarrow$ _____4) $7.407 \rightarrow$ _____5) $6.148 \rightarrow$ _____6) $9.626 \rightarrow$ _____7) $11.284 \rightarrow$ _____8) $16.932 \rightarrow$ _____9) $21.263 \rightarrow$ _____10) $27.968 \rightarrow$ _____11) $33.820 \rightarrow$ _____12) $47.427 \rightarrow$ _____13) $58.749 \rightarrow$ _____14) $64.289 \rightarrow$ _____15) $89.599 \rightarrow$ _____

Comparing Decimals – Different Place Values

Part 1

Compare the following numbers.

1) 0.15 0.112

6) 2.56 2.1

2) 0.321

7) 5.84 5.822

3) 0.19

8) 8.96 8.992

4) 0.457

11.52 11.247

5) 0.571 0.59

10) 15 15.32

Part 2

Answer the word problems below.

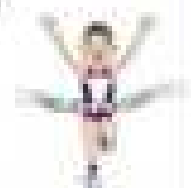
- 1) Joe makes 0.412 three-pointers he takes. Adam makes 0.41 three-pointers he takes. If they both took 100 three pointers, who would make more?



- 2) Willow and Stella measure the length of their pencils. Willow's pencil is 12.531cm long and Stella's pencil is 12.54cm long. Whose pencil is longer?



- 3) It took Jayden 14.385 seconds to run 100m. Luke ran the 100m race in 14.39 seconds. Who ran it faster?



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) ☐ 0.212

2) ☐ 0.452 ☐ 0.421

3) ☐ 0.602 ☐ 0.61

4) ☐ 0.451 ☐ 0.45

5) ☐ 0.871 ☐ 0.901

Name _____

Compare the following numbers

1) ☐ 0.25 ☐ 0.212

2) ☐ 0.452 ☐ 0.421

3) ☐ 0.602 ☐ 0.61

4) ☐ 0.451 ☐ 0.45

5) ☐ 0.871 ☐ 0.901

Name _____

Compare the following numbers

1) ☐ 0.25 ☐ 0.212

2) ☐ 0.452 ☐ 0.421

3) ☐ 0.602 ☐ 0.61

4) ☐ 0.451 ☐ 0.45

5) ☐ 0.871 ☐ 0.901

Name _____

Compare the following numbers

1) ☐ 0.25 ☐ 0.212

2) ☐ 0.452 ☐ 0.421

3) ☐ 0.602 ☐ 0.61

4) ☐ 0.451 ☐ 0.45

5) ☐ 0.871 ☐ 0.901

Name: _____

57

Ordering Decimals
v.1

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, 0.12, 0.357, 0.113

2) 0.427, 0.159, 0.428, 0.406

3) 0.641, 0.12, 0.113, 0.357

4) 1.454, 2.426, 1.408, 2.616

5) 11.464, 11.483, 24.265, 24.512

6) 51.114, 51.128, 51.113

Part 2

Order the numbers below from greatest to least

1) 0.625, 0.661, 0.673, 0.612

2) 0.332, 0.338, 0.334, 0.336

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

Name: _____

59

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) 7 728.1222) 1 563.423) 6.724) 1 713.6885) 6 412.4336) 2 454.7237) 6.788) 357.926

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 questions.

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

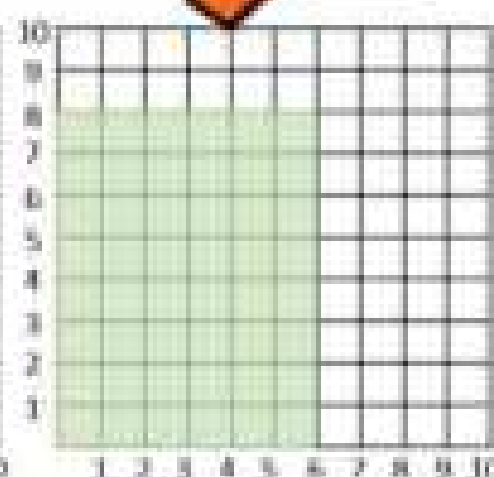
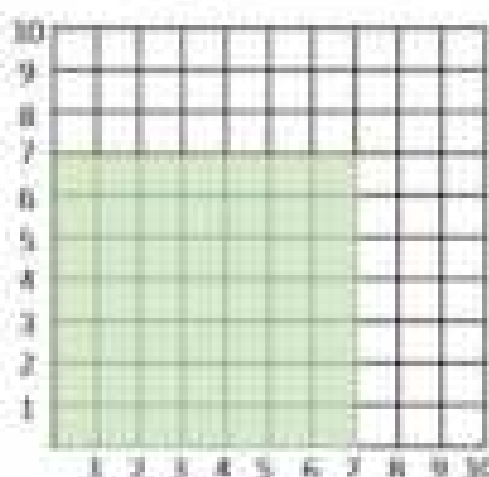
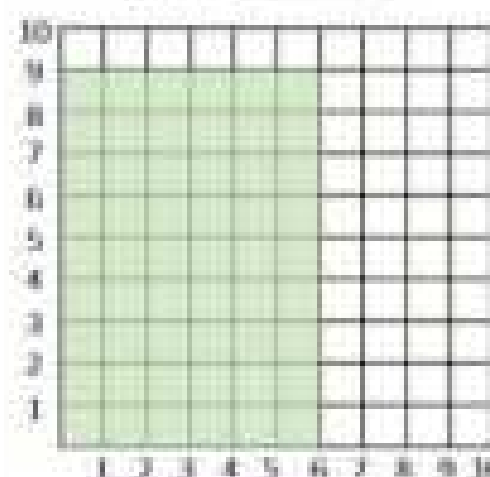
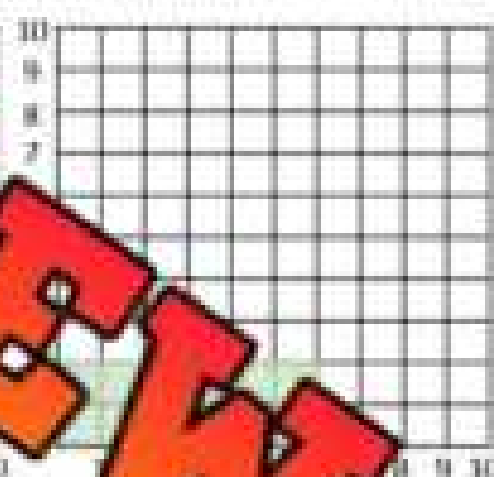
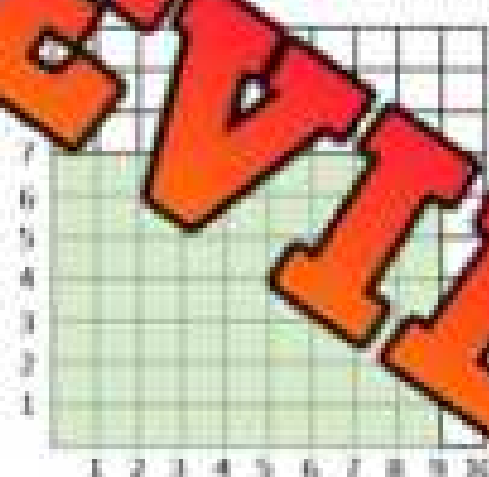
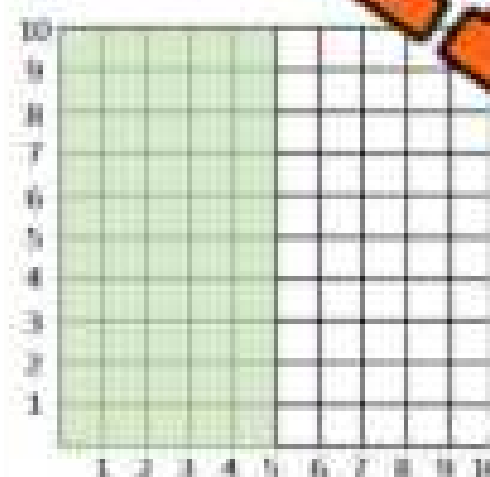
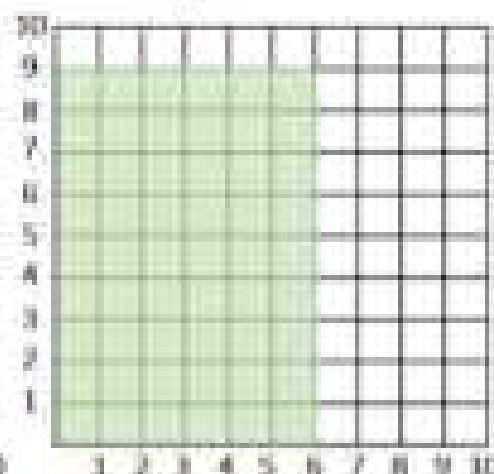
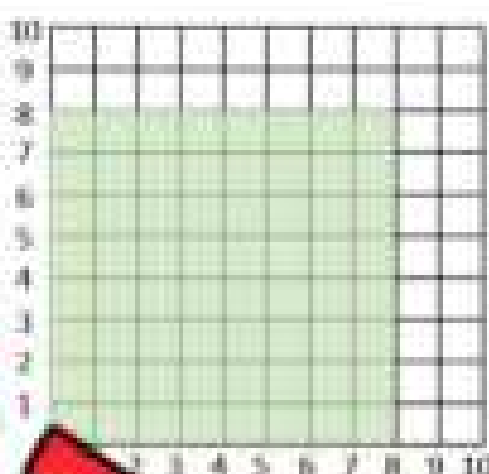
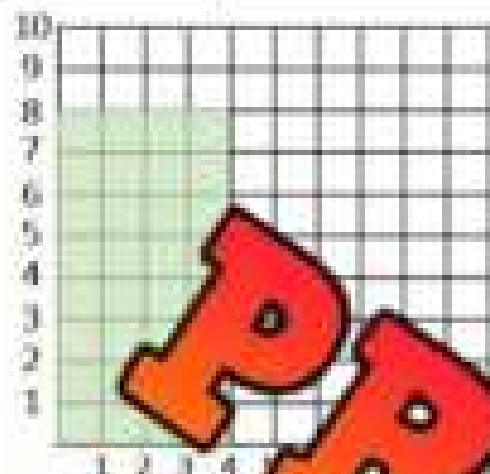
- 2) Nicole's watch weighs 29.398 grams and Ashley's watch weighs 29.39 grams. Who has the heavier watch?

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



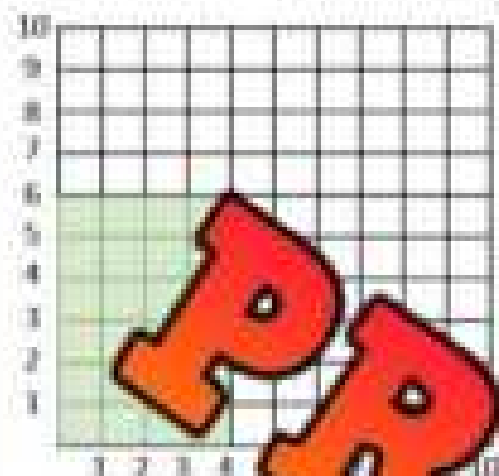
Multiplication - Arrays**Questions**

How much is shaded in? Answer the questions below

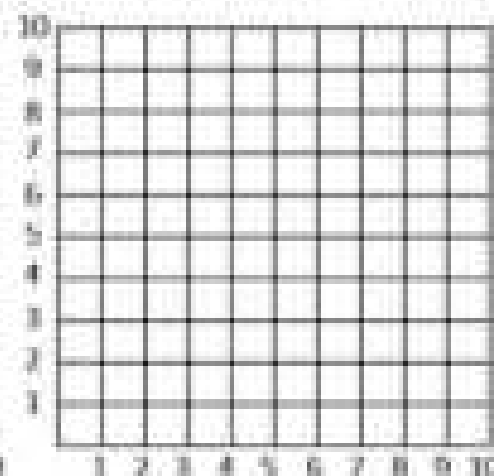
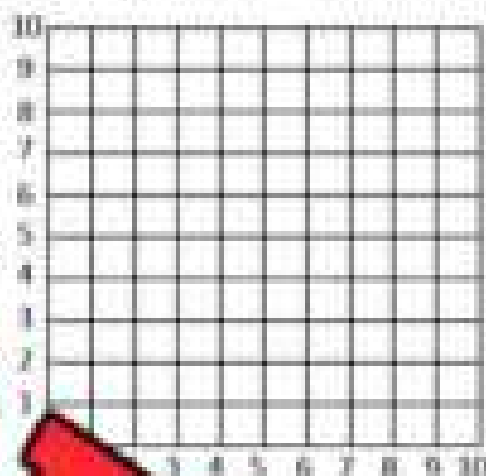


Multiplication - Arrays**Questions**

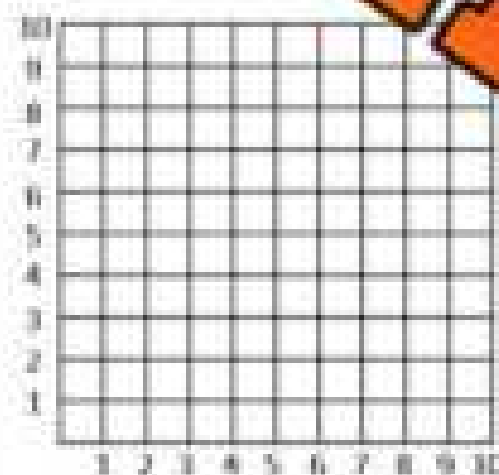
Shade in the arrays using the table. Answer the questions below



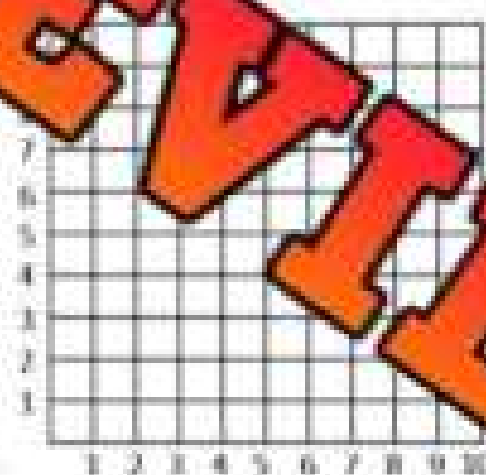
$4 \times 4 =$ _____



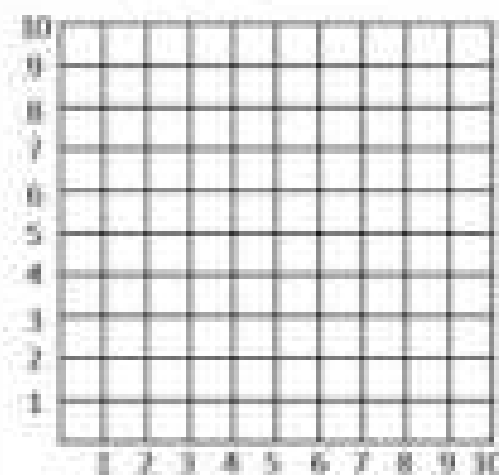
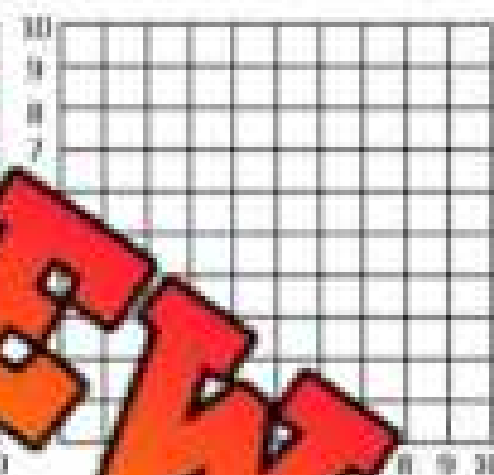
$7 \times 8 =$ _____



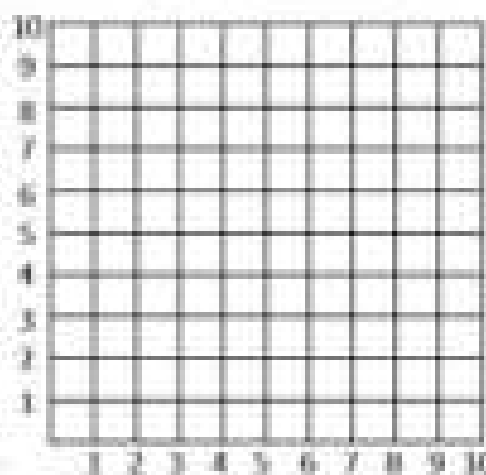
$4 \times 7 =$ _____



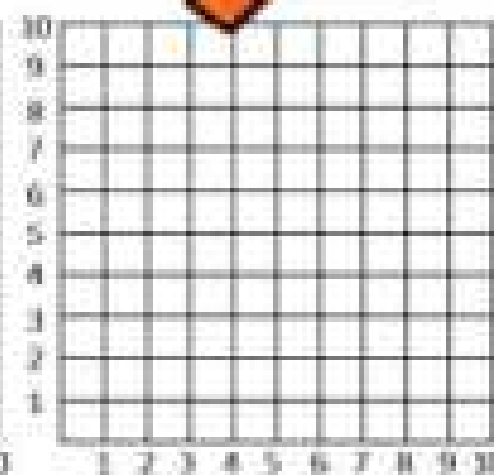
$9 \times 3 =$ _____



$6 \times 5 =$ _____



$6 \times 6 =$ _____



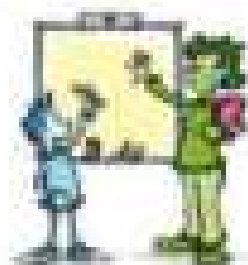
$9 \times 5 =$ _____

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

8×7

9×9

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

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



18×6

16×7

19×6

16×6

15×8

17×9

Mental Math - Multiplication – Doubling and Halving**Directions**

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

Example

$$\begin{array}{l} 14 \times 4 \\ \text{Option 1: } 28 \times 2 \text{ or Option 2: } 7 \times 8 \\ \downarrow \qquad \qquad \downarrow \\ 56 \qquad \qquad 56 \end{array}$$



PREVIEW

16×6

18×6

18×4

20×8

14×4

14×8

18×5

19×3

17×4

Exit Cards

Cut Out

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

Name: _____

Multiplication - Doubling and Halving

1) 13×10

2) 18×6

Name: _____

Multiplication - Doubling and Halving

1) 13×10

2) 18×6

Name: _____

Multiplication - Doubling and Halving

1) 13×10

2) 18×6

Name: _____

Multiplication - Doubling and Halving

1) 13×10

2) 18×6

Name: _____

74

Duration: 10 minutes
v.2

Multiplication Drills – 5s and 6s

Questions

Solve as many problems as you can before the time runs out!

36

PREVIEW

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$$

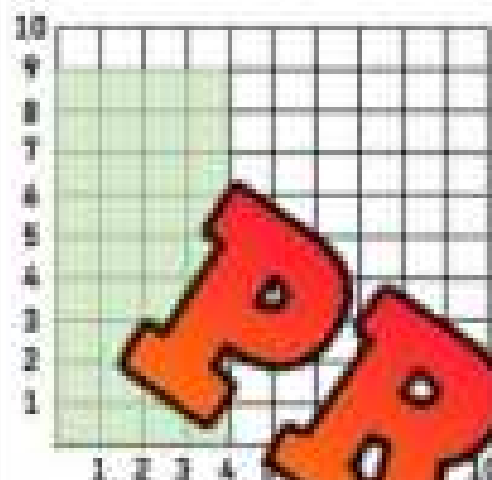
$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$$

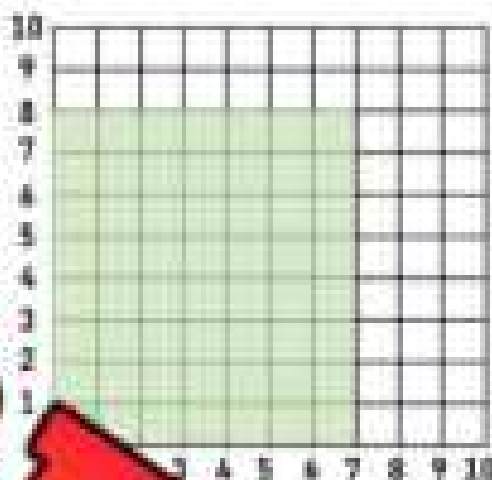
$$\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$$

Division - Arrays**Questions**

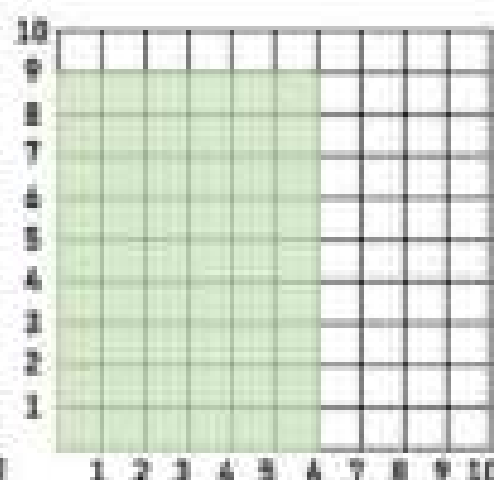
How is the shaded in area divided?



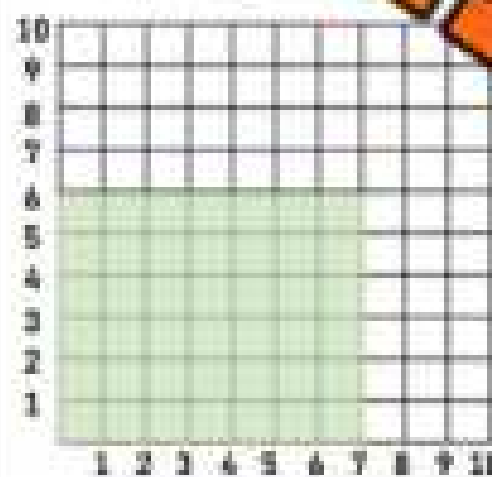
$36 \div 4 = \underline{\quad}$



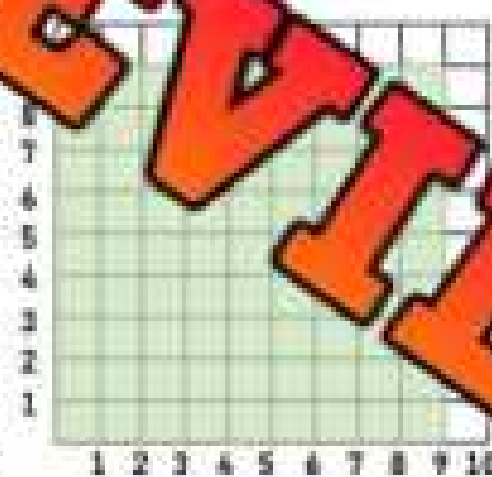
$48 \div 6 = \underline{\quad}$



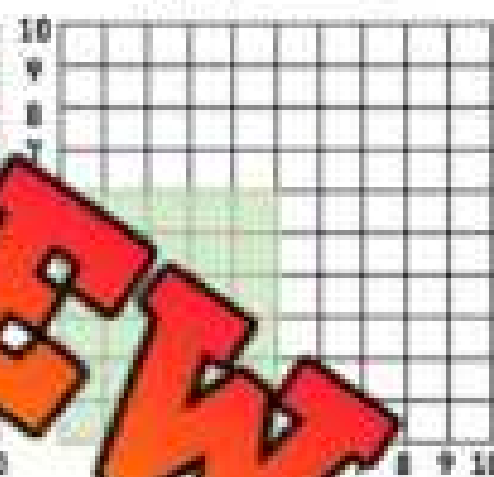
$54 \div 6 = \underline{\quad}$



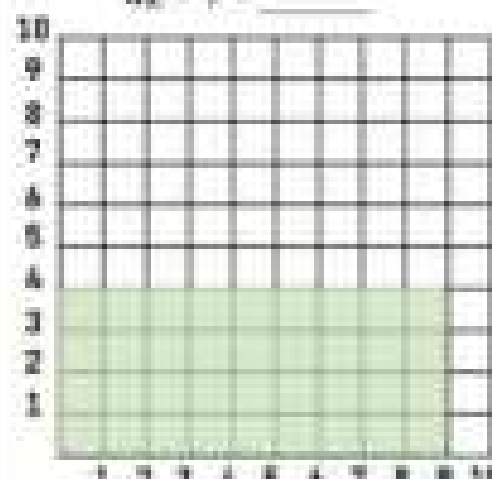
$42 \div 7 = \underline{\quad}$



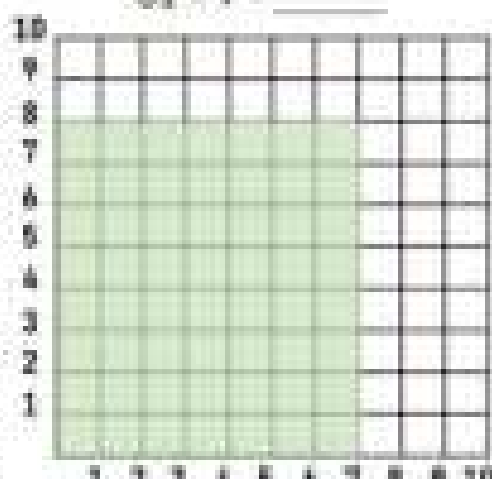
$81 \div 9 = \underline{\quad}$



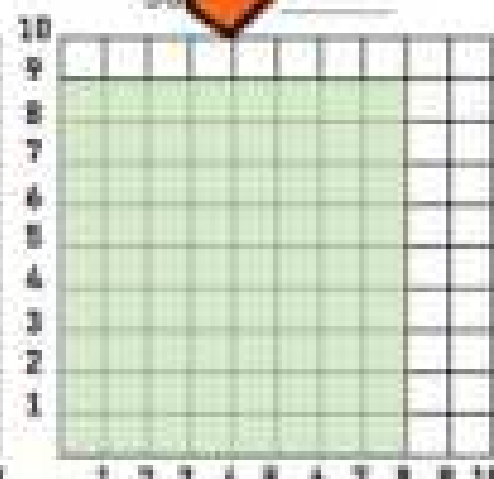
$30 \div 5 = \underline{\quad}$



$36 \div 6 = \underline{\quad}$



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

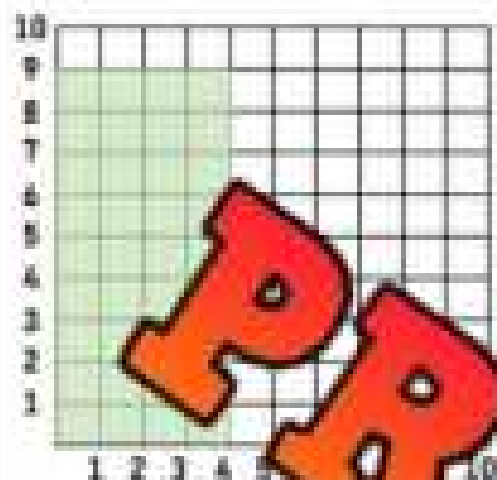


$72 \div 9 = \underline{\quad}$

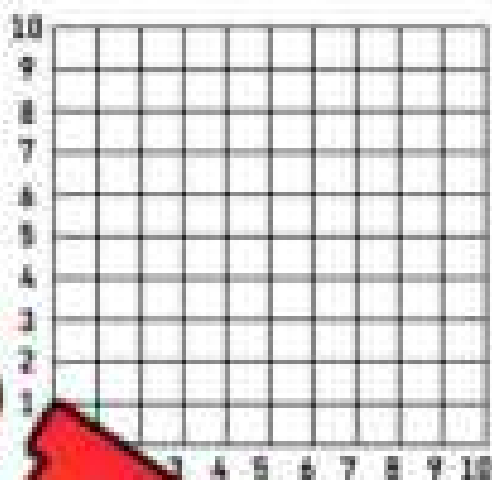
Division - Arrays

Instructions

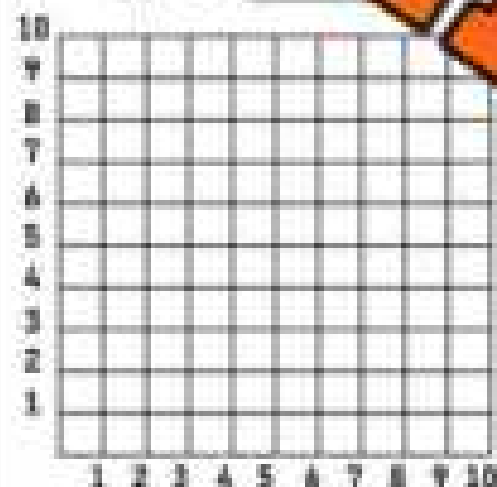
Shade in the arrays using the table. Answer the questions below



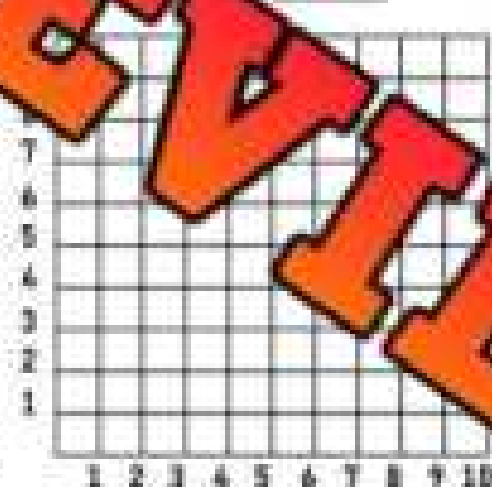
$36 \div 4 = \underline{\quad}$



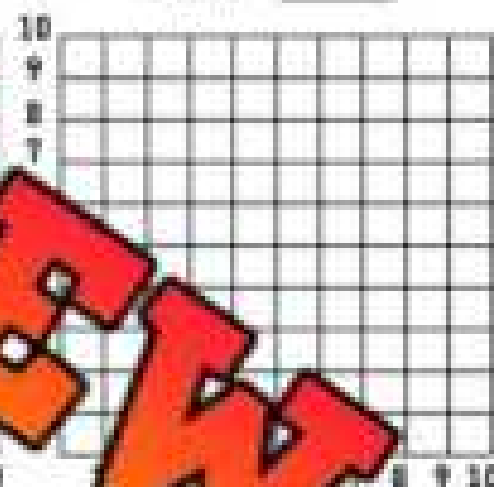
$54 \div 6 = \underline{\quad}$



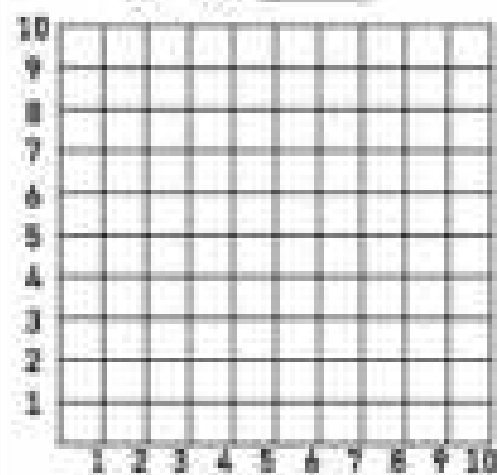
$48 \div 8 = \underline{\quad}$



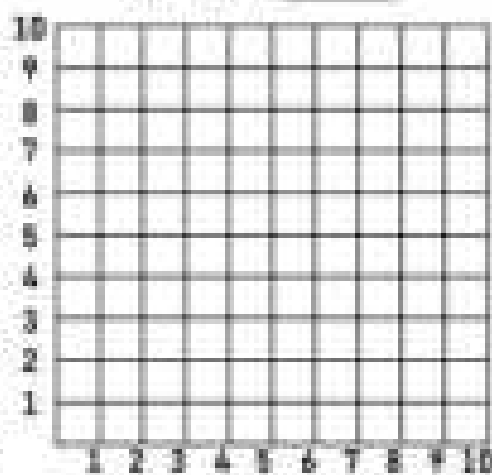
$90 \div 10 = \underline{\quad}$



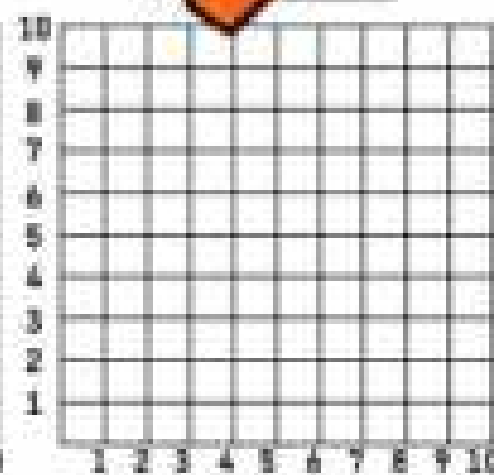
$28 \div 4 = \underline{\quad}$



$18 \div 3 = \underline{\quad}$



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



$40 \div 5 = \underline{\quad}$

Name: _____

87

Division Facts
#2**Division Facts – 7, 8, and 9****Instructions**

Solve the division equations below

÷ 7	÷ 8	÷ 9
$7 \div 7 =$	$8 \div 8 =$	$9 \div 9 =$
	$16 \div 8 =$	$18 \div 9 =$
$21 \div 7 =$	$24 \div 8 =$	$27 \div 9 =$
$28 \div 7 =$	$32 \div 8 =$	$36 \div 9 =$
$35 \div 7 =$	$40 \div 8 =$	$45 \div 9 =$
$42 \div 7 =$	$48 \div 8 =$	$54 \div 9 =$
$49 \div 7 =$	$56 \div 8 =$	$63 \div 9 =$
$56 \div 7 =$	$64 \div 8 =$	$72 \div 9 =$
$63 \div 7 =$	$72 \div 8 =$	$81 \div 9 =$
$70 \div 7 =$	$80 \div 8 =$	$90 \div 9 =$

Activity: Multiplication and Division Race

Objective

What are we learning about?

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

Materials: What you will need for the activity.

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



Instructions

How you will complete the activity

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

Name: _____

92

Maths Revision
92

Math Cards

Cut out the math cards below

$$10 \times 220$$

$$700 \div 10$$

$$300 \div 3$$

$$5 \times 300$$

$$300 \div 5$$

$$10 \times 240$$

$$900 \div 10$$

$$2 \times 500$$

$$800 \div 2$$

PREVIEW

Math Cards

Cut out the math cards below

$$5 \times 320$$

$$100 \div 5$$

$$420 \div 10$$

$$2 \times 550$$

$$10 \div 2$$

$$5 \times 350$$

$$600 \div 6$$

$$10 \times 280$$

$$850 \div 10$$

PREVIEW

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

PREVIEW

$85 \div 5$

$72 \div 4$

$84 \div 6$

$105 \div 5$

1

$112 \div 8$

$114 \div 6$

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

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



$72 \div 6$

$68 \div 4$

$150 \div 6$

$120 \div 4$

$208 \div 8$

$189 \div 7$

$198 \div 6$

Exit Cards

Cut Out

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

Name: _____

Division - Splitting Up The Dividend

1) $105 \div 5$

2) $225 \div 9$

Name: _____

Division - Splitting Up The Dividend

1) $105 \div 5$

2) $225 \div 9$

Name: _____

Division - Splitting Up The Dividend

1) $105 \div 5$

2) $225 \div 9$

Name: _____

Division - Splitting Up The Dividend

1) $105 \div 5$

2) $225 \div 9$

Name: _____

97

Duration: 10 minutes
v.2

Division Practice – 1 and 2

Questions

Solve as many problems as you can before the time runs out!

36

$\frac{2}{\pm 1}$	$\frac{4}{\pm 2}$	$\frac{8}{\pm 2}$	$\frac{5}{\pm 1}$	$\frac{2}{\pm 2}$	$\frac{2}{\pm 1}$
$\frac{12}{\pm 2}$	$\frac{14}{\pm 2}$	$\frac{8}{\pm 1}$	$\frac{2}{\pm 1}$		
$\frac{9}{\pm 1}$	$\frac{16}{\pm 2}$	$\frac{8}{\pm 1}$	$\frac{10}{\pm 1}$	$\frac{2}{\pm 2}$	
$\frac{2}{\pm 1}$	$\frac{1}{\pm 1}$	$\frac{18}{\pm 2}$	$\frac{6}{\pm 2}$	$\frac{6}{\pm 1}$	
$\frac{6}{\pm 2}$	$\frac{2}{\pm 1}$	$\frac{8}{\pm 2}$	$\frac{4}{\pm 2}$	$\frac{12}{\pm 2}$	$\frac{16}{\pm 2}$
$\frac{2}{\pm 2}$	$\frac{14}{\pm 2}$	$\frac{3}{\pm 1}$	$\frac{6}{\pm 2}$	$\frac{5}{\pm 1}$	$\frac{1}{\pm 1}$

Mixed Operations - BEDMAS

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

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

Example 2

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

$$9 - 3 + 3 =$$

$$9 - 1 = 8$$

Instructions

Solve the equations using BEDMAS

1) $3 + (4 \times 5) =$

4) $(12 \div 6) \times 3 =$

7) $24 \div 6 + (4 + 10) =$

10) $25 - 15 \div 5 =$

2) $11 -$

5) $12 + (2 + 10) =$

8) $17 - 2 \times 5 =$

11) $22 - 6 + 5 =$

3) $(8 \times 4) + (4 + 2) =$

6) $9 + (3) =$

9) $25 + (5 \times 5) =$

12) $18 - 5 + (6 \times 8) =$

Mixed Operations - BEDMAS

Instructions

Find out the value of the variables using BEDMAS.

1) $1 \times (2 + 8) =$	2) $3 \times (6 - 4) =$	3) $8 \times 4 + (13 + 8) =$
4) $(7 + 5) \times 3 =$	5) $9 - 4 + (4 \times 9) =$	6) $5 \times (4 + 5) =$
7) $36 \div (3 + 3) =$	8) _____	9) $28 + (9 + 3) =$
10) $2 \times (28 + 7) =$	11) $42 \div (3 \times 4) + 7 =$	12) $5 + 9 \times (2 + 1) =$

Word Problems

Answer the word problems below

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

$$\$2.50 + \$2.00 \times 2 = ?$$

$$\$4.50 \times 2 = \$9.00$$



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



Order of Operations – Who's Right?**Questions** Sophia and Aiden both answered the questions below. Circle who's right

	Question	Sophia's Answer	Aiden's Answer
1	$2 + 6 \times 4 + 12$	44	38
2	$12 \div 3$	4	24
3	$12 \div (2 + 3)$	0	18
4	$5 \times 3 + 8 + 1$	29	11
5	$12 + 3 \times (5 + 5)$	25	40
6	$20 + (8 - 3) \times 2$	30	
7	$10 \times 3 - (2 \times 5) - 2$	22	18
8	$25 + 5 + 6 \times 3$	23	33
9	$48 \div 6 - (2 + 3)$	48	3
10	$3 + 6 \times 7 + 11 - 6 \div 2$	53	34

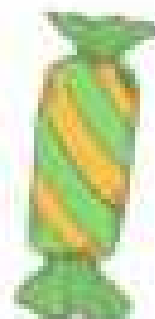
Order of Operations – Candy Shop

Word Problems

Write the equation for the situations below and answer the question

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

Candy	Price in Cents
Gum	25
Gummies	5
Candies	10

**Example**

Miranda bought 2 pieces of gum, 4 gummies, and 5 candies. How many cents did she spend?

Answer: $(2 \times 25) + (4 \times 5) + (5 \times 10) = 100$

- 1) Ava bought 3 pieces of gum, 8 gummies, and 2 candies. How many cents did she spend?
- 2) Neil had 100 cents. He bought 5 gummies and 6 candies. How many cents does he have left?
- 3) Dan purchased 4 pieces of gum, 9 gummies, and 3 candies. How many cents did he spend?
- 4) Claire had 150 cents. She bought 3 pieces of gum, 3 candies, and 6 gummies. How much does she have left?

Introduction to Factors

Instructions

List all of the factors for the numbers below

1) 12 _____

2) _____

3) 21 _____

4) 16 _____

5) 43 _____

6) 29 _____

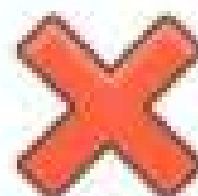
7) 6 _____

8) 10 _____

9) 15 _____

10) 20 _____

PREVIEW



Finding Prime and Composite Numbers

Part 1

Follow the directions below



1) Circle the prime numbers below

11	15	7	18	3	5
17	19	33	49	52	45
67	90	81	74		

2) Circle the composite numbers below

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

Part 2

Write the numbers from the pair under the correct label

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

Prime vs Composite Numbers

Instructions:

Colour prime numbers one colour and composite numbers a different colour



Type of Number	Colour
Composite Number	
Prime Number	



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Name: _____

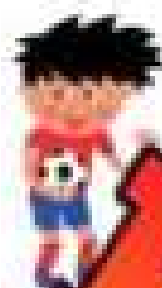
119

Elementary Education
K-4

Prime Number Maze

Instructions

Help Brayden get to the park by colouring a prime number path



PREVIEW

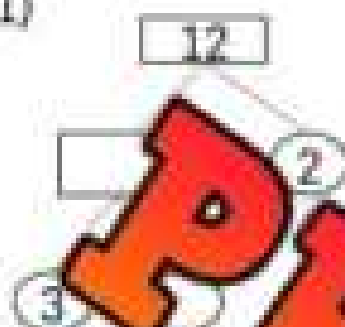
	57	28	91	81	6	39	12	55
	12	75	18	91	48	28	42	62
44	11	9	4	46	60	21	32	95
75	43	51	8	7	78	24	51	86
96	53	29	17	26	87	96	25	44
91	92	74	31	60	91	44	48	50
65	95	46	61	38	97	53	61	66
52	34	68	7	57	79	57	55	97
82	38	62	5	3	19	68		
93	50	60	86	99	90	60		

Prime Factor Trees

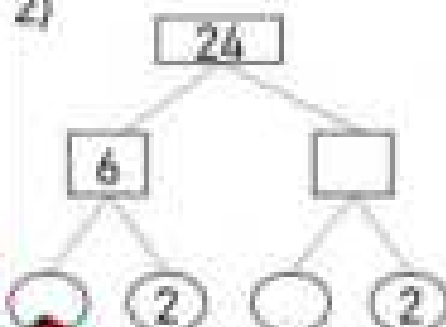
Instructions

Fill in the factor trees below

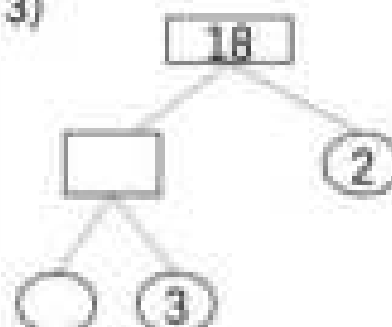
1)



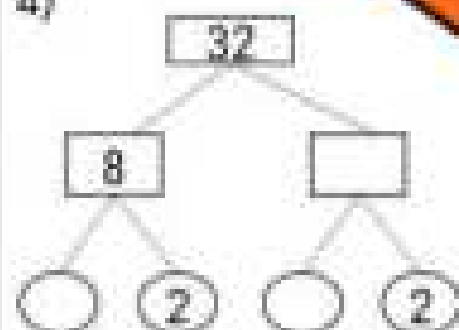
2)



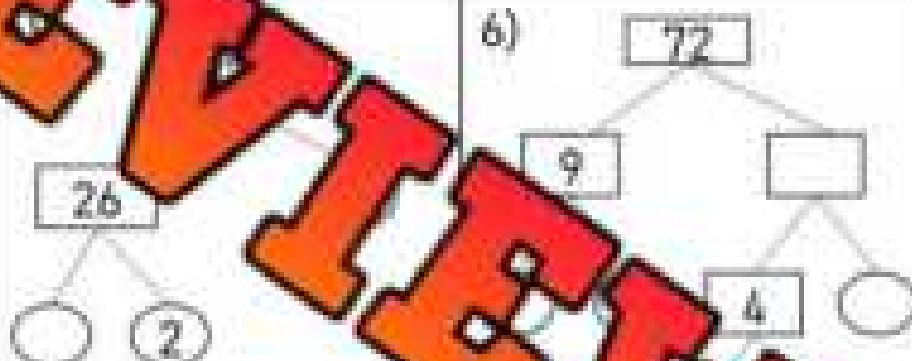
3)



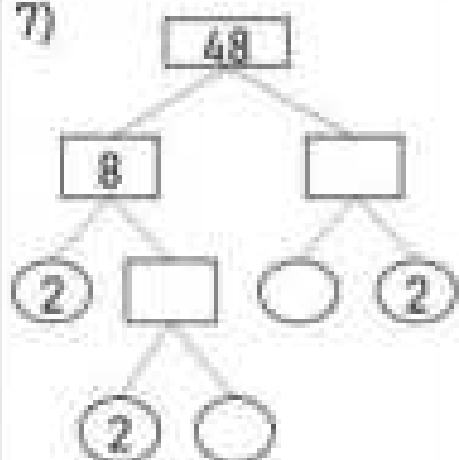
4)



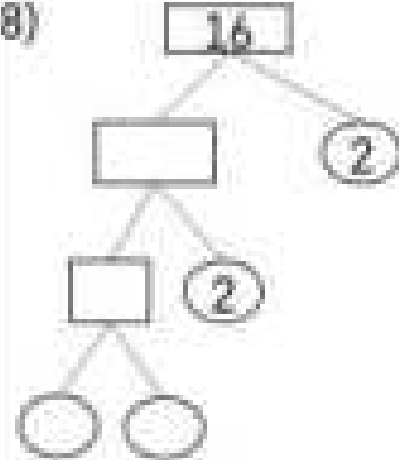
6)



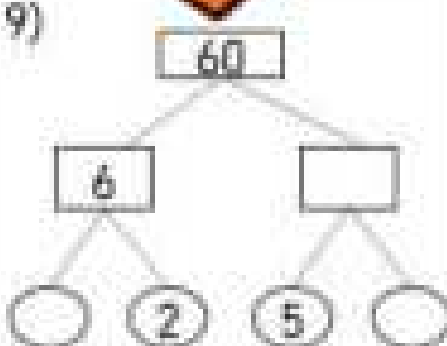
7)



8)



9)



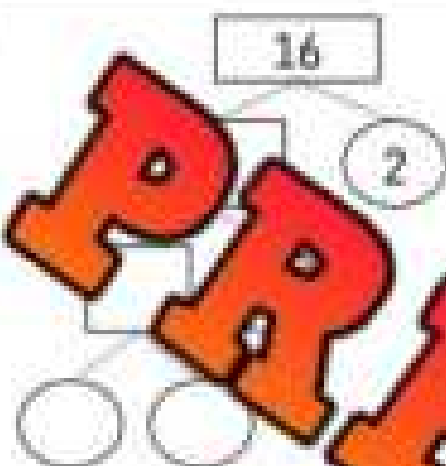
Prime Factor Trees

Instructions

Fill in the factor trees differently for the same number

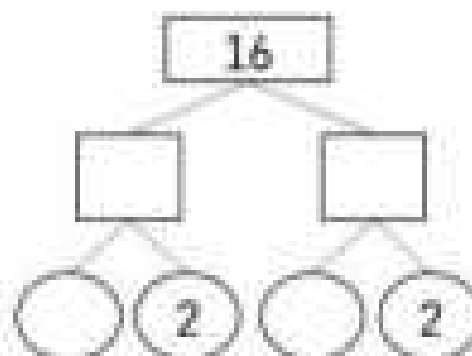


1)



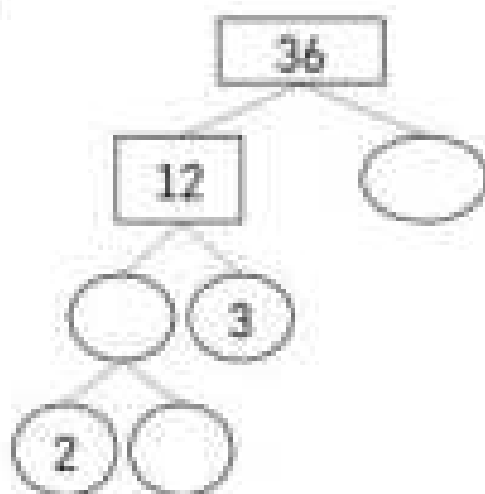
Equation

2)



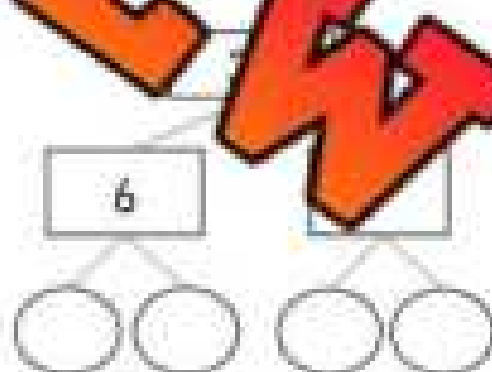
Equation

3)



Equation

4)



Equation

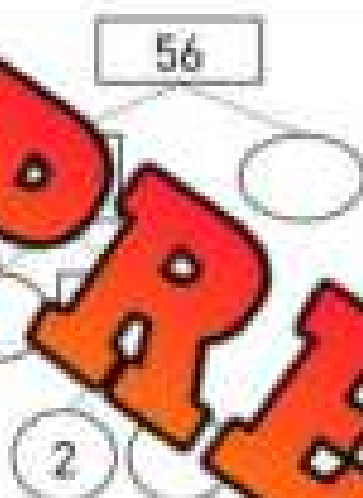
Prime Factor Trees

Instructions

Fill in the factor trees differently for the same number

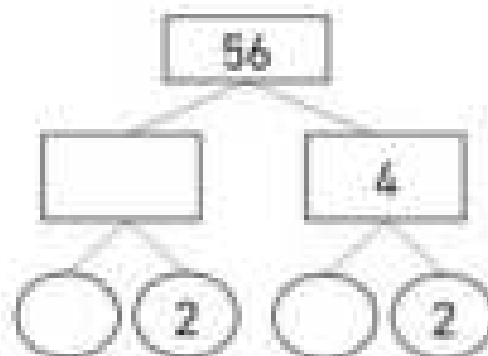


1)



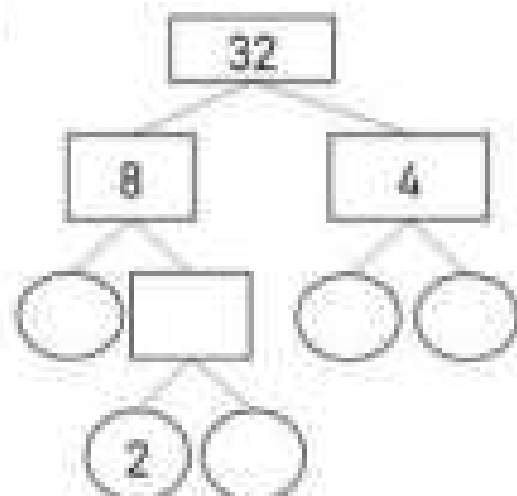
Equation

2)



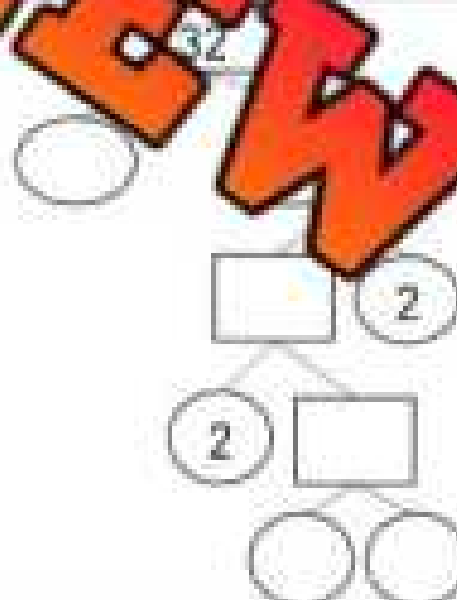
Equation

3)



Equation

4)



Equation

Name: _____

125

Elementary Education
6.4

Prime Factor Trees

Instructions

Draw your own factor trees below



1)

42

2)

16

3)

78

68

5)

50

6)

72

PREVIEW

Exit Cards

Cut Out

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

Name: _____

Draw your own factor trees below.

84

Name: _____

Draw your own factor trees below.

84

Name: _____

Draw your own factor trees below.

84

Name: _____

Draw your own factor trees below.

84

PREVIEW

Name: _____

127

Curriculum Connection:
6.2

Greatest Common Factor

Instructions

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

1)

12

18

2)

15

25

GCF =

3)

35

28

GCF =

4)

16

5

GCF =

5)

32

48

GCF =

6)

24

16

GCF =

7)

16

48

GCF =

8)

27

9

GCF =

9)

54

36

GCF =

10)

64

56

GCF =

Greatest Common Factor - Riddle

Questions

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

The more you take, the more you leave behind. What am I?

4	12	24	3	15	25	5	

S (15, 20)	(48, 56)	P (50, 75)
T (48, 36)	F (16, 28)	D (40, 4)
S (48, 72)	T (9, 15)	E (60, 45)

Lowest Common Multiple (LCM)

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

Steps:

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

Example

(3, 10)

3 = 3

10 =

6, 9, 12, 15, 18, 21, 24, 27, 30

Answer - The LCM is 30

Instructions

Find the lowest common multiple (LCM) of the numbers below

1) (4, 10)

2) (3, 6)

3) (2, 5)

4) (6, 8)

5) (5, 6)

6) (8, 10)

7) (9, 4)

8) (9, 6)

9) (10, 6)

Name: _____

131

Equivalent Fractions
6.2

Lowest Common Multiple - Riddle

Instructions

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

U

LCM of 3 and 4

R

LCM of 9 and 21

V

LCM of 3 and 6

Y

LCM of 7 and 6

O

LCM of 4 and 10

M

LCM of 4 and 14

N

LCM of 6 and 8

A

LCM of

What belongs to you but is used more by your friends

42

20

12

63

24

18

21

28

Name: _____

132

Equivalent Fractions
4.2**LCM and GCF - Riddle****Instructions:**

Find the lowest common multiple (LCM) of the numbers below

☐ E GCF of 15 and 60☐ R LCM of 4 and 6☐ LCM of 14 and 4☐ A GCF of 77 and 33☐ P GCF of 18 and 45☐ LCM of 9 and 15☐ I GCF of 14 and 77☐ M LCM of

If you don't keep me, I'll break. What am I?

11

9

12

45

44

7

14

15

Divisibility Rules

We can determine whether one whole number is divisible by another without doing division. We can use the following divisibility rules:

- A number is divisible by **2** if the last digit is even (0, 2, 4, 6, or 8)
- A number is divisible by **3** if the sum of the digits is divisible by 3
- A number is divisible by **4** if the last two digits form a number divisible by 4
- A number is divisible by **5** if the last digit is 0 or 5
- A number is divisible by **6** if the number is divisible by both 2 and 3
- A number is divisible by **8** if the number formed by its last three digits is divisible by 8
- A number is divisible by **9** if the sum of the digits is divisible by 9
- A number is divisible by **10** if the last digit is a 0

Instruction

For each number on the left, place a checkmark under the numbers it is divisible by.

Number	2	3	4	6	8	9	10
1) 65							
2) 20							
3) 105							
4) 81							
5) 120							
6) 548							
7) 423							
8) 657							

Name: _____

134

Divisibility Worksheet
6.4

Divisibility Rules – 2 and 3

We can determine whether one whole number is divisible by another without doing division. We can use the following divisibility rules:

- A number is divisible by 2 if the last digit is even (0, 2, 4, 6, or 8)
- A number is divisible by 3 if the sum of the digits is divisible by 3

Part 1: Is the number divisible by 2?

- | | |
|----------------|----------------|
| 1) _____ | 2) 953 _____ |
| 3) 2 682 _____ | 4) 8 696 _____ |

Part 2: Is the number divisible by 3?

- | | |
|----------------|--------------|
| 1) 268 _____ | 2) _____ |
| 3) 1 458 _____ | 4) 428 _____ |

Part 3: Which numbers are divisible by 2? Circle them.

41	58	162	247	358	475	583
685	714	805	901	1 025	1 714	2 058

Part 4: Which numbers are divisible by 3? Circle them.

73	58	84	105	215	324	515
645	683	729	806	1358	2355	5484

Exit Cards

Cut Out

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

Name: _____

Is the number divisible by 2 or 3?

	Number	Divisible by 2?	Divisible by 3?
1)	5 002		
2)	3 789		
3)	8 136		
4)	10 046		
5)	7 815		
6)	18 029		

Name: _____

Is the number divisible by 2 or 3?

	Number	Divisible by 2?	Divisible by 3?
1)	5 002		
2)	3 789		
3)	8 136		
4)	10 046		
5)	7 815		
6)	18 029		

Name: _____

Is the number divisible by 2 or 3?

	Number	Divisible by 2?	Divisible by 3?
1)	5 002		
2)	3 789		
3)	8 136		
4)	10 046		
5)	7 815		
6)	18 029		

Name: _____

Is the number divisible by 2 or 3?

	Number	Divisible by 2?	Divisible by 3?
1)	5 002		
2)	3 789		
3)	8 136		
4)	10 046		
5)	7 815		
6)	18 029		

Divisibility Rules – Challenge

Part 1

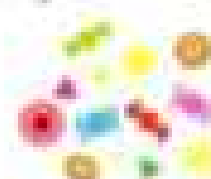
The number is divisible by...

9 Is divisible by... 2 3 4 5 6 7 8 9 10	27 Is divisible by... 2 3 4 5 6 7 8 9 10	18 Is divisible by... 2 3 4 5 6 7 8 9 10	36 Is divisible by... 2 3 4 5 6 7 8 9 10
135 Is divisible by... 2 3 4 5 6 7 8 9 10	286 Is divisible by... 2 3 4 5 6 7 8 9 10	448 Is divisible by... 2 3 4 5 6 7 8 9 10	
605 Is divisible by... 2 3 4 5 6 7 8 9 10	2854 Is divisible by... 2 3 4 5 6 7 8 9 10	5971 Is divisible by... 2 3 4 5 6 7 8 9 10	
15912 Is divisible by... 2 3 4 5 6 7 8 9 10	22785 Is divisible by... 2 3 4 5 6 7 8 9 10	79568 Is divisible by... 2 3 4 5 6 7 8 9 10	

Part 2

Answer the word problems below.

1)	Why can a number not be divided by 0?
2)	Ben says all odd numbers are divisible by 3. Is he correct? Explain.
3)	Sarah has 193 treats to hand out to her party guests. She wants to put 9 treats in each bag. Will she have any treats left over? Explain.



Mixed Numbers

A mixed fraction displays a whole number and a fraction to represent a value. For example, if you have 2 full pizzas and $\frac{2}{4}$ of a pizza, the mixed fraction would be: $2\frac{2}{4}$

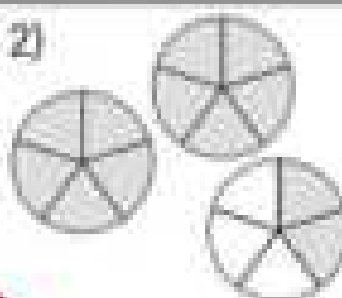
**Questions**

Write the fraction beside the visual fractions

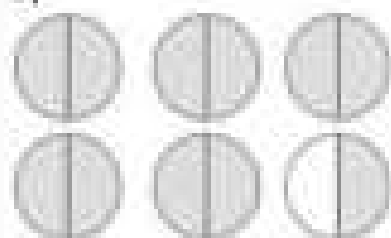
1)



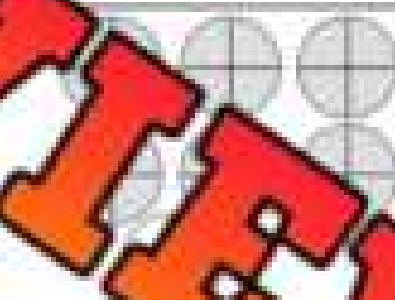
2)



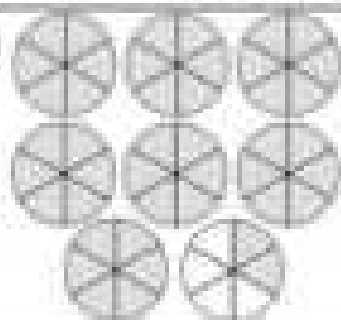
3)



4)



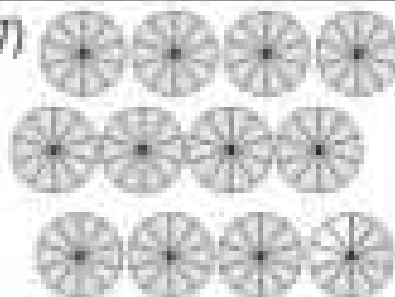
5)



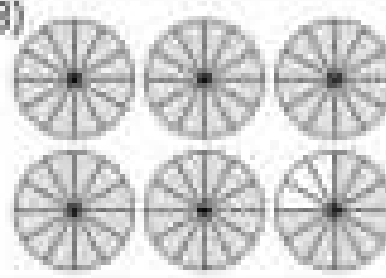
6)



7)



8)

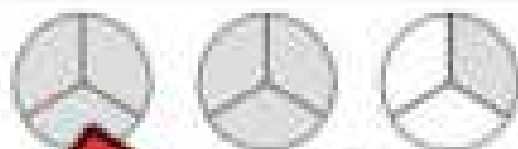


Mixed Numbers and Improper Fractions

Instructions

Shade in the fractions and write the mixed number

1)



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

2)



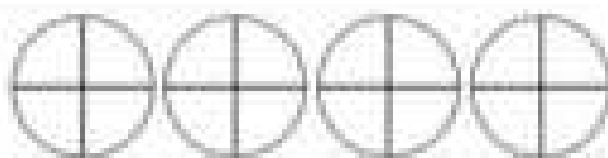
$$= \frac{9}{2}$$

3)



$$= \frac{6}{4}$$

4)



$$= \frac{14}{4}$$

5)



$$= \frac{17}{5}$$

6)



$$=$$

7)



$$= \frac{13}{3}$$

8)



$$= \frac{15}{4}$$

9)



$$= \frac{8}{3}$$

10)

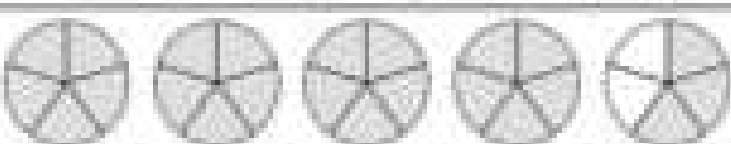
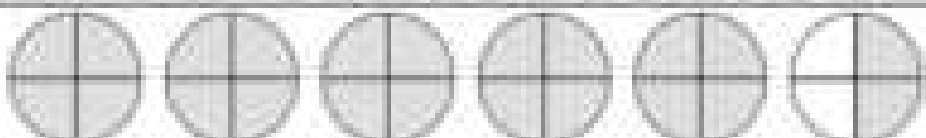


$$= \frac{19}{6}$$

Matching The Mixed Numbers With Improper Fractions

Instructions

Match the visual fractions with the improper fractions and mixed numbers.

Visual Fractions		Mixed Numbers and Improper Fractions
1) _____ 		a) $5\frac{3}{4}$
2) _____ 		b) $\frac{18}{5}$
3) _____ 		c) $\frac{10}{3}$
4) _____ 		d) $4\frac{1}{5}$
5) _____ 		e) $6\frac{2}{4}$
6) _____ 		f) $\frac{21}{5}$
7) _____ 		g) $3\frac{4}{7}$
8) _____ 		h) $\frac{22}{4}$
9) _____ 		i) $5\frac{4}{5}$
10) _____ 		j) $\frac{23}{5}$

Converting Improper Fractions to Mixed Numbers**Instructions:**

Convert the improper fractions to mixed numbers.

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

2) $\frac{17}{4}$ =

3) $\frac{11}{3}$ =

4) $\frac{11}{5}$ =

5) $\frac{11}{2}$ =

6) $\frac{14}{3}$ =

7) $\frac{22}{4}$ =

8) $\frac{17}{6}$ =

9) $\frac{21}{5}$ =

10) $\frac{16}{3}$ =

11) $\frac{23}{4}$ =

12) $\frac{20}{3}$ =

13) $\frac{25}{4}$ =

14) $\frac{24}{7}$ =

15) $\frac{20}{6}$ =

16) $\frac{29}{5}$ =

17) $\frac{19}{8}$ =

18) $\frac{15}{4}$ =

19) $\frac{21}{4}$ =

20) $\frac{23}{6}$ =

21) $\frac{17}{2}$ =

Ordering Mixed Numbers

Instructions

Put the mixed numbers in order from least to greatest.

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

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

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

4) $8\frac{2}{6}$ $1\frac{3}{4}$ $3\frac{3}{4}$ $8\frac{3}{6}$

5) $6\frac{2}{5}$ $6\frac{1}{5}$ $3\frac{3}{9}$

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

7) $6\frac{4}{8}$ $6\frac{3}{8}$ $4\frac{1}{5}$ $4\frac{3}{5}$ $6\frac{7}{8}$

8) $8\frac{4}{6}$ $3\frac{1}{4}$ $3\frac{2}{4}$ $8\frac{3}{6}$ $1\frac{3}{4}$

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 goes into both numbers.

3. Divide

Example:

$\frac{25}{100}$ - Factors

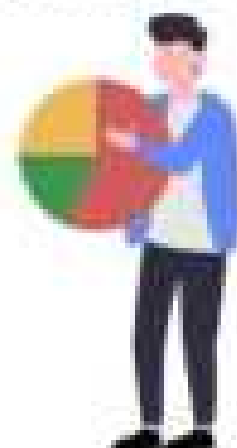
$\frac{25}{100}$ - Factors

1, 5, 25

1, 2, 4, 5, 10, 20, 25, 50, 100

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

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



Questions

Simplifying Fractions

1)

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

3)

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

5)

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

7)

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

4)

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

6)

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

8)

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

Simplifying Fractions - Matching

Questions

Draw a line from the fraction to its simplest form

Fraction

Simplest Form


$$\frac{8}{16}$$

$$\frac{5}{6}$$

$$\frac{15}{18}$$

$$\frac{4}{5}$$

$$\frac{35}{50}$$

$$\frac{6}{7}$$

$$\frac{36}{42}$$

$$\frac{1}{9}$$

$$\frac{24}{27}$$

$$\frac{1}{2}$$

$$\frac{8}{10}$$

$$\frac{7}{10}$$


Simplifying Fractions

Questions

Select the simplest terms of the fraction



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

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

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

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

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

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

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

3) $\frac{2}{25}$

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

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

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

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

a) $\frac{5}{7}$

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

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

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? 	$\frac{20}{30}$ or $\frac{10}{15}$	
2) Zoe earned \$60 by selling baked goods. She spent \$15 on ingredients. How much money did she earn? 	$\frac{15}{60}$ or $\frac{3}{12}$	
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? 	$\frac{24}{64}$ or $\frac{12}{32}$	
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? 	$\frac{16}{36}$ or $\frac{8}{18}$	

Ratio

A ratio shows the relationship between two amounts.

Example  

The ratio of apples to bananas is 1:7. For every apple you have, you have 7 bananas.

Questions

Write the ratios for the questions below



The ratio of cookie to cupcake is _____.



The ratio of tomato to onion is _____.



The ratio of pizza to drink is _____.



The ratio of burger to fries is _____.



The ratio of pineapple to strawberries is _____.



The ratio of bread to jam is _____.

Equivalent Ratios – Scaling Up and Down

A ratio shows the relationship between two amounts.

Example  

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

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



Scaled Up

Scaled Down

The ratio of skates to pucks is _____



Scaled Up

Scaled Down

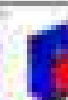
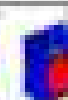
The ratio of laptops to televisions is: _____



Scaled Up

Scaled Down

The ratio of erasers to pencils is: _____



Scaled Up

Scaled Down

The ratio of juice to chips is: _____



Scaled Up

Scaled Down

The ratio of basketballs to soccer balls is: _____

Equivalent Ratios – Scaling Up and Down

Instructions:

Circle two equivalent ratios for each of the questions below

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

Memory Game: Matching Equivalent Ratios

Objective

What are we learning about?

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

Materials

What you will need for the activity:

- Memory game cards. Each card will have a different ratio. One can be matched to another equivalent ratio.
- A small table or clear space on the floor.

**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 space.
3. The students take turns flipping over two cards at a time, trying to find a matching equivalent ratio.
4. If a student finds a match, they remove those cards from the grid and keep them.
5. If the cards do not match, they are turned back over, and the next student takes a turn.
6. The game continues until all the cards have been matched.
7. After the game, review the equivalent fractions with the class.

Name: _____

162

Cardinal Direction
No.

Cards:

Memory Game Cards

72:108

6:9

PREVIEW

75:100

4:5

8:4

90:100

9:10

70:100

7:10

Name: _____

163

Canadian Curriculum
No.

Cards:

Memory Game Cards

45:90

5:10

6:12

48:96

12:12

54:108

9:18

60:90

4:6

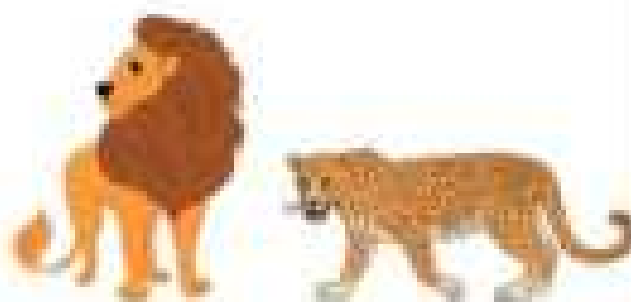
PREVIEW

Ratios Word Problems – At The Zoo

Questions

1) Draw pictures 2) Use a solution statement 3) show your thinking

1) At the zoo, the ratio of lions to leopards is 4:1. There are 5 leopards. How many lions are there?



2) At the zoo, the ratio of goats to eagles is 5:1. There are 4 eagles. How many goats are there?



3) At the zoo, the ratio of alligators to crocodiles must be 3:7. There are 9 alligators and 25 crocodiles. How many crocodiles do they need to release?



b) How many alligators could they have gotten if they didn't want to give any crocodiles away?



Rates

A **rate** is a **comparison** between two numbers that are in **different** units. We use a colon for ratios, but we commonly use per when we describe a unit rate.

For example – John drove 200 km in 2 hours. His speed is a rate between km and hours. His unit rate is 100km per hour.

Questions

Write the rates for the questions below

1) 8 dollars for 4 burgers

Rate =



Unit Rate = 4 dollars per burger

2) 5 dollars for 10 pencils

Rate =

Unit Rate =

3) 10 dollars for 10 bananas 4 dollars for 3 coffees

Rate =

Unit Rate =



Unit Rate =

5) 6 dollars for 12 chocolate bars

Rate =



Unit Rate =

6) 1 dollar for 10 pencils

Rate =

Unit Rate =

7) Driving 600km in 4 hours

Rate =

Unit Rate =

8) Running 15km in 3 hours

Rate =

Unit Rate =



9) 380km on 20 litres of gas

Rate =



Unit Rate =

10) Growing 52cm every 4 years

Rate =

Unit Rate =

Rate Word Problems – Scaling Up/Down**Questions**

Write the rates for the questions below.

1) Cory bought 20 drinks for \$10.

a) What is the unit rate?



b) If Cory bought 50 drinks, how much would it cost him?

2) Jacob drove 120 miles in 4 hours.

a) What is the unit rate?



b) If Jacob drove 8 hours, how many miles would he have driven?

3) On a rainy April day, it rained 27mm in 3 hours.

a) What is the unit rate?



b) If it continued to rain that hard for 9 hours, how many mm of rain would fall?

4) Brianna drove 640km and used 80 litres of gas.

a) What is the unit rate?



b) If she kept driving and used 240 litres of gas total, how many km did she drive?

Equivalent Rates

Multiple Choice

Circle the equivalent rates below

1) 3 burgers per person

- a) 4 burgers for 10 people
- b) 8 burgers for 12 people
- c) 15 burgers for 5 people
- d) 6 burgers for 10 people



2) 5 pencils per 5 people

- a) 5 pencils for 8 people
- b) 8 pencils for 8 people
- c) 6 pencils for 12 people
- d) 10 pencils for 15 people



3) \$25 for 5 people

- a) \$30 for 5 people
- b) \$25 for 3 people
- c) \$20 for 2 people
- d) \$50 for 10 people

4) 30 minutes per show

- a) 40 minutes for 3 shows
- b) 90 minutes for 3 shows
- c) 60 minutes for 3 shows
- d) 30 minutes for 2 shows

5) 3 games per day

- a) 12 games in 3 days
- b) 15 games in 5 days
- c) 10 games in 2 days
- d) 6 games in 3 days



6) 4 ice cuts per drink

- a) 12 ice cuts for 2 drinks
- b) 8 ice cuts for 3 drinks
- c) 16 ice cuts for 3 drinks
- d) 6 ice cuts for 3 drinks



7) 8 minutes per book

- a) 30 minutes for 3 books
- b) 50 minutes for 4 books
- c) 20 minutes for 3 books
- d) 32 minutes for 4 books

8) 2 pillows per person

- a) 4 pillows for 4 people
- b) 8 pillows for 8 people
- c) 16 pillows for 8 people
- d) 20 pillows for 5 people

9) 7 basketballs per team

- a) 21 basketballs for 3 teams
- b) 25 basketballs for 5 teams
- c) 10 basketballs for 3 teams
- d) 16 basketballs for 2 teams



10) 5 snacks per student

- a) 9 snacks for 3 students
- b) 13 snacks for 3 students
- c) 25 snacks for 5 students
- d) 16 snacks for 4 students



Factors, Fractions, and Ratios Quiz**Part 1**

Follow the directions below

1) Circle the prime numbers below

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

2) Circle the composite numbers below

54	13	62	75
48	51	55	21
12	25	51	43

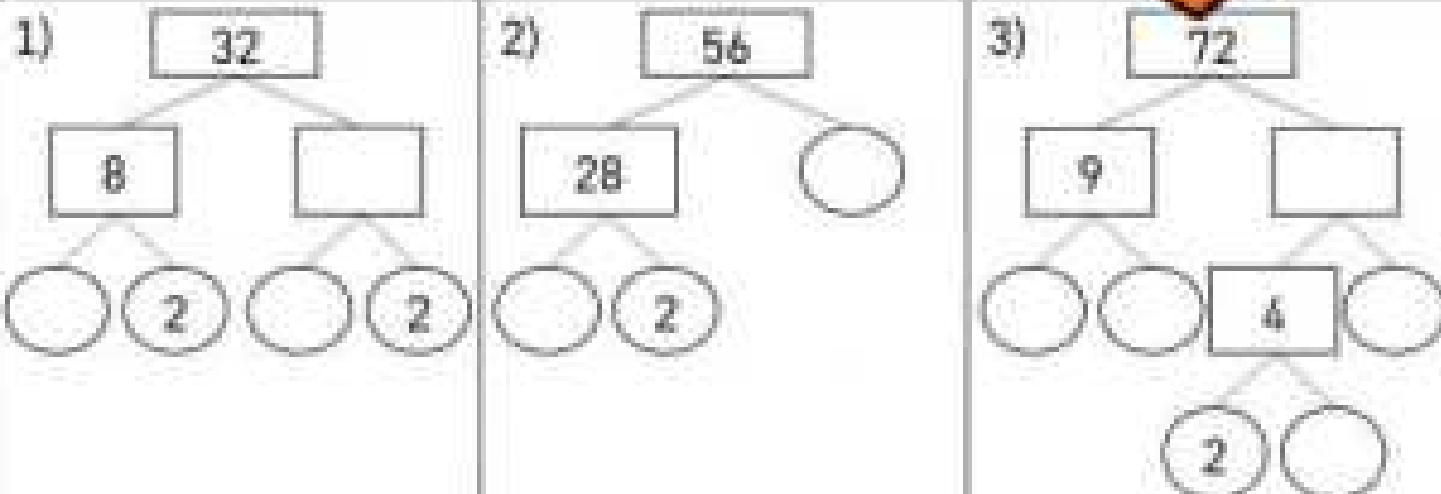
Part 2

List all the factors of the numbers below

1) 12	_____	_____	_____	_____
2) 25	_____	_____	_____	_____
3) 21	_____	_____	_____	_____

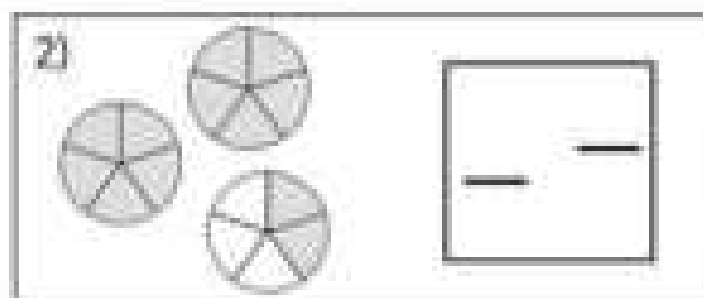
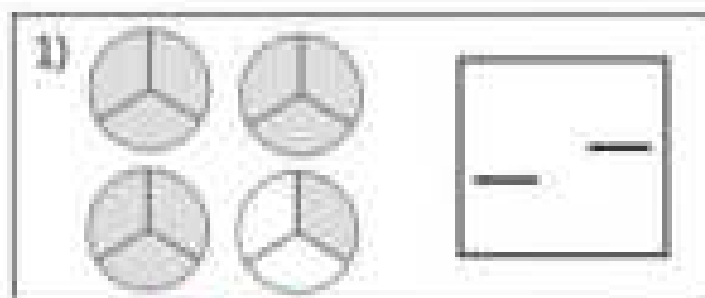
Part 3

Fill in the factor trees below



Part 4

Write the fraction beside the visual fractions



Part 5

Convert the improper fractions to mixed numbers

1)

 $\frac{17}{5}$

2)

 $\frac{17}{4}$

3)

 $\frac{11}{3}$

Part 6

Convert the mixed numbers to improper fractions

1)

 $5\frac{3}{4}$

2)

 $4\frac{1}{2}$

3)

 $5\frac{4}{5}$

Part 7

Put the mixed numbers in order from least to greatest

1)

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

2)

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

Part 8

Put the improper fractions in order from least to greatest

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

Part 9

Circle the equivalent rates below

1) 2 burgers per person

- a) 4 burgers for 10 people
- b) 5 burgers for 10 people
- c) 15 burgers for 5 people
- d) 8 burgers for 2 people

2) 12 pencils per 4 people

- a) 4 pencils for 8 people
- b) 8 pencils for 4 people
- c) 4 pencils for 16 people
- d) 15 pencils for 5 people

3) \$15 per person

- a) \$30 for 2 people
- b) \$75 for 5 people
- c) \$20 for 3 people
- d) \$100 for 5 people

4) 20 minutes per show

- a) 40 minutes for 2 shows
- b) 90 minutes for 3 shows
- c) 60 minutes for 2 shows
- d) 80 minutes for 2 shows

5) 5 games per day

- a) 12 games in 3 days
- b) 15 games in 5 days
- c) 15 games in 3 days
- d) 6 games in 2 days

6) 6 ice cubes per 2 drinks

- a) 12 ice cubes for 6 drinks
- b) 12 ice cubes for 2 drinks
- c) 15 ice cubes for 5 drinks
- d) 6 ice cubes for 2 drinks

Part 10

Solve the ratio/rate questions

1) At the zoo, the ratio of lions to leopards is 5:1. There are 10 leopards. How many lions are there?

2) At the zoo, the ratio of eagles to goats is 3:5. There are 6 eagles. How many goats are there?

3) The ratio of red candies to total candies is 4:24. What percentage of candies are red?

Part 11

Use BEDMAS to solve the questions below

1) $2 \times (2 + 4) =$

2) $5 + (6 - 4) =$

3) $3 \times 4 + (12 + 8) =$

4) $(7 + 4) \times 3 =$

5) $9 - 4 + 4 \times 9 =$

6) $5 + 4 + 2 \times 5 =$

Part 12

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

1) _____
 12 _____
 18 _____

GCF =

7 _____
 15 _____
 25 _____

GCF =

Part 13

Find the least common multiple (LCM) of the numbers below

1) (4, 10)

2) (3, 8)

3) (2, 5)

Converting Fractions and Decimals

Part 1

Fill in the table with the converted decimal and fraction.

Fraction	Decimal
	.10
	.20
50/100	
	.70
80/100	
	.90
100/100	

Fraction	Decimal
15/100	
	.28
36/100	
	.48
	.62
68/100	
	.82

Part 2

Convert the following fractions and decimals.

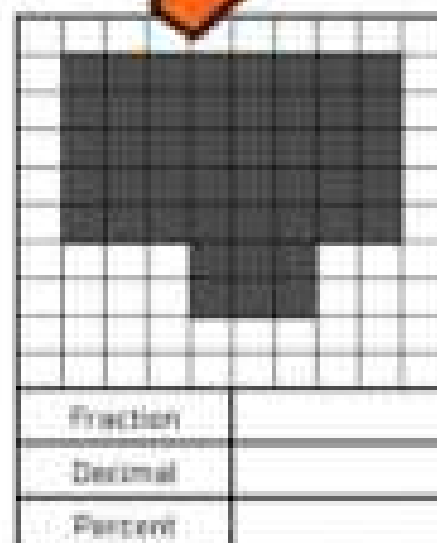
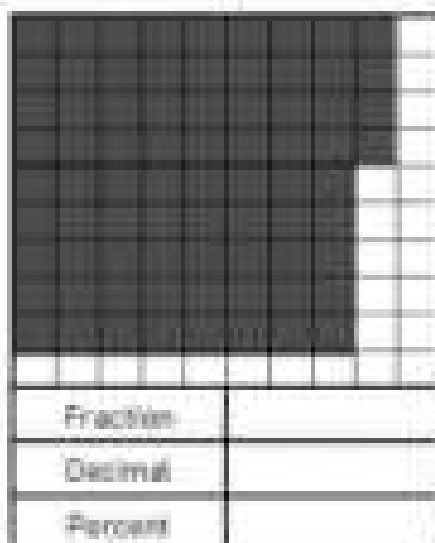
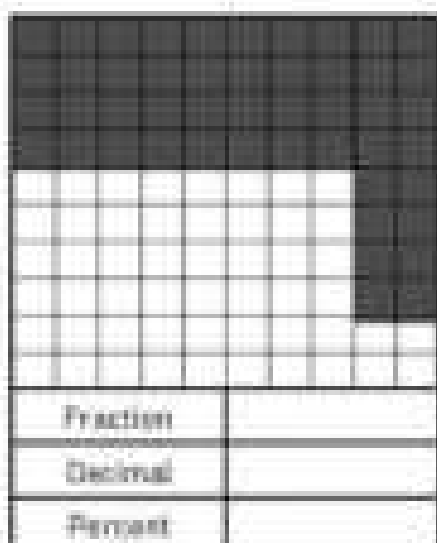
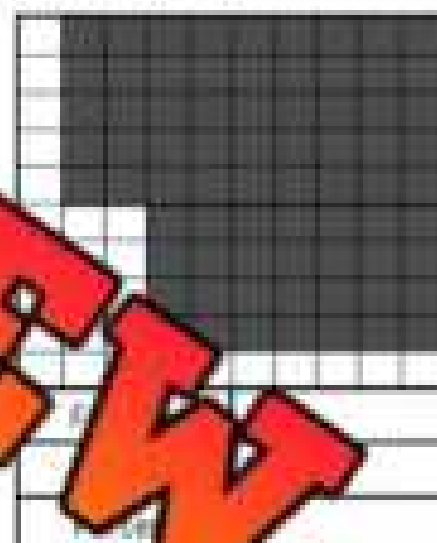
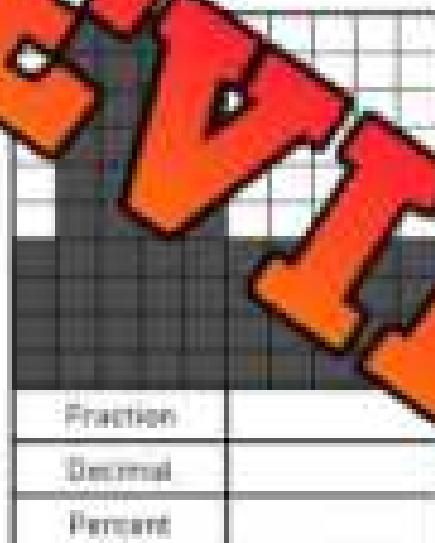
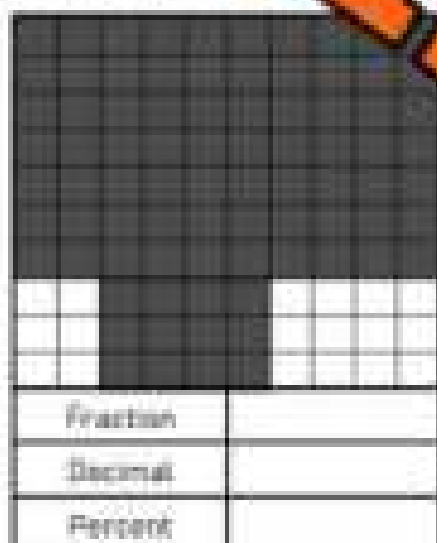
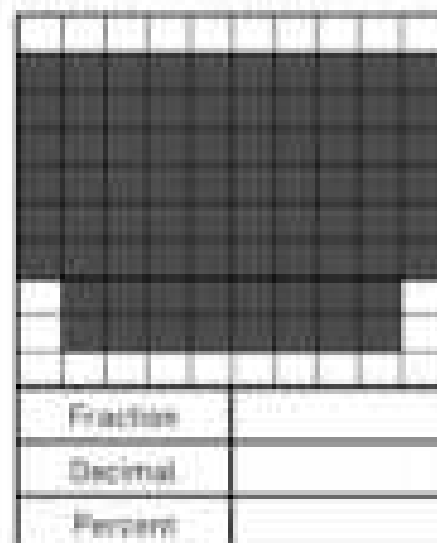
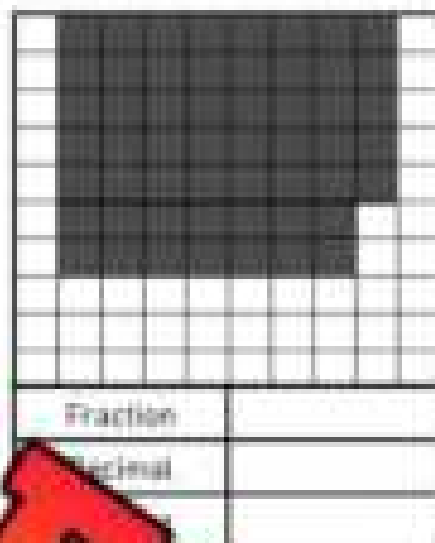
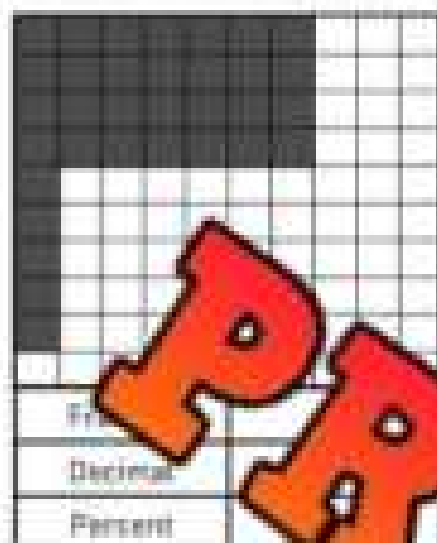
0.22 = /100	0.51 = /100	0.44 = /100	0.88 = /100
42/100 =	66/100 =	39/100 =	97/100 =
31/100 =	72/100 =	0.81 = /100	0.91 = /100

Name: _____

176

Equivalent Fractions
4.7**Fractions, Decimals, and Percents****Questions**

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



Fractions, Decimals, and Percents

Part 1

Fill in the table with the converted decimal, fraction, and percent.

Fraction	Decimal	Percent
100/1000		10.0%
		20.0%
	0.300	%
400/1000		40.0%
500/1000		%
		60.0%
		%
	0.80	%
900/1000		%
	1.000	

Part 2

Convert the following fractions, decimals and percent.

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

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, fraction, and percent

Fraction	Decimal	Percent
$\frac{151}{1000}$		
$\frac{363}{1000}$		
	0.427	
	0.675	
		78.0%
		92.8%

Name: _____

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

Fraction	Decimal	Percent
$\frac{151}{1000}$		
$\frac{363}{1000}$		
	0.427	
	0.675	
		78.0%
		92.8%

Name: _____

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

Fraction	Decimal	Percent
$\frac{151}{1000}$		
$\frac{363}{1000}$		
	0.427	
	0.675	
		78.0%
		92.8%

Name: _____

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

Fraction	Decimal	Percent
$\frac{151}{1000}$		
$\frac{363}{1000}$		
	0.427	
	0.675	
		78.0%
		92.8%

Sport Statistics – Fractions, Decimals, and Percents

Part 1 Baseball statistics – What are these player's percentages from the 2000 season

1) Mike Trout had 200 at bats in 2020. He had $56/200$ hits, $41/200$ runs, and $17/200$ home runs. This means for every 200 at bats, he would have 56 hits, 41 runs, and 17 home runs.

	Hits	Runs	Home Runs
Totals - Fraction	$56/200$	$41/200$	$17/200$
Decimal to thousandths			
Percent			

If Trout had 100 at bats, how many home runs would he have? _____

2) Mookie Betts had 300 at bats in 2020. He had $98/300$ hits, $58/300$ runs, and $27/300$ home runs. This means for every 300 at bats, he would have 98 hits, 58 runs, and 27 home runs.

	Hits	Runs	Home Runs
Totals - Fraction	$98/300$	$58/300$	$27/300$
Decimal to thousandths			
Percent			

If Betts had 100 at bats, how many hits would he have? _____

Part 2 Basketball statistics – LeBron James shooting percentages

LeBron James and the LA Lakers won a Championship title in 2020. Find his shooting percentages by filling in the table below.

	2 pointers	3 pointers
Fraction	$214/382$	$44/119$
Decimal to thousandths		
Percent		

- a) If James had taken only 100 3 pointers, how many would he have made? _____
- b) If James had taken 300 3 pointers, how many would he have made? _____
- c) The average NBA player shoots 46% from 2 pointers. How much better is LeBron? ____%

Mental Math – Calculating Percentages – 10%, 15%

Percentages represent a rate out of 100 in relation to a whole. Therefore, we can represent 10% as 0.10 and 15% as 0.15.

Hint – To mentally calculate 15%...

1. Determine 10% of the number
2. Find half of answer (5%)
3. Add the 5% to the 10%

Example

1. 210 $\times 0.10 = 21$
2. $21 \div 2 = 10.5$
3. $21 + 10.5 = 31.5$
4. Therefore 15% of 210 is 31.5

**SPECIAL
OFFER**

70%
OFF

Instructions

	Number	0.05 (Half)	15%
1)	100		15
2)	200		
3)	400		
4)	500		
5)	120		
6)	180		
7)	240		
8)	310		
9)	450		
10)	680		

Mental Math – Calculating Percentages – 25%, 50%

Percentages represent a rate out of 100 in relation to a whole. 50% represents half of a number and 25% is a quarter of a number.

Steps – Calculating 50%

1. Find half of the number

Example – 50% of 148

1. Divide number 148 in half
(148 ÷ 2 = 74)
2. 50% of 148 = 74

Steps – Calculating 25%

1. Find out what 50% of the number is by halving the number
2. Halve the number one more time

Example – 25% of 188

1. $188 \div 2 = 94$
2. $94 \div 2 = 47$

Part 1

Find half of the numbers below?

- | | |
|---------------|---------------|
| 1) 24 _____ | 3) 76 _____ |
| 4) 128 _____ | 6) 212 _____ |
| 7) 264 _____ | 8) 410 _____ |
| 10) 550 _____ | 11) 636 _____ |

Part 2

Fill in the table below

	Number	50%	25%
1)	100		
2)	200		
3)	240		
4)	164		
5)	188		
6)	264		

	Number	50%	25%
7)	348		
8)	414		
9)	560		
10)	644		
11)	828		
12)	940		

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 below

		50%	25%
1)			
2)	492		
3)	720		
4)	960		
5)	1004		
6)	1280		

Name: _____

Fill in the table below

	Number	50%	25%
1)	356		
2)	492		
3)	720		
4)	960		
5)	1004		
6)			

Name: _____

Fill in the table below

	Number	50%	25%
1)	356		
2)	492		
3)	720		
4)	960		
5)	1004		
6)	1280		

Name: _____

Fill in the table below

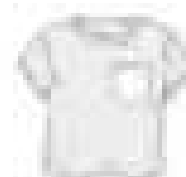
	Number	50%	25%
1)	356		
2)	492		
3)	720		
4)	960		
5)	1004		
6)	1280		

Mental Math – Calculating Percentages – Visuals

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

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

\$80

**Practice**

Solve the problems below

1) Tom is shopping for speakers. He finds a pair he likes for \$70.00 that are on sale for 15% off. How much will the speakers cost before tax?



2) Lindsay is out shopping for a new winter coat. She finds one for \$90.00 plus an additional 20% off. How much will the coat cost before tax?



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

- How much will the speakers cost before tax?
- With tax costing 15%, how much will the speakers cost?
- How much of the \$100 will Joe have when he leaves the mall?



Determining Sales Tax

To determine a 12% sales tax, we can use our knowledge of calculating 1% and 10%.



For example:

Product Price	1%	2%	10%	12%	Total Price
\$10.00	\$0.10	\$0.20	\$1.00	\$1.20	\$11.20

1% of 10.00 is 0.10 or 10 cents. We can multiply this by 2 to get 2%, which gives us 0.20. 10% of 10.00 is 1.00 or 1 dollar. This gives us a total of \$11.20.

Question: Use the steps above to calculate the sales tax and total price

#	Product Price	1%	2%	10%	12%	Total Price
1	\$24.00	0.24	0.48	2.40	2.40 + 0.48 = \$2.88	\$26.88
2	\$17.00					
3	\$27.00					
4	\$44.00					
5	\$74.00					
6	\$66.00					

Determining Sales Tax – Word Problems

Questions

Answer the word problems below.

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

Bonus: How much money does he have left?



2) Dexter wants to buy a video game that costs \$100 and the game costs \$65.00 before tax. How much will the game cost after tax?

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



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



Word Problems – Missing Percentages

Questions:**What percentage is missing?**

1) In a class, 63% of students take a bus to school and 14% get a drive from their parents. What percentage of students walk to school?



2) In a survey of 100 students, 23% thought math was fun and 42% thought math was boring. What percentage of students disliked math?



3) A shop sells 3 flavours of donuts. They tracked their sales last week and found out that 38% of the donuts sold were chocolate, and 21% were vanilla. What percentage of the donuts sold were fruit?



4) In a candy survey, respondents were asked to choose their favourite. They could choose from 4 different options – hard candies, lollipops, gum, or gummies. 18% chose gum, 27% chose hard candies, and 35% chose lollipops. What percentage chose gummies?



5) The Saskatchewan Ministry of Transportation studied which type of vehicle was most popular in Saskatchewan. There were 3 options – gas, diesel, or electric. 45% chose gas, 30% chose diesel, and 4% used electricity. What percentage of vehicles use gas?



6) A zoo has monkeys, zebras, pandas, and snakes. Of all the animals, 23% are monkeys, 29% are zebras, and 26% are pandas. What percentage of the animals are snakes?



7) Zoe spends 3 hours on 5 social media apps each day. She spends 28% of the 3 hours on Instagram, 15% on Facebook, 22% on TikTok, and 17% on Snapchat. What percent does she spend on YouTube?



Class List – Decimal, Fraction, Percent

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

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

Questions: _____ Fill in the class list



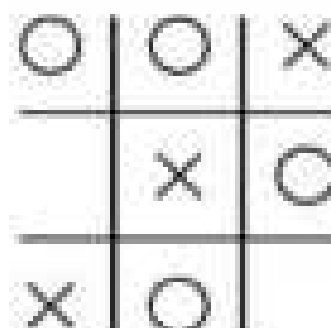
Student	Mark	Decimal	Percent	Grade
Madison				
Stella	7/100			
Matthew				
Eli	7/10			
John	1/2			
Kai	1/4			
Ivy	4/4			
Everly	1/5			
Bella	75/100			
Skylar	95/100			
Leah	8/10			
Roman	1/8			
Adrian	1/10			
Easton	4/5			
Savannah	77/100			

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

Objective

What are we learning about?

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

**Material**

What you will need for the activity:

- Whiteboard or paper
- Markers (X and O)
- Math Tic-Tac-Toe grid (to be drawn on the whiteboard or printed on paper)

Instructions

How you will complete:

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

Name: _____

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Copyright © 2010
www.superteacherworksheets.com**Tic-Tac-Toe**

Use the following tic-tac-toe grids for the game.

1 2 x 4	4 5 x 7	2 3 x 6
7 8 x 2	3 4 x 5	5 6 x 3
6 7 x 9	8 9 x 4	4 5 x 4

2 4 x 5	3 6 x 7	2 9 x 8
4 9 x 7	5 7 x 8	6 8 x 9
7 8 x 9	3 5 x 6	4 7 x 7

1 5 x 6	4 9 x 9	3 9 x 9
3 9 x 8	4 8 x 9	6 9 x 9
2 7 x 8	5 8 x 9	3 7 x 6

1 8 x 9	4 9 x 8	3 9 x 9
4 9 x 7	5 6 x 7	4 8 x 9
2 8 x 8	3 5 x 9	5 7 x 9

2 1 x 2	4 3 x 4	2 5 x 6
4 7 x 8	5 9 x 5	6 8 x 7
3 6 x 9	4 7 x 6	5 8 x 7

1 3 x 4	2 5 x 6	3 7 x 8
4 9 x 6	5 7 x 5	6 8 x 9
2 8 x 9	3 5 x 7	4 6 x 8

Name: _____

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Curriculum Information
K-5

Multiplication – 2 x 2 Digits

Questions

Use the standard algorithm to solve the multiplication problems below

	1)		
			1
	x		

	2)		
		7	2
	x	1	4

	3)		
		4	3
	x	7	1

	4)		
		2	6
	x	2	8

	5)		
		4	1
	x	3	7

	6)		
		6	
	x	2	3

	7)		
		7	
	x	4	

	8)		
		9	8
	x	6	2

	9)		
		8	3
	x	4	6

	10)		
		2	9
	x	3	7

	11)		
		3	5
	x	8	2

	12)		
		3	3
	x	7	2

Multiplication – 2 x 2 Digits

Part 1

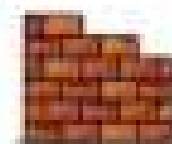
Use the standard algorithm to solve the multiplication problems below

1) $\begin{array}{r} 63 \\ \times 42 \\ \hline \end{array}$	2) $\begin{array}{r} 35 \\ \times 73 \\ \hline \end{array}$	3) $\begin{array}{r} 55 \\ \times 10 \\ \hline \end{array}$	4) $\begin{array}{r} 29 \\ \times 65 \\ \hline \end{array}$	5) $\begin{array}{r} 68 \\ \times 40 \\ \hline \end{array}$
6) $\begin{array}{r} 38 \\ \times 74 \\ \hline \end{array}$	7) $\begin{array}{r} 53 \\ \times 76 \\ \hline \end{array}$	8) $\begin{array}{r} 26 \\ \times 64 \\ \hline \end{array}$	9) $\begin{array}{r} 88 \\ \times 23 \\ \hline \end{array}$	10) $\begin{array}{r} 25 \\ \times 41 \\ \hline \end{array}$
11) $\begin{array}{r} 66 \\ \times 22 \\ \hline \end{array}$	12) $\begin{array}{r} 92 \\ \times 81 \\ \hline \end{array}$	13) $\begin{array}{r} 25 \\ \times 35 \\ \hline \end{array}$	14) $\begin{array}{r} 45 \\ \times 45 \\ \hline \end{array}$	15) $\begin{array}{r} 78 \\ \times 53 \\ \hline \end{array}$

Part 2

Solve the word problems below

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



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



Name: _____

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 Curriculum Connection:
 N.2

Multiplication – 2 x 2 Digits

Step 1: Setup up the Area Model

$$32 \times 17 = \underline{\hspace{2cm}}$$

	30	2
10		
7		

Step 2: Multiply

$$32 \times 17 = \underline{\hspace{2cm}}$$

	30	2
10	300	20
7	210	14

Step 3: Add

$$32 \times 17 = 544$$

	30	2
10	300	20
7	210	14

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

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

1) $32 \times 17 = \underline{\hspace{2cm}}$

2) $27 \times 23 = \underline{\hspace{2cm}}$

3) $45 \times 24 = \underline{\hspace{2cm}}$

4) $34 \times 25 = \underline{\hspace{2cm}}$

5) $82 \times 44 = \underline{\hspace{2cm}}$

6) $94 \times 72 = \underline{\hspace{2cm}}$

Multiplying 3-Digit by Tenths

Part 1

Use the standard algorithm to solve the multiplication problems below.

1)			
	4	5	1
x		.	4

2)			
	7	3	4
x		.	2

3)			
	6	0	2
x		.	7

4)			
	4	3	8
x		.	6

5)			
	2	7	9
x		.	1

6)			
	9	5	0
x		.	3

7)			
	8	2	
x		.	5

8)			
	3	7	4
x		.	9

Part 2

Solve the word problems below.

1) Joe bought 124 candies for his party. Each candy cost him \$0.2. How much did he spend on candy?



2) A fountain has 247 dimes in it. How much money is in the fountain?



Multiplying 3-Digit by Tenths**Part 1**

Use the standard algorithm to solve the multiplication problems below.

$\begin{array}{r} 413 \\ \times 0.2 \\ \hline \end{array}$	$\begin{array}{r} 757 \\ \times 0.5 \\ \hline \end{array}$	$\begin{array}{r} 217 \\ \times 0.3 \\ \hline \end{array}$	$\begin{array}{r} 341 \\ \times 0.6 \\ \hline \end{array}$	$\begin{array}{r} 583 \\ \times 0.4 \\ \hline \end{array}$
$\begin{array}{r} 418 \\ \times 0.5 \\ \hline \end{array}$	$\begin{array}{r} 856 \\ \times 0.8 \\ \hline \end{array}$	$\begin{array}{r} 636 \\ \times 0.6 \\ \hline \end{array}$	$\begin{array}{r} 378 \\ \times 0.1 \\ \hline \end{array}$	$\begin{array}{r} 743 \\ \times 0.7 \\ \hline \end{array}$
$\begin{array}{r} 978 \\ \times 0.2 \\ \hline \end{array}$	$\begin{array}{r} 856 \\ \times 0.1 \\ \hline \end{array}$	$\begin{array}{r} 5940 \\ \times 0.10 \\ \hline \end{array}$		$\begin{array}{r} 715 \\ \times 0.4 \\ \hline \end{array}$

Part 2

Solve the word problems below.

1) Ashley made 162 cookies for her school. Each cookie weighs 0.3kg. How much do all 162 cookies weigh in total?



2) Steve can read a page of his book in 0.7 minutes. He read 284 pages and finished his book. How many minutes did it take him to read his book?



Name: _____

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Equivalent Fractions:
x 10

Multiplying 3-Digit by Tenths

Step 1: Setup up the Area Model

$$235 \times 0.3 = \underline{\hspace{2cm}}$$

	200	30	5
0.3			

Step 2: Multiply

$$235 \times 0.3 = \underline{\hspace{2cm}}$$

	200	30	5
0.3	200×0.3 60.0	30×0.3 9.0	5×0.3 1.5

Step 3: Add

$$235 \times 0.3 = 70.5$$

	200	30	5
0.3	60.0	9.0	1.5

$$60.0 + 9.0 + 1.5 = 70.5$$

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

1) $452 \times 0.2 = \underline{\hspace{2cm}}$

--	--	--	--

2) $626 \times 0.2 = \underline{\hspace{2cm}}$

--	--	--	--

3) $347 \times 0.4 = \underline{\hspace{2cm}}$

--	--	--	--

4) $789 \times 0.3 = \underline{\hspace{2cm}}$

--	--	--	--

5) $312 \times 0.7 = \underline{\hspace{2cm}}$

--	--	--	--

6) $682 \times 0.8 = \underline{\hspace{2cm}}$

--	--	--	--

Multiplication – 1-Digit Multiplier**Questions**

Use the standard algorithm to solve the multiplication problems below

1)					
	1		2	5	
x					

2)					
		7		3	7
x					3

3)					
	2	1		4	8
x					5

4)					
	1	8		3	8
x					4

	2	2		6	
x					

6)					
	3	4		8	4
x					6

7)					
	2	7		4	8
x					3

8)					
	4	2		6	8
x					8

9)					
	5	2		5	1
x					9

Multiplication – 1-Digit Multiplier**Questions:**

Use the standard algorithm to solve the multiplication problems below.

1)

$$\begin{array}{r} 413 \\ \times \quad \quad \\ \hline \end{array}$$

2)

$$\begin{array}{r} 757 \\ \times \quad 5 \\ \hline \end{array}$$

3)

$$\begin{array}{r} 217 \\ \times \quad 3 \\ \hline \end{array}$$

4)

$$\begin{array}{r} 341 \\ \times \quad 6 \\ \hline \end{array}$$

5)

$$\begin{array}{r} 583 \\ \times \quad 4 \\ \hline \end{array}$$

6)

$$\begin{array}{r} 478 \\ \times \quad 5 \\ \hline \end{array}$$

9)

$$\begin{array}{r} 378 \\ \times \quad 1 \\ \hline \end{array}$$

10)

$$\begin{array}{r} 743 \\ \times \quad 7 \\ \hline \end{array}$$

11)

$$\begin{array}{r} 978 \\ \times \quad 2 \\ \hline \end{array}$$

12)

$$\begin{array}{r} 856 \\ \times \quad 1 \\ \hline \end{array}$$

13)

$$\begin{array}{r} 739 \\ \times \quad 9 \\ \hline \end{array}$$

14)

$$\begin{array}{r} 615 \\ \times \quad 4 \\ \hline \end{array}$$

16)

$$\begin{array}{r} 523 \\ \times \quad 2 \\ \hline \end{array}$$

17)

$$\begin{array}{r} 636 \\ \times \quad 1 \\ \hline \end{array}$$

18)

$$\begin{array}{r} 914 \\ \times \quad 9 \\ \hline \end{array}$$

19)

$$\begin{array}{r} 724 \\ \times \quad 3 \\ \hline \end{array}$$

20)

$$\begin{array}{r} 805 \\ \times \quad 4 \\ \hline \end{array}$$

Multiplication – 1-Digit Multiplier - Wages

Questions

Solve the word problems below

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



	Ava	Mia	Charlotte	Emma
Wages	15.35	15.75	13.40	17.65
Hours	7	7	8	6
Earnings				

- a) Who made the most money? How much did each friend earn? Fill in the table above

- b) How much did all 4 friends earn combined?

Division – Bar Model**Questions**

Use the bar model to answer the division questions below

1) $48 \div 8$

48					

2) $36 \div 4$

36			

3) $80 \div 10$

80									

5) $24 \div 4$

24			

6) $30 \div 5$

7) $42 \div 7$

42						

8) $72 \div 8$

72							

9) $49 \div 7$

49						

10) $48 \div 4$

48			

Division – Area Model

Questions

Use the area model to answer the division questions below

1) $243 \div 6 = 40\text{r}3$ (16 $\div$ 4)

	33	7	0
6	200	40	3
	12	42	18

2) $284 \div 4$

4	200	80	4
---	-----	----	---

3) $513 \div 2$

2	500	10	3
---	-----	----	---

4) $428 \div 6$

6	60	20	8
---	----	----	---

5) $636 \div 6$

6	600	30	6
---	-----	----	---

6) $778 \div 5$

5	700	70	8
---	-----	----	---

Division – 2 by 1 – No Remainders**Questions:**

How many times can you divide the bigger number by the smaller number?

1)
$$\begin{array}{r} \\ 6 \overline{) 36} \end{array}$$

2)
$$\begin{array}{r} \\ 3 \overline{) 24} \end{array}$$

3)
$$\begin{array}{r} \\ 2 \overline{) 28} \end{array}$$

4)
$$\begin{array}{r} \\ 5 \overline{) 75} \end{array}$$

5)
$$\begin{array}{r} \\ 4 \overline{) 28} \end{array}$$

6)
$$\begin{array}{r} \\ 8 \overline{) 64} \end{array}$$

7)
$$\begin{array}{r} \\ 7 \overline{) 63} \end{array}$$

8)
$$\begin{array}{r} \\ 6 \overline{) 60} \end{array}$$

9)
$$\begin{array}{r} \\ 9 \overline{) 99} \end{array}$$

10)
$$\begin{array}{r} \\ 5 \overline{) 60} \end{array}$$

11)
$$\begin{array}{r} \\ 3 \overline{) 30} \end{array}$$

12)
$$\begin{array}{r} \\ 2 \overline{) 50} \end{array}$$

13)
$$\begin{array}{r} \\ 7 \overline{) 98} \end{array}$$

14)
$$\begin{array}{r} \\ 1 \overline{) 28} \end{array}$$

15)
$$\begin{array}{r} \\ 4 \overline{) 56} \end{array}$$

16)
$$\begin{array}{r} \\ 6 \overline{) 90} \end{array}$$

17)
$$\begin{array}{r} \\ 9 \overline{) 99} \end{array}$$

18)
$$\begin{array}{r} \\ 5 \overline{) 85} \end{array}$$

19)
$$\begin{array}{r} \\ 3 \overline{) 57} \end{array}$$

20)
$$\begin{array}{r} \\ 2 \overline{) 64} \end{array}$$

Division – 3 by 1 – With Remainders**Questions**

How many times can you divide the bigger number by the smaller number?

1)
$$\begin{array}{r} 20 \text{ r}2 \\ 6 \overline{) 122} \end{array}$$

2)
$$\begin{array}{r} 3 \overline{) 110} \end{array}$$

3)
$$\begin{array}{r} 2 \overline{) 111} \end{array}$$

4)
$$\begin{array}{r} 5 \overline{) 129} \end{array}$$

5)
$$\begin{array}{r} 4 \overline{) 154} \end{array}$$

7)
$$\begin{array}{r} 8 \overline{) 121} \end{array}$$

8)
$$\begin{array}{r} 6 \overline{) 136} \end{array}$$

9)
$$\begin{array}{r} 9 \overline{) 139} \end{array}$$

10)
$$\begin{array}{r} 5 \overline{) 173} \end{array}$$

11)
$$\begin{array}{r} 3 \overline{) 130} \end{array}$$

13)
$$\begin{array}{r} 7 \overline{) 177} \end{array}$$

14)
$$\begin{array}{r} 4 \overline{) 174} \end{array}$$

15)
$$\begin{array}{r} 8 \overline{) 187} \end{array}$$

16)
$$\begin{array}{r} 6 \overline{) 182} \end{array}$$

Dividing Decimals – Removing Decimal

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

Steps:

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

Instructions: Follow the steps above to calculate the answer

	$3.00 \div 2 = ?$
Step 1 and 2	$300 \div 2 = 150$
Step 3	$3.00 \div 2 = 1.5$ so therefore, put the decimal between the 1 and 0
Answer	1.5

2) Question	$1.2 \div 2 = ?$
Step 1 and 2	
Step 3	
Answer	

3) Question	$4.24 \div 4 = ?$
Step 1 and 2	
Step 3	
Answer	

4) Question	$3.39 \div 3 = ?$
Step 1 and 2	
Step 3	
Answer	

Dividing Decimals – Removing Decimal

Instructions

Follow the steps to calculate the answer.

1) Question	$4.24 \div 2 = ?$
Step 1 and 2	
Step 3	
Answer	

2) Question	$5.25 \div 5 = ?$
Step 1 and 2	
Step 3	
Answer	

3) Question	$10 \div 4 = ?$
Step 1 and 2	
Step 3	
Answer	

4) Question	$3.63 \div 3 = ?$
Step 1 and 2	
Step 3	
Answer	

5) Question	$4.05 \div 5 = ?$
Step 1 and 2	
Step 3	
Answer	

Front-End Estimation – Multiple Choice

Questions

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

1) $21.25 + 7$

- a) 4
- b) 3
- c) 6
- d) 5

2) $25.32 + 5$

- a) 5
- b) 4
- c) 6
- d) 7

3) $64.7 + 7$

- a) 7
- b) 9
- c) 8
- d) 6

4) $27.55 + 3$

- a) 7
- b) 8

5) $69.64 + 7$

- a) 8
- b) 6
- c) 7
- d) 9

6) $32.7 + 5$

- a) 4
- b) 3
- c) 5
- d) 4

7) $44.85 + 4$

- a) 10
- b) 11
- c) 12
- d) 9

8) $50.92 + 5$

- a) 10
- b) 9
- c) 11
- d) 12

9) $26.42 + 2$

- a) 11
- b) 12
- c) 13
- d) 14

10) $24.73 + 3$

- a) 8
- b) 6
- c) 7
- d) 9

Multiplying Decimals – Placing The Decimal**Questions**

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

1) 35.34×7

a) 5.048

b) 504.8

c) 5048.0

d) 504.8

2) 30.152×5

a) 603.04

b) 60.304

c) 6030.4

d) 6.0304

3) 48.57×8

a) 60.64

b) 6.064

c) 606.4

d) 6064.0

4) 21.531×3

a) 0.7177

b) 717.7

c) 71.77

d) 717.7

5) 42.422×7

a) 6060.0

b) 606.0

c) 6.060

d) 60.60

6) 72.5×5

a) 90.90

b) 9.09

c) 90.90

d) 9.0905

7) 32.825×4

a) 8206.0

b) 8.206

c) 820.6

d) 82.06

8) 36.627×6

a) 6104.5

b) 610.45

c) 6.1045

d) 61.045

9) 14.124×2

a) 7.062

b) 70.62

c) 706.2

d) 7062.0

10) 24.844×3

a) 8281.3

b) 8.2813

c) 828.13

d) 82.813

Dividing Decimals by Whole Numbers

Part 1

Fill in the table by dividing the decimals by whole numbers.

	Number	$\div 2$	$\div 4$	$\div 10$
1)	0.8	0.4	0.2	0.08
2)				
3)				
4)				
5)	0.8			

Part 2

Fill in the table by dividing the decimals by whole numbers.

	Number	$\div 4$	$\div 10$
1)	0.28	0.14	0.028
2)	0.44		
3)	0.68		
4)	0.84		
5)	0.92		

Part 3

Fill in the table by dividing the decimals by whole numbers.

	Number	$\div 2$	$\div 4$	$\div 10$
1)	.116	0.058	0.029	.012 or .0116
2)	.160			
3)	.220			
4)	.368			
5)	.524			

Unit Test – Factors, Multiplication and Division

Part 1

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

1) 6.34×7

- a) 42
- b) 49
- c) 50
- d) 47

2) 7.26×5

- a) 40
- b) 30
- c) 35
- d) 38

3) $9.44 \div 2$

- a) 50
- b) 62
- c) 54
- d) 64

4) $27.21 \div 3$

- a) 7
- b) 8
- c) 9
- d) 10

5) $24.25 \div 3$

- a) 5
- b) 7
- c) 8
- d) 4

6) $34.5 \div 5$

- a) 3
- b) 4
- c) 6
- d) 7

Part 2

Use the standard algorithm to solve the multiplication problems below

1)					
		7	.	2	5
X					2

2)					
	1	5	.	6	3
X					5

3)					
	3	5	.	4	6
X				2	8

Part 3

Solve the division problems below

$$\begin{array}{r} 1) \\ 2 \overline{) 4.22} \end{array}$$

$$\begin{array}{r} 2) \\ 3 \overline{) 9.63} \end{array}$$

$$\begin{array}{r} 3) \\ 2 \overline{) 8.48} \end{array}$$

$$\begin{array}{r} 4) \\ 4 \overline{) 8.60} \end{array}$$

Part 4

Solve the word problems below

1) Carl bought 3 bags of chips for a camping trip. Each bag cost him \$3.39. How much did he spend?

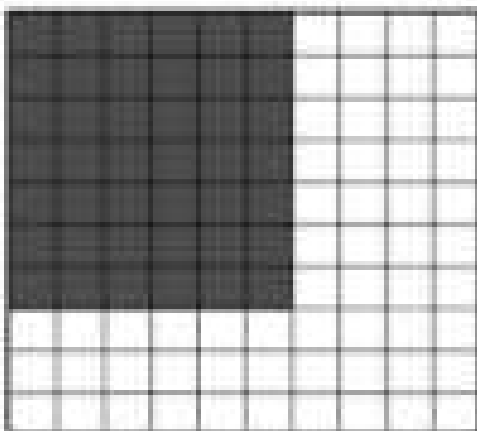


2) Lily spent \$9.60 on 3 drinks. How much did each drink cost?

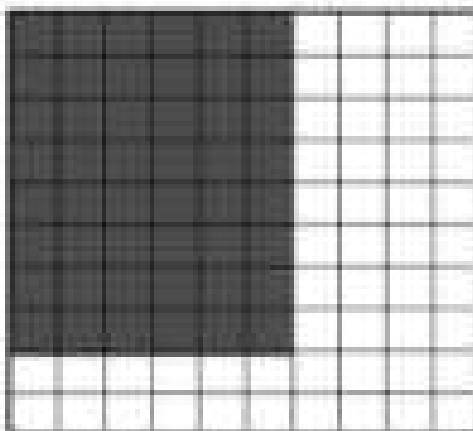


Part 5

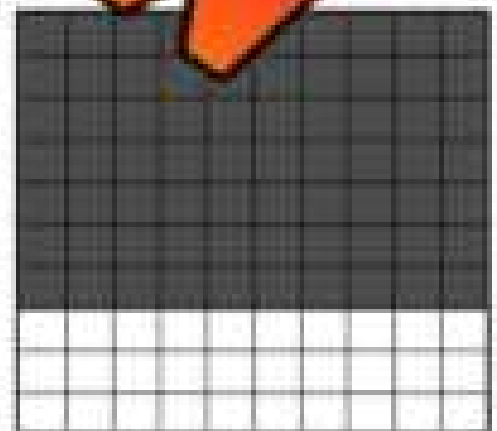
What fraction, decimal and percent of the array



Fraction	Decimal	Percent



Fraction	Decimal	Percent



Fraction	Decimal	Percent

Part 6

Solve the problem below

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

Valentina	Claire	Dylan	Xavier
12/25	0.439	0.44	43%

- a) Who is the best shooter?
- b) Rank the friends from best shooter to worst shooter.

Part 7

Answer the word problem

1) The grade 6's voted for their favourite food. The results are below. Each student had to vote for one option. The results are below.

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

Salmon	15%
Hot Wings	21%
Chicken	18%
Pizza	25%
Other	22%

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

- a) What percentage of students received an F?
- b) If there were 50 students who wrote the test, how many kids got an F?

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



Google Slides Lessons Preview





BC Math Curriculum Statistics Unit – Grade 6

3-Part Lesson Format

Part 1 – Minds On!

- Learning Goals
- Discussion Questions
- Quotes
- And More!

TYPES OF DATA

Learning Goal

We are learning to identify and classify different data types: qualitative vs quantitative, primary vs secondary, and describe or summarize data so that we can collect, organize and interpret information effectively.

QUALITATIVE DATA

Read the description of the data and drag Yes if it is qualitative data and No if it isn't.

Description of Data	YES/NO
It is made up of words	☐
It describes a quality, such as a hair color	☐
It is made up of numbers	☐
It is made up of numbers that are counted	☐
It is made up of numbers that are measured	☐
It is made up of numbers that are counted or measured	☐

Drag the tiles to the correct box.

Part 2 – Action!

- Writing
- Matching
- Drag and Drop
- Drawing
- And More!

Part 3 – Consolidation!

- Exit Cards
- Quizzes
- Reflection
- And More!

PRIMARY VS SECONDARY DATA

Sort the survey questions below into the correct category.

Primary Data	Secondary Data
☐ How many people are in your class?	☐ How many people are in your class?
☐ How many people are in your class?	☐ How many people are in your class?
☐ How many people are in your class?	☐ How many people are in your class?
☐ How many people are in your class?	☐ How many people are in your class?

Drag the tiles to the correct box.



BC Math Curriculum Statistics Unit – Grade 6

DISCRETE OR CONTINUOUS DATA

Planning a School Carnival. You are helping plan a school carnival. You ask the students answer the questions below. Is the data you receive **discrete** or **continuous**?

Discrete Data	Continuous Data
How many students will be at the carnival?	
How long will the carnival last for hours?	
How many students will be at the carnival?	
What will be the temperature outside during the carnival?	
How many volunteers are helping?	
How much money was raised last year?	
How many games are available?	
How long does it take to set up each booth?	
How many games does each student play on average?	
How many hours of carnival are planned?	



Discrete or Continuous Data?

Discrete Data	Continuous Data
Number of students at the carnival Number of students in a class Number of students in a grade Number of students in a school Number of students in a district Number of students in a province Number of students in a country Number of students in the world	Height of a student Weight of a student Age of a student Time it takes to run a mile Time it takes to run a kilometer Time it takes to run a half marathon Time it takes to run a marathon Time it takes to run a triathlon



Label the names of the graphs below

			Histogram
			Multiple Bar Graph
			Line Plot
			Horizontal Bar Graph
			Dot Plot
			Broken Line Graph



BC Math Curriculum Statistics Unit – Grade 6

1 2 3 4 5 6 7 8 9 0 PICTOGRAPHS

Create a pictograph based on the data below.

Talia and her friends counted how many books they sold in the first week of this year.

Age	Books Sold
8	10
9	15
10	20
11	12
12	18
13	25
14	14

1 book = 5 Books

Questions:

- What is the total number of books sold?
- How many books were sold by the 12-year-olds?
- What is the difference between the number of books sold by the 10-year-olds and the 13-year-olds?
- How many more books were sold by the 13-year-olds than the 11-year-olds?

1 2 3 4 5 6 7 8 9 0 HORIZONTAL BAR

A survey was conducted to find the favorite subject of Grade 6 students. The results are shown below.

Grade 6 Student Representation

Subject	Number of Students
Math	15
Science	20
History	10
Art	12
Music	8
Physical Education	18

Questions:

- What is the favorite subject?
- How many students chose math as their favorite subject?
- What is the difference between the number of students who chose science and the number of students who chose art?
- How many more students chose physical education than history?

1 2 3 4 5 6 7 8 9 0 PICTOGRAPHS

Fill in the frequency table and answer the questions.

Age	Frequency
8	10
9	15
10	20
11	12
12	18
13	25
14	14

Questions:

- What is the total number of books sold?
- How many books were sold by the 12-year-olds?
- What is the difference between the number of books sold by the 10-year-olds and the 13-year-olds?
- How many more books were sold by the 13-year-olds than the 11-year-olds?



Workbook Preview



Grade 6

Graphing and Probability

	Curriculum Expectations	Pages
GP.1	Line graphs • table of values, data set, creating and	5 - 99

**Preview of 80 pages from
this product that contains
215 pages total.**

Qualitative vs Quantitative Data

Quantitative data

Data that uses numbers (measured, counted)
- length, height, area, weight, time, etc.

Qualitative data

data that uses words (categories)
- choices, favourites, foods, colours, etc.

Questions

Read the description of the data and circle if it is quantitative or qualitative.

1) Money made in sale last month	Quantitative Qualitative
2) Heights of 100th grade	Quantitative Qualitative
3) Favourite foods of the students	Quantitative Qualitative
4) Rainfall in April last year	Quantitative Qualitative
5) Favourite colours of the students in your class	Quantitative Qualitative
6) The weight of different hockey skates	Quantitative Qualitative
7) The height of the grade 6 students	Quantitative Qualitative
8) Favourite season of the students in your school	Quantitative Qualitative
9) Which town/city people live in that go to your school	Quantitative Qualitative
10) Whether or not you have a pet	Quantitative Qualitative
11) How long it took to get to school	Quantitative Qualitative

Quantitative vs Qualitative Observations

Image #1



Image #2



Part 1

Write observations about image #1 and put an x if it is quantitative or qualitative

Observations	Quantitative	Qualitative
1) The vehicle has 4 wheels	x	
2) The vehicle has 2 doors		
3) The vehicle is white		
4) The vehicle's age is 3 years		
5) The vehicle has silver rims		
6) The vehicle has 2 headlights		
7) The vehicle is a car		
8) The vehicle drives up to 180km/hour		
9) The vehicle's tires are large		
10) The vehicle weighs 1700 kilograms		

Part 2

Write quantitative and qualitative observations about image #2

Observations	Quantitative	Qualitative
1)		
2)		
3)		
4)		
5)		

Primary vs Secondary Data

Primary Data

Data that you have collected yourself

Example

- asking your classmates their favourite food

Secondary Data

Data that has been collected by someone else

Example

- finding data on the internet

Part 1 Read the description of the data and circle if it is primary or secondary data

1) You research how many points LeBron scored in the NBA playoffs last year	Primary Secondary
2) You measure the height of all the kids in your class	Primary Secondary
3) You measure the weight of a rock each day for a week	Primary Secondary
4) You look up how much snow fell in your city last winter	Primary Secondary
5) You record how many minutes you watch each day	Primary Secondary
6) You weigh different sized rocks in your yard	Primary Secondary
7) You measure the weight of your cat each year	Primary Secondary
8) You research how many Orcas are left off the coast of Vancouver	Primary Secondary

Part 2 Write your own primary and secondary data descriptions below

1) Primary	
2) Secondary	
3) Primary	
4) Secondary	

Discrete or Continuous Data?

Discrete and continuous data are both forms of quantitative data. This means both are numerical, meaning the data is acquired through counting or measuring.

Discrete data is collected when the answers to a survey are only numbers. It is quantitative data that has no relationship between the numbers. For example, "how many pets you have" is discrete data because there is no relationship between 1 and 2 pets. You cannot have 1 and a half pets, only 1 or 2. Discrete data is counted.

With **continuous data**, there is a relationship between the numbers. For example, "how much rain there was last week?" You can have 1 and a half millimetres of rain, which means there is a relationship between 1 and 2. Continuous data is measured.

Question: Which question discrete or continuous?



Tip: Ask yourself, "Can you split the number in half?"

	Discrete/Continuous
1. How many cm of snowfall were there?	
2. How many siblings do you have?	
3. What was the average temperature in July?	
4. How many minutes did you read this week?	
5. How many video-games do you own?	
6. How many kilometres did you run this week?	
7. How many sports do you play?	
8. What grade are you in?	
9. How many litres of milk do you drink a week?	
10. How many cars does your family have?	

Discrete or Continuous Data?



Questions

Researching a car

You are purchasing a new car over the phone. You ask the car salesman the questions below. Is the data he gives you **discrete** or **continuous**?

Questions Collected	Discrete/Continuous
1) How many doors does the car have?	
2) How old is the car?	
3) How many litres does the tank hold?	
4) How many wheels does the car have?	
5) How fast does the car go?	
6) How many passengers can the car hold?	
7) How many speakers are in the car?	
8) How many kilometres has the car driven already?	
9) How much does the car cost?	
10) How long does it take to get up to 50km/hour?	
11) How long is the car?	
12) How many decibels do the speakers produce?	

Data – Qualitative, Discrete, or Continuous?

Part 1

Researching a basketball team

You are the manager of a basketball team and are researching your next opponent. You decide to collect data based on the questions below. Is the data qualitative, discrete, or continuous?



Data Collected	Qualitative/Discrete/ Continuous
1) How many players on the team?	
2) How tall are they?	
3) How many points did they score?	
4) What colour are their jerseys?	
5) Which teams have they played before?	
6) How many games have they played?	
7) How old are their players?	
8) How many wins do they have this year?	
9) How many seconds do they take before they shoot?	
10) Which type of defense do they play – zone or man?	
11) How many three pointers do they take a game?	
12) What is the name of their mascot?	

Part 2

Write one example of each type of data

Type of Data	Example
Qualitative	
Discrete	
Continuous	

Exit Cards

Cut Out

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

Name: _____

Is the research question discrete or continuous?

Research Question	Discrete/Continuous
How many times did the phone ring today?	
How many different species of birds did you observe on your nature walk?	
How many seconds did it take for the ice to melt completely?	
How many beats per minute is your resting heart rate?	

Name: _____

Is the research question discrete or continuous?

Research Question	Discrete/Continuous
How many times did the phone ring today?	
How many different species of birds did you observe on your nature walk?	
How many seconds did it take for the ice to melt completely?	
How many beats per minute is your resting heart rate?	

Name: _____

Is the research question discrete or continuous?

Research Question	Discrete/Continuous
How many times did the phone ring today?	
How many different species of birds did you observe on your nature walk?	
How many seconds did it take for the ice to melt completely?	
How many beats per minute is your resting heart rate?	

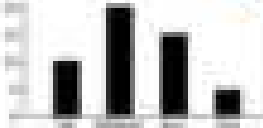
Name: _____

Is the research question discrete or continuous?

Research Question	Discrete/Continuous
How many times did the phone ring today?	
How many different species of birds did you observe on your nature walk?	
How many seconds did it take for the ice to melt completely?	
How many beats per minute is your resting heart rate?	

Types of Graphs - Information

There are many different types of graphs. Each graph has features that make it better for certain data sets. Read about the different graphs below and when we use each one.

Types of Graph	Explanation	When We Use Them
Pictograph 	A graph that uses images or symbols to represent data	- When we want to display simple data in picture form. - When we want to make our data more interesting
Bar Graph 	A graph that uses rectangles or bars to represent data	- When we want to compare categories between different groups - Used with discrete data
Line Plot 	- A graph that displays data as points or symbols (checkmarks or x's) above a number line - The dots are not connected	- Used to show the frequency of data - Used simply to organize data
Multiple-Bar Graph 	- A graph that shows the relationship between different values of data - The bars are presented beside each other for clear comparisons	- To display the relationship between two sets of data. For example - gender differences or adults vs youth
Broken-Line Graph 	- A graph that displays data as points that are connected with a line	- Used to track changes over periods of time - Used with continuous data

Types of Graphs - Questions

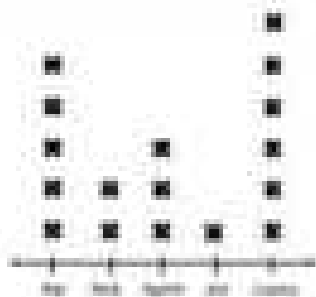
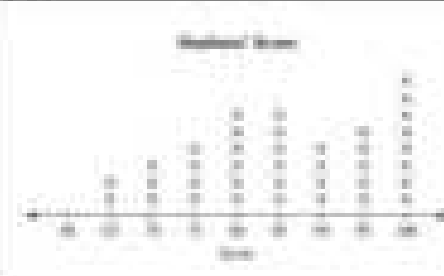
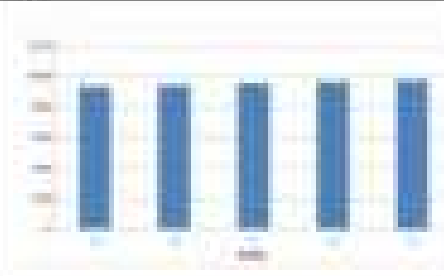
Part 1

Circle the graph you would use to represent the data

	Description	Graph A	Graph B
1)	You want a simple graph that shows a visual representation of the data	Broken-Line	Pictograph
2)	You want to show the relationship between two different sets of data	Bar Graph	Multiple Bar Graph
3)	You want a graph that has smaller values	Line Plot	Bar Graph
4)	You want a graph that displays your data visually	Multiple Bar Graph	Bar Graph
5)	You want to graph data that is continuous	Broken Line Graph	Line Plot
6)	You are displaying two sets of data for males and women	Bar Graph	Multiple Bar Graph

Part 2

Label the names of the graphs

		
1)	2)	3)
		
4)	5)	6)

Exit Cards

Cut Out

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

Name: _____

Circle the graph you would use to represent the data.

Description	Graph A	Graph B
1) You want to compare the total sales figures for four different products over a year.	Bar Graph	Line Plot
2) You are looking to display data that shows both an increase and decrease in a single variable over time.	Broken-Line Graph	Multiple Bar Graph
3) You want to represent data that shows the favourite sports of students and their frequencies.	Pictograph	Bar Graph
4) You want to show changes in data over time for different categories.	Multiple Line Graph	Line Plot

Name: _____

Circle the graph you would use to represent the data.

Description	Graph A	Graph B
1) You want to compare the total sales figures for four different products over a year.	Bar Graph	Line Plot
2) You are looking to display data that shows both an increase and decrease in a single variable over time.	Broken-Line Graph	Multiple Bar Graph
3) You want to represent data that shows the favourite sports of students and their frequencies.	Pictograph	Bar Graph
4) You want to show changes in data over time for different categories.	Multiple Line Graph	Line Plot

Horizontal Pictograph - Candy

A **pictograph** is a graph that displays data using symbols or pictures. Read the pictograph below and answer the questions.

Sam and his friends collected candy on Halloween. The amount of candy each friend collected is displayed below in the pictograph.

Friend	Number of Candies Collected	Frequency
Sam		
Steve		
Tony		
Jill		
Stacy		

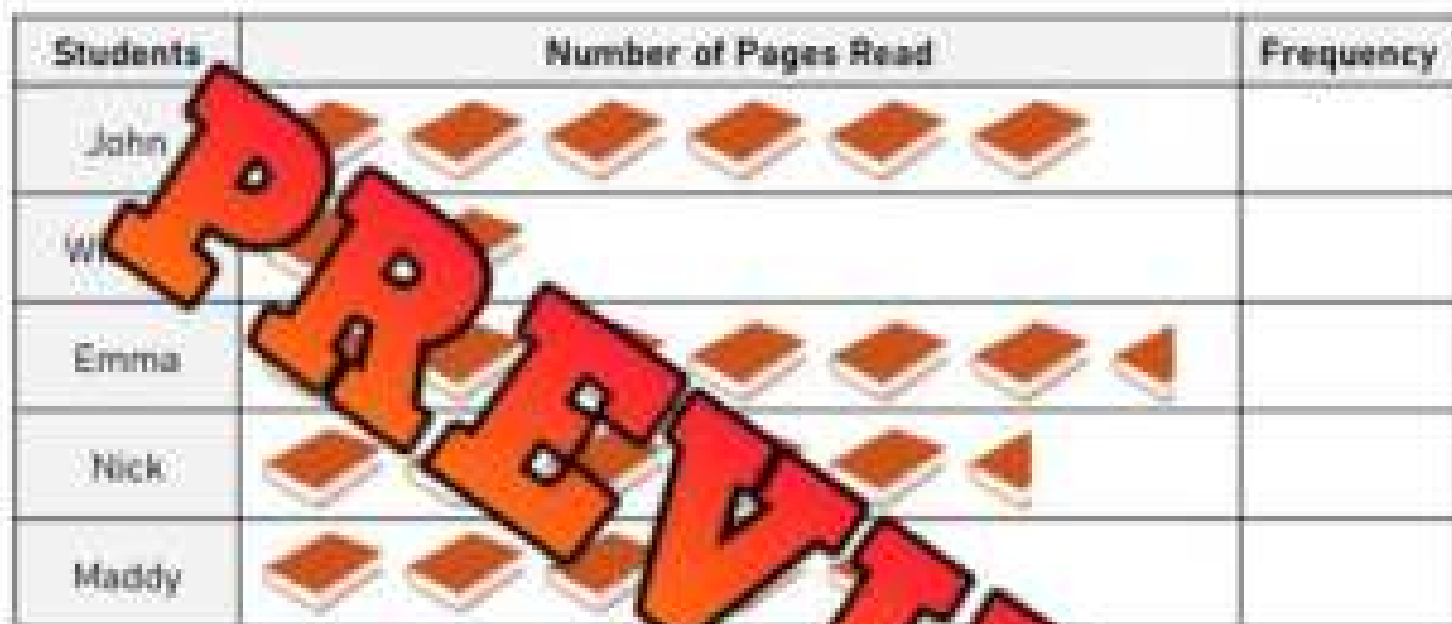


= 12 Candies

a) How much is one candy worth?	
b) How much is half a candy worth?	
c) Who collected the most candy?	
d) How much more candy did Jill collect than Tony?	
e) How much total candy was collected?	
f) Did Jill and Tony collect more candy than Sam and Steve?	

Horizontal Pictograph - Books

Mr. Wilson's class had a competition to see who could read the most pages in their books in a week. The results have been displayed in the pictograph below for the top 5 readers in the class.



a) How many pages is one book worth?

b) How many pages is half a book worth?

c) Who read the most and who read the least?

Least: _____

Most: _____

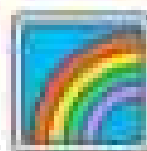
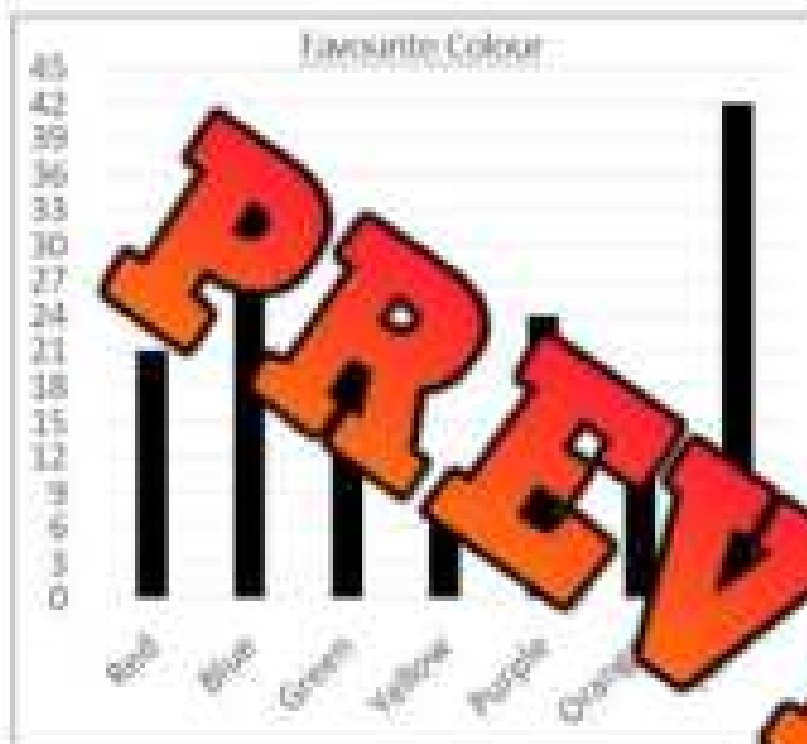
d) How many more pages did Emma read than William?

e) Did Maddy and Nick read more or less than Emma and John?

f) How many total pages were read by these 5 students?

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 bar graph below.



Frequency Table	
Red	
Blue	
Green	
Yellow	
Purple	
Orange	

a) Which colour was most popular?

b) Which two colours add up to pink?

c) Is the data quantitative or qualitative?

d) What is the scale of the graph?

e) What could the title of the x-axis be?

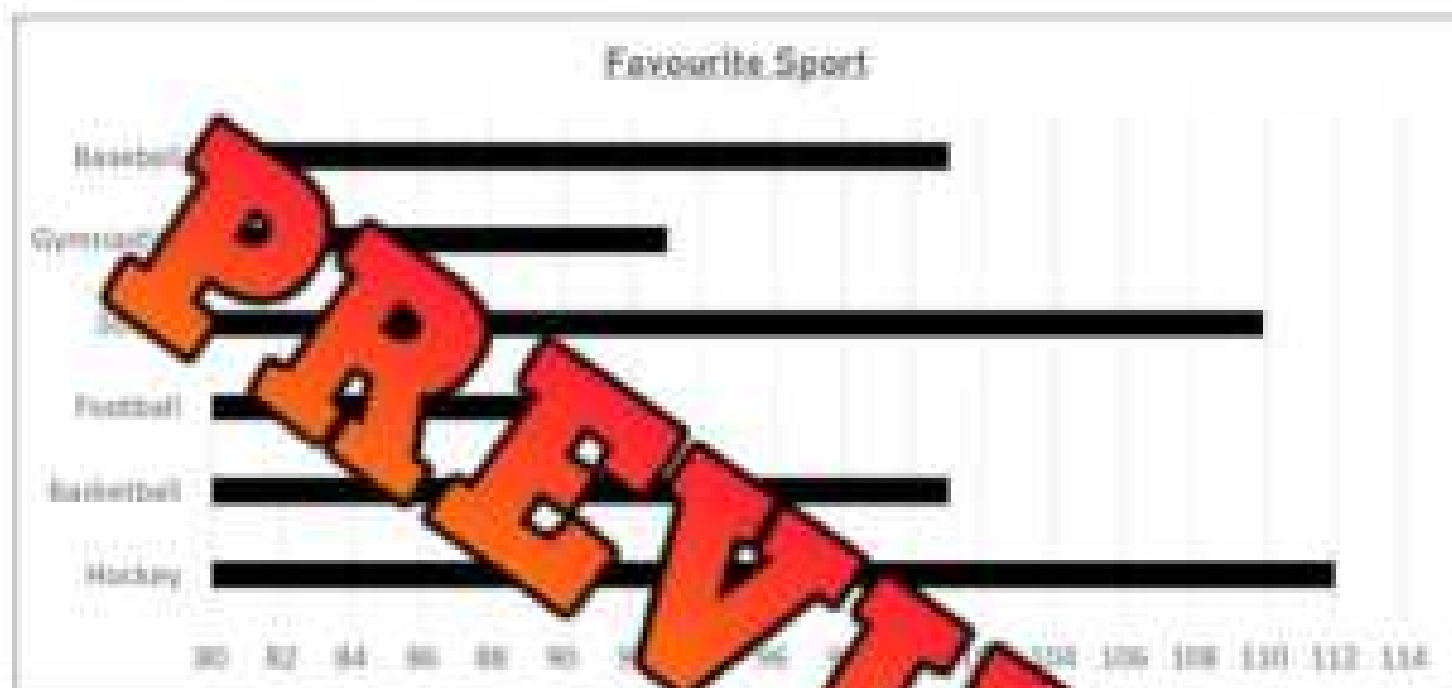
f) What could the title of the y-axis be?

g) Is this data discrete or continuous?

h) How many people were surveyed?

Horizontal Bar Graph – Favourite Sport

The kids at camp were asked which sport they liked the best. They surveyed each kid and the results have been displayed below in a horizontal bar graph.



Questions

Fill in the tables below

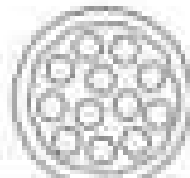
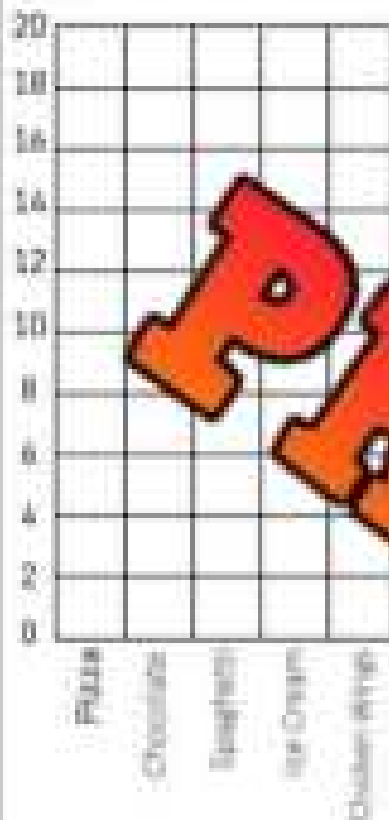
Frequency Table	
Baseball	
Gymnastics	
Soccer	
Football	
Basketball	
Hockey	

a) Which sport was most popular?	
b) What number does the scale start at?	
c) How many people chose gymnastics as their favourite?	
d) How many kids liked basketball and soccer the best?	
e) How many kids liked hockey more than football?	
f) How many kids were surveyed?	

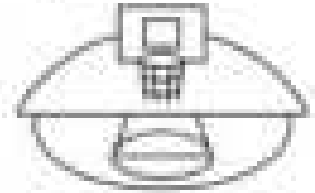
Drawing Bar Graphs

Instruction

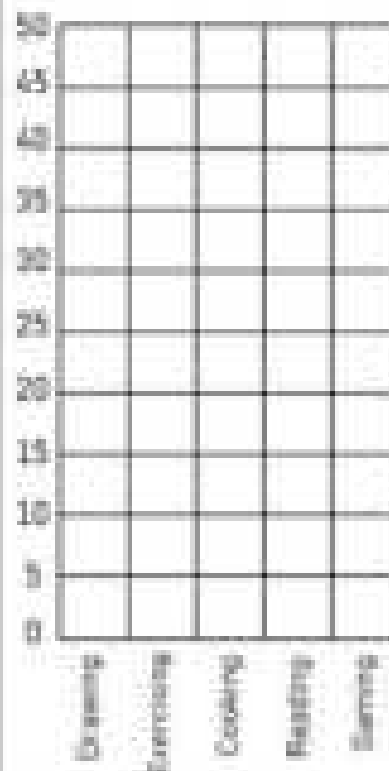
Draw the bars for each of the bar graphs below



Favourite Food	# of votes
Pizza	16
Chocolate	14
Smoothies	8
Ice Cream	5
Chicken Wings	1



Player	# of points
Jake	21
Nathan	12
Courtney	18
Ashley	28
Luke	8



Favourite Hobby	# of votes
Drawing	30
Exercising	11
Cooking	29
Reading	13
Gaming	45



Favourite Food	# of votes
Hot Dog	40
Pizza	80
Fries	75
Tacos	35
Sandwich	25

Exit Cards

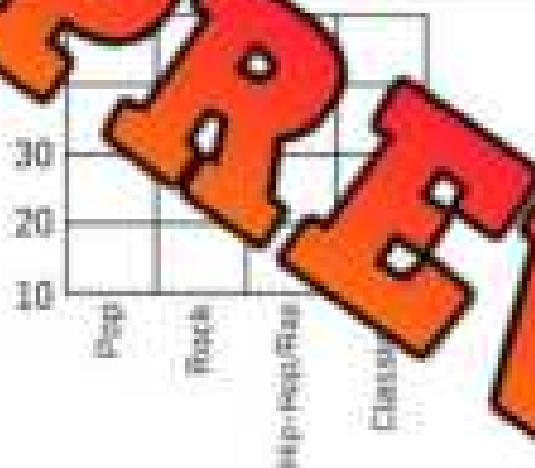
Cut Out

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

Name: _____

Draw the bars for the bar graph below.

Music	Pop	Rock	Hip-Hop/ Rap	Classical
Votes	35	20	10	45



Name: _____

Draw the bars for the bar graph below.

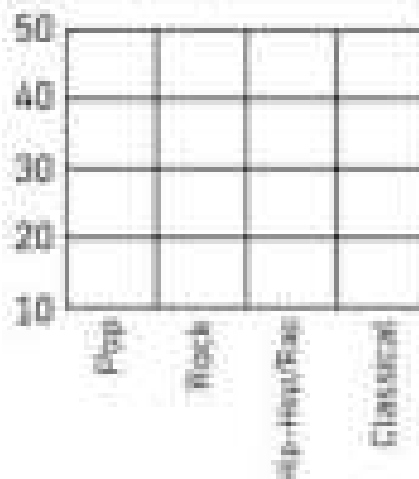
Music	Pop	Rock	Hip-Hop/ Rap	Classical
Votes	35	20	10	45



Name: _____

Draw the bars for the bar graph below.

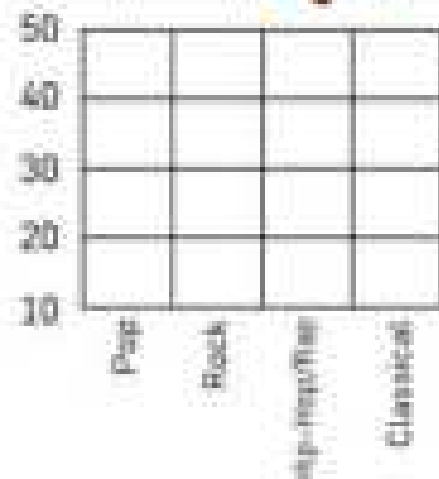
Music	Pop	Rock	Hip-Hop/ Rap	Classical
Votes	35	20	10	45



Name: _____

Draw the bars for the bar graph below.

Music	Pop	Rock	Hip-Hop/ Rap	Classical
Votes	35	20	10	45



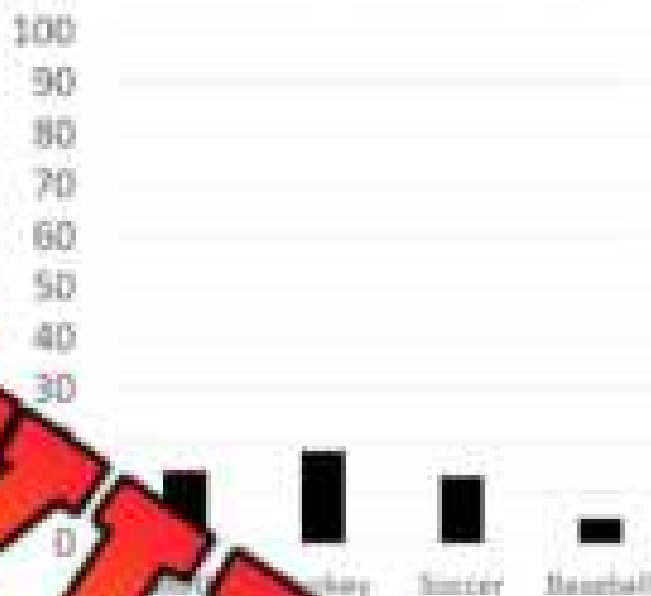
Examining Scale – Favourite Sport

The two graphs below display the same data. Examine both graphs and answer the questions below.

Favourite Sport – Graph A



Favourite Sport – Graph B



Questions:

What do you notice about the

a) What is the scale in Graph A?

b) What is the scale in Graph B?

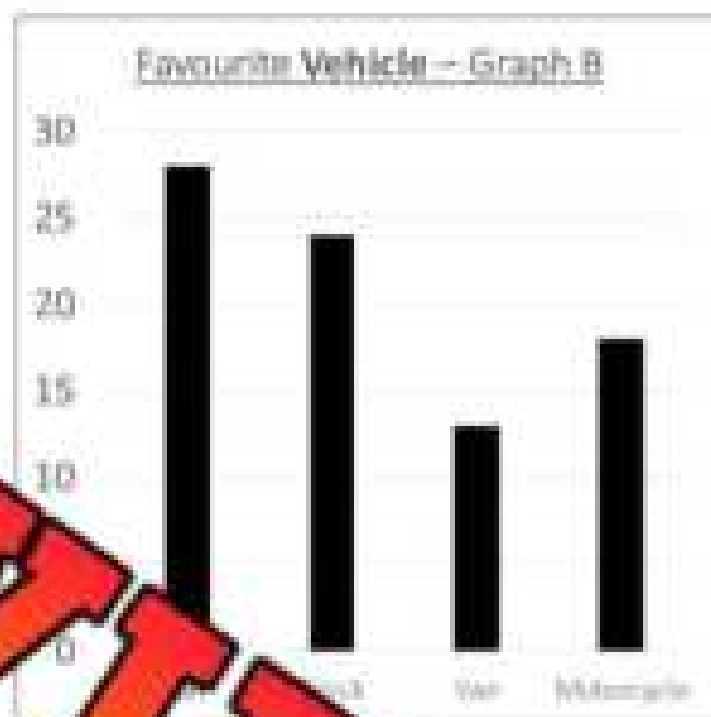
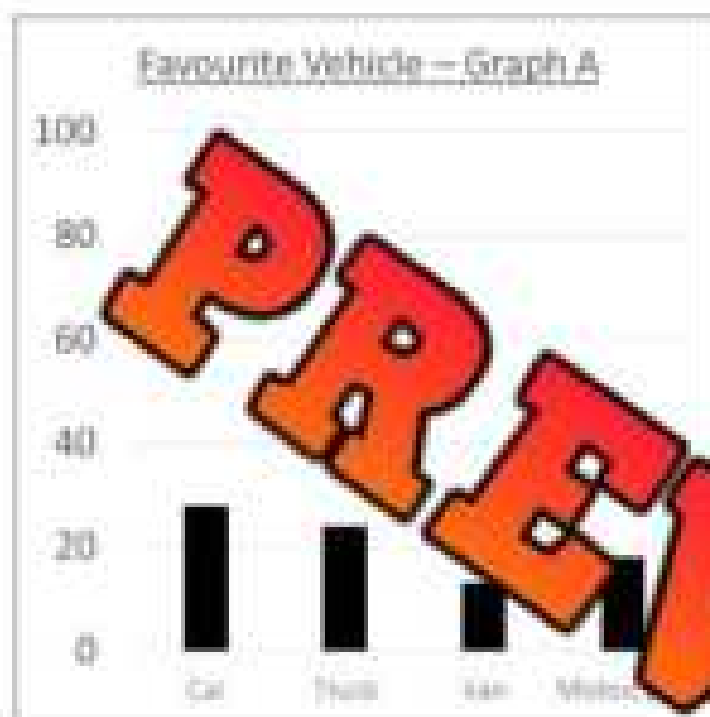
c) Which graph uses more of the space?

d) Which graph is easier to read and interpret? Why is that graph better?

e) Why is it important to choose an appropriate scale?

Examining Scale – Favourite Vehicle

The two graphs below display the same data. Examine both graphs and answer the questions below.



Questions

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 better? Why?
- What other scales could you use for the data?
 - Go up by _____
 - Go up by _____

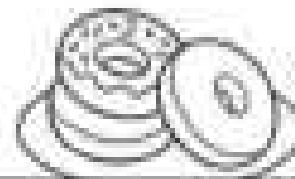
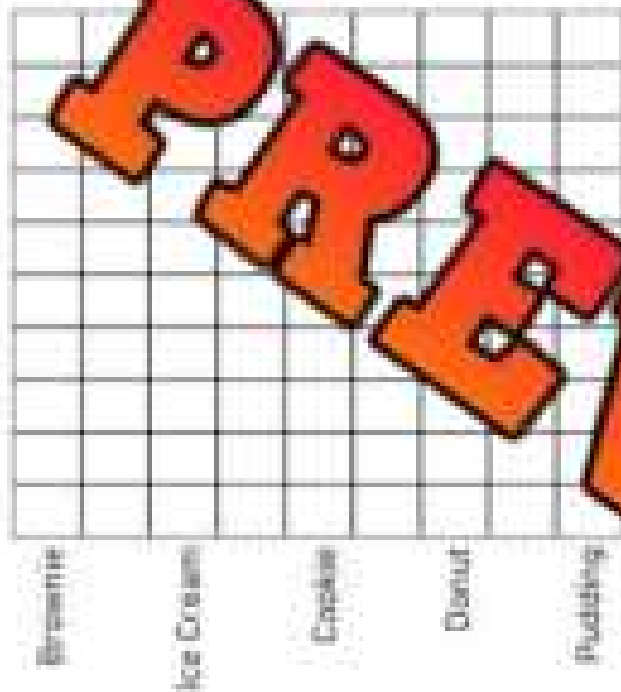
Creating Scale

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.

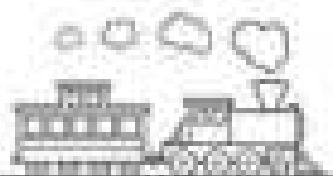
Step 1: Look at the data. Find the lowest and highest numbers.

Step 2: Count how many lines you have to plot your data.

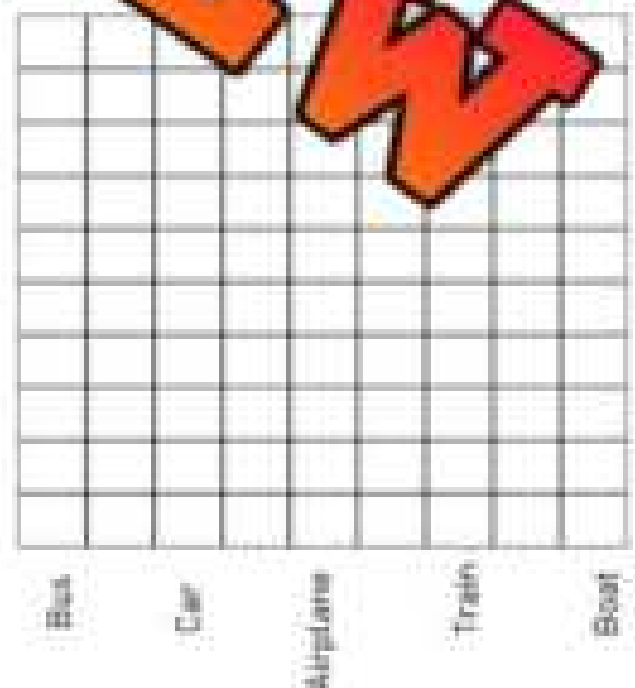
Step 3: Decide what to go up by to ensure you have enough space to plot ALL the data.



Favourite Dessert	# of votes
Brownie	23
Ice Cream	27
Cookie	15
Donut	12
Pudding	9

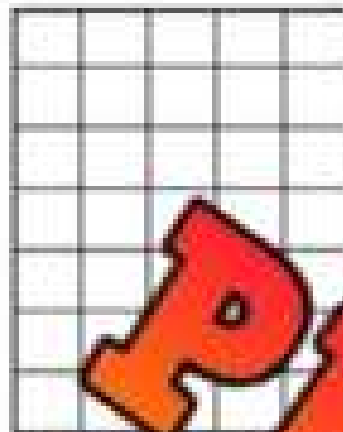


Transportation Method	# of votes
Bus	11
Car	49
Airplane	91
Train	70
Boat	82

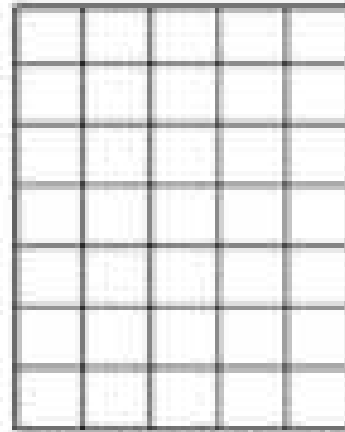


Creating Scale

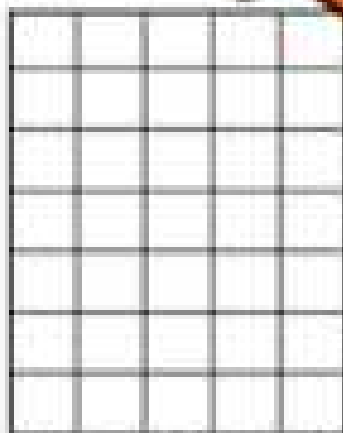
Questions: 1. Read the numbers and decide which scale to use 2. Draw your bar graphs



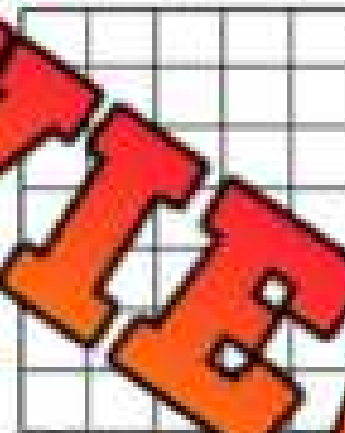
Pets	Votes
Dog	3
Cat	12
Bunny	18
Hamster	15
Turtle	9



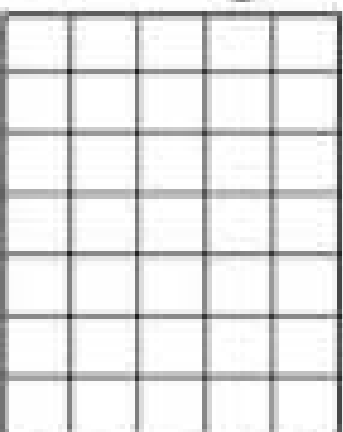
Brand	Votes
Nike	10
Puma	6
Adidas	3
Under Armour	8
Reebok	12



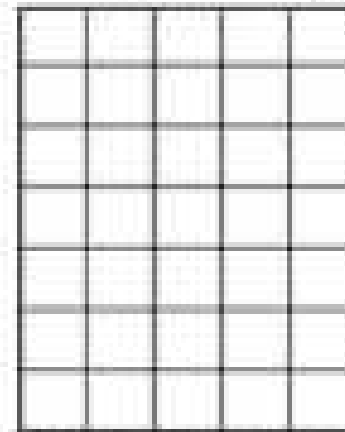
Food	Votes
Cookies	12
Cake	18
Candy	35
Ice Cream	24
Donuts	12



Subject	Votes
Math	8
Science	22
Gym	65
Art	41
Life	30



Cars	Votes
Honda	200
BMW	450
Toyota	225
Tesla	675
Ford	350



Drinks	Votes
Water	700
Pop	1300
Orange Juice	550
Milk	150
Apple Juice	825

Honda BMW Toyota Tesla Ford

Water Pop O.J. Milk A.J.

Collecting Data – Qualitative

Qualitative data is non-numerical data that can be organized by categories, such as type of pet, or favourite colour.

Questions of interest are questions we have that we want to learn more about. We learn more about them by collecting data from a population.



Examples - Which YouTuber is the best from this list? Which video game system is the best?

Population - Choosing your population is important. If you asked kindergartens the same question as grade 6's, you would expect different results and you might not be interested in the kind of data.

Data Collection - Collect data by asking the population your survey question

Survey Question Example: What is your favourite music genre?				
Categories				
Tally				
Frequency				

Interpreting Your Survey Results

1. Which population did you ask? (ex- grade 6's, kids under 12) _____
2. How many people were surveyed? _____
3. Which category was the most popular? _____ least popular _____
4. If you asked your entire school, which category do you think would win? Explain.

5. What conclusions can you make from your data? What did you learn?

Creating a Bar Graph

Use the data you collected to plot your graph. Remember the following labels:

X axis label ☐ Y axis label ☐ Title ☐ Scale ☐ Categories ☐



Collecting Quantitative Discrete Data

Quantitative discrete data - is data that is collected through counting. We don't use categories, instead we use numbers or intervals.

Examples - number of pets, number of siblings, number of goals scored, number of books read this week



Intervals - You can setup your responses into a group of numbers to allow for a larger range of numbers. For example: 0-4, 5-9, 10-14, 15-19, 20-24

Data Collection - Collect data by asking the population your survey question

Survey Question				
Example: How many books did you read this week?				
Numbers/Intervals				
Tally				
Frequency				

Interpreting Your Survey Results

1. Which population did you survey? _____
2. Which number/interval was the most popular? _____ least popular? _____
3. How many people did you survey? _____
4. Why is this data quantitative? _____

5. What conclusions can you draw from your data? What did you learn?

Graphing Quantitative Data

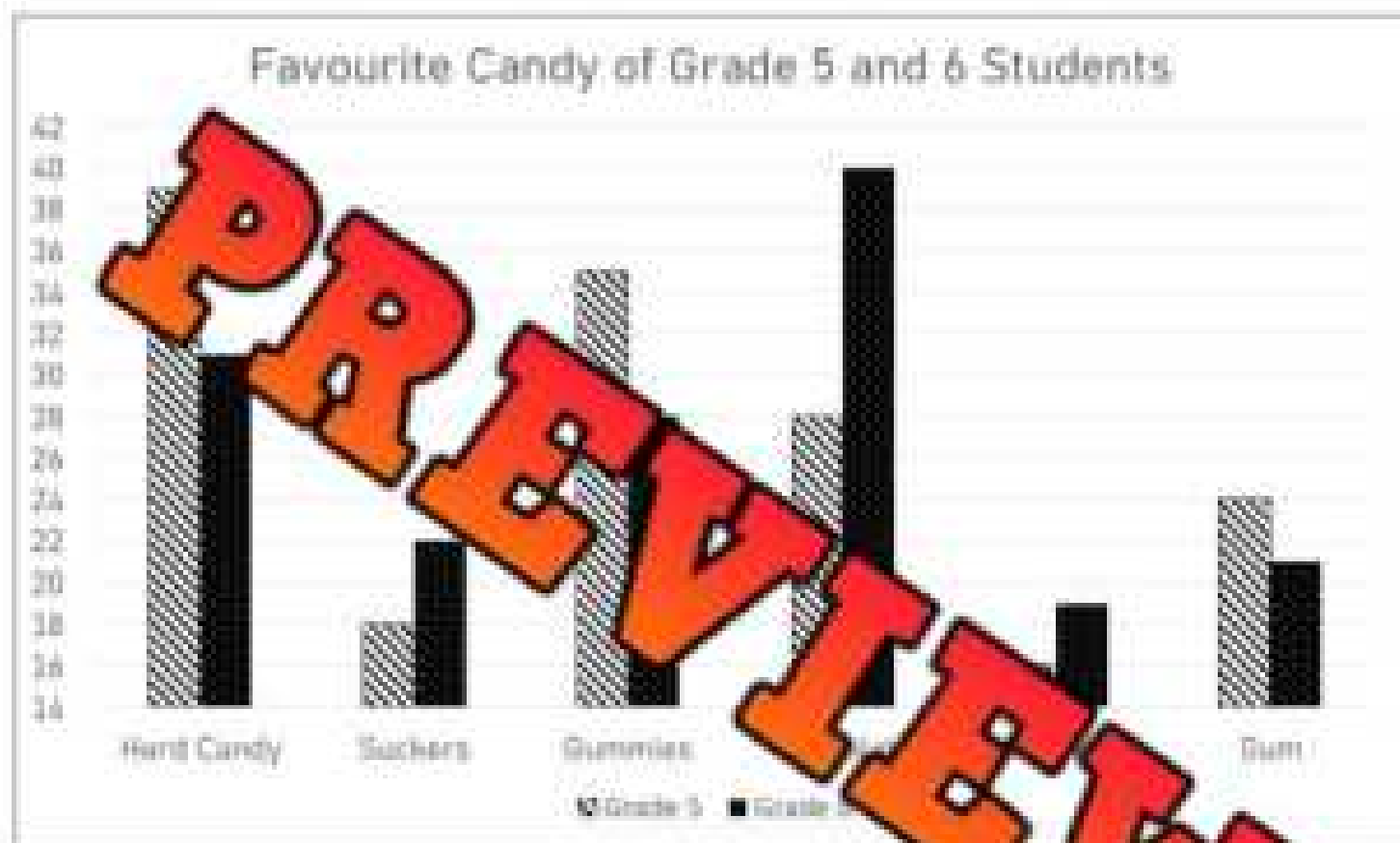
Use the data you collected to plot your graph. Remember the following labels:

X axis label ☐ Y axis label ☐ Title ☐ Scale ☐ Number/Intervals ☐



Interpreting a Double Bar Graph

The students in grades 5 and 6 were asked which candy was their favourite. The results have been sorted by grade in the double bar graph below.



a) Which candy did the grade 5's like the most?

b) Which candy did the grade 6's like the most?

c) Which candy got the most votes combined?

d) How many more votes did chocolate get in total over licorice?

e) Did more grade 5s or grade 6s participate in the survey?

f) How many students participated in the survey?

Exit Cards

Cut Out

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

Name: _____

Preferred Learning Styles of Grade 6 Students.

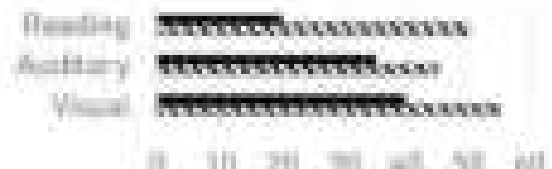


1) Which learning style is the most preferred among the students?

2) What is the total number of students who prefer either Visual or Auditory Learning?

Name: _____

Preferred Learning Styles of Grade 6 Students.

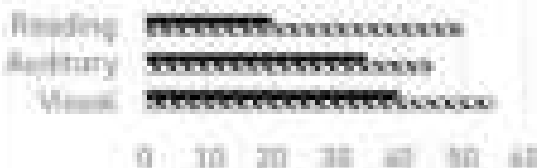


1) Which learning style is the most preferred among the students?

2) What is the total number of students who prefer either Visual or Auditory Learning?

Name: _____

Preferred Learning Styles of Grade 6 Students.

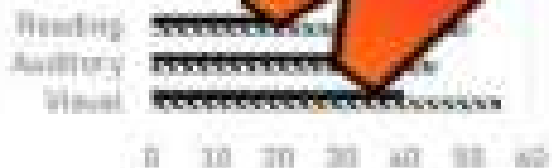


1) Which learning style is the most preferred among the students?

2) What is the total number of students who prefer either Visual or Auditory Learning?

Name: _____

Preferred Learning Styles of Grade 6 Students.



1) Which learning style is the most preferred among the students?

2) What is the total number of students who prefer either Visual or Auditory Learning?

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 cup for flipping
- A smartboard or board to display bar graphs
- Timer (stopwatch or timer app)
- Question cards with questions about the data
- Scoreboard to keep track of team scores

**Instructions**

How you will complete the activity.

1. Divide the class into small teams, ideally of 3-5 students each.
2. Prepare a series of bar graphs to display data and corresponding question cards that ask about the data.
3. One team at a time comes to the front where the graph is 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

What did you learn from the graph?

Average Monthly Rainfall Across
Different Cities

Graph 5

What did you learn from the graph?

Comparison of Average Daily Caloric Intake
by Age Group



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 items 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 others?

What could be a possible reason for the highest value?

What could be a possible reason for the lowest value?

What trends can you observe from the graph?

How might this data be useful?

If you could add another category to this graph, what would it be?

How would you describe the overall distribution of data?

What insights or conclusions can you draw from this graph?

How might the information on the graph impact decisions or opinions?

Multiple-Bar Graph – Favourite Social Media

The students in grade 4, 5, and 6 were asked which social media app was their favourite. The results have been sorted by grade in the multiple-bar graph below.



Part 1

Fill in the frequency table by reading the multiple-bar graph.

Grades	Snapchat	YouTube	Tik Tok	Facebook	Instagram
4					
5					
6					

Part 2

Answer the questions below

a) How many students in each grade were surveyed?	
b) Which social media was the most popular? How many votes did it get?	
c) How many more grade 4's liked YouTube than grade 6's?	

Creating a Multiple-Bar Graph with 3 Groups

Assignment

Create a multiple-bar graph using data you have collected.

1. Choose a population that you can segment into 3 groups.

Example – Kids with no siblings, kids with 1 sibling, kids with more than 1 sibling.

Groups within Population: _____

2. Choose a survey question you would like to learn more about. Think about how the answers might be different based on your different groups.

Survey Question: _____

Option 1		Option 2			Option 4			Option 3		
Group 1	Group 2	Group 3								
Tally	Tally	Tally								

Name: _____

59

Curriculum Connection
LP.1

Creating a Multiple-Bar Graph – 3 Groups

Use the data you collected to plot your graph. Remember the following labels:

X axis label ☐ Y axis label ☐ Title ☐ Scale ☐ Categories ☐



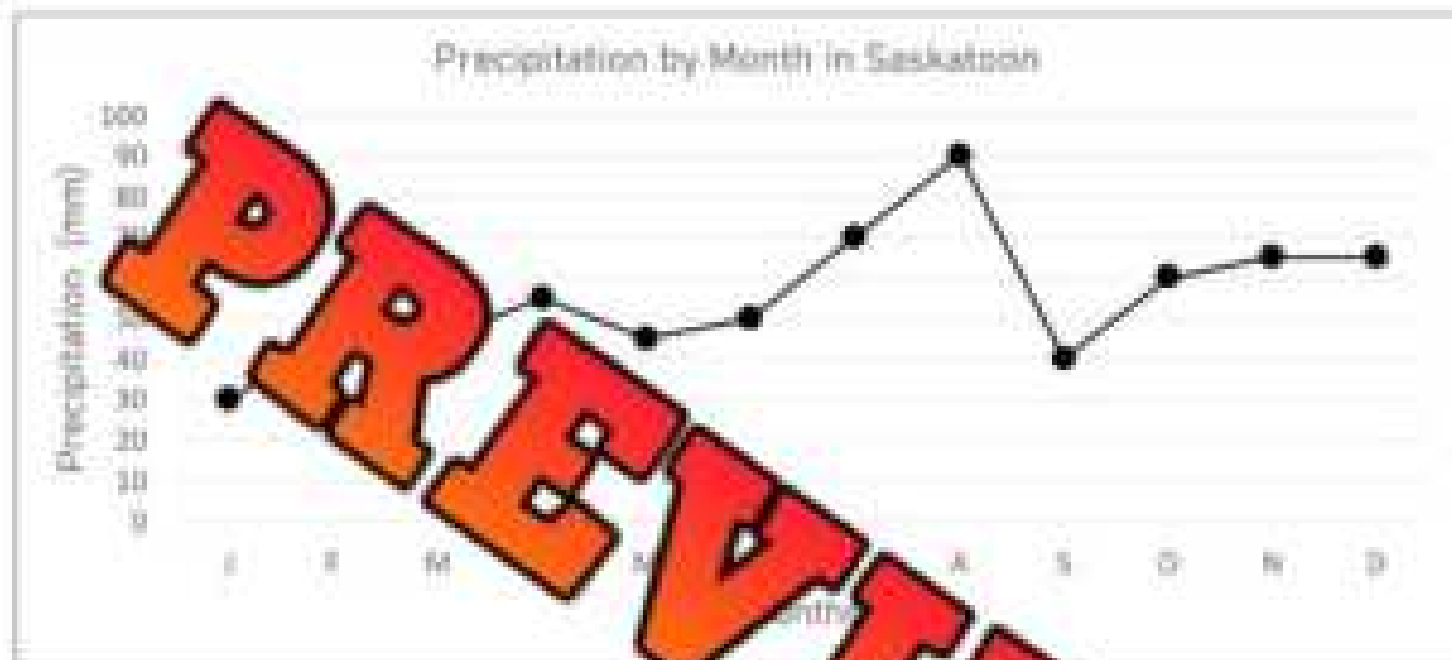
Legend

☐☐

Fill in the frequency table below with your 5 categories and 3 different groups

Interpreting a Broken-Line Graph

Precipitation is the amount of water falling from the sky. It can be in the form of rain, snow, drizzle, sleet, or hail. The data for total precipitation in Saskatoon for 2021 has been represented in the broken-line graph below. Numbers have been rounded to the nearest 5.



Part 1

Fill in the frequency table below using the broken-line graph.

J	F	M	A	M	J	J	A	S	O	N	D

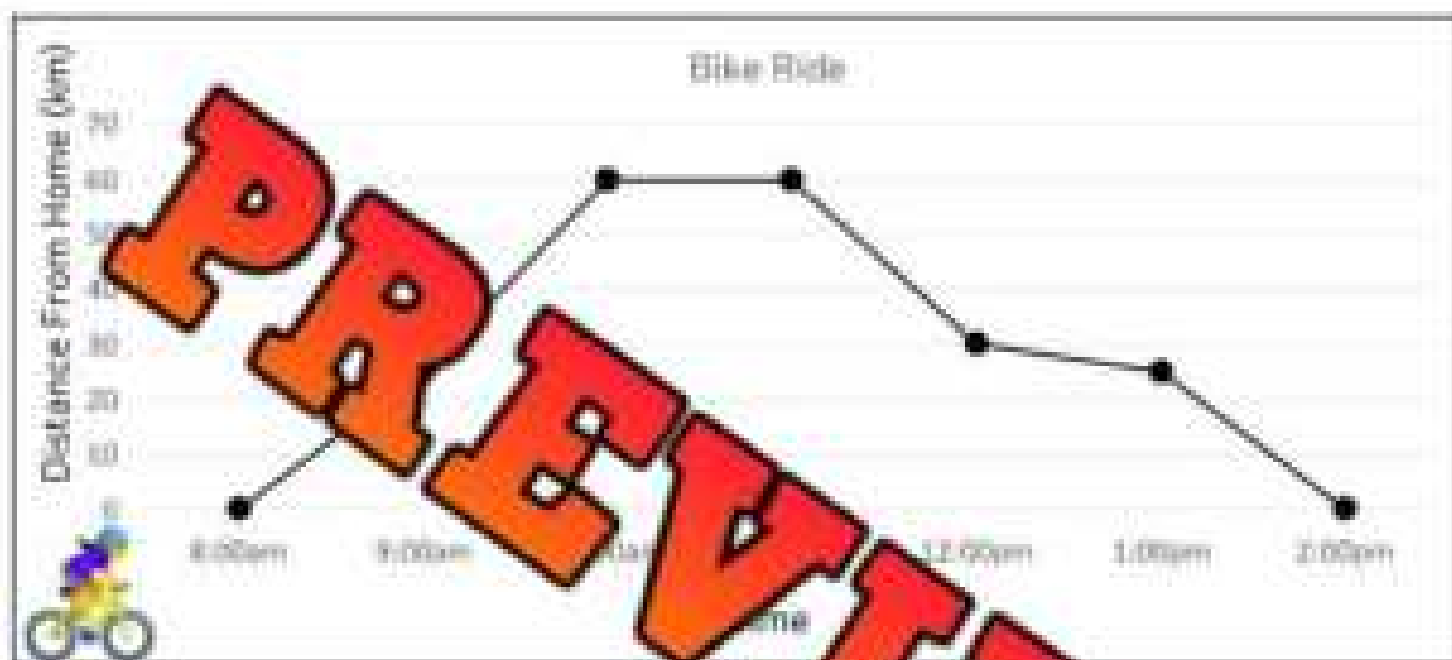
Part 2

Solve an argument.

- a) Nolan and Rachel are arguing over which time of year has more precipitation. Nolan says that more precipitation falls from January-June, but Rachel says more falls from July-December. Who is correct? Explain using data to support your answer.
- b) Rachel says the largest increase of precipitation happened from January to February, but Nolan thinks it was from September to October. Who is correct? Explain.

Interpreting a Broken-Line Graph

Jessica went for a bike ride from 8:00am to 2:00pm. She stopped to enjoy some food at a park and then went home. Unfortunately, she had a flat tire on the way home, but she eventually made it.



Part 1

Fill in the frequency table by reading the graph above.

Time									
Distance Travelled (km)									

Part 2

Answer the questions below.

a) How many kilometres in total did Jessica travel?	
b) What time did Jessica stop at the park?	
c) When did Jessica have a flat tire?	
d) What hour did Jessica travel the most kilometres?	
e) How many hours was Jessica biking for?	

Exit Cards

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

Name: _____

Number Of Ice-Cream Cones Sold (Nearest 5)

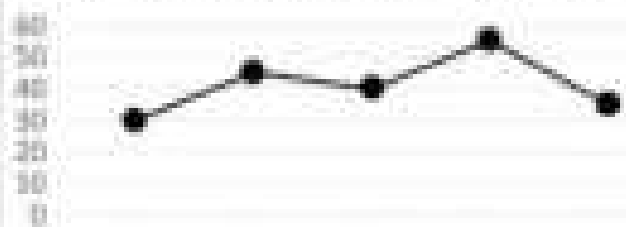


1) On which day were the most ice cream cones sold?

2) How many more ice cream cones were sold on Friday than on Monday?

Name: _____

Number Of Ice-Cream Cones Sold (Nearest 5)

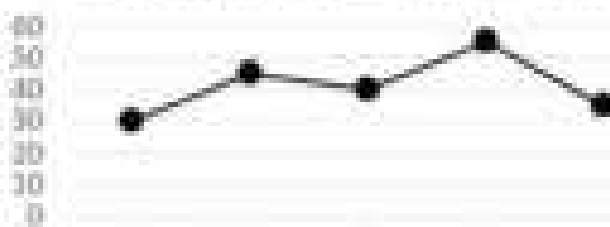


1) On which day were the most ice cream cones sold?

2) How many more ice cream cones were sold on Friday than on Monday?

Name: _____

Number Of Ice-Cream Cones Sold (Nearest 5)



1) On which day were the most ice cream cones sold?

2) How many more ice cream cones were sold on Friday than on Monday?

Name: _____

Number Of Ice-Cream Cones Sold (Nearest 5)



1) On which day were the most ice cream cones sold?

2) How many more ice cream cones were sold on Friday than on Monday?

Interpreting Double Broken-Line Graph

Lincoln and Maverick had a contest to see who could run the most kilometres in a week. Their results are displayed in the broken-line graph below.



Questions

Answer the questions below

1) Who ran more km in the week?	
2) Is the data continuous or discrete?	
3) Which day did Maverick run the most? How far did he run?	
4) Who was winning the contest after the fifth day?	
5) How many total km did the two girls run together?	
6) Which day did Lincoln run the furthest? How far did he run?	
7) How many more km did Maverick run on day 7 than Lincoln?	

Experiment - Collecting Continuous Data

Instructions: Create a "track" that you can run or walk around 10 times. Have a friend use a stopwatch to record how many seconds it takes for you to complete each lap.



Hypothesis

Will your lap times get faster or slower? Explain.

Data Collection

Collect data and answer the questions below

Record how many seconds it takes you to complete each of the 10 laps.

1	2	3	4	5	6	7	8	9	10

Interpreting The Data

1. Was your data collected from a primary or secondary source? _____
2. What conclusions can you draw from your data? Why do you think you learned this? _____
a) _____
b) _____
3. Why is this data continuous data? _____
4. If your graph has ten lines on the y axis (up and down), what scale will you go up by? _____

Creating a Broken-Line Graph

Use the data you collected to plot your graph. Remember the following labels:

X axis label ☐ Y axis label ☐ Title ☐ Scale ☐ Categories ☐



Misleading Graphs

Imagine you are selling a book you wrote. You want to show your customers that your book is selling like crazy, and they should buy it now before it sells out. Which graph would you choose for an infographic?

Book Sales - Graph A



Book Sales - Graph B



Questions

What do you notice about the graphs?

a) Which graph would you use to show customers that you have been growing massively? Why?

b) How are the graphs different? Do they have the same data?

c) How many sales were made from September to December?

d) Does graph A make it seem like more books were sold? Explain.

e) Why is it important to read a graph carefully?

Misleading Graphs

Fantastic Footwear is running an ad campaign comparing their products versus their competitor, Super Shoes.

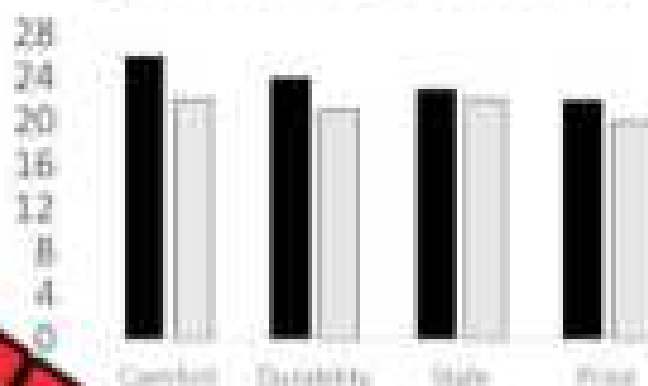
Best Shoes – Customer Votes – Graph A

■ Fantastic Footwear ■ Super Shoes



Best Shoes – Customer Votes – Graph B

■ Fantastic Footwear ■ Super Shoes



Questions

What do you notice about the graphs?

a) Which graph would you use if you were Fantastic Footwear?

b) How many more votes in total did Fantastic Footwear get over Super Shoes?

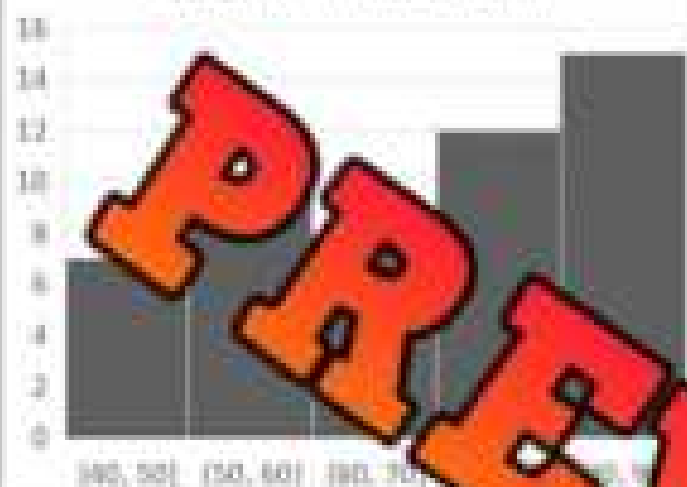
c) Are Fantastic Footwear shoes a lot better than Super Shoes? Explain.

d) Why would advertisers use charts like this to sell their products?

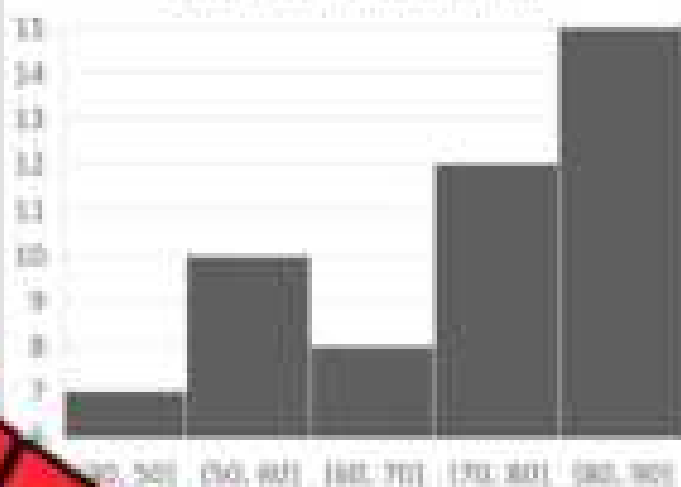
Misleading Graphs

Wellington High School is proud of how many students they have on their honour roll (80% or more). They want to show off their success by posting their data.

Graph A - Honour Roll



Graph B - Honour Roll



Questions

What do you notice about the two graphs?

a) Which histogram should Wellington High School use to emphasize their success?

b) How many more students were on the honour roll? _____

c) How many did not make the honour roll? _____

d) Would it be fair to use Graph B? Why or why not?

e) **Make a connection** - Have you ever seen an advertisement use a misleading graph?

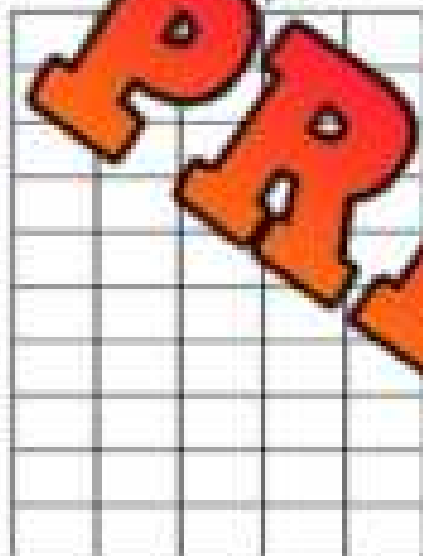
Misleading Graphs

Part 1

Draw two graphs – one that is misleading and one that is honest

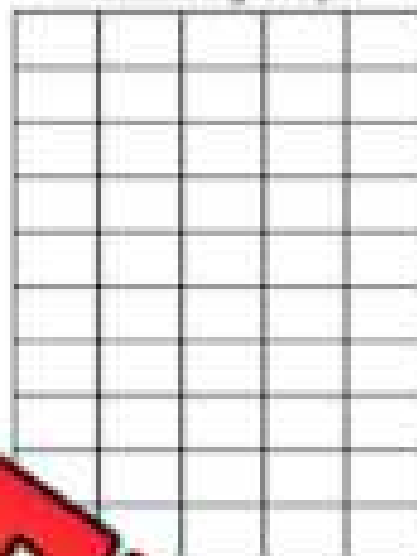
If you were selling cola as a business, how would you graph the data to make it look like your product is much more popular than the other products?

Honest Graph



Favourite Pop	# of votes
Cola	15
Tea	21
Root Beer	18
Other	12
Ginger Ale	10

Misleading Graph



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?

Truth or Lie? Graph Edition

Objective

What are we learning about?

Students will learn to identify and explain misleading elements in graphs, developing critical thinking skills and understanding how data can be manipulated in visual representations.

Materials

What you will need for the activity:

- A set of 10 graphs (some accurate, some misleading)
- Smartboard or projector to display the graphs
- Classroom index cards for students to record and view the graphs



Instructions

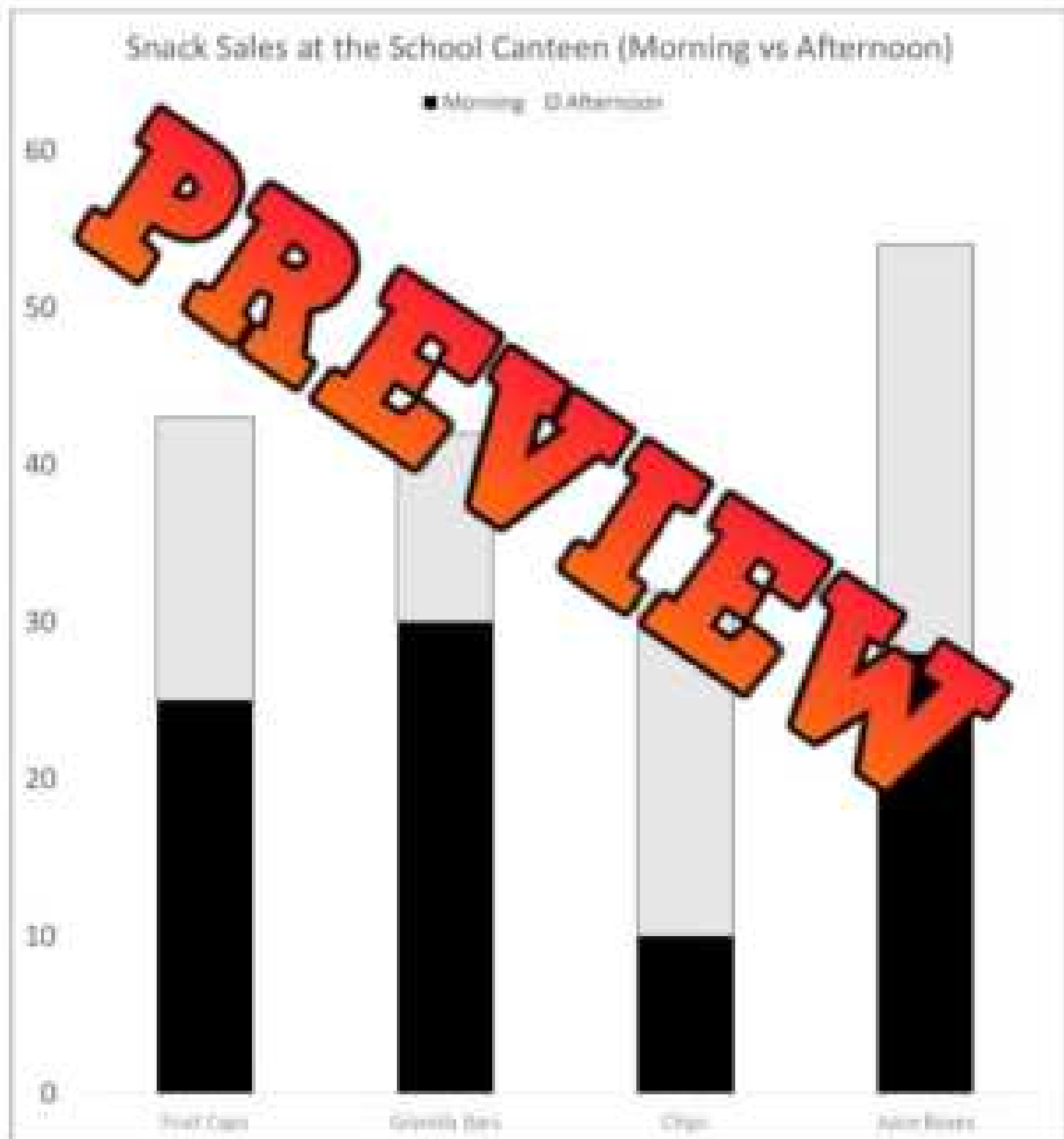
How to complete the activity

1. Begin by explaining the concept of misleading graphs to the students, highlighting common ways graphs can be manipulated (e.g., using a misleading scale, omitting data, exaggerating differences).
2. Show each graph one at a time on the smartboard or projector. Ensure all students can see the graph clearly.
3. After showing each graph, ask the students to use finger cards to indicate their decision. They show one finger if they believe the graph is true and two fingers if they believe the graph is misleading (or if they believe the graph is misleading in some way).
4. Once all students have made their decisions, invite a few students or groups to explain their reasoning. Ask them to point out specific elements of the graph that make it true or misleading, such as the use of a misleading scale or omitted data.
5. Facilitate a class discussion to reinforce key concepts, summarizing the points made by the students and providing additional examples if necessary.
6. Repeat steps 3–6 for each graph in the set. Encourage students to look for new elements that might be misleading as they view different graphs.
7. After all graphs have been discussed, ask the students to reflect on what they have learned. Provide them with questions to think about or answer in their math journals or as a group.

Graph

What do you notice about the graph?

A graph comparing the number of different snacks sold in the school canteen during the morning and afternoon periods.

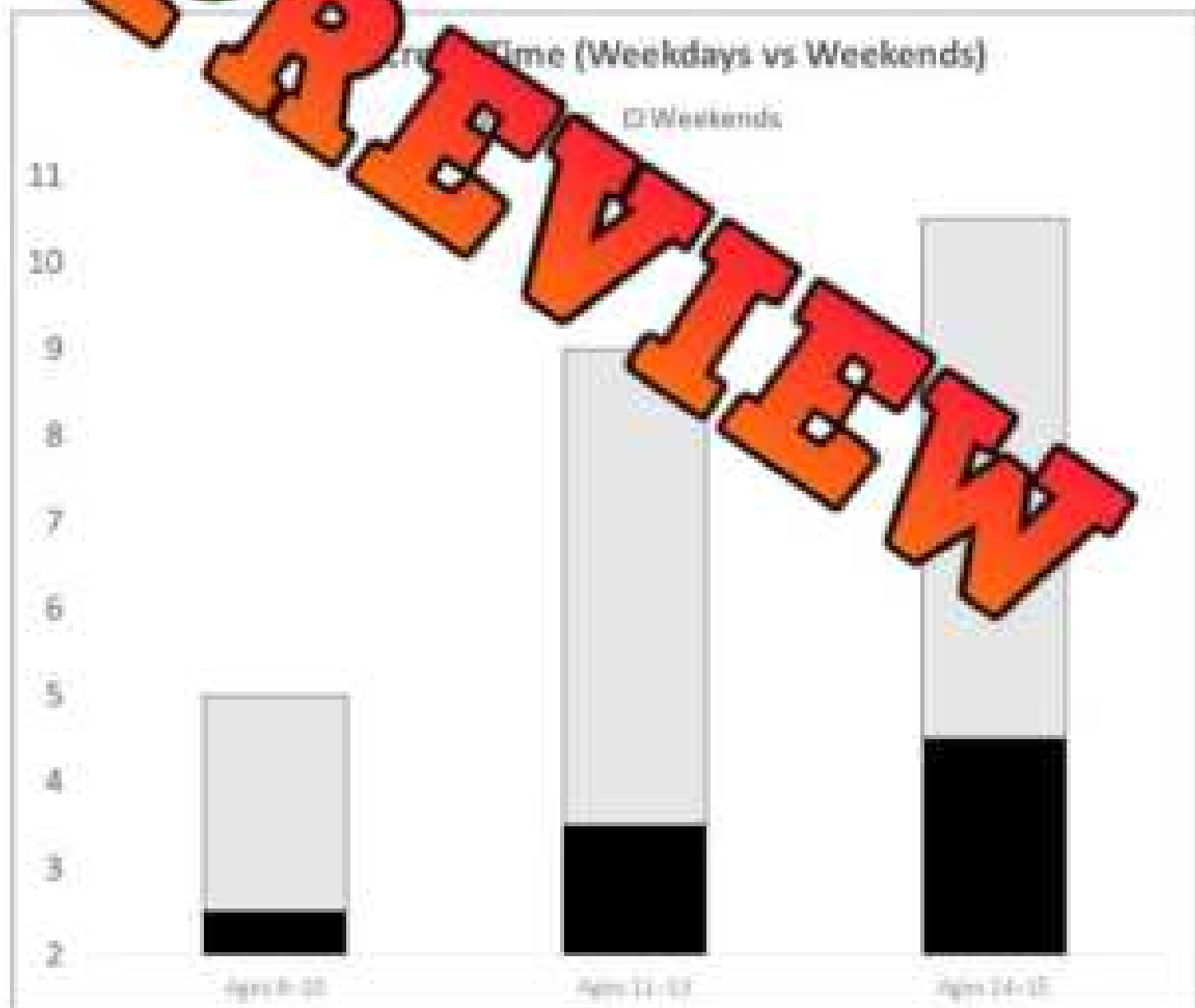


Graph

What do you notice about the graph?

A graph showing the average number of hours students in different age groups spend on screens during weekdays and weekends.

Age Group	Weekdays	Weekends
Ages 8-10	2.5	2.5
Ages 11-13	3.5	5.5
Ages 14-15	4.5	6.0



Graph

What do you notice about the graph?

How many hours students sleep on a typical school night.

Hours of Sleep (per night)



Graph

What do you notice about the graph?

How many texts students sent in a single day

Number of Text Messages Sent in One Day



Graph

What do you notice about the graph?

A graph showing how the daily high temperature changed over a week in early spring.

Temperature Over a Week

Temperature (°F)



Graph

What do you notice about the graph?

A graph comparing how many cups of water two students (Ava and Liam) drank each day over the course of a week.

Daily Water Intake (in Cups) Over a Week – Two Students



Choosing an Appropriate Graph

Questions Read the data below and decide which type of graph you would use to represent the data.

1) You surveyed your classmates asking which sport is their favourite. The results are listed below.

Baseball	Gymnastics	Dance	Hockey	Football
25	35	22	18	12

Which type of graph would you use to represent the data? Explain your choice.

2) You surveyed the teachers and students at your school asking them which food was their favourite. The results are listed below.

	Pizza	Pasta	Chicken	Steak	Hot Dogs
Students	22	17	14	10	25
Teachers	16	21	18	12	2

Which type of graph would you use to represent the data? Explain your choice.

3) You are displaying your height in centimetres from when you were 1 years old until you were 6 years old.

1	2	3	4	5	6
52	67	79	92	102	114

Which type of graph would you use to represent the data? Explain your choice.

Exit Cards

Cut Out

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

Name: _____

Read the data below and decide which type of graph you would use to represent the data.

You recorded the rainfall (in mm) for two cities over three months. The results are listed below.

Month	City A	City B
January	50	80
February	70	65
March	85	90

Which type of graph would you use to represent the data? Explain your choice.

Name: _____

Read the data below and decide which type of graph you would use to represent the data.

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Month	City A	City B
January	50	80
February	70	65
March	85	90

Which type of graph would you use to represent the data? Explain your choice.

Unit Quiz – Data Literacy

Part 1 Read the description of the data and circle if it is quantitative or qualitative

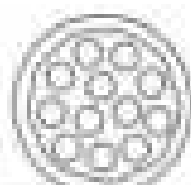
1) Favourite music genre	Quantitative	Qualitative
2) Heights of students in your class	Quantitative	Qualitative
3) Number of students in each classroom	Quantitative	Qualitative

Part 2 Read the description of the data and circle if it is discrete or continuous

1) Temperature over a long time period	Discrete	Continuous
2) How many siblings in a family	Discrete	Continuous
3) How tall a tree grows over a year	Discrete	Continuous

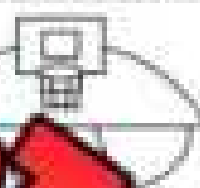
Part 3 Draw the bars for each of the bar graphs below. Calculate the averages

Pizza
Chocolate
Spaghetti
Ice Cream
Chicken Wings



Favourite Food	# of votes
Pizza	27
Chocolate	15
Spaghetti	12
Ice Cream	15
Chicken Wings	21

Jake
Nathan
Courtney
Ashley
Luke

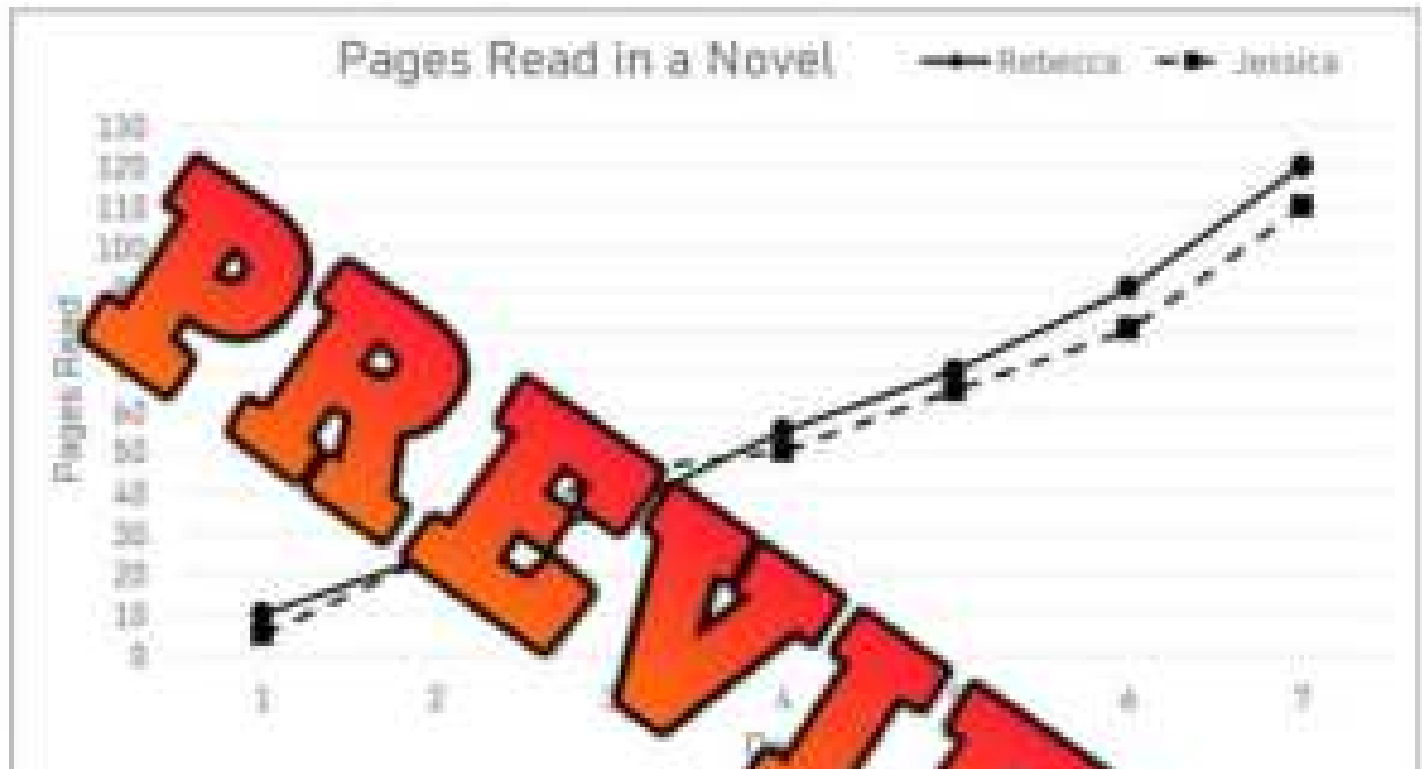


	# of points
Jake	70
Nathan	60
Courtney	30
Ashley	70
Luke	90

Part 4

Read the graph and answer the questions below

Rebecca and Jessica had a contest to see who could read more pages in their novels in 7 days.



Questions

Answer the questions below

- Who read more pages in the 7 days?
- Is the data continuous or discrete?
- Which day did the two girls read the most pages?
- Which day were they tied?
- How many total pages did the two girls read together?
- Which day was Jessica ahead?
- How many pages did Rebecca read from day 6 to 7?

Part 5

Graph the data below in a broken-line graph

The data for the amount of snowfall in Edmonton is presented in the table below. Graph the data as a broken-line graph. Make sure to label your graph properly.

Month	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Snowfall (cm)	8	24	19	50	75	9	5



- 1) Which month had the most snowfall? _____
- 2) Which month had the least snowfall? _____
- 3) How much did it snow in total during these 7 months? _____
- 4) Is this data discrete or continuous? _____
- 5) What conclusions can you make from this data? List at least 2.

Grade 6

PROBABILITY

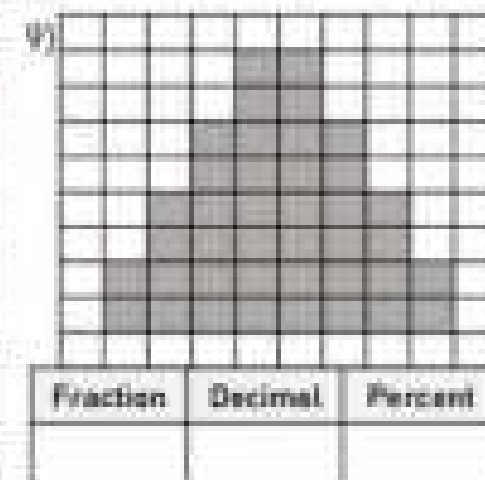
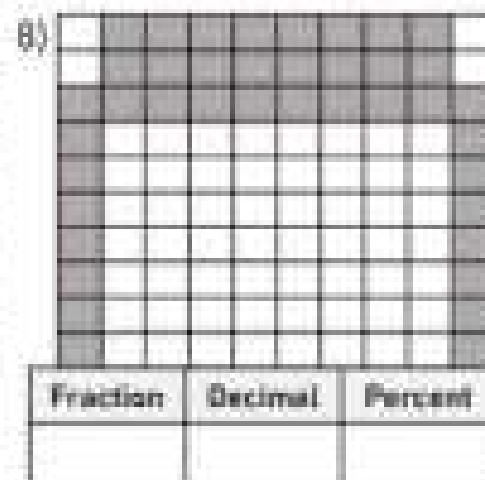
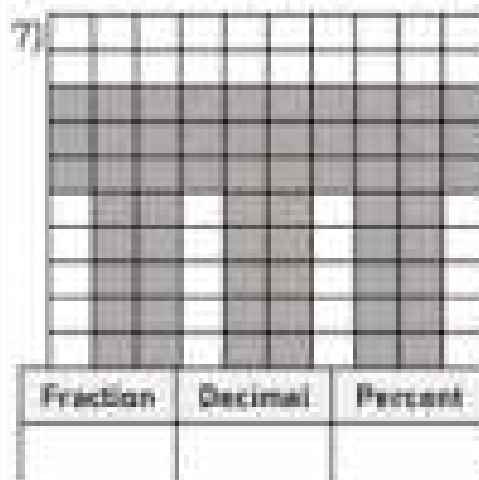
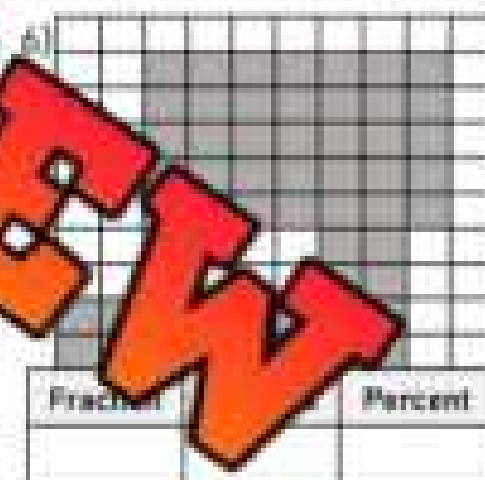
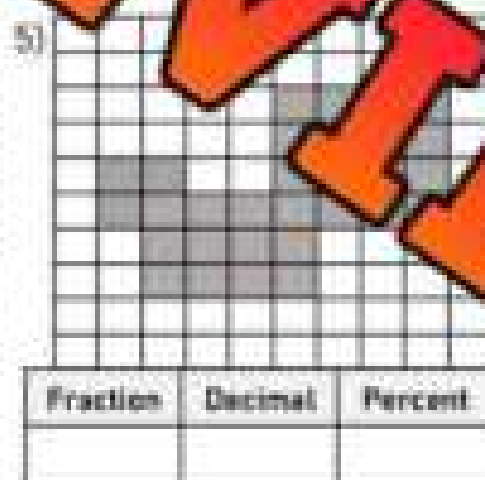
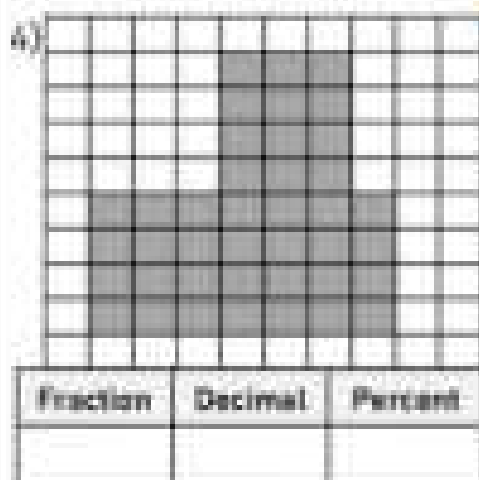
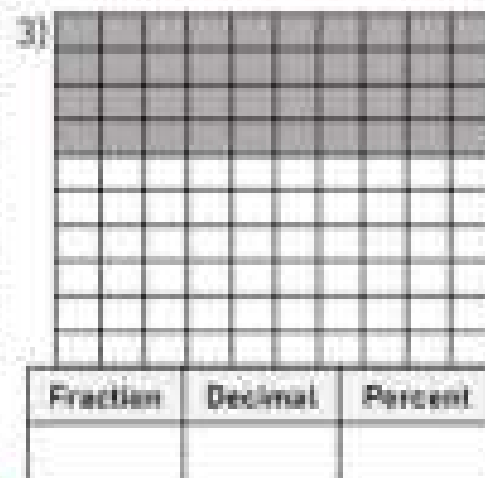
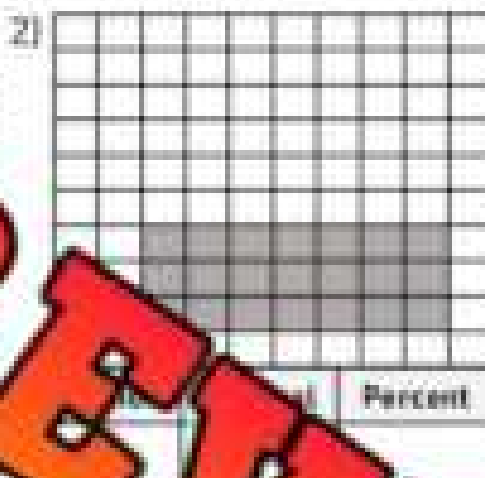
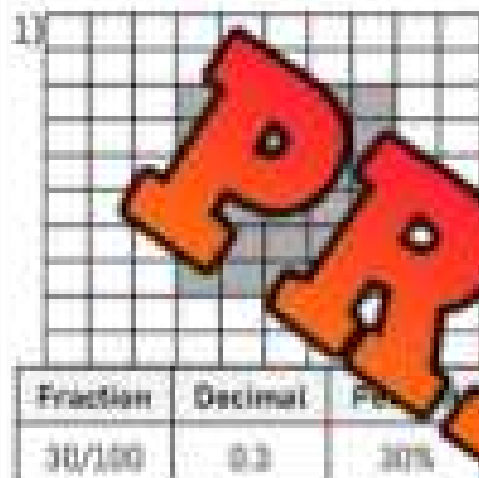
	Curriculum Expectations	Pages
GP.2	Single-outcome probability, both theoretical and experimental • single-outcome probability events (e.g., spin a spinner, roll a die, toss a coin) • listing all possible outcomes to determine theoretical probability • comparing experimental results with theoretical expectation	101 – 137

Theoretical Probability - Darts



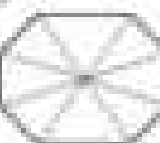
Theoretical probability is the likelihood an event should happen. It is based on the number of favourable outcomes divided by the sample size (total possible outcomes). Imagine below, that the shaded in area is a target and the white part is the wall.

Questions Represent the probability of hitting the target using a fraction, decimal and percent



Probability – Finding Halves

Part 1 Shade in half of the shapes. Write the fraction of shaded in shapes to total shapes.

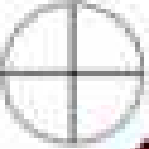
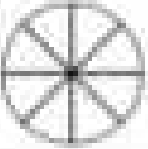
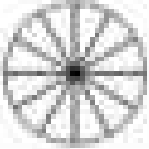
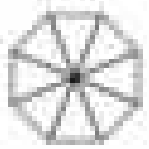
a)  	b)  	c)  
d)  	e)  	f)  

Part 2 What is half of _____? Write the fraction.

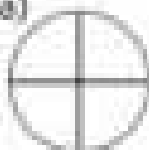
#	Number	Half	Fraction	#	Number	Half	Fraction
1	30	15	$\frac{15}{30}$	9			
2	48			9			
3	22			10	74		
4	8			11	54		
5	36			12	86		
6	60			13	78		
7	82			14	62		

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 in one quarter of the shapes. Write the fraction of shaded in shapes.

a) 		b) 	
---	--	---	--

Part 3 Fill in the tables below

	#	One Quarter	Fraction
1	20	5	$\frac{5}{20}$
2	80		
3	60		
4	24		
5	48		
6	68		
7	96		

	#	One Quarter	Fraction
1	60	15	$\frac{15}{60}$
2	40		
3	72		
4	16		
5	44		
6	84		
7	92		

Theoretical Probability - Spinner

Directions Read the spinner and represent the probability using a fraction/decimal/percent

	Fraction	Decimal	Percent
a) Spinning a red	_____		
b) Spinning a blue	_____		
c) Spinning a blue or red	_____		

	Fraction	Decimal	Percent
a) Spinning a red	_____		
b) Spinning a blue	_____		
c) Spinning a yellow	_____		

	Fraction	Decimal	Percent
a) Spinning a green or blue	_____		
b) Spinning a yellow	_____		
c) Spinning a yellow, green or blue	_____		

	Fraction	Decimal	Percent
a) Spinning a blue or green	_____		
b) Spinning a blue or yellow	_____		
c) Spinning a pink	_____		

Theoretical Probability – Rolling a Dice

Rolling a Dice: A dice has 6 sides. Each side has a number of dots between 1 and 6. When you roll a dice, you have an unlikely chance of rolling a certain number.



Questions

Circle the fraction that represents the probability of the event.

1. What is the likelihood of you rolling a 1?



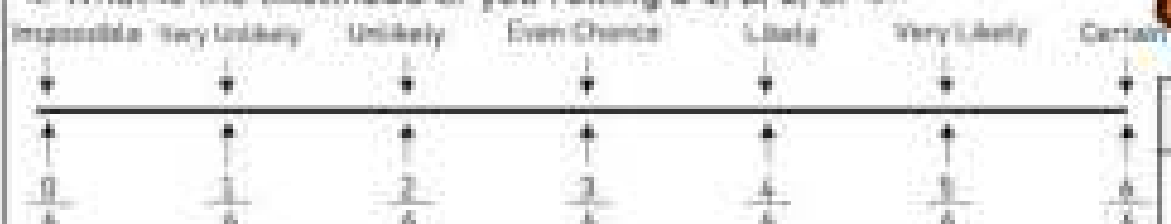
2. What is the likelihood of you rolling a 5?



3. What is the likelihood of you rolling a 1, 2, or 3?



4. What is the likelihood of you rolling a 1, 2, 3, or 4?



5. What is the likelihood of you rolling an odd number?



Exit Cards

Cut Out

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

Name: _____

A bookshelf contains 20 books: 8 are fiction, 7 are non-fiction, and 5 are graphic novels.

Circle the probability term and write the fraction, decimal, and percent.

1. What is the likelihood of picking a fiction book?



Decimal	Percent

2. What is the likelihood of picking a fiction or non-fiction book?



Decimal	Percent

Name: _____

A bookshelf contains 20 books: 8 are fiction, 7 are non-fiction, and 5 are graphic novels.

Circle the probability term and write the fraction, decimal, and percent.

1. What is the likelihood of picking a fiction book?



Decimal	Percent

2. What is the likelihood of picking a fiction or non-fiction book?



Decimal	Percent

Describing the Likelihood of Events

Gumball Machine

There are 24 gumballs in a machine. What is the likelihood of you pulling out a red (R), yellow (Y), green (G), or blue (B) gumball?



Frequency Table

Fill in the frequency table below

Colour	Frequency

Questions

- 1) Describe the probability of pulling out a gumball as equally likely, likely or certain
 2) Represent the probability of pulling out a gumball as a fraction/decimal/percent

Event	Decimal	Percent
1. What is the probability of pulling out a green gumball? Probability:		
2. What is the probability of pulling out a pink gumball? Probability:		
3. What is the probability of pulling out a blue or green gumball? Probability:		
4. What is the probability of pulling out a red or yellow gumball? Probability:		
5. What is the probability of pulling out a blue, red, yellow, or green gumball? Probability:		
6. What is the probability of pulling out a red gumball? Probability:		

Probabilities



Questions

Answer the questions below

1) In Regina on New Years Day, it has snowed 21 of the last 50 years.

a) What is the probability of it snowing on New Years Day as a...

Fraction

Decimal

Percent

b) Describe the probability of it snowing on the next New Years Day – likely, unlikely, equally likely, or certain.

2) A survey of 20 000 new car buyers found that 10% of new car buyers had a major mechanical problem in the first year they had their car.

a) What is the probability of...

i) Having a mechanical issue in the first year of ownership

ii) Not having a mechanical issue in the first year of ownership

3) A hockey team played 45 games last year. Their results are below (W = Wins, L = Losses, T = Ties)

W	T	L	W	W	L	W	L	L	W	L	W	W	L
L	W	T	W	L	W	L	W	T	W	W	L	W	W
L	W	L	L	W	L	L	W	W	L	W	W	L	T

Fill in the table below.

Results				Total
Fraction				

Theoretical vs Experimental Probability

Theoretical Probability

What should happen

Example - The theoretical probability of flipping a heads is 1 time out of 2 or $\frac{1}{2}$.

Experiment Probability

What did happen after the event (experiment)

Example - You flipped a coin 10 times and got 7 heads. The experimental probability is $\frac{7}{10}$.

Part 1

Write the theoretical probability of the events happening below

Question	Fraction
1) What is the theoretical probability of flipping a heads?	
2) What is the theoretical probability of flipping a tails?	
3) What is the theoretical probability of getting a heads if you flipped the coin 20 times?	

Part 2

Experimental Probability - Flip a coin 20 times and record your results

1) How many heads and tails do you think you will get?

Tails

20

2) Perform the experiment by flipping a coin 20 times. Record how many heads and tails you get.

	Tallies	Frequency	Fraction	Decimal	Percent
Heads					
Tails					

3) Was the theoretical probability and experimental probability the same? Should it be the same? Explain.

Theoretical vs Experimental Probability – Sock Drawer

Part 1

Write the theoretical probability of the events happening below

Your sock drawer is a mess! You have 50 socks in there in 5 different colours - white, blue, black, green, and red. Here is the breakdown of the socks in your drawer.

Colour of Sock	White	Yellow	Black	Green	Red
Number of Socks	18	8	14	4	6

1) If you draw 50 times without looking, what is the theoretical probability of drawing each of the colours below.

Colour of Sock	White	Yellow	Black	Green	Red
Fraction					

Part 2

Complete the table for experimental probability

2) Close your eyes and point to a random spot in the grid below with your eraser. Repeat this for 50 trials and tally your results below.

W	R	B	Y	W	B	W		B	W		
B	W	W	R	B	W	B	Y	B	Y	G	
Y	B	B	G	W	Y	R	W	B	W	B	W
B	Y	G	W	G	W	Y	R	R	R	W	Y

Colour of Sock	White	Yellow	Black	Green	Red
Tally					
Fraction					
Percent					

Theoretical vs Experimental Probability – # of Events

The theoretical and experimental probability of an event happening is not guaranteed to be the same. Performing more trials in an experiment will cause the experimental probability to be closer to the theoretical probability.

Example – if you flip a coin 2 times, it is easy to picture getting heads twice in a row. That would mean the experimental probability of getting a heads was 100% or $\frac{2}{2}$. However, if you flipped the coin 100 times, it is almost impossible to get 100 heads in a row.

Part 1

Write the theoretical probability of the events happening below

	Theoretical Probability	Fraction
1) Rolling a 1 on a 6-sided die		
2) Rolling a 3 on a 6-sided die		
3) Rolling a 2 or a 5 on a 6-sided die		
4) Rolling a 6 on a 6-sided die		

Part 2

Follow the instructions below to perform the experiments

1) Roll the dice 6 times. Tally your results.

1	2	3	4	5	6

2) Roll the dice 60 times. Record how many of each number you get.

	1	2	3	4	5	6
Tallies						
Fraction						

3) Did the experimental probability get closer to the theoretical probability when you rolled the dice more times? Explain why this should happen.

Drawing Tree Diagrams

Questions

Draw a tree diagram to help you find the probability of different combinations.

A restaurant sells hot dogs, sausages, and cheeseburgers. They also have toppings and sauces. Customers may only choose 1 topping and 1 sauce for each food. Find the probability a customer orders a specific combination of food, topping, and sauce.

Food	Topping	Sauce
Hot Dog (H)	Onion (O)	Ketchup (K)
Sausage (S)	Pickles (P)	Mustard (M)
Cheeseburger (C)		



PREVIEW

1) How many combinations of food could you have? _____

What is the probability of a customer ordering a...	Fraction	Decimal	Percent
2) Hot dog with onion and ketchup			
3) Cheeseburger with pickles and mustard			
4) Hot dog or sausage with onion and ketchup			
5) Hot dog or sausage with onion or pickles and mustard			
6) Cheeseburger with onion or pickles and ketchup or mustard			

Drawing Tree Diagrams

Questions

Draw a tree diagram to help you find the probability of different combinations

You are having a surprise dessert at a party you are having. Your parents said it is either cookies or brownies. They also told you the options for the treats and icing. What is the probability of them choosing a specific combination of baked good, treat, and icing.

Baked Goods	Treats	Icing
Cookies (C)	Chocolate Chips (CC)	Vanilla (V)
Brownies (B)	Smarties (S)	Chocolate (CH)
	Raisins (R)	Caramel (CA)



PREVIEW

1) How many combinations of food could you have?

2) What is the probability of your parents choosing...

Fraction

Decimal

Percent

a) Cookies with chocolate chips and vanilla icing

b) Brownies with raisins and caramel icing

c) Cookies or brownies with smarties and vanilla icing

d) Cookies or brownies with raisins or smarties and vanilla or chocolate icing

e) Cookies with chocolate chips, smarties or raisins and vanilla or caramel icing

Lahal Stick Game - Probability

Objective

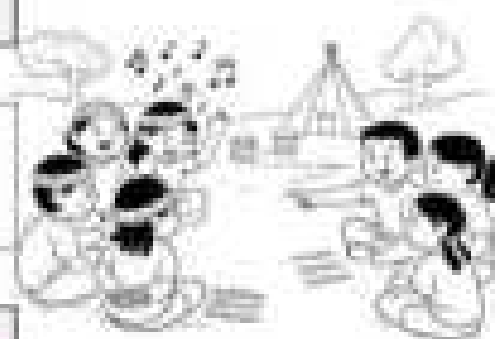
What are we learning about?

Students will participate in a hands-on game where they make predictions using theoretical probability before playing and collect real data during the game to calculate experimental probability afterward.

Materials

What you will need for the activity

- Pre-game and post-game probability worksheets
- Bones (or other small objects)
- Sticks (used for marking)



Instructions

How you will play the activity

1. Before playing the game, students read the directions for the game and how the bones are hidden and guessed.
2. Students answer the pre-game questions using theoretical probability, meaning they do not use real results yet.
3. Students complete all predictions before the game begins.
4. As the game is played, students track each round on the post-game worksheet.
5. For each round, students record whether the guess was correct or incorrect.
6. Students continue recording results for every round played.
7. After the game ends, students review the data they collected.
8. Students calculate the experimental probability based on the actual results from the game.
9. Students compare their experimental probability to the theoretical predictions they made before playing.

How-To-Play Guide

Read the instructions below

- 1) Divide players into two teams and give each team the same number of sticks.
- 2) Decide which team will go first.
- 3) For the first round, each team chooses one player:
 - The player from the starting team will hide the bones.
 - A player from the other team will guess where the bones are.
- 4) The hiding player hides the bones and mixes them out of sight, such as behind their back or under a sweater.
- 5) While the bones are hidden, the hiding team sings the Lahat song to distract the guessing team and make any sounds that might give clues.
- 6) Once the hiding player is back in the laps.
- 7) The guessing player chooses a location (on) they believe the bones are in.
- 8) If the guess is correct, the guessing team takes the bones from the hiding team.
- 9) If the guess is incorrect, the guessing team gives the bones back to the hiding team.
- 10) After the round is complete, the teams switch roles:
 - The team that guessed now hides the bones.
 - The other team becomes the guessing team.
- 11) The game continues with teams taking turns hiding and guessing the bones.
- 12) The game ends when one team has collected all of the sticks from the other team.
- 13) The team with all the sticks is the winner.

Theoretical Probability

Answer the questions below

1) If the bones are hidden in one of two hands, what is the theoretical probability of guessing the correct hand on a single turn?

2) Using words only, describe how likely it is that the guessing team will guess correctly on one turn. Use probability language such as impossible, unlikely, equally likely, likely, or certain.

3) If the bones are mixed fairly and the bones are mixed the same way each time, are guesses of guessing incorrectly equally likely? Explain why or why not.

4) Predict how many correct guesses you should expect out of 10 rounds if the probability stays the same each time.

5) Using theoretical probability, what is the probability of winning 2 rounds? Explain.

6) Draw a tree diagram showing the possible outcomes of 3 rounds of guessing. Each round should show two branches: correct guess and incorrect guess.

7) What is the probability as a fraction of you winning all 3 rounds?

Experimental Probability

Record your results below

Record your results below for each round. Put an "x" if you won the round by guessing correctly. Put an "x" if your opponent won as well.

Round #	Your Turn	Opponent's Turn
1		
2		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

PREVIEW

Experimental Probability

Answer the questions below

1) How many total rounds were played in the game?

2) How many of those rounds resulted in a correct guess for your team?

3) What is the experimental probability of a correct guess based on your results?

4) How does your experimental probability of a correct guess compare to the theoretical probability you predicted before? Explain.

5) If the game were played again with more rounds, would the experimental probability change? Explain your thinking.

6) Why was there eventually a winner when the theoretical probability showed that no one should ever win?

PREVIEW

Unit Quiz - Probability

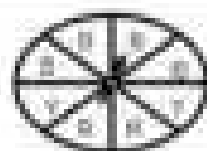
Part 1

Circle if the example is theoretical or experimental

Example	Theoretical or Experimental
1) You should get a tails 5 out of 10 times when flipping a coin.	Theoretical Experimental
2) You should get 30 three pointers out of 100 because the percentage is 30%.	Theoretical Experimental
3) You should get 10 heads out of 13.	Theoretical Experimental
4) You have a 1/100 chance of winning a 10/50 draw because you have 1 ticket out of 50 so	Theoretical Experimental

Part 2

Read the spinner and circle the most likely scenario.
Then write the fraction.

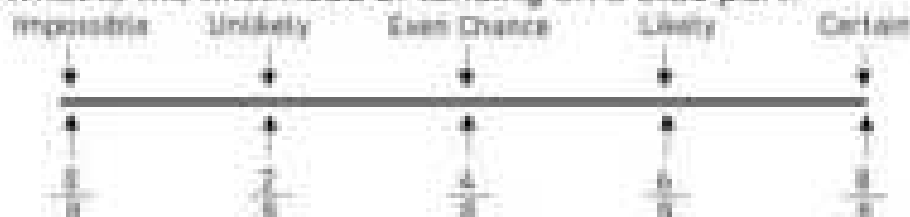


1) What is the likelihood of landing on a red?



Percent

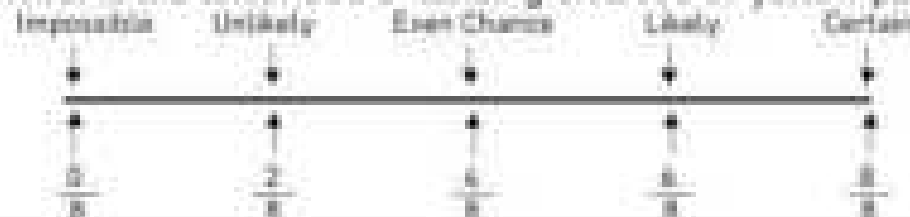
2. What is the likelihood of landing on a blue part?



Decimal

Percent

3. What is the likelihood of landing on a red or yellow part?



Decimal

Percent

Marbles

There are 30 marbles in a bag. What is the likelihood of you pulling out a white, grey, or black marble?



Part 3

Fill in the frequency table below

Marble Colour	Frequency

Part 4

- 1) Describe the probability of pulling out a marble, unlikely, equally likely, likely or certain
2) Represent the probability of pulling out a marble as a fraction/decimal/percent

Event	Fraction	Decimal	Percent
1. What is the probability of pulling out a black marble?			
Probability:			
2. What is the probability of pulling out a grey marble?			
Probability:			
3. What is the probability of pulling out a white marble?			
Probability:			
4. What is the probability of pulling out a black, white, or grey marble?			
Probability:			
5. What is the probability of pulling out a black or white marble?			
Probability:			
6. What is the probability of pulling out a green marble?			
Probability:			

Part 5 Draw a tree diagram to help you find the probability of different combinations

A gym instructor runs a workout class. She always picks 3 different exercises to do one after the other. She switches up the exercises each class. Her options for each exercise are below.

Exercise 1	Exercise 2	Exercise 3
Push-ups (PUSH)	Squats (SQ)	Running (RU)
Pull-ups (PULL)	Lunges (L)	Swimming (SW)
Shoulder Press (SP)		Rowing (RO)

1) Draw a tree diagram below.

PREVIEW

2) How many combinations of exercises could you have?

What is the probability of the instructor choosing...	Fraction	Decimal	Percent
3) Push-ups, squats, and running			
4) Pull-ups, lunges, and rowing			
5) Shoulder press, squats or lunges, and swimming			
6) Push-ups or pull-ups, lunges, and running or swimming			
7) Shoulder press, squats or lunges, and running, swimming, or rowing			



Google Slides Lessons Preview





BC Math Curriculum Financial Literacy– Grade 6

3-Part Lesson Format

Part 1 – Minds On!

- Learning Goals
- Discussion Questions
- Quotes
- And More!

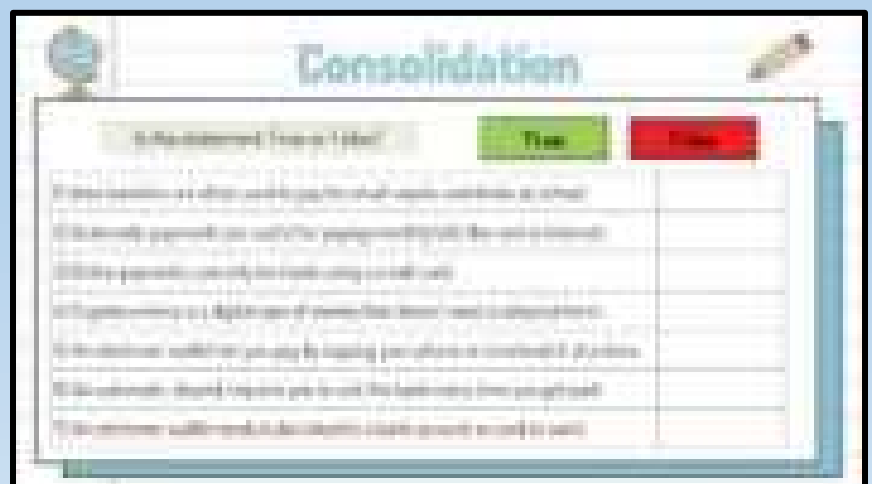


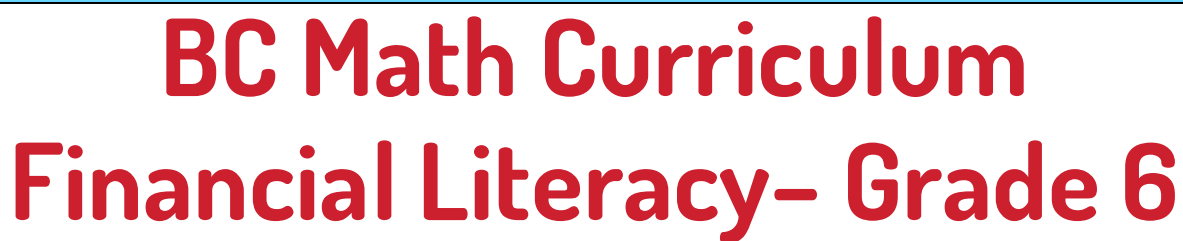
Part 2 – Action!

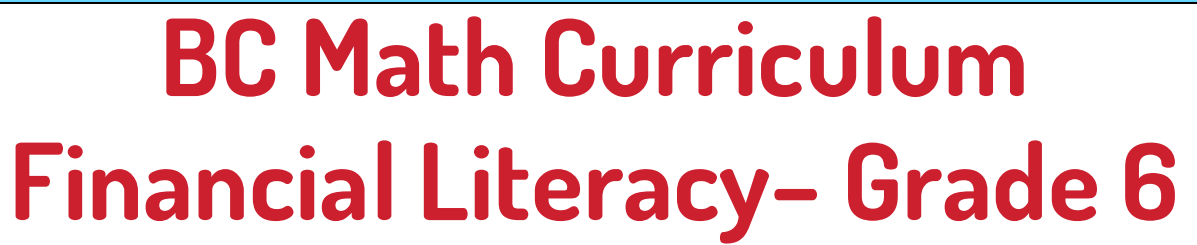
- Writing
- Matching
- Drag and Drop
- Drawing
- And More!

Part 3 – Consolidation!

- Exit Cards
- Quizzes
- Reflection
- And More!









Workbook Preview



Grade 6

Financial Literacy

	Curriculum Expectations	Pages
FL.1	Preview of 70 pages from this product that contains 158 pages total.	

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
400¢	
600¢	
700¢	
	\$8.11
	\$9.00
1000¢	

¢	\$
150¢	\$1.50
250¢	
325¢	
450¢	
	\$5.25
650¢	
	\$7.20
800¢	
	\$9.99

Part 2 Circle the greatest 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: _____

a) Convert the cents into dollars.

¢	\$
999¢	
	\$8.63
787¢	
	\$2.98

b) Circle the smallest amount of money.

1) 850¢	\$8.40	855¢
2) 190¢	\$1.95	185¢
3) 728¢	\$7.25	775¢
4) 220¢	\$2.25	210¢

Name: _____

a) Convert the cents into dollars.

¢	\$
999¢	
	\$8.63
787¢	
	\$2.98

b) Circle the smallest amount of money.

1) 850¢	\$8.40	855¢
2) 190¢	\$1.95	185¢
3) 728¢	\$7.25	775¢
4) 220¢	\$2.25	210¢

Name: _____

a) Convert the cents into dollars.

¢	\$
999¢	
	\$8.63
787¢	
	\$2.98

b) Circle the smallest amount of money.

1) 850¢	\$8.40	855¢
2) 190¢	\$1.95	185¢
3) 728¢	\$7.25	775¢
4) 220¢	\$2.25	210¢

Name: _____

a) Convert the cents into dollars.

¢	\$
999¢	
	\$8.63
787¢	
	\$2.98

b) Circle the smallest amount of money.

1) 850¢	\$8.40	855¢
2) 190¢	\$1.95	185¢
3) 728¢	\$7.25	775¢
4) 220¢	\$2.25	210¢

Name: _____

7

Counting Canadian
Coins

Counting Canadian Coins



= 100¢ or \$1.00



= 10¢ or \$0.10



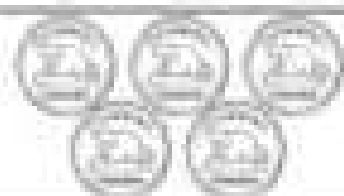
= 5¢ or \$0.05



= 200¢ or \$2.00



= 25¢ or \$0.25



25¢ or \$0.25

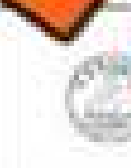
Questions

Count the coins below



1) _____ ¢ or \$ _____

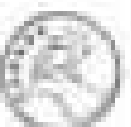
3) _____ ¢ or \$ _____



4) _____ ¢ or \$ _____

5) _____ ¢ or \$ _____

6) _____ ¢ or \$ _____



7) _____ ¢ or \$ _____

8) _____ ¢ or \$ _____

9) _____ ¢ or \$ _____



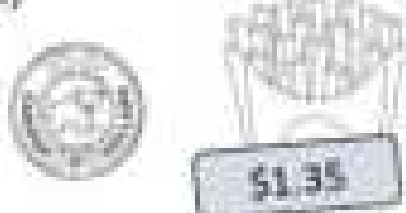
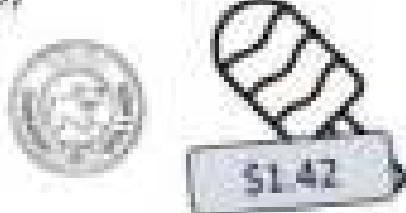
10) _____ ¢ or \$ _____

11) _____ ¢ or \$ _____

12) _____ ¢ or \$ _____

Calculating Change Using \$2**Questions**

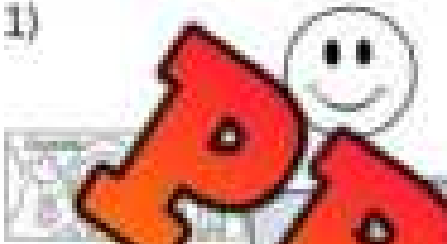
Calculate how much change you will get.

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 \$5

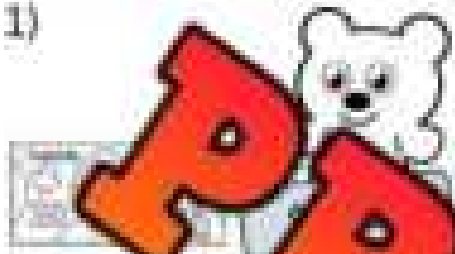
Questions

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 \$20**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) 	= _____

Name: _____

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Providing Change to Customers

Money Used	Item	Item	Change Due
			$7.00 + 3.50 = 10.50$ $10.00 - 10.50 = -0.50$

Questions: Use 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
			_____

Name: _____

14

Math Grade 4
Unit 1

Providing Change to Customers

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

Questions: Use the items and provide change based on what the customer paid with.

Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

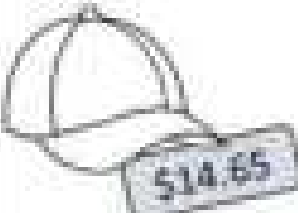
Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

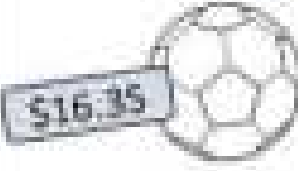
Providing Change to Customers

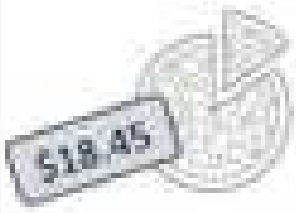
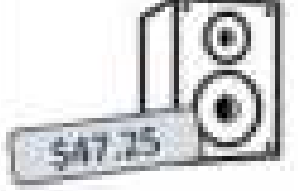
Questions

Add 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
			_____

Name: _____

17

Mathematics: Operations
18.3**Making Change - Up To \$100**

		
\$35.25	\$66.10	\$84.65

Question _____ the change by drawing the correct bills and coins.

1) \$64.70

3) \$76.75

4) \$72.60

5) \$78.55

7) \$80.95

8) \$61.90

9) \$57.70

10) \$93.95

11) \$95.80

12) \$99.40

Exit Cards

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

Name: _____

Questions: Make the change by drawing the correct bills and coins.

\$5	\$34.35	\$96.05

Name: _____

Questions: Make the change by drawing the correct bills and coins.

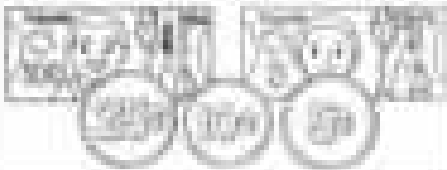
\$54.55	\$34.35	

Name: _____

Questions: Make the change by drawing the correct bills and coins.

\$54.55	\$34.35	\$96.05

Making Change - Up To \$200

		
\$105.40	\$131.60	\$172.25

Question Represent the money amounts up to \$200

1) \$103.35

2)

3) \$173.40

4) \$118.30

5) \$142.50

7) \$157.85

8) \$164.70

9) \$148.40

10) \$183.55

11) \$191.65

12) \$197.95

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.



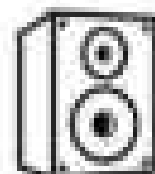
- a) How much will the shoes and socks cost?
- b) Which bills/coins should Rob use to pay for the shoes and socks?
- c) How much change will he get back?



- 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 in the money below.



- 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?



Making Change – Word Problems

Questions

Answer the word problems below.

- 1) Charlene found new boots and gloves and brought them to the cashier. The boots cost \$165.75, and the gloves cost \$32.50. Her money is below.



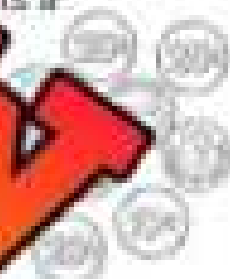
- a) How much will the boots and gloves cost?

- b) Which bills/coins should she use to pay for the boots and gloves?

- c) How much change will she get back?



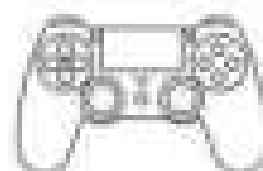
- 2) Ruby is buying a new video game system that costs \$185.00. She wants a controller that costs \$49.90. Ruby's cash is below.



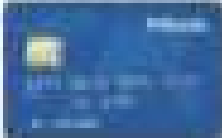
- a) How much will the video game system and controller cost?

- b) Which bills/coins should she use to pay for the video game system and controller?

- c) How much change will she get back?



Main Forms of Payment

Methods of Payment	Explanation
Cash 	Money in coins or bills. Mostly used to pay for smaller purchases.
Check 	A piece of paper that is signed by an individual and given to someone else as payment for something. The individual writes how much money is to be taken out of their bank account and then the bank sends that money to the bank account of the person who was paid.
Credit Card 	A card that allows you to borrow money. Credit cards let you only borrow what the banks think you can afford to pay back the money you borrowed, you pay interest on the more money than what you borrowed.
Debit Card 	A card that allows you to pay directly from your bank account. When you use your debit card, the bank sends money from your bank account to the store's bank account.
Gift Card 	A card that can be purchased for a specified cash value of goods or services from a particular business. For example, a business could sell a \$20 gift card to someone in exchange for \$20 in cash or from another method of payment.
Electronic Money Transfer (EMT) 	When we send money electronically. These are often in the form of email money transfers. People use these to send money from their bank account to someone else's bank account.

Methods of Payment

Part 1

Draw a line from the method of payment to the description.

Method of Payment	Description
Cash	Using a card with \$50 on it that has already been purchased from a store
Credit Card	Paying with a card that links to your bank account
Coins	Paying with coins or bills.
Debit Card	Sending money to a friend using email
Gift Card	Handing a piece of paper to someone that shows how much money you want them to take out of your bank account for them to put into their account
Electronic Money Transfer (EMT)	Using a card for things with borrowed money

Part 2

Which method of payment would you use in the scenarios below

Scenario	Method of Payment
1) You owe your friend \$20 after buying a game from him	
2) You are buying a chocolate bar that cost \$1	
3) You want to pay rent from your bank account at the end of the month so you give someone something they can cash later	
4) You want to buy something for \$50 from your bank account right now	
5) You want to buy something expensive right now that you will pay for later	
6) You were given something that you can spend in Sport Chek.	

Different Forms of Payment

Methods of Payment	Explanation
Electronic Wallets 	An electronic wallet is an app on a device that has a bank account linked to it. When we tap our smart phone or watch to a company's sales machine, the money is taken from our bank account and sent to the company's bank account. You can use debit or credit cards from your electronic wallet.
Wire Transfer 	A wire transfer is when you ask a bank to send your money to another bank in Canada or around the world. Wire transfers are usually used to pay for very expensive things, like a house.
Automatic Deposits 	An automatic deposit is when money is sent to our bank accounts automatically. These are used by employers to pay their employees or by companies to pay their employees automatically every two weeks.
Automatic Payments 	Automatic payments are when money is sent automatically from our bank account to pay for bills. We can use them to pay for monthly bills, like our cell phone bill. We can set an automatic payment to these companies to pay our bills. This helps us avoid late payment fees.
Online Payments 	An online payment is when money is exchanged electronically. Typically, this involves the customer using the business's online payment platform. PayPal is a commonly used platform. When we use PayPal to pay for something online, the business pays PayPal to submit the transaction. PayPal will require customers to link their bank account to their app so they can exchange the money for the business.
Cryptocurrency 	Cryptocurrency is a type of currency that exists only in digital or virtual form. This means there is no physical coins. The currency is secured by a mathematical encryption process that makes it nearly impossible to counterfeit. Bitcoin is one of the earliest and most well-known cryptocurrencies.

Different Forms of Payment - Questions

Part 1

Label the method of payment with the description (letter)

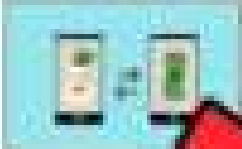
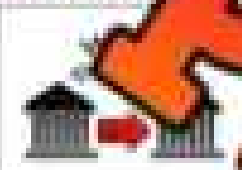
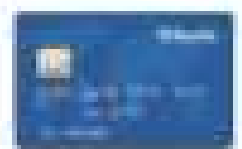
Method of Payment	Description
_____ Electronic Wallets	a) When we pay for something online
_____ Transfers	b) When money is automatically sent to our bank account
_____ Bank Transfers	c) When a bank sends large amounts of money to another bank
_____ Bitcoin Payments	d) A type of or virtual currency that is very secure
_____ Online Payments	e) When we pay for something with your phone or watch
_____ Cryptocurrency	f) When money is automatically taken from our bank account

Part 2

Which method of payment would you use in each of the scenarios below

Scenario	Method of Payment
1) You are paying for a house and need to send \$20,000 from your bank to the seller's bank.	
2) You want to pay for something, but you forgot your wallet. Luckily, you have your bank card on your phone.	
3) You are buying something on a website.	
4) You believe that traditional currency is old technology. You buy Bitcoin and want to use it to pay for a car.	
5) You want to be paid by your employer every other week automatically.	
6) You want to pay your cell phone bill on the first day of every month.	

Method of Payment – Advantages/Disadvantage

Methods of Payment	Advantages	Disadvantages
Electronic Wallets 	- Save time as electronic payments are made quickly - All cards are in one place on a device most people carry around with them.	- Not every business accepts a digital payment - Not all devices have electronic wallets - If device is stolen, your digital wallet could be stolen
Wire Transfer 	- Can send large money transfers - Money arrives fast and usually in real time which means there is no hold	- Sending a transfer costs money in fees to the bank - Once a transfer is made, it is not reversible. Scams can happen when people send transfers to recipients they don't know
Cash 	- Control how much you can spend - No extra fees	- You can lose cash - If cash is stolen, it's gone for good - Transactions take longer - Cash carries germs - Can't pay for online purchases
Credit Card 	- Can afford to buy things you don't have money to pay with now - Build credit that allows you to borrow more money in the future - You can use for online payments - Rewards such as air miles	- Can overspend with money you don't have which can lead to debt - Yearly interest rate is high - Late payment fees - Can damage your credit score
Debit Card 	- You can only spend money that you have which leads to less debt - Less or zero fees - Can use for online purchases - Quick payments using tap feature - Allows access to interest-earning bank accounts	- You can run out of money and not be able to buy the things you might need - Generally no reward points - Doesn't improve your credit score - Less protection than credit card - Risk of theft
Electronic Money Transfer (EMT) 	- Can pay for things without using debit or credit card - Can send money to anyone with an email address or phone number - Money is sent directly without holds - You can only send money you have which saves you from debt	- You need to have the money available and can't access credit - You could send money to the wrong address - You can't guarantee the recipient - There is a limit on how much you can send using an EMT - High fees for sending transfers

Methods of Payment – Advantages/Disadvantages - Questions**Explain**

Which 2 advantages/disadvantages do you think are most important?

1) Credit Cards	Most Important Advantages/Disadvantages
Advantages	
Disadvantages	

2) Debit Card	Most Important Advantages/Disadvantages
Advantages	
Disadvantages	

3) Cash	Most Important Advantages/Disadvantages
Advantages	
Disadvantages	

Exit Cards

Cut Out

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

Name: _____

Mark

/5

Circle the correct answer.

1) Which payment method might you use at a food truck?	Wire Transfer	Cash
2) Which payment method might not work if your phone dies?	Debit	Digital Wallet
3) Which method lets you pay without using a bank card?	Credit	EMT
4) Which payment type has the highest risk of overspending?	Cash	Credit
5) Which method lets you send large money transfers safely?	Wire Transfer	Debit

Name: _____

Circle the correct answer.

1) Which payment method might you use at a food truck?	Wire Transfer	Cash
2) Which payment method might not work if your phone dies?	Debit	Digital Wallet
3) Which method lets you pay without using a bank card?	Credit	EMT
4) Which payment type has the highest risk of overspending?	Cash	Credit
5) Which method lets you send large money transfers safely?	Wire Transfer	Debit

Methods of Payment Blog Post - Organizer

Write a persuasive blog post that aims to convince the reader to use a method of payment.

In your blog post, consider the following:

- Advantages of the method of payment
- Why the disadvantages aren't a big deal
- Why they should start using this method of payment right away
- Blog posts tend to use a title with a numbered list

For example: "5 Reasons Why Credit Cards Are The Best"

- Use headings in your blog post to keep your information organized



Plan your blog post using the organizer below to prepare for writing your blog post

1) Which method of payment will you choose?

2) What will the title of your blog post be?

3) Who will your target audience be? (age, gender)

4) How will you engage your target audience? (emojis for younger audiences? References to pop culture?)

Sample Blog Post

3 Ways to Make More Money

1) Work More Hours

It is no doubt that the more you work, the more money you will make.

2) Start a Side-Hustle

If you are having just one job, it may not be enough. You can find something fun to earn extra money from.

3) Invest
Put your money to work by investing in quality companies.

Heading Number 1

Ideas

Name: _____

32

Guided Reading
10.1

Methods of Payment Blog Post - Organizer

Heading Number 2	
Idea	
Idea	
Idea	
Idea	
Idea	
Heading Number 3	
Idea	
Idea	
Idea	
Idea	
Idea	
Heading Number 4	
Idea	
Idea	
Idea	
Idea	
Idea	
Heading Number 5	
Idea	
Idea	
Idea	
Idea	
Idea	

PREVIEW

Methods of Payment Blog Post

PREVIEW

Methods of Payment - Poster - Assignment

Design a poster that a bank would use to promote the use of a method of payment.

Consider the following in your poster (Success Criteria):

- Highlight one important advantage of the payment method
- Use a slogan or one line to highlight this advantage
- Use a large title
- Use less text to keep the poster visually appealing
- Use graphics and pictures to help explain your message
- Fill the space completely and do not waste space

Plan: Use the organizer below to prepare for creating your poster

1) Which method of payment will you choose?

2) What will the title of your poster be?

3) What text will you include on your poster (slogan)?

4) What pictures will you draw? Practice them below.

Sample Poster

Choose Debit



"I'm



Stay out of the Red,
Stay away from Credit!



Methods of Payment Poster

PREVIEW

Blog Post: Short Term VS Long-Term Goals

Understanding Financial Planning

Date: June 21, 2024

Author: Emily Carter

3-minute read

Short-term goals are those you aim to achieve within a year, like saving for a new bicycle or a weekend trip. These usually require smaller amounts of money and less time to achieve. You can save part of your allowance or earn extra money through small jobs.

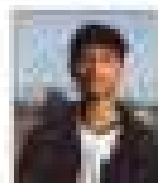
Long-term goals take several years to accomplish, such as saving for college or buying a car. These often require a longer time frame. Investing can help with these goals, as it allows your money to grow over time, though investments come with risks.

Aligning borrowing and saving with these goals is vital. For short-term goals, saving is better than borrowing. For long-term goals, investing is beneficial as it helps accumulate wealth over time.

Setting realistic financial goals and planning accordingly is crucial. For example, if you plan to save \$500 for a new bike in six months, breaking down the goal into smaller steps to stay motivated.

Till next time,
Emily Carter

Comments:



Jack Smith - June 21, 2024

Sometimes borrowing is necessary for short-term needs, like a school laptop. Managing debt responsibly is key.

Like Reply 12h ago



Sara Johnson - June 21, 2024

Borrowing can lead to debt. Studies show 80% who borrow for short-term needs struggle with debt. Saving is better.

Like Reply 8h ago

Questions

Answer the questions below.

1) What are short-term goals and how do they differ from long-term goals?

2) How can realistic financial goals help in achieving them?

Visualizing

Draw a short-term goal you have for yourself.

Short-Term Goal

Long-Term Goal

True or False

Is the statement true or false?

1) Short-term goals take over a year to achieve.

True

False

2) Long-term goals require more money and time.

True

False

3) Borrowing is better than saving for short-term goals.

True

False

4) Long-term goals can help you invest and grow wealth over time.

True

False

5) Setting realistic financial goals is important.

True

False

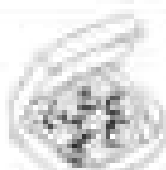
Financial Goals

Financial goals can be long-term or short-term plans to change spending and/or earning habits. Check out the examples of different spending goals below.



Short-Term Spending Goals

- Spend less this week to save for pizza on Friday
- Don't buy anything this month to save for a new game



Long-Term Spending Goals

- Stop buying pop at vending machines to save for college
- Cancel video game subscription to save for hockey registration next year



Part 1 Short-Term Spending Goals

How much money would you save by changing your spending habits in these examples.

- | | |
|---|--|
| 1) Stop buying a \$2.25 pop each day from vending machines for 2 week | |
| 2) Stop buying \$7.50 dollar video game add-ons for 1 month (4 weeks) | |
| 3) Stop spending \$12.50 a week on take-out food for 9 weeks | |
| 4) Stop buying a \$1.75 chocolate bar each day for a month (30 days) | |
| 5) Stop buying a \$2.50 bag of candy each day for 2 weeks | |

What would you do with these savings in the short term? What types of things could you use these savings for?

Part 2 Long-Term Spending Goals

How much money would you save by changing your spending habits in these examples.

- | | |
|---|--|
| 1) Stop paying for a video game subscription for 5 years that costs \$179 each year | |
| 2) Stop buying a \$2.25 pop each day for a year (non-leap year) | |
| 3) Stop buying a \$7.50 lunch twice a week for one year | |
| 4) Stop buying video game add-ons for 5 years that cost \$50 a month | |
| 5) Stop paying for a \$2.75 bag of candy each day for 10 years. | |

What would you do with these savings in the long term? What types of things could you use these savings for?

Financial Goals

When we want to have more money, we should create financial goals. We can create spending goals or earning goals. **Earning goals** are plans we make to earn more income.

Short-Term Earning Goals

- Cut my neighbours grass to earn \$500 this summer
- Finish chemistry to earn \$10 this week
- Sell homemade lemonade to earn \$25



Long-Term Earning Goals

- Learn how to design websites so I can earn \$10,000 for college
- Learn how to make animated videos to upload to YouTube to make enough money to retire



Part 1 Short-Term Earnings

How much money would you earn by starting these new earning habits?

- | | |
|---|--|
| 1) Selling 5 homemade lemonades a day at \$1.25 each for 20 days. | |
| 2) Selling 10 cups of lemonade a day at \$1.25 each for 20 days. | |
| 3) Cutting the grass for your neighbour for the next 10 days for \$25 each time | |
| 4) Performing yard work for 4 hours a day for 1 month at \$10 a day for an hour | |
| 5) Selling 12 homemade cookies a day at \$1.25 each for 20 days. | |

What would you do with the extra money in the short term?

Part 2 Long-Term Earnings

How much money would you earn by starting these new earning habits?

- | | |
|--|--|
| 1) Post 100 videos on YouTube where each video earns you \$2.50 a day. How much would you earn a year? | |
| 2) Create 25 websites a year for 5 years where you charge a fee of \$250 a website | |
| 3) Sell 135 bags of homemade kettle chips a month for \$8 a bag for 5 years. | |
| 4) Cut your neighbours grass for the next 5 years, 20 times a summer for \$25 each time | |

What would you do with the extra money in the long term?

Exit Cards

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

Name: _____

Circle the correct answer. (S-T) represents short term and (L-T) represents long term.

Mark

/5

1) You start a lawn care business that operates every summer for the next 4 years to help save for university.

S-T

L-T

2) You sell handmade bracelets at the school market next week to buy a new video game.

S-T

L-T

3) You begin offering online art lessons to kids and plan to grow your client list over the next 2 years.

S-T

L-T

4) You help your neighbour organize their garage this weekend and they pay you \$40.

S-T

L-T

5) You take part in a coding workshop so that you can build websites for clients in the future.

S-T

L-T

Name: _____

Circle the correct answer. (S-T) represents short term and (L-T) represents long term.

Mark

1) You start a lawn care business that operates every summer for the next 4 years to help save for university.

L-T

2) You sell handmade bracelets at the school market next week to buy a new video game.

S-T

L-T

3) You begin offering online art lessons to kids and plan to grow your client list over the next 2 years.

S-T

L-T

4) You help your neighbour organize their garage this weekend and they pay you \$40.

S-T

L-T

5) You take part in a coding workshop so that you can build websites for clients in the future.

S-T

L-T

Reaching Financial Goals

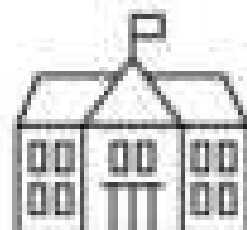
Questions

Read the profiles below and calculate if they met their financial goals.

1) Ellie is trying to save \$9,000 for college next year. She has 12 months to achieve her goal. Here are the details of her year long journey to achieve her financial goal.

- She earns \$1200 a month
- She is on a budget, spending \$35 a week
- Her car broke down, and she needs to spend \$2500 to fix it

Did she reach her financial goal of \$9,000?



2) Kevin has a financial goal of saving \$600 for a new gaming system. He wants to buy it on Black Friday, but the system is on sale for \$600. Black Friday is in 25 weeks. The details of his journey follow.

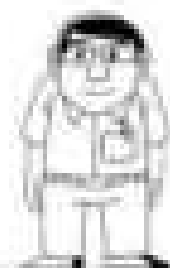
- He cuts two of his neighbours grass for \$140 each week
- He buys lunch out twice a week for \$10
- After 10 weeks, Kevin decides to go to a concert with his friends. The ticket cost \$50.

- a) Did he reach his financial goal of \$600 in the 20 weeks?
- b) If Kevin charged \$45 a week to cut his neighbours grass, did he reach his goal?

3) Ryan wants to retire in 10 years. He has calculated that he needs \$520,000 to retire. His journey of retiring is detailed below.

- He earns \$44,000 a year with his current job.
- His family is on a budget where they spend \$1,500 a month
- He decides to get a second job, doing his passion of selling artwork. He earns \$12,000 a year extra
- Ryan has an unexpected health issue, causing him to pay an extra \$500 a month

Did he reach his financial goal?



Credit and Debt

What is Credit?

People can apply for credit, which allows them to buy things without paying money for them. When we use credit, we are agreeing that we will pay the amount owed in the future. Banks can offer a line of credit to people so they can pay for things without using money in their bank account. The bank will study the person's finances to determine how much credit that person can have. If the person always pays back the money they owe, they will be given a higher line of credit.

Credit cards are also forms of credit. When we use a credit card, we are not using our own money. We are agreeing that we will pay back the money to the credit card company. If we don't, we will have to pay even more money to the credit card companies in the form of interest.



What is Debt?

Debt is the unpaid money we owe when we spend money on credit. If we use a line of credit or a credit card, the amount of money we owe is called debt. People can also borrow money from their friends or family, which is also debt to them. This means they owe them money.

Part 1

Is the statement true or false? Write your answer.

1) Everyone has the same amount of credit.	True	False
2) People who pay their debt on time have better credit.	True	False
3) When you pay using a credit card, you are using your own money.	True	False
4) Debt is unpaid money that is owed to someone else (bank, credit card company, friend, family).	True	False
5) If you don't pay your credit card on time, you will owe more than you borrowed.	True	False

Part 2

Answer the question below.

What is the difference between debt and credit?

Part 3

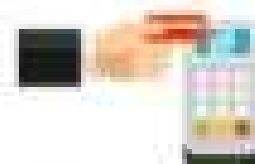
Provide an example of both credit and debt. Ex - Debt: you borrow \$500 from a friend.

Credit:	
Debt:	

Introduction to Interest

What is Interest?

Interest is the amount of money earned from an investment or the cost of borrowing based on an interest rate.



Interest From Investments

We can earn interest on our investments, which means we are putting our money to work! If we invest \$100 in the stock market, we hope that one hundred dollars is worth more at the end of the year. The average interest rate return in the stock market over the last 100 years is about 10%. This means that after one year, your \$100 is now worth \$110.

Interest From Borrowing

Most people are required to borrow money to pay for things like cars, houses, or even water. These are household necessities. When we borrow money, we pay the lender (usually a bank) interest. The amount we pay in interest depends on the interest rate. A higher interest rate will cost us more back in interest. For example, if we borrow \$100 with a 15% yearly interest rate, we will pay \$115 at the end of the year. It is important to shop around for the lowest interest rate.

Part 1

A bank pays 5% interest on your savings account - \$5 per \$100

Savings	Savings + Interest	Savings + Interest
1) \$300	\$15	5) \$2000
2) \$500		6) \$2500
3) \$800		7) \$3000
4) \$1000		8) \$2500

Part 2

You pay 19% interest on your credit card - for every \$100 you owe, you pay \$119

Debt	Debt + Interest	Debt	Debt + Interest	Debt	Debt + Interest
1) \$200	\$238	4) \$700		8) \$2300	
2) \$400		5) \$1400		9) \$2500	
3) \$600		7) \$3000		10) \$3180	

Part 3

Answer the question below

What are your thoughts on interest? Is paying a 19% interest rate fair?

Understanding Interest

What is Interest?

Interest is a fee you pay a bank or financial institution when you borrow money from them. It's like a payment for using their money. For example, if you borrow \$100 (Principal Amount) and the bank charges \$5 as interest, you pay back \$105.

How Interest Affects Borrowing

Interest makes borrowing more expensive. You pay back the amount you borrowed (Principal Amount) plus interest, so the total cost is higher than the loan amount.

Understanding Interest Rates

Interest rates show how much you will pay. The rate is usually shown as a percentage. For example, if the interest rate is 5%, you pay 5% of the borrowed amount as interest each year.

Sample Computation

If you borrow \$200 at an interest rate of 5% per year:

1. Calculate interest: $\$200 \times 0.05 = \10
2. Total repayment amount: $\$200 + \$10 = \$210$

Key Points to Remember

- **Principal Amount:** The original amount you borrow.
- **Interest:** The fee for borrowing money.
- **Interest Rate:** The percentage of the loan amount, paid as interest.
- **Total Cost:** The loan amount plus interest.

Why Understanding Interest is Important

Understanding interest helps you:

1. **Calculate Total Costs:** Know how much you will repay.
2. **Compare Loans:** Find the best interest rate.
3. **Avoid High Costs:** Choose loans with lower rates to save money.

Name: _____

55

Borrowing: Lending
A3**True or False**

Is the statement true or false?

1) Interest is a fee for borrowing money.	True	False
2) You only repay the exact amount you borrow.	True	False
3) Interest makes it more expensive to borrow money.	True	False
4) Lower interest rates save you money.	True	False
5) Interest rates are shown as percentages.	True	False

Interest Calculations Fill in the details for each loan, including the loan amount, interest rate, monthly payment, and total repayment amount.

Loan Amount	Interest Rate	Repayment Term	Monthly Payment	Total Repayment Amount
\$500	3%	2 years		
\$1,000	5%	3 years		
\$1,500	4%	4 years		

Loan Decision

Decide which loan option you would choose. Explain your reasoning.

Loan Option	Loan Amount	Interest Rate	Repayment Term
Option 1	\$800	3%	5 years
Option 2	\$800	5%	3 years

Calculating Interest Rates - Investments

When dealing with interest rates, we are either paying interest or being paid interest. When we invest money in a savings account, we are paid interest. We can also invest in the stock market in hopes of being paid interest on our investment. We can calculate how much return we will get on an investment by using the following steps.

Steps to use % Button on a Calculator:

- 1) Enter the investment amount
- 2) Hit the $\times$ button
- 3) Type in interest rate
- 4) Hit the % button (this will display how much earned from interest)
- 5) Hit the + button (this will give you the total return)



Questions Use the steps above to calculate the return on investment

#	Investment	Return on Investment	15% Interest	Total Return
1	\$28	\$1.40	\$4.20	\$32.20
2	\$37			
3	\$41			
4	\$97			
5	\$150			
6	\$370			
7	\$525			
8	\$855			
9	\$1400			
10	\$2755			

Calculating Interest Rates - Borrowing

When we borrow money, we usually have to pay interest on the total amount we borrowed. We call this amount the **principal**. Depending on the type of loan, the interest rates will vary.

Steps to use % Button on a Calculator

- 1) Enter the principal amount
- 2) Hit the $\times$ button
- 3) Type in interest rate
- 4) Hit the $=$ button (this will display how much interest you will pay each year)
- 5) Click the $+$ button (this will give you the total amount you need to pay back)



Questions 1-10 Use the steps above to calculate the return on investment

#	Principal	5-Year Loan	Total 5-Year Loan Amount
1	\$50	\$25	\$75
2	\$85		
3	\$152		
4	\$225		
5	\$310		
6	\$485		
7	\$657		
8	\$832		
9	\$1289		
10	\$2472		

Calculating Interest

Questions

Calculate how much interest we will pay in the situations below

1) If you borrow \$600 for 6 years at an interest rate of 10%, how much interest will you pay?



b) How much in total will you pay?

2) How much interest does a \$430 investment earn at 6% over one year?

3) How much interest does an \$875 investment at 4% for six years?



4) How much interest will you have to pay if you borrow \$325 for 2 years at a 12% interest rate.

5) Jacob invested \$250 for 4 years. He earned interest but forgot his interest rate. He thinks it was either 5% or 10%. What interest rate did he get?



6) If you borrow \$1750 for 3 years at an interest rate of 6%, how much interest will you pay?

b) How much will you pay in total?

7) If you get a loan for \$225,000 to buy a house with an interest rate of 2%, how much interest will you pay for a 10-year loan?



8) Hanna paid \$28 of interest when she borrowed \$200. Her father said she paid 28% interest, but she says she only paid 14%. Who is correct?

Exit Cards

Cut Out

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

Name: _____

1) Calculate the cost of the loan.

#	Principal	10% Interest/Year	5-Year Loan	Total 5-Year Loan Amount
1				
2	\$50			
3	\$1152			

2) You borrow \$800 for 5 years at an interest rate of 9%.

a) How much interest will you pay?

b) How much will you pay in total?

Name: _____

1) Calculate the cost of the loan.

#	Principal	10% Interest/Year	5-Year Loan	Total 5-Year Loan Amount
1	\$50			
2	\$100			
3	\$1152			

2) You borrow \$800 for 5 years at an interest rate of 9%.

a) How much interest will you pay?

b) How much will you pay in total?

Izzy's Budget

Izzy is going to college this year and has created a budget to help her understand how much she can spend on her different needs and wants. Izzy has saved \$20,000.

Part 1

Calculate Izzy's total expenses and emergency fund

Categories	Expenses
Tuition	\$5500
Books	\$600
Food	\$3000
Rent/Accommodation	\$4800
Entertainment	\$3000
Transportation	\$1000
Phone/Internet	\$800
Taxes	
Emergency Fund	



Part 2

Answer the questions below

1) Why is it important to have an emergency fund? What could happen if it doesn't arise?

2) The school year is 8 months long. How much did Izzy budget per month?

Food	Rent	Entertainment

3) Oh no, Izzy spent \$900 in her first month on entertainment. How much does she have left to spend on entertainment for the 7 more months? How much is it per month?

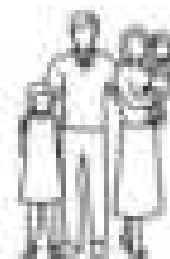
Name: _____

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Mathematics Connections
18.1

Family Budget

The Wilson family has created a budget so they understand how much they can spend each expense.



Part 1

Fill in the budgets – income and expenses

Income		
Pay Period	Mom	Dad
2 Weeks	\$500	\$1300
4 Weeks		
6 Weeks		
26 Weeks		
1 Year		
Total 1-Year Income		

Expenses	
Rent/Mortgage	15000
Utilities	5000
Food	9000
Cars – Transportation	8000
Entertainment and Recreation	7000
Personal Care – Lifestyle	5000
Phone/TV/Internet	2500
Miscellaneous	5000
Emergency Fund	10000
Total Expenses	
Savings	

Part 2

Answer the questions below

1) What surprised you from the Wilson's budget? Name at least one thing.

2) Are everyone's budgets the same? What might look different with your family's budget?

3) The Wilson's parents both earned raises. The family now earns \$10,000 more. Where should they allocate their extra income?

Budget – Creating a Business Plan

A budget can also be used to make a business plan. For example, a business will use a budget to determine how much they will spend on materials and packaging. They will factor in how much they can sell their product for and how many products they think they can sell. Having a budget is important for a business so they know if they will be successful in earning a profit.

Questions

Fill out the information below to complete your budget

Your class is selling bracelets to the rest of the school. How much will you spend on the bracelets? How much will you sell the bracelets for? Answer the questions below.

	Cost per Bracelet	Appeal /10
String	\$0.30	3
Black & White Beads	\$0.65	8
Black & White Beads	\$0.40	4
Colourful Beads	\$0.60	7
Personalized Name Beads	\$1.00	9
Plastic Gems		6

1) Which materials would you choose?

2) How much does 1 bracelet cost? _____ 100 Bracelets?

3) What will you charge for your bracelet? Explain your decision.

4) How much profit will you make per bracelet? _____

5) How many bracelets do you expect to sell? Why do you expect to sell that many?

6) How much profit (money) do you expect to earn after you sell all your bracelets?

Consumerism – Need vs Want

Consumerism – What is it?

Needing to have the new “it” thing, or the latest fashion or technology trends is called **consumerism**. When you go to a store, or go online to purchase an item, you are a **consumer**. Being a consumer is buying goods, products, or services. The feeling that you always need to have new things is a result of the marketing campaigns companies use.

Need vs Want

Whether you have a **need**, or a **want** determines whether the purchaser is part of **consumerism**. If you only buy what you need, you are not part of **consumerism**. The problem many people have is buying the things that are not needed, which are called **wants**. A study in 2019 found that the average child has 18 toys! That is too many toys to play with everyday, which means many toys are not needed.

Another study found that the USA spend 1.2 trillion dollars on things they do not need. The problem is that many people are affected by consumerism because they have this feeling that they need to buy things constantly.

What Causes Consumerism

Companies want us to participate in consumerism so they can sell their products. They pay marketing teams to turn us into consumers. Marketers develop campaigns designed around getting us to spend our hard-earned money on their products. They use strategic forms of advertising to appeal to a wide range of genders and many more categories of people.

When you go online, you will see targeted advertisements based on your search history, profiles, and online identity. They will make you feel like you can't live

without their products, and that you have a limited time to purchase. Marketers have named this strategy, “a call to action”, which means that you need to respond quickly. Some people also participate in consumerism to one-up their friends!

SPECIAL OFFER

Avoiding Consumerism

Before making purchases, think about the following questions: How will this product change your life? Is it worth the money you are spending? Will you use this daily? How have the marketers sold you on this product? Am I a sucker for giving them my money?



Part 1 What are some examples of needs and wants?

Needs	
Wants	

Part 2 What are some questions you can ask yourself to avoid consumerism?

Part 3 Are the statements about consumerism true or false?

1. Consumerism is when you buy anything in a store.	True	False
2. You are a consumer when you buy something in a store.	True	False
3. Consumerism is when you spend money on wants, not needs.	True	False
4. Marketers and businesses want us to spend our money on their products.	True	False
5. Marketers will target individuals based on their interests.	True	False
6. Kids need 238 toys to stay happy.	True	False
7. You can end consumerism by stopping and thinking before purchasing.	True	False
8. You need the latest gadgets and toys to impress your friends.	True	False
9. Marketers use information from your search history and profiles.	True	False
10. Consumerism is the feeling you need the latest gadget, toy, or clothing.	True	False

Exit Cards

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

Name: _____

Mark

Check only the statements that correctly describe consumerism, needs, and wants.

- ☐ A need is something you must have to live, like food, water, or shelter.
- ☐ A want is something extra that is nice to have but not necessary to survive.
- ☐ Consumerism means buying only the things you truly need.
- ☐ Advertising can make people feel like they need something, even if it is just a want.
- ☐ Owning 200 toys is usually considered a basic need.
- ☐ Marketers design ads to make products look less appealing.

Name: _____

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- ☐ Marketers design ads to make products look less appealing.

Financial Decision Making

Financial Decision Making

When we have money to spend, we need to make financial decisions regarding how we spend it. We have many options to do with our money – we can spend it, invest it, save it, or donate it. Every decision we make with our money should be carefully made. Weighing the pros and cons of our decisions is a great way to make the right decision.

For example, if we earn \$500, we need to decide what to do with that money. The following pros and cons list would be helpful.

Options	Spend it	Invest it	Donate it	Save it
Pros	Buy a new TV for fun	We can invest it in the stock market and earn more money	- Give the money to the local Food Bank to help families in our area	- We can save it for a time when we really need it
Cons	- The money is gone and is not making us more money	- The stock market may decline	- We could have used the money to buy something we need	- The money is not earning as much interest as an investment would

Your Turn

Fill in the pros and cons table to decide what to do with an extra \$500

Options	Spend it	Invest it	Donate it	Save it
Pros				
Cons				

Explain

Explain how the factors below affect your financial decision making

Factors	Explanation
Social Media	
Adverts	
Peer Pressure	
Personal Beliefs About Environmentalism	
A Pandemic	
Employment and Income	
Family Circumstances (How many people in the family)	

PREVIEW

Factors Affecting Financial Decision Making

Explain

Choose 5 factors that affect your financial decision making.
Explain the positive and negative affects they have on your decisions.

Factors	Positive Effects	Negative Effects

PREVIEW

Factors Affecting Financial Decision Making - Scenarios

Explain

Read the scenarios below and identify potential familial, personal, and societal factors that may affect the decision

Scenario 1	Your brother wants to play soccer next year on a competitive travelling team.
Familial Factors -How will this affect the family?	
Personal Factors -How will this affect you?	
Societal Factors -How will this affect others in your community or in the world?	
Scenario 2	Your sister wants to go on a student exchange to Japan for 2 months.
Familial Factors -How will this affect the family?	
Personal Factors -How will this affect you?	
Societal Factors -How will this affect others in your community or in the world?	

Role-Play: Factors That Influence Financial Decision Making**Objective**

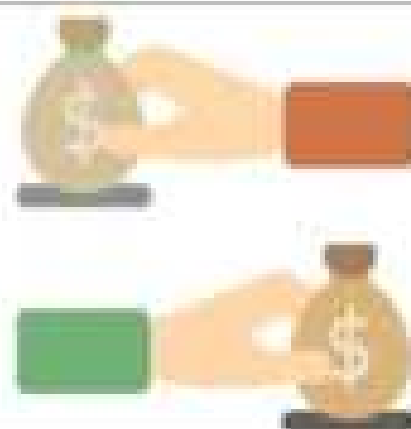
What are we learning about?

Students will understand how a variety of societal and personal factors can influence the financial decisions people make. Through role-playing scenarios, students will learn how factors such as social media, advertisements, family circumstances, peer pressure, and economic conditions can affect the choices individuals make about money and resources.

Materials

What you will need for the activity.

- Scenario cards that describe situations where financial decisions are influenced by different factors.
- Props or costume pieces that represent different factors.

**Instructions**

How to conduct the activity.

1. Divide the class into small groups of 4-6 students.
2. Provide each group with a scenario card that describes a situation where a financial decision is being made, and includes one or more factors that influence the decision.
3. In each group, assign roles that fit the situation (e.g., the decision-maker, someone influencing the decision, a financial advisor, or a peer).
4. If available, provide props or costume pieces to help students represent their roles more effectively.
5. Set a timer for groups to plan and rehearse their role-play.
6. Invite each group to perform their role-play for the class, showing how the factor(s) influenced the financial decision.
7. After each presentation, hold a short class discussion about the factor(s) shown, their impact, and how the decision could have been different without those influences.
8. Conclude by having students fill out a short reflection sheet describing what they learned about the different societal and personal factors that can influence financial decision making.

Scenario Cards

Cut out the topics below.

Scenario Title	Scenario Description	Key Influencing Factor(s)
The Gaming Console Sale	A new gaming console is released, and influencers on TikTok and YouTube are posting about it non-stop. A student has saved \$450 but was originally planning to buy a laptop for schoolwork. Their friends keep tagging them in videos about how "everyone's getting one."	Social media, peer pressure, consumerism
The Limited-Edition Sneakers	A student has saved for limited-edition sneakers for \$220 and will sell out in two weeks. They just won money from a recent birthday and were planning to save for new soccer cleats for the next season. If they buy the sneakers now, they won't have enough for the cleats and might have to wait for the next month's allowance or find another way to get the money.	Advertisements, budgeting priorities, consumerism
School Fundraiser Choice	The school is running two fundraisers: one for eco-friendly water bottles and another for popular brand-name hoodies. Students must decide which to buy to support the cause. One choice aligns with their environmental values, the other is more fashionable.	Environmental concerns, social norms, consumerism
Streaming Service Dilemma	A student is deciding between keeping two streaming services or cancelling one to save money for an upcoming school trip. Their friends all watch a show on one service, but their favourite show is on the other.	Peer pressure, personal interests, budgeting

Scenario Cards

Cut out the topics below.

Scenario Title	Scenario Description	Key Influencing Factor(s)
Job or Sports Tryouts	A Grade 7 student has the chance to work part-time at a family friend's shop for extra spending money. The same week, sports team tryouts are happening, but practice times would conflict with the job.	Employment and income, personal interests, time management
Phone Upgrade Urgency	A student is considering "today only" deals on a new phone. The store promises it's way faster than the old one, but the student's phone still works fine. The student's phone is 2 years old.	Advertisements, consumerism, economic marketing tactics
Big Move Budgeting	A student's family is moving to a different house because of a parent's new job. They have to decide how to spend a \$200 gift from relatives — on decorating their new room, buying sports equipment to make new friends, or saving it.	Family finances, peer pressure, budgeting
Summer Concert Decision	A popular band is coming to town, and tickets are \$95. A student can afford them but had planned to save for a new bike. Their friends are all going and have invited them along.	Peer pressure, budgeting priorities, personal values

Peer Assessment

Mark a group member using the checklist below:

My Name		Who I Am Assessing	
----------------	--	---------------------------	--

Criteria	Description	Stars (1: Needs improvement, 5: Best)
Stayed in Character	The student remained in character throughout the performance.	☆☆☆☆☆
Listened to Others	The student listened carefully and responded appropriately to others.	☆☆☆☆☆
Supported Others	The student accepted others' ideas and helped them stay in the scene.	☆☆☆☆☆
Showed Creativity	The student demonstrated creativity in their ideas and actions.	☆☆☆☆☆
Used Body Language	The student used body language to express their character and actions.	☆☆☆☆☆
Spoke Clearly	The student spoke clearly enough to be heard by others.	☆☆☆☆☆
Contributed to the Story	The student helped to develop the story and move the story forward.	☆☆☆☆☆
Reacted to Situations	The student reacted appropriately to situations presented in the scene.	☆☆☆☆

Learn and Question

Learn: Write two things you learned from the role-play.

Question: Ask one question you have from the role-play.

Learn	
Learn	
Question	

Reflection

Answer the questions below

1) What factor(s) influenced the financial decision in your role-play scenario?

2) Do you think the person in your role play made the right choice? Explain.

3) What are some of the positive and negative results of the decision?

Positive

Negative

---	---

4) How might the decision have been different if another person was making the decision?

5) How could family or personal circumstances change the outcome?

Fees – Banking and Borrowing

What Are Fees?

A **fee** is a charge that is paid by a customer in exchange for using a service. For example, when you setup a new bank account, you may owe a one-time setup fee, of say \$10. These fees may be charged on a one-time or ongoing basis. An on-going fee could be a monthly bank account fee of \$15 a month.

What Do We Pay Bank Fees For?

Most bank accounts cost a monthly fee. Canadians on average spend \$225 a year in bank fees. People typically pay fees in exchange for the following services:

- Taking money out of a bank using ATM's
- Access to a bank's services
- Financial advice on how to do with our money
- Keeping our money safe
- Sending our money to other banks
- Online banking
- Completing transactions (like use of a debit card)
- Checking and savings accounts earning interest for the money we store at the bank



Per-Transaction Fees

Fees can be charged for each transaction we make. For example, when we take money out of an ATM, we will sometimes need to pay a fee that is charged for each withdrawal. This means if you want to take \$20 out of your bank account, you will actually get \$18 out. Using an ATM that your bank is responsible for will likely be free, but using other ATM's will often cost an additional fee.

Sending electronic money transfers (EMT) can also be charged on a per-transaction basis. This means when you send an email transfer, you could be charged a fee of \$1.50 per transaction.

Different bank accounts will give you access to a certain amount of debit transactions per month. If you are on a free bank account, you could be limited to 10 or less transactions (number of times you can use your debit card). If you use it more than 10 times, you will be charged a per-transaction fee that could become costly.

Understanding The Details Of Your Bank Account

Bank accounts that are free with no monthly cost tend to offer less features, like no free ATM withdrawals or no free electronic money transfers. So, while you save on the monthly fees, your per-transaction costs could add up quickly.

It is important to understand how you plan to use a bank account before you choose a type of bank account. If you don't plan to make any EMT's or withdrawals from ATM's, you could choose the free option.



True or False

Circle whether the statement is true or false.

1) A fee is always a one-time fee, like to open up a bank account	True	False
2) Common per transaction fees are ATM withdrawals and EMT transactions	True	False
3) All bank accounts offer the same services	True	False
4) Per transaction fees can add up quickly	True	False
5) Free bank accounts are always the best option for customers	True	False

Fees Circle the fees below based on the scenario.

1) You send 9 e-Transfers for a cost of \$1.50 per transaction.	
2) You use your debit card to buy a new pair of shoes. Your plan only allows you to use your debit card 4 times a month. An extra debit transaction costs \$3.00.	
3) You withdrew from an ATM 9 times last year. You went to your bank's ATM 3 of the times. The other 6 times you were charged \$3.50 each withdrawal.	
4) You pay \$14.99 per month for your bank account. How much did you pay last year in bank fees?	
5) You sent 7 e-Transfers for \$1.50 each transaction and withdrew money from an ATM 4 times with a per-transaction fee of \$3.00 each time.	

Questions

Answer the questions using evidence from the text.

1. Why is it important to understand the details of our bank accounts?

2. Why are per-transaction fees often more costly than paying a higher monthly fee?

Exit Cards

Cut Out

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

Name: _____

Mark

2 Truths and a Lie - Can you find the one that's not true?

	Some bank accounts charge monthly fees for using their services.
	Using an ATM that belongs to another bank may cost you extra money.
	All bank accounts allow unlimited free transactions every month.

Name: _____

Mark

2 Truths and a Lie - Can you find the one that's not true?

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2 Truths and a Lie - Can you find the one that's not true?

	Some bank accounts charge monthly fees for using their services.
	Using an ATM that belongs to another bank may cost you extra money.
	All bank accounts allow unlimited free transactions every month.

Choosing a Bank Account

Sale!

Limited Time Offer!



Super Bank – The Essentials Banking

- Free monthly fee
- 12 debits per month, \$1.25 each thereafter
- 6 free e-transfers, \$1.50 each thereafter
- Receive 1 Super Bank point for every \$1 you spend
- Using Non-Super Bank ATM in Canada - \$2 each
- Using Non-Super Bank ATM outside of Canada - \$5 each
- Using debit card outside of Canada - \$1 each debit
- Bank drafts - \$8 each
- Free online banking

Super Bank – No Limit Banking

- \$14.99 monthly fee
- Unlimited debits per month
- Unlimited e-Transfers per month
- Receive 1 Super Bank point for every \$1 you spend
- Free use of any ATM, anywhere in the world
- Use debit card free anywhere in the world
- 6 free bank drafts/year, \$8.00 each thereafter
- Free online banking
- Receive a new Kwaliti brand 50-inch TV free just for signing up!

Decision Time!

If you were the person behind Jill, which bank account should you choose?

Jill is trying to figure out which bank account is right for her. She wrote down all of her financial habits in the table below and needs your help to determine which bank account habit will cost for both bank accounts.

Financial Habit	Essentials	No Limit
1) Monthly fee		
2) Jill plans to use her debit 15 times a month		
3) She plans to send 8 e-Transfers each month		
4) Jill plans to use her debit card 3 times a month outside of Canada		
5) She thinks she will use non-Super Bank ATMs 2 times a month		
6) She will use ATM machines outside of Canada once per month		
Total Cost		
7) She will spend around \$500 a month. How many reward points will she earn?		

Questions

Answer the questions based on the results of your research.

1. Which bank account should Jill choose - Essentials or No Limit? Explain your choice.

2. An _____ says the best? Why is it important to research bank accounts before you choose?

Your Turn!

Which bank account would you choose for your friend? Explain.

Creating Bank Account Details - Assignment

Banks are businesses that want our money. If banks don't get new customers, they could go out of business.

Assignment

You are hired to create bank accounts that will entice people to join

Your boss wants you to create two bank accounts that has will make the bank a lot of money, but also entice customers to want to join. Create two different accounts, one with a high monthly fee and one that is free with extra per-transaction fees.

PREVIEW

1) Who should get the first option of bank account? Describe the benefits.

2) Who should get the second option of bank account? Describe the benefits.

Matching Game: Review Financial Literacy Terms

Objective

What are we learning about?

Reinforce students' understanding of financial literacy terms and their corresponding definitions through a collaborative memory game.

Materials What you will need for the activity:

- Pre-made financial literacy terms (e.g., budget, interest, expense, asset, interest)
- Small bags or envelopes for each group



Instructions

How you will complete the activity

1. Before the class, the teacher will cut out matching game cards.
2. Divide the students into small groups and give each group a bag containing a set of the matching cards.
3. In their groups, students will spread out the cards face down on their table.
4. Each student takes a turn flipping two cards – one term and one definition – trying to find a matching pair (e.g., "budget" and "a plan for how to spend and save money").
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

Sorting Game Cards

Financial Literacy Term	Matching Definition
Cash	Physical money in the form of coins or bills
Debit Card	A card that takes money directly from your bank account when making purchases
Credit Card	A card that lets you borrow money from a bank to pay for purchases
Electronic Wallet	A digital way to store payment information on a device for purchases
E-Transfer	Sending money electronically from one bank account to another

Cards

Sorting Game Cards

Financial Literacy Term	Matching Definition
Coupon	A voucher that gives a discount on goods or services
Goods	Physical items people buy or use
Services	Work or help that others provide for others in a community
Short-Term Goal	Something you want to achieve soon, within a year
Long-Term Goal	Something you plan to achieve over many years

Cards

Sorting Game Cards

Financial Literacy Term	Matching Definition
Investing	Using money to buy assets that can grow in value over time
Budget	A plan for how to spend and save money
Income	Money you receive from work or other sources
Expenses	Money you spend on goods, services, or bills
Interest Rate	The percentage charged or earned on borrowed or saved money

Financial Literacy – Unit Test

Part 1

Matching – Write the letter beside the description of the method of payment

Method of Payment	Description
_____ Gift Card	a) Using a card with \$100 on it that has already been purchased from a store
_____ Check	b) Paying with a card that links to your bank account
_____ Coin	c) Paying with coins or bills
_____ Credit Card	d) Sending money to a friend using email
_____ Cash	e) Giving a piece of paper to someone that shows how much money you want them to take out of your bank account for
_____ Debit Card	f) Borrowing money from a bank to pay for things with borrowed money

Part 2

How much would you save by changing these habits in the situations below?

2) Stop buying a \$2.50 pop each day from vending machines for 1 year.	
2) Stop buying a \$2.25 bag of candy 3 three times a week for 1 year.	
3) Stop buying a \$7.00 lunch twice a week for one year.	
4) Stop buying video game add-ons for 5 years that cost \$25 a month.	
5) Stop paying for a video game subscription for 5 years that costs \$129 each year.	

Part 3

How much would you earn in the situations below?

1) Selling 5 homemade wallets a day at \$5 a wallet for 20 days.	
2) Selling 10 cups of lemonade a day for \$2.50 a cup for 30 days.	
3) Sell 90 bags of homemade kettle chips a month (30 days) for \$8 a bag for 5 years.	
4) Perform lawn work for 5 hours a day for 1 month (30 days) at \$15 an hour.	
5) Post 2 videos a week where each video earns you \$2 a day. How much would you earn?	

Part 4

Calculate the total bank fees for the scenario

1) You send 8 e-Transfers at a cost of \$1.50 per transaction.
2) You withdrew from an ATM 12 times last month. You were charged \$3.00 the first 4 times. The other times you were charged \$3.50 each withdrawal.
3) You pay \$9.99 per month for your bank account. How much did you pay last year in bank fees?
4) You sent 9 e-Transfers for \$1.50 each transaction and withdrew money from an ATM 3 times with a per-transaction fee of \$3.00 each time.

Part 5

Answer the word problems below

- 1) Scott found a basketball for \$49.25 and basketball shoes for \$159.80. He brought the following cash below to the store to buy the items.



- a) How much will the basketball and shoes cost?

- b) Which bills/coins should he use to pay for the basketball and shoes?

- c) How much change will he get back?



- 2) Claire is buying a new dress for \$65.75 and a hat that costs \$49.90. Claire's cash is below.



- a) How much will the dress and hat cost?

- b) Which bills/coins should she use to pay for the dress and hat?

- c) How much change will she get back?

