



Preview - Information



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- ✓ A selection of worksheets included in each workbook.

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Google Slides Lessons Preview





Ontario Math Curriculum

Algebra – Patterns, Equations – Grade 4

3-Part Lesson Format

Part 1 – Minds On!

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

LEARNING GOAL

We are learning to find and explain the parts that repeat in patterns so we can understand how patterns work and how they keep going.

Repeating Patterns-2 Elements

Continue the repeating patterns below by dragging the objects from the box.

1)		
2)		
3)		
4)		
5)		
6)		

Part 2 – Action!

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

Part 3 – Consolidation!

- Exit Cards
- Quizzes
- Reflection
- And More!

EXIT CARD – Word Problem

Liam is stacking blocks.
 Stack 1 has 3 blocks.
 Stack 2 has 6 blocks.
 Stack 3 has 9 blocks.

1. How many blocks does Liam add to make each new stack?
2. Describe the pattern rule in a sentence. (Example: Start at... add...)
3. How many blocks will be in Stack 12?



Ontario Math Curriculum

Algebra – Patterns, Equations – Grade 4

Representing Picture Sequence With Numbers

Drag the numbers to determine the numerical sequence that represents the picture sequence.

1 2 3 4 5 6 7 8 9 0

Picture Sequence	Numerical Sequence	Picture Sequence	Numerical Sequence
 Figure 1 Figure 2 Figure 3	_____	 Figure 1 Figure 2 Figure 3	_____
 Figure 1 Figure 2 Figure 3	_____	 Figure 1 Figure 2 Figure 3	_____

Sequence With Numbers

Write the numerical sequence.

1 2 3 4 5 6 7 8 9 0

Slope Pattern

Pattern Rule	Start at _____ subtract _____ each time					
Numerical Sequence						
Term Number	1	2	3	4	5	6
Term Value						

Strawberry Sequence

Sam marks a tick each day for the pieces of strawberry she eats.

Term Number (Day)	1	2	3	4	5	6	7
Term Value (strawberry)							



Ontario Math Curriculum

Algebra – Patterns, Equations – Grade 4

Fibonacci Sequence

The Fibonacci sequence is a pattern in which each number is the sum of the two numbers before it. For example, the first 10 numbers of the sequence are:
0, 1, 1, 2, 3, 5, 8, 13, 21, 34

Fill in the blanks below using the Fibonacci sequence.

				3								
			3		3							
		3		6		3						
		3					3					
	3							3				
	3								3			
3										3		
3											3	
3												3

Discussion: How many terms can you write in the Fibonacci sequence?

Multiplication Patterns

INSTRUCTIONS

- Count by 4's and drag the blue star to the numbers
- Count by 6's and drag the yellow star to the numbers
- Count by 8's and drag the green star to the numbers
- Count by 9's and drag the red star to the numbers

x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

Patterns (2s)

	1	2	3	4	5	6	7	8	9	10
1)	8	10	12							
2)	33	35	37	39						
3)	44	46	48	50						
4)	69	71	73	75						



Workbook Preview





Grade 4

C1. Patterns and Relationships



	Curriculum Expectations	Pages That Cover the Expectations
C1.1	identify and describe repeating and growing patterns, including patterns found in real-life contexts	5 - 15, 18 - 19, 26 - 27, 55 - 56
C1.2		53,
C1.3	determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in repeating and growing patterns	16 - 17, 20 - 25, 28 - 34, 57 - 84, 90 - 103
C1.4	create and describe patterns to illustrate relationships among whole numbers and decimal tenths	85 - 89, 104 - 109

Preview of 130 pages from this product that contains 425 pages total.

Repeating Pattern Cores – 3 Elements

Part 1

Circle the pattern core in the patterns below

Four rows of various items for pattern recognition:

- Row 1: Blue and white striped candy, purple swirl lollipop, blue and white striped candy, blue and white striped candy, blue and white striped candy, purple swirl lollipop, blue and white striped candy, blue and white striped candy, blue and white striped candy, purple swirl lollipop, blue and white striped candy, blue and white striped candy.
- Row 2: Football, orange, football, football, black 8-ball, orange, football, football, black 8-ball, orange.
- Row 3: Ice cream bar, ice cream bar, cookie, ice cream bar, cookie, pear, ice cream bar, ice cream bar, ice cream bar, cookie, pear, ice cream bar.
- Row 4: Leaf, tree, leaf, tree, leaf, tree, leaf, tree, leaf, tree, leaf, tree.

Part 2

Create A, B, C patterns below using 3 elements

1)									
2)									
3)									
4)									

Repeating Pattern Cores – 4 Elements

Part 1

Circle the pattern core in the patterns below

Four rows of repeating patterns for identification:

- Row 1: Cup, Cucumber, Donut, Cupcake, Cup, Cucumber, Donut, Cupcake, Cup, Cucumber, Donut, Cupcake
- Row 2: Pencil, Tree, Pencil, Lamp, Pencil, Tree, Pencil, Lamp, Pencil, Tree, Pencil, Lamp
- Row 3: Star, Mouse, Phone, Mug, Star, Mouse, Phone, Phone, Phone, Mug, Star, Mouse, Phone, Mug
- Row 4: Chocolate, Party Hat, Smoothie, Pineapple, Chocolate, Party Hat, Smoothie, Pineapple, Chocolate, Party Hat, Smoothie, Pineapple

Part 2

Create A, B, C, D patterns below using 4 elements

1)										
2)										
3)										
4)										

Exit Cards

Cut Out

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

Name: _____

Circle the pattern core

- 1) 2, 4, 2, 4, 2, 4
- 2) ★, ▲, ★, ▲, ★, ▲
- 3) 10, 20, 30, 10, 20, 30
- 4) ☼, 🍷, ☼, 🍷, ☼, 🍷

Name: _____

Circle the pattern core

- 1) 2, 4, 2, 4, 2, 4
- 2) ★, ▲, ★, ▲, ★, ▲
- 3) 10, 20, 30, 10, 20, 30
- 4) ☼, 🍷, ☼, 🍷, ☼, 🍷

Name: _____

Circle the pattern core

- 1) 2, 4, 2, 4, 2, 4
- 2) ★, ▲, ★, ▲, ★, ▲
- 3) 10, 20, 30, 10, 20, 30
- 4) ☼, 🍷, ☼, 🍷, ☼, 🍷

Name: _____




Circle the pattern core










- 1) 2, 4, 2, 4, 2, 4
- 2) ★, ▲, ★, ▲, ★, ▲
- 3) 10, 20, 30, 10, 20, 30
- 4) ☼, 🍷, ☼, 🍷, ☼, 🍷









Name: _____

Repeating Pattern – 3 Atoms**Questions**

Extend the repeating patterns below

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

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

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

PREVIEW

Repeating Patterns in Real Life

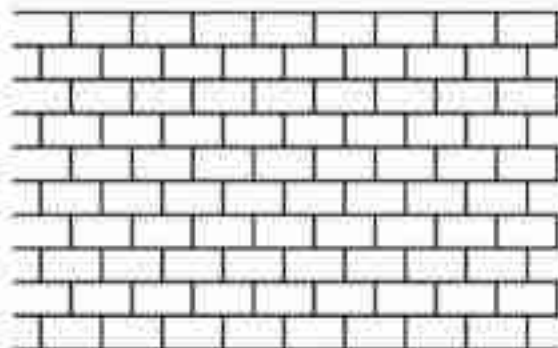
Directions

Colour the pattern core that repeats

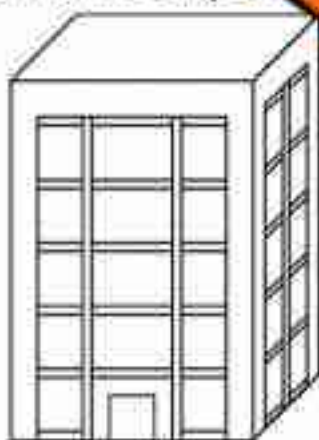
1) Snowflake



2) Brick Wall



3) Windows in a Skyscraper



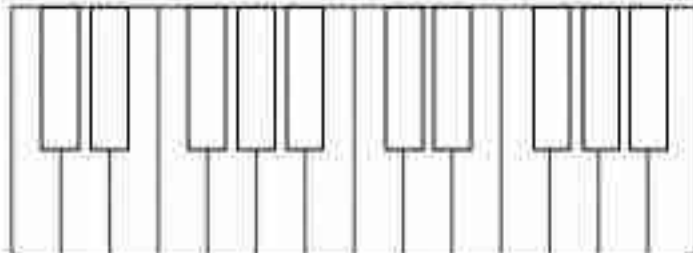
4) Tiles



5) Fence

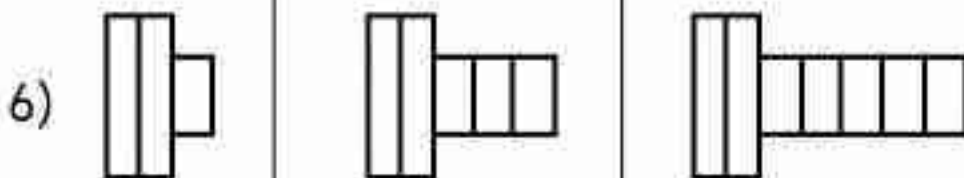
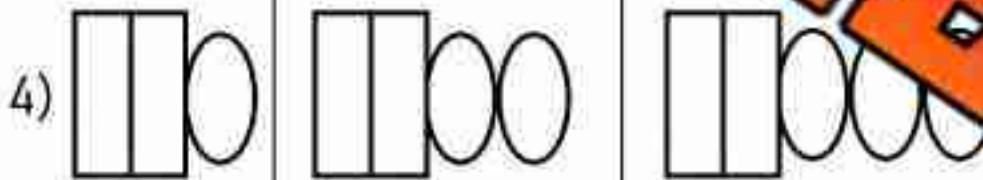
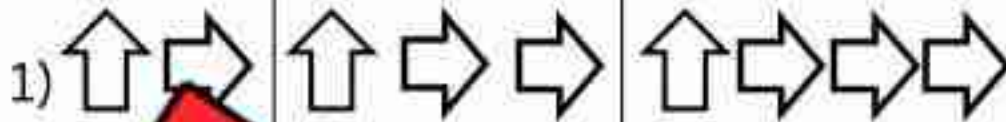


6) Piano Keys



Increasing Patterns – Shapes**Questions**

Draw the last part of the pattern



Increasing Patterns – Shapes

Questions

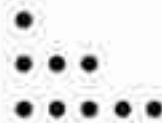
Draw the next line of the increasing pattern

1) Draw the next line in the pattern.



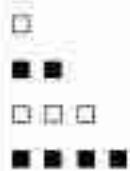
Answer

2) Draw the next line in the pattern.



Answer

3) Draw the next line in the pattern.

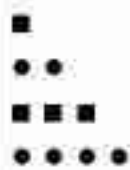


4) Draw the next line in the pattern.



Answer

5) Draw the next line in the pattern.



Answer

6) Draw the next line in the pattern.

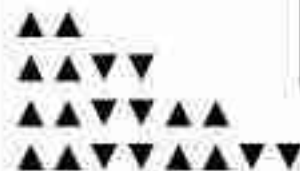


7) Draw the next line in the pattern.



Answer

8) Draw the next line in the pattern.



Answer

Exit Cards

Cut Out

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

Name: _____

Draw the next 2 lines in the pattern.



Name: _____

Draw the next 2 lines in the pattern.



Name: _____

Draw the next 2 lines in the pattern.



Name: _____

Draw the next 2 lines in the pattern.

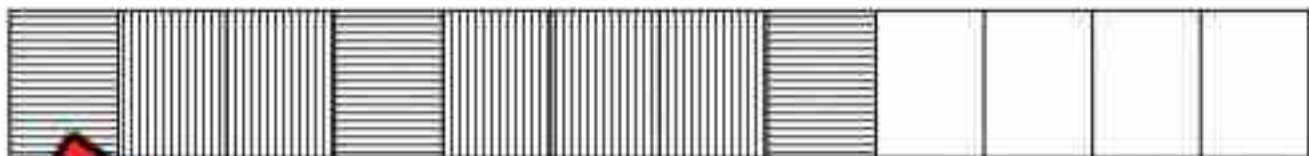


Increasing Patterns – Beading

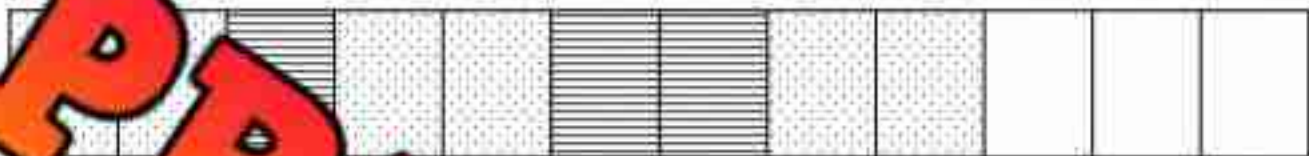
Questions

Draw the remaining patterns on the bracelets.

1)



2)



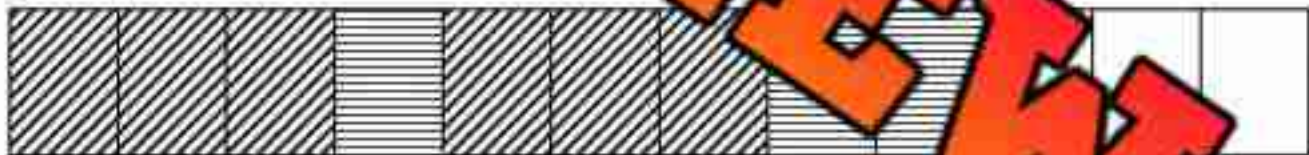
3)



4)



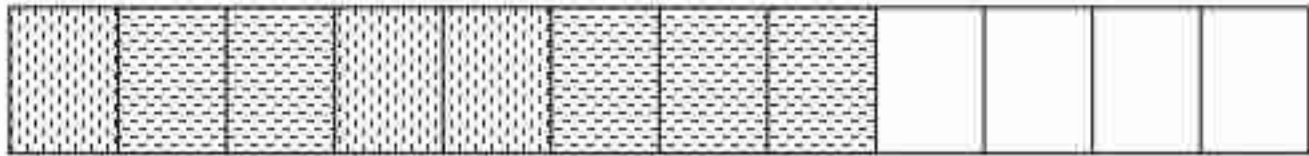
5)



6)



7)



8)



Name: _____

Increasing Patterns – Bracelets



Questions

Draw your own bracelets using increasing patterns.

PREVIEW

Name: _____

30

Curriculum Connection
C1.3

Increasing Patterns – Beading

Questions

Draw your own necklace using an increasing pattern



Representing Picture Sequence With Numbers

Questions

Write the numerical sequence that represents the picture sequence.



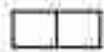
1) Figure 1 Figure 2 Figure 3

Numerical Sequence



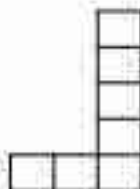
2) Figure 1 Figure 2 Figure 3

Numerical Sequence



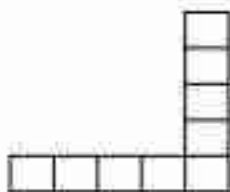
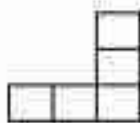
3) Figure 1 Figure 2 Figure 3

Numerical Sequence



4) Figure 1 Figure 2 Figure 3

Numerical Sequence



5) Figure 1 Figure 2 Figure 3

Numerical Sequence

Exit Cards

Cut Out

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

Name: _____

a) Draw the next figure.



b) Write the numerical sequence that represents the picture sequence.

Name: _____

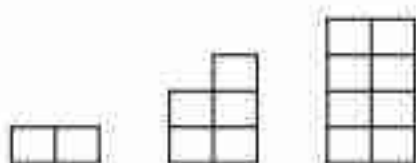
a) Draw the next figure.



b) Write the numerical sequence that represents the picture sequence.

Name: _____

a) Draw the next figure.



b) Write the numerical sequence that represents the picture sequence.

Name: _____

a) Draw the next



b) Write the numerical sequence that represents the picture sequence.

Representing Picture Sequence With Numbers

Questions

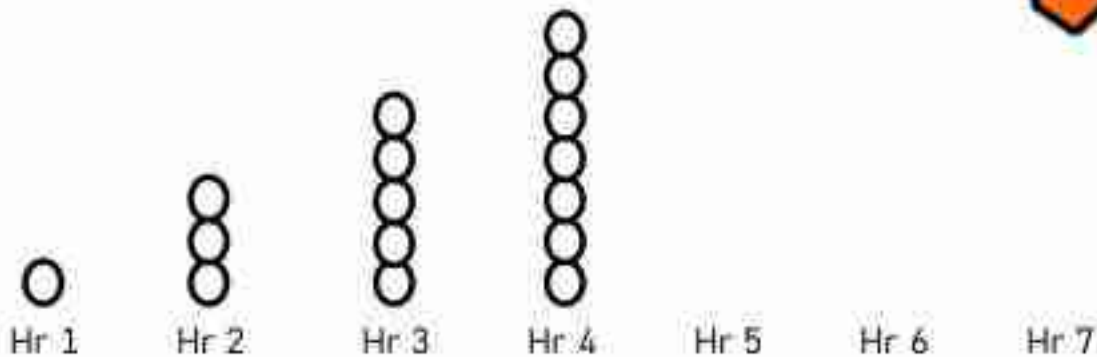
Write the numerical sequence that represents the picture sequence

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



Numerical
Sequence

2) Steven is looking for golf balls in the woods. He rolls _____ balls each hour.



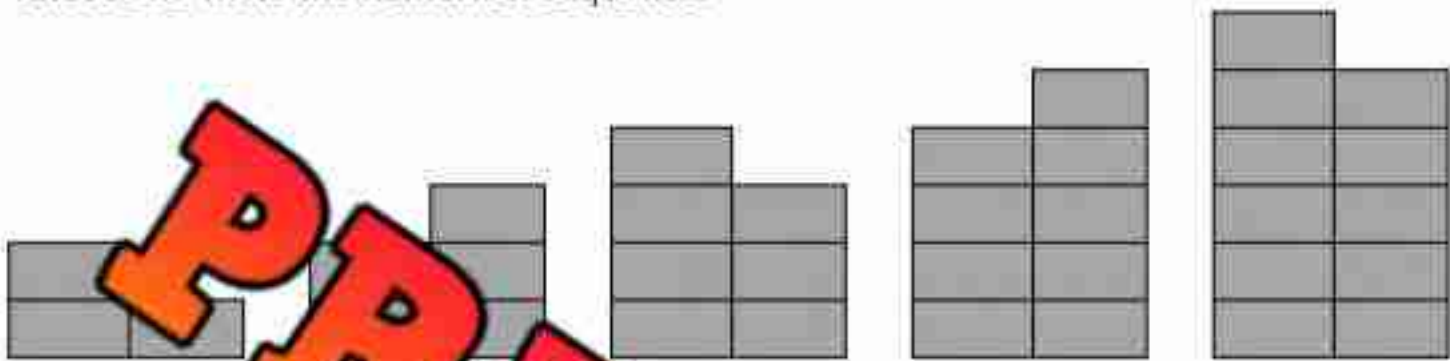
Numerical
Sequence

Representing Picture Sequence With Numbers

Questions

Fill in the table of values and write the numerical sequence

Joel has created a pattern using his blocks. Translate the pattern using the table of values and write the numerical sequence.



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

Pattern Rule: _____

1) How many blocks would Joel use in his 10th shape if he continued his pattern?	
2) Which shape (term number) would use 27 blocks?	
3) How many blocks would it take to create the 15 th shape (term number)?	
4) How many blocks would it take to create the 32 nd shape (term number)?	

Representing Picture Sequence With Numbers

Questions

Continue the picture sequence and represent it using numbers

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



Day 1



Day 2



Day 3



Day 4

Day 5

Numerical
Sequence

2) Ally writes down how many days it rains each day from June to September.



June



July



Aug



Sept

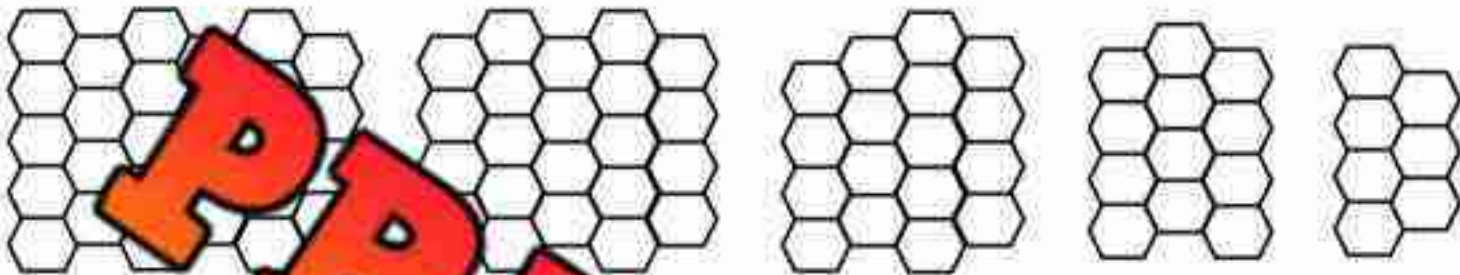
Numerical
Sequence

Representing Picture Sequence With Numbers

Questions

Fill in the table of values and write the numerical sequence

Jill makes a pattern using hexagons. Fill in the table of value and write the numerical sequence



Numerical Sequence					
--------------------	--	--	--	--	--

Term Number	1	2	3	4	5	6
Term Value						

Pattern Rule: _____

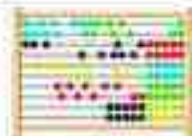
1) What is the pattern decreasing by each time?

2) Draw your own decreasing pattern below using shapes.

3) Write the numerical sequence for your decreasing pattern.

Numerical Sequence					
--------------------	--	--	--	--	--

Table of Values – Term Numbers/Values


Instructions

Fill in the table of values below

Term Number	Term Value
1	12
2	19
3	26
4	
5	
6	

Term Number	Term Value
1	9
2	18
3	27
4	
5	
6	

Term Number	Term Value
1	75
2	68
3	61
4	
5	
6	

Term Number	Term Value
1	98
2	92
3	
4	
5	
6	

Term Number	Term Value
1	136
2	146
3	
4	166
5	
6	
10	

Term Number	Term Value
1	180
2	175
3	
4	165
5	
6	
10	

Table of Values – Term Numbers/Values

Term Numbers and Term Values

Courtney's height in cm was measured each year on her birthday. Check out how her height increased each year below.

40, 60, 80, 100, 120, 140 - **Term Values** (height)
 (1) (2) (3) (4) (5) (6) - **Term Numbers** (year)

The **term number** is each term value starting at the first term. The **term values** are the numbers on your data set.

Term Number	Term Value
1	40
2	60
3	80
4	100
5	120
6	140

Term Number (Day)	Term Value (Money Made)

The school bake sale was 5 days long. They made \$75 each day. Check out the data set to see their earnings.
 75, 150, 225, 300, 375

a) How much money did the school make total after day 2?

b) How much money did they have after day 5?

c) How much money do they have after 10 days?

2. James scored 13 points in each of his games this season. A running total of his total points is listed below.

13, 26, 39, 52, 65

a) How many total points did he score after game two?

b) How many total points did he score after game five?

c) How many games would he have to play to score 100 points?

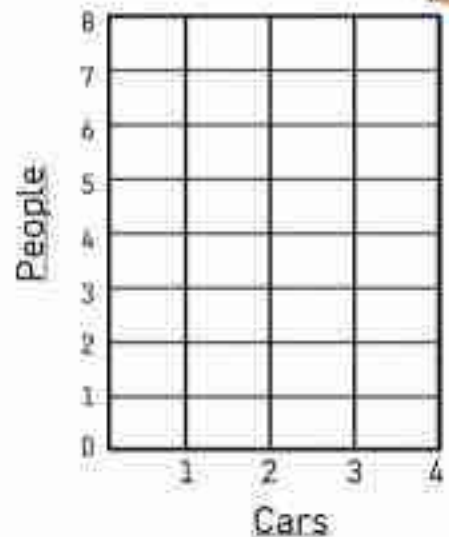
Term Number (Game)	Term Value (Total Points)

Translating Patterns – Table of Values and Graph

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



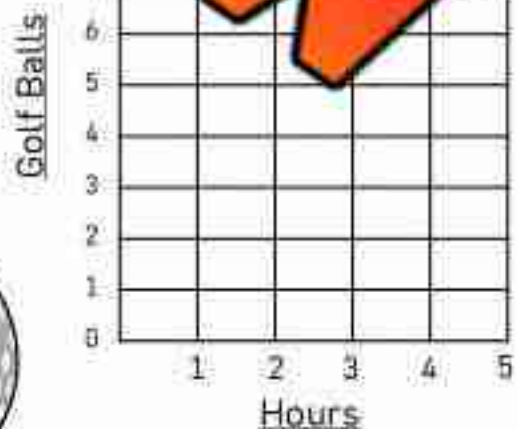
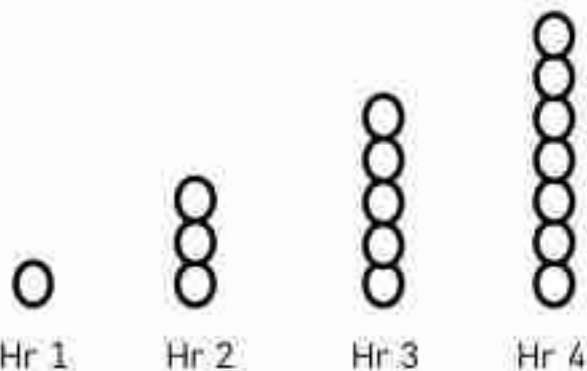
A train has the following people in each train car.



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

Part 2 Translate the growing pattern into a table of values and a graph

Steven is looking for golf balls in the woods. The number of balls he has each hour is displayed below.

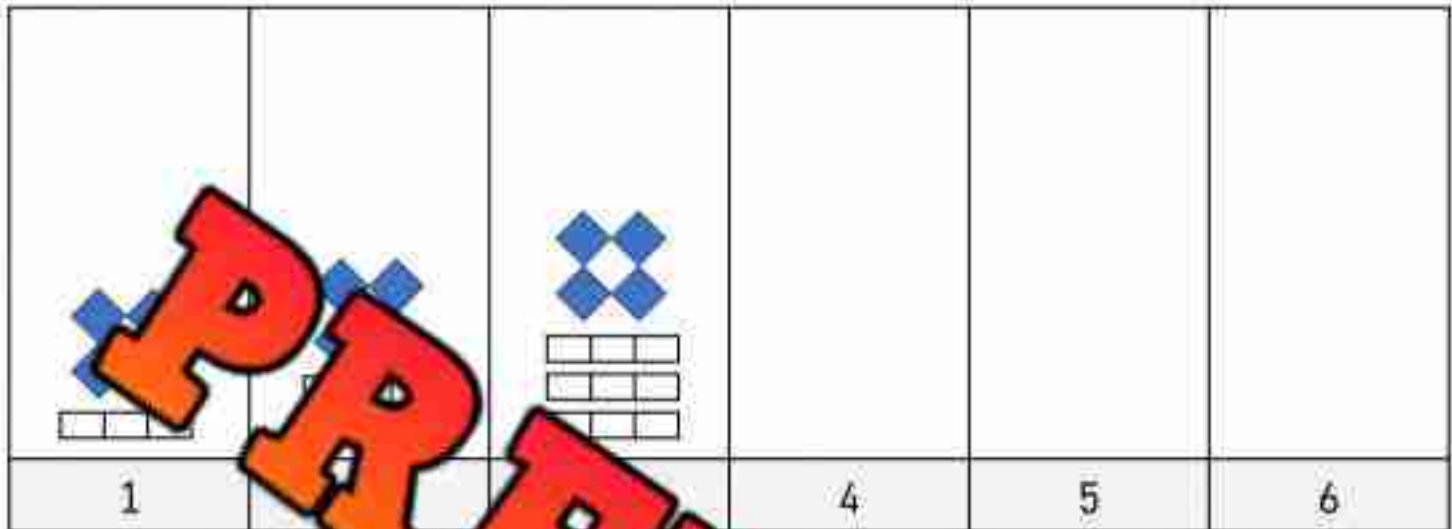


Term Number (Hour)	1	2	3	4	5	9
Term Value (Golf Balls)						

Translating Patterns – Table of Values and Graph

Part 1

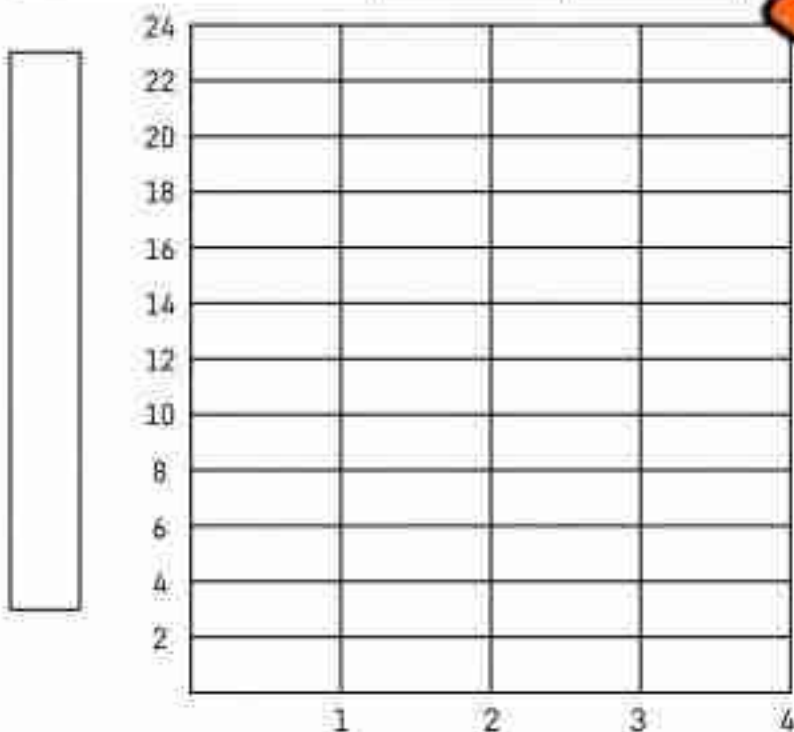
Extend the pattern by drawing the tiles below



Part 2

Translate the pattern into a table of values below

Figure	1	2	3	4	5	6
Tiles						



6 tiles
17 tiles
37 tiles
What figure could make

2) Can I make a figure with exactly 56 tiles?

3) Fill in the pattern rule below.

Start at _____, add _____
each time.

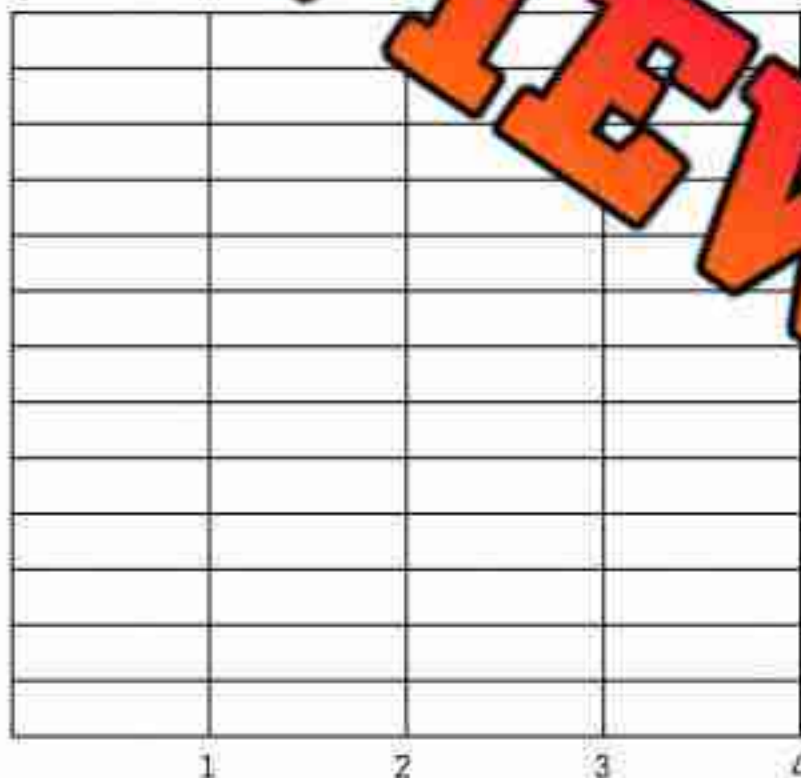
Translating Patterns – Table of Values and Graph

Part 1 Use blocks to make a growing pattern with 4 figures. Draw the pattern below

1	3	4	

Part 2 Translate the pattern into the table of values and graph below

Term Number (Figure)	1	3	4
Term Value (Blocks)			



--	--	--	--

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 read a book, you get 5 stickers as a reward. Fill in the table to learn more about your sticker collection.

# of Books Read	Stickers Earned
2	
3	
4	
5	
10	

Name: _____

Answer the questions below by using the table of values.

When you read a book, you get 5 stickers as a reward. Fill in the table to learn more about your sticker collection.

# of Books Read	Stickers Earned
2	
3	
4	
5	
10	

Name: _____

Answer the questions below by using the table of values.

When you read a book, you get 5 stickers as a reward. Fill in the table to learn more about your sticker collection.

# of Books Read	Stickers Earned
2	
3	
4	
5	
10	

Name: _____

Answer the questions below by using the table of values.

When you read a book, you get 5 stickers as a reward. Fill in the table to learn more about your sticker collection.

# of Books Read	Stickers Earned
2	
3	
4	
5	
10	

Fibonacci Sequence

The Fibonacci sequence is a pattern in which each number is the sum of the two numbers before it. For example, the first 10 numbers of the sequence are:

0, 1, 1, 2, 3, 5, 8, 13, 21, 34

Part 1

Fill in the numbers below each pair of numbers

				1																	
			1		1																
			1		2		1														
			1		1		2		1												
			1		1		2		3		1										
			1		1		2		3		5		1								
			1		1		2		3		5		8		1						
			1		1		2		3		5		8		13		1				
			1		1		2		3		5		8		13		21		1		
			1		1		2		3		5		8		13		21		34		1

Part 2

How many terms can you write in the Fibonacci sequence?

--

Fibonacci Sequence

**Directions**

Fill in the missing numbers

1)	0	1	1	2		
----	---	---	---	---	--	--

2)		89	144	233		
----	--	----	-----	-----	--	--

3)	3	5		13		
----	---	---	--	----	--	--

4)	8	13				
----	---	----	--	--	--	--

5)	2	3	5	8		
----	---	---	---	---	--	--

6)	21	34	55	89		
----	----	----	----	----	--	--

7)	13	21	34	55		
----	----	----	----	----	--	--

8)	34	55	89	144		
----	----	----	----	-----	--	--

PREVIEW

Name: _____

57

Curriculum Connection
C1.3

Hundreds Chart Patterns

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

Directions

Follow the instructions below

A number pattern needs to have a rule that the pattern follows. Colour the numbers in the hundreds chart that show the pattern rule below.

Rule: start at 5, add 5 each time

Hundreds Chart Patterns

Directions

Follow the instructions below

Colour the pattern rule: start at 2, add 12 each time

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

Colour the pattern rule: start at 1, add 1 each time

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

Multiplication Chart - Patterns

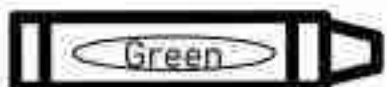
x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

PREVIEW

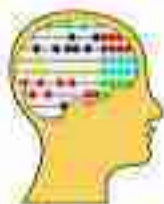
Questions

Follow the instructions below

1. Count by 2's and colour the numbers
2. Count by 3's and colour the numbers
3. Count by 5's and colour the numbers
4. Count by 10's and colour the numbers



Growing Patterns - Addition



Growing/Increasing Patterns

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

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



Part 1

Growing Patterns - Addition

$$\begin{array}{c}
 \wedge \\
 1) 2, 4, 6, \underline{\quad}, \underline{\quad}
 \end{array}$$

$$\begin{array}{c}
 \wedge \quad \wedge \\
 2) 6, 10, 14, \underline{\quad}, \underline{\quad}, \underline{\quad}
 \end{array}$$

$$\begin{array}{c}
 \wedge \quad \wedge \\
 3) 22, 27, 32, \underline{\quad}, \underline{\quad}, \underline{\quad}
 \end{array}$$

$$\begin{array}{c}
 \wedge \quad \wedge \\
 5) 73, 80, 87, \underline{\quad}, \underline{\quad}, \underline{\quad}
 \end{array}$$

$$\begin{array}{c}
 \wedge \\
 6) 112, 117, 122, \underline{\quad}, \underline{\quad}, \underline{\quad}
 \end{array}$$

Part 2

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

$$\begin{array}{c}
 1) (\text{Add } 2) \\
 7, 9, 11, \underline{\quad}, \underline{\quad}, \underline{\quad}
 \end{array}$$

$$\begin{array}{c}
 2) (\text{Add } 3) \\
 22, 25, 28, \underline{\quad}, \underline{\quad}, \underline{\quad}
 \end{array}$$

$$\begin{array}{c}
 3) (\text{Add } 6) \\
 43, 49, 55, \underline{\quad}, \underline{\quad}, \underline{\quad}
 \end{array}$$

$$\begin{array}{c}
 4) (\text{Add } 5) \\
 62, 67, 72, \underline{\quad}, \underline{\quad}, \underline{\quad}
 \end{array}$$

$$\begin{array}{c}
 5) (\text{Add } 10) \\
 83, 93, 103, \underline{\quad}, \underline{\quad}, \underline{\quad}
 \end{array}$$

$$\begin{array}{c}
 6) (\text{Add } 4) \\
 147, 151, 155, \underline{\quad}, \underline{\quad}, \underline{\quad}
 \end{array}$$

Word Problems: Growing Patterns - Addition

Questions

Solve the word problems below

	Word Problems - Growing Patterns - Addition	Answers
1	Mrs. Lee has a collection of flower pots. She puts 3 on her kitchen shelf on Monday, and every day after that, she adds 2 more pots. How many flower pots will be on the shelf by Saturday?	
2	Emily is building a tower with blocks. She places 4 blocks at the base and 2 more blocks for each new level. What will be the total number of blocks in her tower after she adds the fourth level?	
3	Josh has an album for his stickers. On Monday, he pastes 2 stickers into it, and every day he pastes 4 more stickers each day. How many stickers will he paste on Friday?	
4	Sara collects seashells by the beach. On the first day, she finds 5 seashells. Each day, she finds 3 more seashells. How many seashells will Sara have in total by the end of the sixth day?	
5	A little puppy eats 1 cup of food every day. To help him grow, his owner decides to add an extra 1 cup of food to his daily meal every week. How much how many cups of food in total will the puppy eat in week 4?	

Growing Addition Patterns - Rules

 $+4 +4$ $\wedge \wedge$

2, 6, 10, 14, 18, 22

Pattern Rule: Start at 2, add 4 each time.

Directions

Growing Addition Patterns

29, 38, 47, 56, 65, 74, 83

Start at _____, add _____ each time

2)

10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200

Start at _____, add _____ each time

3)

203, 210, 217, 224, 231, 238

Start at _____, add _____ each time

4)

370, 374, 378, 382, 386, 390

Start at _____, add _____ each time

5)

547, 553, 559, 565, 571, 577

Start at _____, add _____ each time

6)

803, 814, 825, 836, 847, 858

Start at _____, add _____ each time

Growing Addition Patterns - Rules

Questions

Write your own sequences using the pattern rule



1) _____

Pattern Rule: Start at 203, add 10 each time

Pattern Rule: Start at 14, add 6 each time

3) _____

Pattern Rule: Start at 661, add 9 each time

4) _____

Pattern Rule: Start at 717, add 7 each time

5) _____

Pattern Rule: Start at 971, add 5 each time

PREVIEW

Exit Cards

Cut Out

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

Name: _____

Growing Addition Pattern Questions

1) (Add 7)

54, 61, _____, _____

2) 439, 451, 463, _____, 499

Start at _____, add _____ each time.

3) _____, _____, _____, _____, _____

Pattern Rule: Start at 305, add 8 each time.

Name: _____

Growing Addition Pattern Questions

1) (Add 7)

54, 61, 68, _____, _____

2) 439, 451, 463, 475, 487, 499

Start at _____, add _____ each time.

3) _____, _____, _____, _____, _____

Pattern Rule: Start at 305, add 8 each time.

Name: _____

Growing Addition Pattern Questions

1) (Add 7)

54, 61, 68, _____, _____

2) 439, 451, 463, 475, 487, 499

Start at _____, add _____ each time.

3) _____, _____, _____, _____, _____

Pattern Rule: Start at 305, add 8 each time.

Name: _____

Growing Addition Pattern Questions

1) (Add 7)

54, 61, 68, _____, _____

2) 439, 451, 463, 475, 487, 499

Start at _____, add _____ each time.

3) _____, _____, _____, _____, _____

Pattern Rule: Start at 305, add 8 each time.

Input/Output Table - Addition

Rule: add 5

In	Out
25	30
45	50
65	70
85	90



Question 1 Fill in the input/output tables below

Rule:

In	Out
20	
30	
50	
120	

Rule: add 4

In	Out
15	
47	
78	

Rule: add 6

In	Out
2	
18	
44	
92	

Rule: add 9

In	Out
75	
98	
117	
168	

Rule: add 7

In	Out
22	
33	
54	
85	

Rule: add 12

In	Out
15	
42	
85	
124	

Push-Up Challenge

Questions

Complete the table of values and answer the questions below

Brayden was challenged by a friend to do 15 push-ups a day for 2 weeks. Complete the table of values below to see his push-up progress.



Term Number (Days)	2	3	4	5	6	7	8	9	10
Term (Push-ups)									

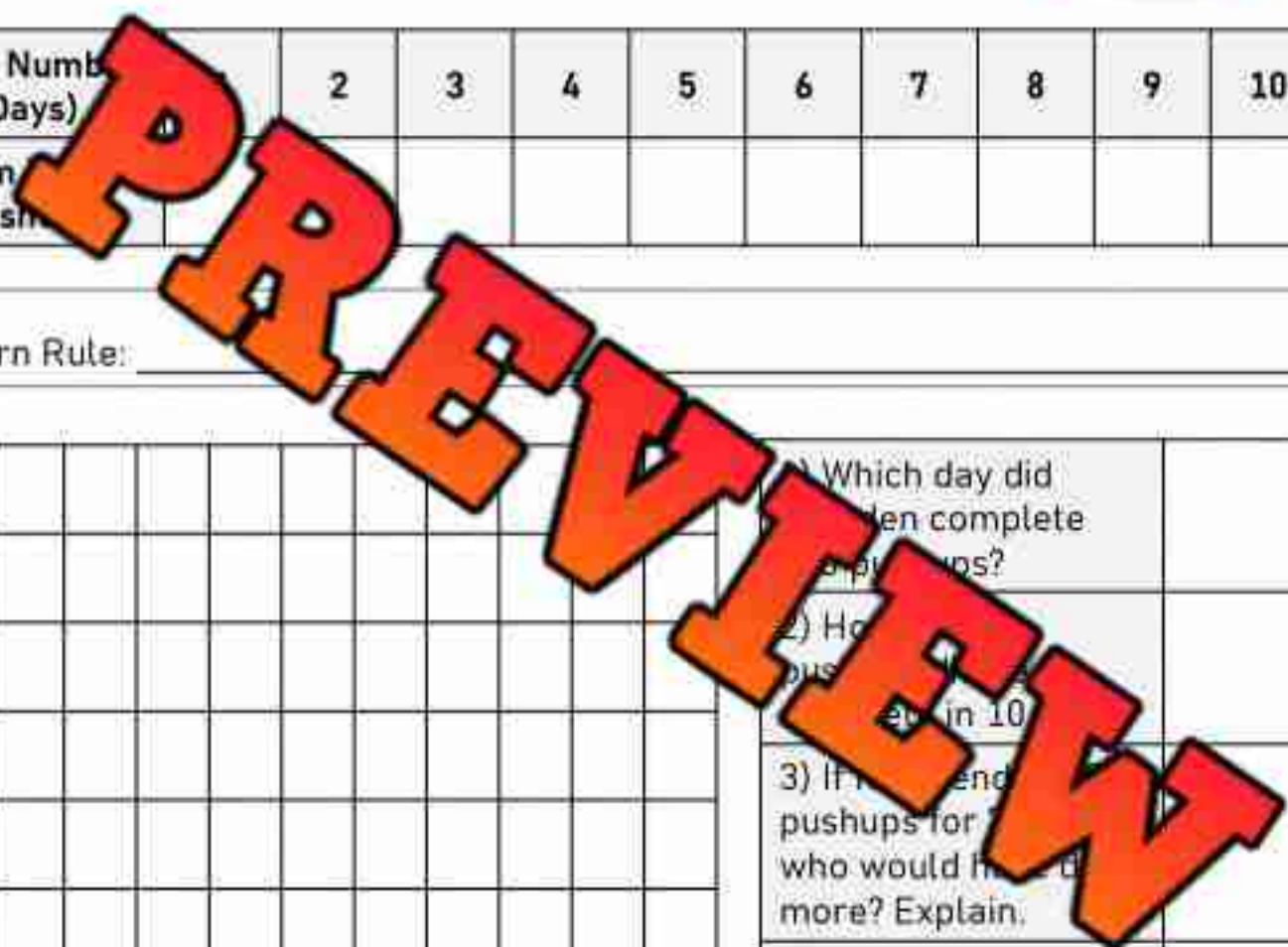
Pattern Rule: _____

<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
	1	2	3	4	5	6	7	8	9	10

Push-ups

Days

- Which day did Brayden complete 150 push-ups?
- How many push-ups would he do in 10 days?
- If he continued to do 15 push-ups for 3 weeks, who would have done more? Explain.
- How many pushups would he do if he continued his challenge for 3 weeks?
- How many days would it take him to do 375 pushups?



Allowance Saving

Questions

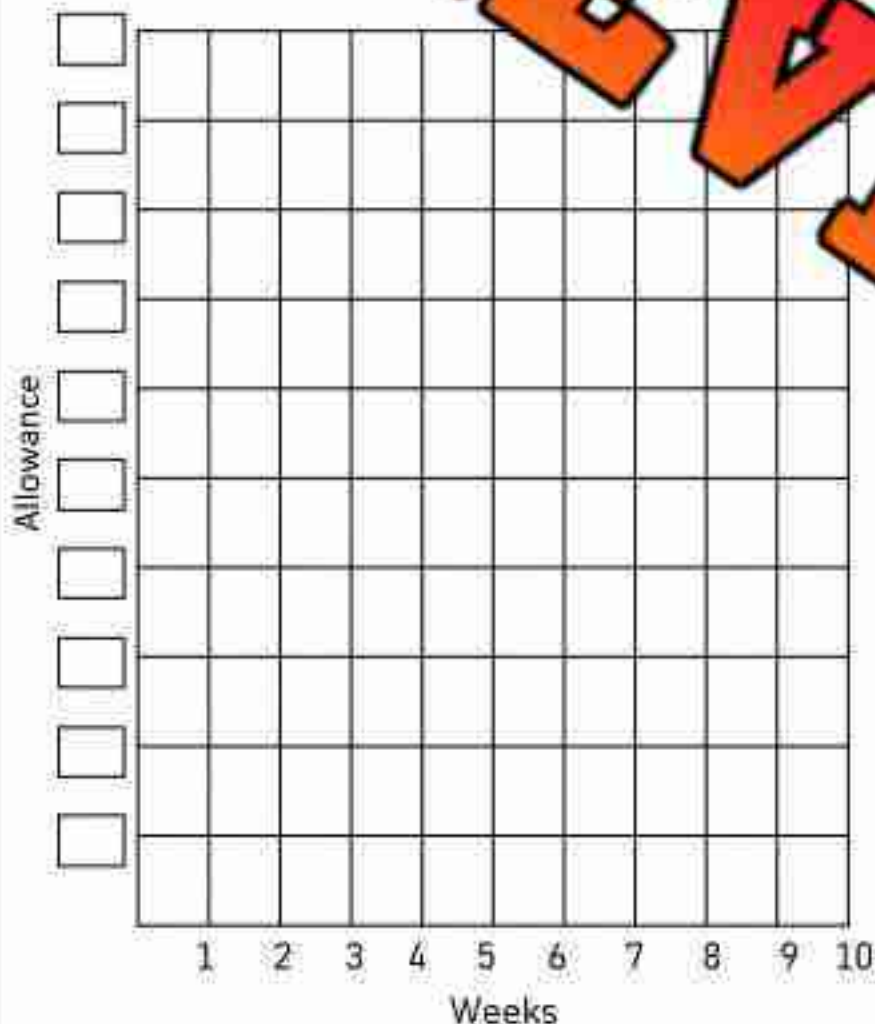
Complete the table of values and answer the questions below

Martha is given a weekly allowance of \$12. She is saving her money for a new tablet that costs \$100. Fill in the table of values and graph below to find out when she can buy her new tablet.



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

Pattern Rule: _____



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

2) How much money would she have after 10 weeks?

3) If she had a tablet that cost \$150, how many weeks would she need to save her allowance?

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

5) Martha changed her mind and now wants a new computer that costs \$276. How many weeks will she need to save her allowance?

Patterning Word Problem - Halloween

Questions

Follow the problem-solving steps below

- Read the problem carefully Underline important information Draw pictures
 Create a table or chart Solve the problem Check your answer

Ben is trick-or-treating for Halloween. He leaves his house with 13 candies to start. He gets 4 candies for each house he visits. He visits 10 houses.

a) Draw a picture to solve the problem.



b) How many total candies does he get after visiting the 10 houses?

PREVIEW

Patterning Word Problem – Growing Hair

Questions

Follow the problem-solving steps below

- | | | |
|-----------------------------------------------------|----------------------------------------------------------|--------------------------------------------|
| <input type="checkbox"/> Read the problem carefully | <input type="checkbox"/> Underline important information | <input type="checkbox"/> Draw pictures |
| <input type="checkbox"/> Create a table or chart | <input type="checkbox"/> Solve the problem | <input type="checkbox"/> Check your answer |

Tyler's hair is 50mm long in January. In February, his hair is 62mm long. In March, his hair is 74mm long.

a) How long will his hair be in April if the pattern continues?

b) How long will his hair be in July?



Life Expectancy Pattern

Questions

Answer the questions below



Life expectancy is the average period of time that a person may expect to live. Canada ranks 16th in the world for life expectancy at 82.66 years. Since 1950, Canadians can expect to live 14 years longer. Check out the historical life expectancy data below.



Year	1950	1960	1970	1980	1990	2000	2010	2020
Life Expectancy	68	70	72	74	76	78	80	82

- a) Describe the trend of life expectancy in Canada over the last 70 years.
- b) What do you predict the life expectancy will be in the year 2030?
- c) What do you predict the life expectancy will be in the year 2040?
- d) Why do you think the life expectancy rises over time?

Patterning Word Problem - Shapes

Questions

Follow the problem-solving steps below

- | | | |
|-----------------------------------------------------|----------------------------------------------------------|--------------------------------------------|
| <input type="checkbox"/> Read the problem carefully | <input type="checkbox"/> Underline important information | <input type="checkbox"/> Draw pictures |
| <input type="checkbox"/> Create a table or chart | <input type="checkbox"/> Solve the problem | <input type="checkbox"/> Check your answer |

Ally created a pattern using triangles and trapezoids. She made 3 figures in her pattern.



Figure 1



Figure 3

- a) How many triangles and trapezoids will there be in figure 5?

- b) How many triangles and trapezoids will there be in figure 10?

Patterning Word Problem - Toothpicks

Questions

Follow the problem-solving steps below

- Read the problem carefully Underline important information Draw pictures
- Create a table or chart Solve the problem Check your answer

Juan used toothpicks to make a pattern. Each line is a toothpick.



Figure 1

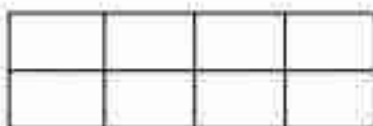


Figure 3

a) How many toothpicks will be needed to make Figure 4?

b) Juan thinks he will need 55 toothpicks to make the 10th figure. Is he right? Explain.



Growing Patterns - Multiplication

Growing Pattern - Multiplication

$\times 2$ $\times 2$ $\times 2$ $\times 2$ $\times 2$
 \wedge \wedge \wedge \wedge \wedge
 1, 2, 4, 8, 16, 32



Part 1

Extend the growing pattern.

1) 1, 3, 7, _____

2) 2, 4, 8, _____

3) 2, 6, 18, _____

100, 1000, _____

5) 5, 10, 20, _____

6) 20, 40, 80, _____

Part 2

Follow the rule to continue the growing pattern.

1) (Multiply by 2)

1, 2, 4, _____

2) (Multiply by 5)

5, 25, 125, _____

3) (Multiply by 3)

2, 6, 18, _____

4) (Multiply by 10)

1, 10, 100, _____

5) (Multiply by 4)

1, 4, 16, _____

6) (Multiply by 2)

25, 50, 100, _____

Word Problems: Growing Patterns - Multiplication**Questions**

Solve the word problems below

	Word Problems - Growing Patterns - Multiplication	Answers
1	Emma plants 2 trees on the first day and doubles the number of trees she plants each day. How many trees will she plant on the fourth day?	
2	Noah has 1 book. Each month, he triples the number of books he gets from the library. How many books will Noah have after the fifth month?	
3	A puppy weighs 2 kg when it is born. Its weight increases fivefold each month. What will its weight be at the end of the third month?	
4	At the first party, Luca had 4 balloons. For each party after that, he brought three times as many balloons as the previous one. How many balloons did he have at the sixth party?	
5	In a garden, there are 5 flowers. Each week, the number of flowers doubles. How many flowers are there at the end of the 8 th week?	
6	Emma bakes 3 cookies on the first day and decides to bake four times that amount each subsequent day. How many cookies does she bake on the 4 th day?	

Input/Output Table - Multiplication



Rule: multiply by 2

In	Out
1	2
3	6
5	10
7	14

Question 1 Complete the input/output tables below

Rule: multiply by 2

In	Out
2	
5	
10	
20	

Rule: multiply by 6

In	Out
2	
4	
6	

Rule: multiply by 4

In	Out
2	
4	
6	
8	

Rule: multiply by 3

In	Out
3	
6	
9	
10	

Rule: multiply by 5

In	Out
1	
3	
5	
7	

Rule: multiply by 10

In	Out
2	
5	
8	
10	

Growing Pattern - Multiplication - Rules

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

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



Questions

Fill in the rules

1, 4, 16, 64, 256, 1024

Start at _____ multiply by _____ each time

2, 6, 18, 54, 162, 486

Start at _____ multiply by _____ each time

1, 2, 4, 8, 16, 32, 64, 128

Start at _____ multiply by _____ each time

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

Start at _____ multiply by _____ each time

1, 10, 100, 1000, 10000, 100000

Start at _____ multiply by _____ each time

4, 12, 36, 108, 324, 972

Start at _____ multiply by _____ each time

Patterning Word Problem – Overdue Book

Questions

Follow the problem-solving steps below

- | | | |
|-----------------------------------------------------|----------------------------------------------------------|--------------------------------------------|
| <input type="checkbox"/> Read the problem carefully | <input type="checkbox"/> Underline important information | <input type="checkbox"/> Draw pictures |
| <input type="checkbox"/> Create a table or chart | <input type="checkbox"/> Solve the problem | <input type="checkbox"/> Check your answer |

Berlin checked out a book at her library. She hasn't returned it yet and is worried about late fees. If she returns it one day late, it costs an extra 1¢. If she brings it back 2 days late, it costs 2¢ and on the third day late, it is 4¢. After 4 days, it will cost 8¢. The pattern continues.

a) How much will Berlin pay if she brings back the book 7 days late?



b) Whoops, Berlin didn't bring back the book for 12 days! How much will she have to pay?

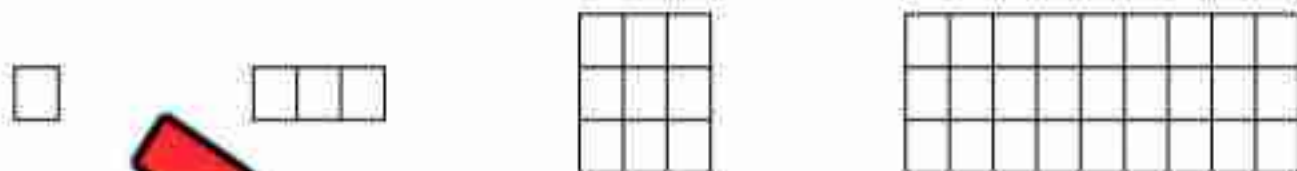
Multiplication Pattern – Word Problem

Questions

Answer the questions below



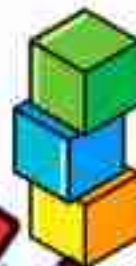
Rachel created the pattern below using blocks.



1) Fill in the table below:

Term Number	2	3	4	5
Term Value (Blocks)				

2) How many blocks would she need to make her fifth shape?



3) How many blocks would she need to make her sixth shape?

4) Write the first 6 terms in the sequence using numbers below.

Multiplication Pattern – Word Problem

Questions

Answer the questions below

Amber runs one lap of the track in 1 minute, two laps in 2 minutes, three laps in 4 minutes, and four laps in 8 minutes. As you can see, she slows down as she gets more tired.



- 1) Fill in the table of values below

Term Number	1	2	3	4	5
Term Value (Minutes)					

- 2) If she ran 5 laps, how long would it take her to finish?



- 3) If she ran 10 laps, how long would it take her to finish?

- 4) Write the first 6 terms in the sequence using numbers below.

Name: _____

97

Curriculum Connection
C1.3

Pattern Rules



Questions

Fill in the rules

18, 25, 32, 39, 46, 53

Start at _____ each time _____

1, 3, 9, 27, 81, 243, 729

Start at _____ each time _____

50, 100, 150, 200, 250, 300

Start at _____ each time _____

25, 50, 100, 200, 400

Start at _____ each time _____

200, 400, 600, 800, 1000, 1200

Start at _____ each time _____

1, 10, 100, 1000, 10000, 100000

Start at _____ each time _____

2, 6, 18, 54, 162, 486

Start at _____ each time _____

20, 40, 60, 80, 100, 120, 140

Start at _____ each time _____

PREVIEW

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

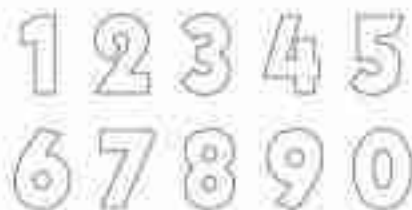
What are we learning about?

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

Materials

What you will need for the activity.

- 24 task cards
- Separated answer sheet for answers
- Pen or pencil

**Instructions**

What you will do for the activity

1. Introduce the concept of patterns in all four operations and their relevance to problem-solving in everyday life.
2. Organize the students into pairs and give each pair their sets of task cards.
3. Give each pair an answer recording sheet to write down their answers.
4. Encourage teamwork by having students collaborate on their part in finding solutions.
5. Allow students to select any task card to begin with, emphasizing to 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 17:

Start with 6. Subtract 0.6 repeatedly to get the next numbers. What is the fourth number?

- a) 3.8
- b) 4.2
- c) 4.8

Card 21:

Start with 5. Add 4, multiply by 2, then add 4 repeatedly. What is the second number?

- a) 22
- b) 18
- c) 13

Card 18:

Start with 7. Add 1, then subtract 2 repeatedly. What is the third number?

- a) 7
- b) 10
- c) 8.5

Card 22:

Start with 18. Subtract 2, divide by 2, then subtract 2 repeatedly. What is the third number?

- a) 6
- b) 7
- c) 0

Card 19:

Start with 10. Add 2, subtract 1, then add 2 repeatedly. What is the fourth number?

- a) 13
- b) 16
- c) 19

Begin with 1. Multiply by 10, then add 10 repeatedly. What is the third number?

- a) 8
- b) 10
- c) 82

Card 20:

Start with 30. Subtract 3, add 2, subtract 3 repeatedly. What is the third number?

- a) 26
- b) 22
- c) 31

Card 24:

Start with 14. Add 1, multiply by 2, then add 1 repeatedly. What is the third number?

- a) 65
- b) 31
- c) 64

Name: _____

103

Curriculum Connection
C1.3

Task Cards: Patterning

Answers

Record your answers below

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

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

PREVIEW

Relationship Between Whole Numbers

Directions Investigate the relationship between addition and subtraction below

1) Fill in the blanks to see the relationship between adding and subtracting 6 tenths

Addition	Subtraction
$4.2 + 0.6 =$ _____	$4.6 - 0.6 =$ _____
$4.3 + 0.5 =$ _____	$4.6 - 0.5 =$ _____
$4.4 + 0.4 =$ _____	$4.6 - 0.4 =$ _____
$4.5 + 0.3 =$ _____	$4.6 - 0.3 =$ _____
$4.6 + 0.2 =$ _____	$4.6 - 0.2 =$ _____
$4.7 + 0.1 =$ _____	$4.6 - 0.1 =$ _____
$4.8 + 0.0 =$ _____	$4.6 - 0.0 =$ _____

2) Fill in the blanks to see the relationship between adding and subtracting 7 tenths

Addition	Subtraction
$8.0 + 0.7 =$ _____	$8.7 - 0.7 =$ _____
$8.1 + 0.6 =$ _____	$8.7 - 0.6 =$ _____
$8.2 + 0.5 =$ _____	$8.7 - 0.5 =$ _____
$8.3 + 0.4 =$ _____	$8.7 - 0.4 =$ _____
$8.4 + 0.3 =$ _____	$8.7 - 0.3 =$ _____
$8.5 + 0.2 =$ _____	$8.7 - 0.2 =$ _____
$8.6 + 0.1 =$ _____	$8.7 - 0.1 =$ _____
$8.7 + 0.0 =$ _____	$8.7 - 0.0 =$ _____

Relationship Between Whole Numbers

Part 1

Investigate the relationship between multiplication and division below

1) Fill in the blanks to see the relationship between multiplication and division.

Multiplication	Division
$8 \times 1 = \underline{\quad}$	$8 \div 1 = \underline{\quad}$
$8 \times 2 = \underline{\quad}$	$16 \div 2 = \underline{\quad}$
$8 \times 3 = \underline{\quad}$	$24 \div 3 = \underline{\quad}$
$8 \times 4 = \underline{\quad}$	$32 \div 4 = \underline{\quad}$
$8 \times 5 = \underline{\quad}$	$40 \div 5 = \underline{\quad}$
$8 \times 6 = \underline{\quad}$	$48 \div 6 = \underline{\quad}$
$8 \times 7 = \underline{\quad}$	$56 \div 7 = \underline{\quad}$
$8 \times 8 = \underline{\quad}$	$64 \div 8 = \underline{\quad}$
$8 \times 9 = \underline{\quad}$	$72 \div 9 = \underline{\quad}$
$8 \times 10 = \underline{\quad}$	$80 \div 10 = \underline{\quad}$

Part 2

Write the inverse multiplication or division sentence

Multiplication	Division
$5 \times 3 = \underline{\quad}$	
	$24 \div 6 = \underline{\quad}$
$7 \times 6 = \underline{\quad}$	
	$36 \div 4 = \underline{\quad}$

Multiplication	Division
$8 \times 4 = \underline{\quad}$	
	$56 \div 7 = \underline{\quad}$
$9 \times 8 = \underline{\quad}$	
	$45 \div 5 = \underline{\quad}$

Relationship Between Decimals/Whole Numbers

Directions Represent the number by filling in the table. The first one is done for you

Number	Tens	Ones	Tenths
56.3	5	+ ____	+ 3
56.3	4	+ ____	+ 3
56.3	3	+ ____	+ 3
56.3	2	+ ____	+ 3

Relationship Pattern

When the tens place goes down 1, the ones place goes up by ____.

Number	Ones	Tenths
56.3	6	+ ____
56.3	5	+ ____
56.3	4	+ ____
56.3	3	+ ____

Relationship Pattern

When the ones place goes down 1, the tenths place goes up by ____.

How many different ways can you represent the number 56.3?

Tens	Ones	Tenths
4	6	+ 103

Algebra Quiz - Patterning**Part 1**

Continue the Fibonacci sequences below

1)	0	1	1	2		
----	---	---	---	---	--	--

2)	1	1	2	3	5	8
----	---	---	---	---	---	---

3)	13	21	34	55		
----	----	----	----	----	--	--

Part 2

Follow the rules to find the

1) (Add 5)

13, 18, 23, _____

2) (Add 7)

23, 30, 37, _____

3) (Subtract 6)

57, 51, 45, _____

4) (Subtract 12)

82, 70, 58, _____

5) (Add 10)

183, 193, 203, _____

6) (Subtract 11)

575, 564, 553, _____

Questions

T-Tables

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



Term Number	Term Value
1	89
2	79
3	69
4	
5	
6	



PREVIEW

Figure 1: 1) Figure 1

Figure 2: Figure 2

Figure 3: Figure 3

Figure	Term Value
1	
2	
3	

Word Problem

Solve the word problem below. Show your work!

If you read 2 books on Monday, 4 books on Tuesday, 6 books on Wednesday, how many books would you read on Sunday if the pattern continued?

How many days would it take you to read 132 books?

Part 5

Extend the patterns below

1) 1, 3, 9, _____

2) 2, 4, 8, _____

3) 2, 6, 18, _____

4) 10, 100, 1000, _____

Part 6

Use the pattern rule to fill in the blanks

1) Pattern rule: Start at 2, multiply by 2 each time

2) _____
Pattern rule: Start at _____, multiply by 3 each time

Part 7

Answer the questions below

Harper made a deal with her parents about her allowance. She gets 1 penny on day one, 2 pennies on day 2, 4 pennies on day 3, and 8 pennies on day 4.

a) Fill in the table of values showing the pattern

Days	1	2	3	4
Pennies				

b) How many pennies will she get on day 10?



c) Would Harper have enough money by day 12 to buy a \$20 hat?

Grade 4
C2. Equations and Inequalities

	Curriculum Expectations	Pages That Cover the Expectations
C2.1	identify and use symbols as variables in expressions and equations	114 – 115, 134 – 135, 145 – 150, 167 – 170
C2.2	solve equations that involve whole numbers up to 50 in various contexts, and verify solutions	116 – 133, 136 – 144, 151 – 166, 171 – 181
C2.3	solve inequalities that involve addition and subtraction of whole numbers up to 20, and verify and graph the solutions	182 – 188



Equation or Expression?

Questions

Is the number sentence an expression or equation?

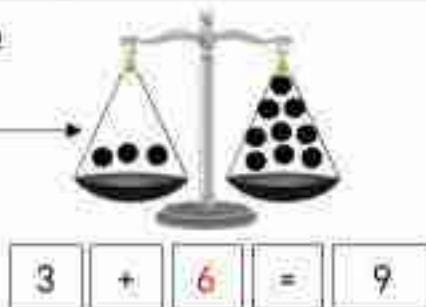


1) Paul has 5 cookies but needs enough for 10 people. $5 + c = 10$	Equation	Expression
2) The pattern has the following rule: $3n - 1$	Equation	Expression
3) Maria wants to run 30km this week. She has already run 22km. $2 + r =$	Equation	Expression
4) The cost to enter an amusement park is \$20 per ticket.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

Pre-Algebra – Balancing Addition Equations

Balance the scales by putting the same amount of circles on each scale

Answer: Add 6 circles to the scale to make them equal.



Questions: How many balls do you need to add to balance the scales?



$$8 + \square = 11$$



$$6 + \square = 12$$



$$8 + \square = 14$$



$$5 + \square = 9$$



$$7 + \square = 12$$



$$2 + \square = 13$$



$$6 + \square = 10$$



$$3 + \square = 14$$



$$1 + \square = 12$$

Pre-Algebra – Balancing Addition Equations

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

$$\begin{array}{c} 10 \\ \wedge \\ 3 + 7 = \boxed{10} \end{array}$$

Examples:

$$\begin{array}{c} 30 \\ \wedge \\ 24 + 6 = \boxed{30} \end{array}$$

Questions

Fill in the missing number to balance the equation

1) $15 + 8 = \boxed{}$

2) $23 + 6 = \boxed{}$

3) $34 + 5 = \boxed{}$

4) $12 + \boxed{} = \boxed{}$

5) $\boxed{} + 7 = 28$

6) $26 + \boxed{} = 40$

7) $\boxed{} + 6 = 28$

8) $\boxed{} + 31 = \boxed{}$

9) $\boxed{} + 33 = 50$

10) $35 + 13 = \boxed{}$

11) $22 + \boxed{} = 32$

12) $\boxed{} + 18 = 40$

13) $24 + \boxed{} = 31$

14) $26 + 12 = \boxed{}$

15) $40 + \boxed{} = 50$

16) $26 + \boxed{} = 42$

17) $35 + 15 = \boxed{}$

18) $13 + \boxed{} = 25$

19) $44 + \boxed{} = 52$

20) $18 + 22 = \boxed{}$

21) $41 + \boxed{} = 50$

Word Problems: Balancing Addition Equations**Questions**

Solve the word problems below.

	Word Problems - Balancing Addition Equations	Answers
1	An aquarium has x fish. After 2 new fish are added, there are 9 fish swimming in the tank. What was the original number of fish?	
2	Thomas has a necklace with x beads, then adds 5 more beads and now has a total of 12 beads. How many beads were on Thomas's necklace?	
3	Oliver has x pencils in his case. He received 3 pencils from his friend, and now he has 11 pencils. How many pencils were in Oliver's case to begin with?	
4	Clara bakes x cookies, then bakes 7 more. She has 15 cookies total. How many cookies did Clara bake first?	
5	Sam has a bag with x marbles. He finds 4 more marbles, and now he has 13 marbles altogether. How many marbles were in the bag initially?	
6	Leah has x stickers. Her friend gives her 7 stickers, and now Leah has 20 stickers. How many stickers did Leah start with?	

Exit Cards

Cut Out

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

Name: _____

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

1) $16 + 13 = 27$

2) $47 + 16 = 63$

2. Fill in the missing number to balance the equation.

1) $28 + 7 = \square$

2) $\square + 19 = 76$

Name: _____

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

1) $16 + 13 = 27$

2) $47 + 16 = 63$

2. Fill in the missing number to balance the equation.

1) $28 + 7 = \square$

2) $\square + 19 = 76$

Name: _____

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

1) $16 + 13 = 27$

2) $47 + 16 = 63$

2. Fill in the missing number to balance the equation.

1) $28 + 7 = \square$

2) $\square + 19 = 76$

Name: _____

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

1) $16 + 13 = 27$

2) $47 + 16 = 63$

2. Fill in the missing number to balance the equation.

1) $28 + 7 = \square$

2) $\square + 19 = 76$

Addition – Which Equation Matches?

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

Example

$12 + 11$

$14 + 9$

$19 + 5$



Questions

Circle the equation that matches the shaded in equation

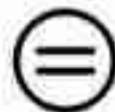
1)	$22 + 4$	$13 + 12$	
2)	$16 + 12$	$15 + 14$	
3)	$21 + 8$	$19 + 1$	$17 + 12$
4)	$25 + 10$	$15 + 15$	
5)	$31 + 11$	$35 + 7$	$22 + 22$
6)	$35 + 12$	$40 + 6$	$25 + 22$
7)	$41 + 23$	$30 + 32$	$32 + 32$

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: $8 + n = 15$

We can figure out the unknown number by balancing the equation. In this equation, $n = 7$.



Questions Find out the value of the variable

$n = 17$ $n =$	$n + 5 = 12$ $n =$	$22 + n = 30$ $n =$
$18 + 12 = p$ $p =$	$4 +$	$p + 13 = 30$ $p =$
$15 + y = 30$ $y =$	$y + 14 = 2$ $y =$	$+ 35 = y$
$38 + t = 45$ $t =$	$14 + t = 33$ $t =$	
$14 + a = 22$ $a =$	$35 + a = 50$ $a =$	$50 + a = 50$ $a =$
$12 + 16 = s$ $s =$	$21 + s = 43$ $s =$	$33 + s = 46$ $s =$

Activity – Mystery Number Challenge

Objective

What are we learning about?

To help students understand how to use symbols to represent unknown values in equations, enhancing their problem-solving skills by writing equations that correspond to given problems.

$$X+10=25$$

Materials

What you will need for the activity:

- Small whiteboard or sheets of paper
- Dry erase marker or pencil
- Set of simple word problems on cards
- Tokens or stickers

Instructions

How you will set up the activity:

1. Distribute a sheet of paper and a pencil to each student.
2. Hand out a card with a simple word problem to each student. Each problem should involve a basic arithmetic operation with a blank space for an unknown value, like "Sam has some apples. He bought 10 more. Now he has 8. How many did he start with?"
3. Ask the students to read their problem and think about what the unknown value is.
4. Instruct the students to write an equation on their paper using a symbol (like x or a blank line) to represent the unknown value.
5. Once they have written their equation, students should come up to the front of the class one by one to present their equation and explain their thinking process in determining how to set up their equation.
6. Give feedback on each equation, discussing as a class whether the equation makes sense and if it accurately represents the word problem.
7. Award tokens or stickers for correctly written equations and good explanations.

Word Problems

Cut out the questions below and distribute to each student.

Lucy has some stickers. She gets 7 more from her friend, and now she has 10 stickers. How many stickers did Lucy start with?

Josh had some books. He bought 6 more books at the book fair, and now he has 11 books. How many books did Josh have originally?

Mia had some crayons. She found 8 more in her desk drawer, and now she has 15 crayons. How many crayons did Mia have to begin with?

Aidan had some cars. His aunt gave him 9 more cars for his birthday, and now he has 20 cars. How many cars did Aidan have before his birthday?

Ella had some pieces of gum. She bought 3 more to share with her brother, and now they have 12 pieces of gum. How many pieces did Ella have initially?

Noah had some balloons. 4 more balloons were given to him at the party, and now he has 10 balloons. How many balloons did Noah have to begin with?

Sophia had some pencils. She won 5 more pencils as a prize and now she has 18 pencils. How many pencils did Sophia have at first?

Liam had some cookies. He made 8 more cookies with his mom and now he has 14 cookies. How many cookies did Liam have before baking?

Olivia had some marbles. She traded 2 more marbles with her friend and now she has 9 marbles. How many marbles did Olivia have originally?

Ben had some action figures. He received 6 more action figures as gifts, and now he has 17 action figures. How many action figures did Ben start with?

Amelia had some beads. She bought 10 more beads for her craft project, and now she has 25 beads. How many beads did Amelia have to begin with?

James had some puzzle pieces. He found 7 more pieces under the couch, and now he has 12 pieces. How many puzzle pieces did James have initially?

Part Part Whole – Numbers to 100**Questions**

How do the parts below equal the whole at the top

1)

44	
10	

 $\quad = 44$

2)

61	
	8

 $\quad + 8 = 61$

3)

7	

 $\quad + 7 = \quad$

4)

64	
23	31

 $23 + 31 = \quad$

5)

53	
39	

 $39 + \quad = 53$

6)

76	

7)

61	
43	18

 $43 + 18 = \quad$

8)

102	
22	

 $22 + \quad = 82$

9)

93	
15	

 $15 + \quad = 93$

10)

91	
67	24

 $67 + 24 = \quad$

Part Part Part Whole – Numbers to 20**Questions**

How do the parts below equal the whole at the top

1)

12		
3	5	

2)

11		
	2	6

3)

5		

4)

5	5	5

5)

15		
7		4

6)

7		6

7)

10	4	3

8)

14		
11		4

9)

19		
6	6	

10)

20		
11		6

PREVIEW

Word Problems – Writing Addition Equations

Questions

Answer the questions below

1) Steve and James love video games. Steve has 8 games. Steve and James have 18 games in total. Which equation will tell us how many games James has?

$j + 8 = 18$	$8 + 18 = j$
$8 + j = 18$	$8 - j = 18$



2) Jen and Rebecca are making cookies. Rebecca made 20 cookies. They made 50 total cookies. Which equation will tell us how many cookies Jen made?

$j + 20 = 50$	$50 + c = 20$
$20 + c = 50$	$c - 20 = 50$



3) Scott and Luke love hockey. Scott has 25 hockey cards and Luke has 50 cards. Which equation will tell us how many total cards they have?

$c + 25 = 50$	$25 + 50 = c$
$25 + c = 50$	$25 - c = 50$



4) Adam and Henry went Trick or Treating. Henry got 62 candies. They got 121 candies in total. Which equation will tell us how many candies Adam got?

$62 + c = 121$	$62 + 121 = c$
$c + 62 = 121$	$62 - c = 121$



5) Sam scored 15 points in his basketball game. He had 5 points in the first half. Which equation will tell us how many points he had in the second half?

$p + 5 = 15$	$5 + 15 = p$
$5 - p = 15$	$5 + p = 15$



Pre-Algebra – Balancing Subtraction Equations

Balance the scales by taking away circles from the scale

Answer: take 4 circles from the scale to make them equal.



$$7 - 4 = 3$$

Questions How many balls do you need to take away to balance the scales?



$$11 - \square = 8$$



$$8 - \square = 3$$



$$10 - \square = 4$$



$$8 - \square = 1$$



$$11 - \square = 3$$



$$13 - \square = 2$$



$$10 - \square = 4$$



$$14 - \square = 1$$



$$4 - \square = 0$$

Subtraction – Are They Equal?

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

$7 - 2 = 5$

$25 - 6 \neq 18$

$15 - 11 = 4$

Questions

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

1)

$12 - 4 = 6$

3) $16 - 3 = 13$

4) $25 - 8 = 17$

5) $18 - 6 = 22$

6) $29 - 13 = 16$

7) $32 - 14 = 17$

8) $20 - 13 = 7$

9) $47 - 14 = 34$

10) $48 - 10 = 38$

11) $45 - 4 = 42$

12) $50 - 8 = 42$

13) $53 - 24 = 28$

14) $52 - 8 = 45$

15) $60 - 5 = 55$

16) $50 - 0 = 50$

17) $43 - 8 = 35$

18) $45 - 15 = 30$

19) $68 - 30 = 38$

20) $57 - 16 = 42$

21) $75 - 26 = 48$

Pre-Algebra – Balancing Subtraction Equations

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

$$\begin{array}{c} 9 \\ \wedge \\ 15 - 6 = \boxed{9} \end{array}$$

Examples:

$$\begin{array}{c} 21 \\ \wedge \\ 27 - 6 = \boxed{21} \end{array}$$

Questions

Fill in the missing number to balance the equation

1) $15 - 6 = \boxed{}$

2) $11 - 6 = \boxed{}$

3) $10 - 5 = \boxed{}$

4) $10 - \boxed{} = 5$

5) $11 - \boxed{} = 6$

6) $14 - \boxed{} = 10$

7) $\boxed{} - 6 = 10$

8) $\boxed{} - 12 = 2$

9) $\boxed{} - 8 = 12$

10) $35 - 10 = \boxed{}$

11) $52 - \boxed{} = 40$

12) $18 - \boxed{} = 10$

13) $24 - \boxed{} = 17$

14) $28 - 6 = \boxed{}$

15) $18 - \boxed{} = 16$

16) $43 - \boxed{} = 35$

17) $45 - 15 = \boxed{}$

18) $25 - \boxed{} = 10$

19) $46 - \boxed{} = 31$

20) $25 - 21 = \boxed{}$

21) $45 - \boxed{} = 10$

Word Problems: Balancing Subtraction Equations

Questions

Solve the word problems below

	Word Problems Balancing Subtraction Equations	Answers
1	At a bake sale, there are x cupcakes. If 5 cupcakes are sold and there are 10 left, how many were there to start with?	
2	A box had p pencils. After giving away 7 pencils to classmates, there are 12 pencils left. How many pencils were in the box originally?	
3	There were 28 balloons at a party. A certain number of balloons popped, and now there are 5 balloons left. How many balloons popped?	
4	Alex had x dollars saved up. He bought a toy that cost \$20. He now has \$9 left. How much money did Alex have to begin with?	
5	Chloe has 13 storybooks. She donates n number of books to the library and still has 7 books. How many books did Chloe donate?	
6	Ava collected x seashells on the beach. She gave 10 to her friend and has 5 left. How many seashells did she collect at first?	
7	Omar had y stickers. After trading away 9 stickers, he has 14 stickers remaining. How many stickers did Omar have to begin with?	

Subtraction - Which Equation Matches?

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

Example

$19 - 8$

$15 - 4$

$21 - 9$



Questions

Circle the equation that matches the shaded in equation

1)

$19 - 8$

$21 - 9$

$19 - 6$

2)

$33 - 11$

$20 - 8$

$30 - 8$

3)

$41 - 7$

$50 - 16$

$48 - 13$

4)

$47 - 20$

$31 - 5$

$40 - 9$

5)

$58 - 13$

$65 - 20$

$63 - 19$

6)

$89 - 14$

$80 - 15$

$90 - 15$

7)

$110 - 10$

$109 - 8$

$113 - 13$

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: $18 - n = 5$

We can figure out the unknown number by balancing the equation. In this equation, $n = 13$.

Questions

Find out the value of the variable

$n - 20 = 5$ $n =$	$n - 5 = 5$ $n =$	$22 - n = 10$ $n =$
$25 - 10 = p$ $p =$	$14 - 8 = p$ $p =$	$p - 8 = 15$ $p =$
$31 - y = 30$ $y =$	$y - 14 = 7$ $y =$	$75 - 35 = y$ $y =$
$65 - t = 50$ $t =$	$28 - t = 20$ $t =$	
$24 - a = 17$ $a =$	$50 - a = 30$ $a =$	$63 - a = 50$ $a =$
$76 - 30 = s$ $s =$	$62 - s = 22$ $s =$	$51 - s = 39$ $s =$

Word Problems – Writing Subtraction Equations

Questions

Answer the questions below.

1) Harry bought 15 donuts. Him and a friend ate 5 of them. Which equation will tell us how many donuts there are left?

$d - 5 = 15$

$15 - 5 = d$

$5 + d = 15$

$5 - d = 15$

2) Kenner and his friends were having a fire. They had 18 logs for the fire. After the fire, they only had 4 logs left. Which equation tells us how many logs they burned?

$18 - 4 = b$

$18 - 4 = b$

$4 - b = 18$

$4 - b = 18$



3) Tom collected 73 shells on the beach. He gave 13 shells to his sister. Now he has 60 shells left. Which equation tells us how many shells he gave to his sister?

$73 - s = 60$

$73 - s = 60$

$s - 60 = 73$

$s - 60 = 73$

4) Courtney saved 75 dollars. She bought a new sweater. She now has 45 dollars left. Which equation tells us how much the sweater cost?



$75 - s = 45$

$75 - 45 = s$

$45 + s = 75$

$s - 45 = 75$

5) The movie is 93 minutes long. They have watched 31 minutes. Which equation tells us how many minutes are left?

$m - 31 = 93$

$93 - 31 = m$

$31 + m = 93$

$31 - m = 93$



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

What are we learning about?

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

**Materials**

What you will need for the activity.

- Plastic bottles (one per pair/group) filled to approximately one-third with water (or use cups)
- Set of subtraction algebra question cards
- Answer sheet (one per group)

Instructions

How you will complete the activity.

1. Start with a short lesson on one-step subtraction algebra problems, using examples like $x - 3 = 4$.
2. Arrange the students into pairs or small groups and distribute a bottle and a set of question cards to each.
3. Each pair or group receives an answer sheet to record their answers.
4. Explain the rules: One student draws a question card and solves the subtraction algebra problem.
5. Once they believe they have the correct answer, they write it down on the answer sheet.
6. The student then gets to attempt a bottle flip. A successful flip means they can move on to the next question; an unsuccessful flip means they need to try to solve another question card before flipping again.
7. Alternate turns within each group or pair until they have completed all the question cards.
8. Groups or pairs tally their successful flips and compare with the rest of the class to determine the winning team.
9. Go through the answer sheet with the class to ensure understanding and correct any misconceptions.
10. Discuss the strategies used to solve the 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

$x - 4 = 12$

$y - 3 = 15$

$z - 2 = 20$

$a - 5 = 25$

$b - 6 = 24$

$c - 7 = 23$

$d - 8 = 32$

$e - 9 = 41$

$r - 6 = 54$

$s - 5 = 55$

$t - 7 = 73$

$u - 8 = 82$

$v - 12 = 48$

$w - 11 = 49$

$x - 13 = 87$

$y - 14 = 86$

$z - 15$

$a - 1 = 99$

$b - 2 = 98$

$c - 3 = 97$

Sam had 18 marbles and lost some. Now he has 15. How many did he lose?

Leah had 24 books and gave some away. Now she has 9. How many did she give away?

Max had 20 cards and traded some away. Now he has 8. How many did he trade?

Chris had 35 pencils and lost some. Now he has 20. How many did he lose?

Dana had 40 stickers and used some. Now she has 12. How many did she use?

Evie had 50 buttons and broke some. Now she has 30. How many did she break?

Nora had 45 beads and traded some. Now she has 30. How many did she trade?

Claire had some candies. She eats 12 and now has 20 left. How many did she have to start with?

Emma had a certain number of toy cars. She lost 8 of them and now she has 16 left. How many did she have before?

Sophie had a number of pencils. She gave 7 to her friend and now has 28 left. How many pencils did Sophie start with?

Mia had a bunch of grapes. She ate 20 grapes and now has 35 left. How many grapes were there in the bunch initially?

Name: _____

150

Algebraic Bottle Flip Challenge

Answers

Record your answers below

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

PREVIEW

Pre-Algebra – Balancing Multiplication Equations

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

$$\begin{array}{c} 15 \\ \swarrow \searrow \\ 5 \times 3 = 15 \end{array}$$

Examples:

$$\begin{array}{c} 6 \\ \swarrow \searrow \\ 2 \times 3 = 6 \end{array}$$

Questions

Fill in the missing number to balance the equation

1) $5 \times 7 = \square$

2) $10 \times 3 = \square$

3) $10 \times \square = 40$

4) $3 \times \square = 6$

5) $\square \times 5 = 25$

6) $\square \times 5 = 15$

7) $5 \times 10 = \square$

8) $2 \times \square = 10$

9) $5 \times \square = 20$

10) $10 \times 10 = \square$

11) $2 \times \square = 8$

12) $3 \times 2 = \square$

13) $10 \times \square = 60$

14) $2 \times 9 = \square$

Multiplication – Which Equation Matches?

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

Example

2×3

1×6

4×2



Questions

Circle the equation that matches the shaded in equation

1)

2×2

10×1

6×2

2)

6×3

8×3

2×9

3)

5×4

10×2

6×3

4)

8×2

4×4

5)

9×4

7×5

6×6

6)

10×3

7×5

6×5

7)

8×3

6×4

7×3

Multiplication – Using Symbols

Part 1

Find out the value of the symbol



1) $\bullet \times 3 = 12$ $\bullet =$	2) $5 \times \blacktriangle = 45$ $\blacktriangle =$	3) $4 \times \bullet = 32$ $\bullet =$
4) $\blacktriangle \times \bullet = 10$ $\blacktriangle =$	5) $\blacklozenge \times 4 = 44$ $\blacklozenge =$	6) $7 \times 10 = \blacklozenge$ $\blacklozenge =$
7) $2 \times \blacktriangle = 60$ $\blacktriangle =$	8) $\bullet \times 5 = 25$ $\bullet =$	9) $10 \times \bullet = 150$ $\bullet =$

Part 2

Write your own questions using any symbol you like. You have to get the answer to answer.

1)	2)
3)	4)

Activity – Equation Explorers

Objective

What are we learning about?

To help students understand and solve one-step equations using symbols to represent unknown values.



Materials

What you will need for the activity.

- Small whiteboards and sets of paper
- Dry erase markers and pencils
- A set of equation cards (simple one-step equations like $3n = 6$)
- Tokens or small rewards

Instructions

How you will complete the activity.

1. Begin the activity by explaining what a one-step equation is and demonstrate a few examples on the board. Explain that the symbol x represents for an unknown value that we need to find.
2. Distribute a paper and pencil to each student.
3. Hand out one equation card to each student. Ensure the questions that remain simple enough to solve in one step.
4. Give the students a few minutes to solve the equation on their cards, writing the solution on their paper.
5. Once everyone has a solution, ask students to swap their boards or papers with a partner to check each other's work.
6. Discuss as a class some of the solutions, especially any that were tricky or where mistakes were made, to clarify the correct methods.
7. For correctly solved equations, award tokens or small rewards to encourage participation and effort.

Multiplication Equations

Cut out the questions below and distribute to each student.

$12a = 36$

$11b = 44$

$15c = 45$

$13d = 52$

$14e = 56$

$16f = 64$

$18g = 54$

$17h = 68$

$19i = 76$

$12j = 36$

$9k = 39$

$11l = 33$

$15m = 60$

$20n = 40$

$21o = 63$

$22p = 66$

$25q = 75$

$18r = 72$

$23s = 46$

$19t = 57$

$11u = 33$

$16v = 64$

$17w = 51$

$14x = 42$

$13y = 39$

$21z = 84$

$22a = 44$

$20b = 100$

$12c = 36$

$15d = 75$

PREVIEW

Pre-Algebra – Balancing Division Equations

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

Examples:

$$\begin{array}{c} 5 \\ \diagdown \quad \diagup \\ 15 \div 3 = \boxed{5} \end{array}$$

$$\begin{array}{c} 5 \\ \diagdown \quad \diagup \\ \boxed{10} \div 2 = 5 \end{array}$$

Questions

Fill in the missing number to balance the equation

1) $8 \div 2 =$

2) $6 + 3 =$

3) $10 \div$ $= 5$

4) $6 \div$ $= 2$

5) $+ 5 = 5$

6) $= 2$

7) $5 + 1 =$

8) $20 \div$

9) $15 \div$ $= 3$

10) $10 + 10 =$

11) $25 \div$ $= 5$

12) $30 + 6 =$

13) $10 +$ $= 2$

14) $18 \div 2 =$

Division – Which Equation Matches?

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

$12 \div 4$

Example

$9 \div 3$

$16 \div 4$



Questions

Circle the equation that matches the shaded in equation

1)

$10 \div 2$

$5 \div 1$

$12 \div 6$

2)

$6 \div 3$

$18 \div 3$

$12 \div 6$

3)

$16 \div 4$

$14 \div 7$

$28 \div 7$

4)

$25 \div 5$

$10 \div 2$

5)

$8 \div 2$

$15 \div 3$

$16 \div 4$

6)

$18 \div 3$

$30 \div 5$

$42 \div 6$

7)

$24 \div 6$

$49 \div 7$

$40 \div 10$

Division – Using Symbols

**Part 1**

Find out the value of the symbol

1) $\bullet \div 3 = 5$

$\bullet =$

2) $25 \div \blacktriangle = 5$

$\blacktriangle =$

3) $32 \div \bullet = 8$

$\bullet =$

4) $\blacktriangle \div 3 = 8$

$\blacktriangle =$

5) $\blacklozenge \div 6 = 4$

$\blacklozenge =$

6) $60 \div 10 = \blacklozenge$

$\blacklozenge =$

7) $48 \div \blacktriangle = 6$

$\blacktriangle =$

9) $90 \div \bullet = 10$

$\bullet =$

Part 2 Write your own questions using any symbol you like. You get 1 mark for each question and 1 mark for the answer.

1)

2)

3)

4)

PREVIEW

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) $80 \div 8$

80									

4) $80 \div 10$

80									

5) $24 \div 4$

24					

6) $30 \div 5$

30					

7) $42 \div 7$

42					

8) $72 \div 9$

72							

9) $49 \div 7$

49						

10) $48 \div 4$

48					

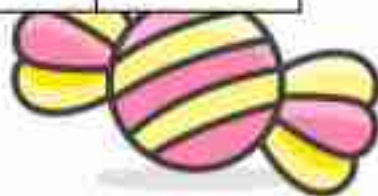
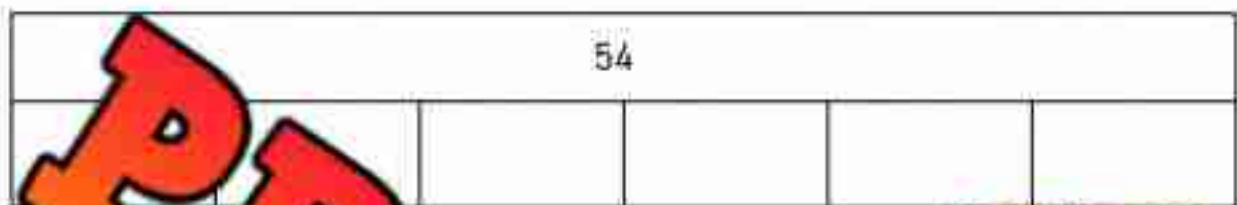
PREVIEW

Division Word Problems – Bar Model

Questions

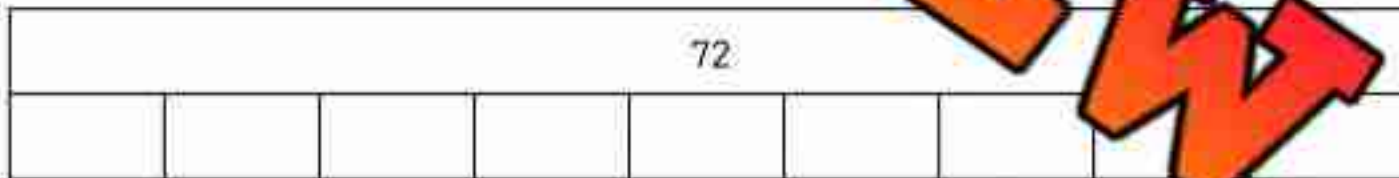
Use the bar model to answer the division questions below.

1) Courtney has 54 candies to give away to her 6 friends. How many candies will each friend get?



Division Equation Sentence: _____ ÷ _____ = _____

2) Haley has \$72 to spend on vacation. She is making a budget to find out how much she can spend each day. She is on vacation for 9 days. How much money can she spend each day?



Division Equation Sentence: _____ ÷ _____ = _____

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 format.

Materials

What you will need for the activity.

- Jeopardy board and questions
- Buzzer or bell



Instructions

How you will complete the activity.

1. Print the Jeopardy board on the next page.
2. Divide the class into two teams.
3. Ask one team to go first by selecting a point value.
4. Read the question aloud from the point value.
5. The first team to ring the bell or buzzer gets to answer.
6. If they answer correctly, award them the points. If not, another team can answer.
7. Continue the game until all questions have been answered.
8. Tally the points to determine the winning team.
9. Conclude by discussing what they learned about the topic in the questions.

Name: _____

170

Jeopardy Questions

Ask students the questions below

\$100	\$200	\$300	\$400	\$500
$5p = 30$. Find p . 6	$x + 7 = 12$. What is x ? 5	If $4n$ is 24, what is n ? 6	$3m - 5 = 7$. Solve for m . 4	Sophia's sister is 30 years old. She is 4 years older than twice Sophia's age. How old is Sophia? 13
$6q = 18$. Find q . 3	8 . What is 8 ? 8	8 is $2k$. What is k ? 4	$2b + 6 = 16$. Solve for b . 5	Mia has 3 times as many marbles as Lily. Together they have 32 marbles. How many does Lily have? 8
$10r = 40$. What is r ? 4	$w + 5 = 11$. What is w ? 6	7 is the difference between 2 and k . What is k ? 9	$4c - 8 = 8$. Find c . 4	There are 28 apples in a basket. The number of apples is 4 times the number of oranges. How many oranges are there? 7
$7s = 42$. Solve for s . 6	$t - 4 = 5$. Find t . 9	$3j$ is 27. What is j ? 9	$10 = 3w$. What is w ? 5	Olivia has twice as many cars as Oliver. If the total number of cars is 15, how many cars does Oliver have? 3
$8a = 56$. Find a . 7	$u + 6 = 15$. What is u ? 9	The product of 7 and a number is 49. What is the number? 7	$6e - 12 = 24$. Solve for e . 6	Erin saved \$12. This is 3 times the amount that Ava saved. How much did Ava save? \$9
$9f = 63$. What is f ? 7	$v - 5 = 11$. What is v ? 16	If 9 times a number is 81, what is the number? 9	$7g + 14 = 35$. Find g . 3	A baker baked 60 cookies. He baked 4 times as many chocolate chip cookies as sugar cookies. How many sugar cookies did he bake? 12

Solve Equations – Guess and Check

When we are trying to figure out the value of a variable, we can use the guess and check method. First, we make a reasonable guess as to what the value of the variable could be. Second, we solve the equation using this guess. If our answer is too high, we use a smaller number. If it is too low, we choose a larger number.

Questions

Find the value of the variable using the guess and check method

#	Equation	Guess	Calculate	Answer
Ex.		6 7	$3 \times 6 + 1 = 19$ (too low) $3 \times 7 + 1 = 22$ (right on)	7
1	$3 \times m + 4 =$			
2	$1 + w + 4 = 2 + 5$			
3	$10 + 3 = 4 + b + 7$			
4	$2 \times m + 1 = 19$			
5	$24 - 5 = 3 \times L - 2$			

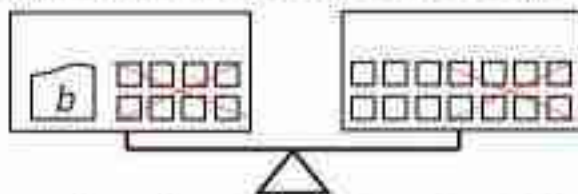
Solve Equations – Balance Model

When we are trying to figure out the value of a variable, we can use a balance scale. Whatever we do to one side of the balance, we need to do the same to the other side.

Example $b + 8 = 14$

We can figure out the value of b by isolating it. This means we want b to be on its own.

If we take the 8 ones away from the left side, we need to take 8 away from the right side as well. This will leave us with $b = 6$.



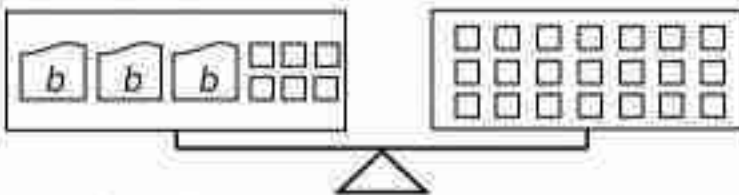
Quest! Solve the value of the variable using the balance model

#	Equation	Balance Model	Answer
1	$7 + m = 18$		
2	$2 + t + 5 = 9 + 5$		
3	$12 + 3 = 2 + b + 6$		
4	$4 + n + 1 = 22$		

Solve Equations – Balance Model

When an equation has multiplication, we can still use the balance model. Check out the example below.

Example $3b + 6 = 21$



There are three groups of the variable b . To isolate the variable:

- 1) We need to subtract the 6 from the left side.
- 2) Next, we also need to subtract the 6 from the right side. Our equation can now be rewritten as $3b = 15$.
- 3) We need to divide the variable b by itself. Since division is the opposite as multiplication, we divide the $3b$ by 3 to isolate it.
- 4) Whatever we do to one side we need to do to the other. Therefore, we need to divide the 15 by 3. In the end, we get $b = 5$.

Questions

Solve each equation using the balance model.

#	Equation	Model	Answer
1	$2b + 8 = 22$		
2	$4n + 8 = 20$		
3	$25 = 3t - 5$		
4	$17 = 2m + 5$		

Solve Equations Using Number Sense/Reasoning

For some mathematicians, solving equations might not require the guess and check method or the drawing of a balance model. Instead, some are able to use their number sense and reasoning skills to solve the problem.

Example:

$$25 + 5a = 50$$

$$25 + 5a = 50 - 25$$

$$5a = 25$$

$$5a + 5 = 25 + 5$$

$$a = 5$$

Questions

Use the reasoning above to solve the equations below.

#	Equation
1	
2	$15 + m = 24$
3	$29 = a - 7$
4	$3b = 12$
5	$2y + 32 = 46$

#	Equation
6	$m + 37 = 50$
7	$49 = 5t - 1$
8	$10 = 6n + 12$
9	
10	$2m + 1 = 19$

Word Problems - Solving Equations

Questions

Solve the problems below



1) Camila had some markers and then bought 24 more. Now she has 56 markers. How many markers did she have before she bought more?

Workspace

Equation

2) There are two boxes of muffins. Both boxes have the same number of muffins. One box has 12 chocolate chip muffins and 6 blueberry muffins. The other box has 6 bran muffins and some oatmeal muffins. How many oatmeal muffins are there?

Workspace

Equation

3) Caleb scored a bunch of points in the first quarter of a basketball game. In the second quarter, he had 5 points. In the third quarter, he had 8 points and in the fourth quarter, he had 3 points. At the end of the game, he finished with 31 points. How many points did he score in the first quarter?

Workspace

Equation

Word Problems - Solving Equations

Questions

Solve the problems below



1) Hunter's cousin is 24 years old. He is 2 years older than twice Hunter's age. How old is Hunter?

Workspace

Equation

2) Cindy has \$8. Her mother has as much as her brother. The three of them have \$44. How much money does her brother have?

Workspace

Equation

3) Carson earned \$50 from work today. He worked for 5 hours and received a bonus of \$15. How much does he earn per hour?

Workspace

Equation

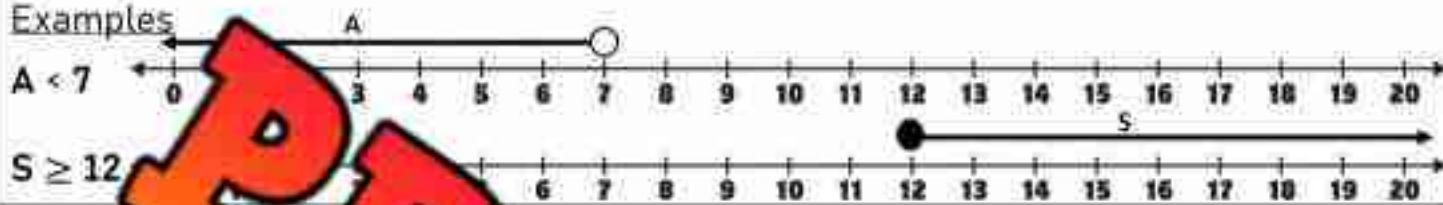
PREVIEW

Introduction to Inequalities

Inequalities are used to tell the relative size of two expressions or numbers. We can use the greater than sign ($>$), or the smaller than sign ($<$). We can also use a new sign (\geq) to show that a value is equal to or greater/less than the other value.

We often use a number line to graph the range of values that hold true for an inequality. An open dot on a number line is used when an inequality involves "less than" or "greater than", and a closed dot is used when it also includes "equal to".

Examples



Questions _____ inequality on the number line and write the word form

1) $X \geq 9$



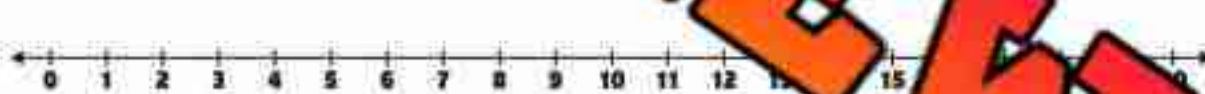
Word Form - x is greater than or equal to 9

2) $X \leq 13$



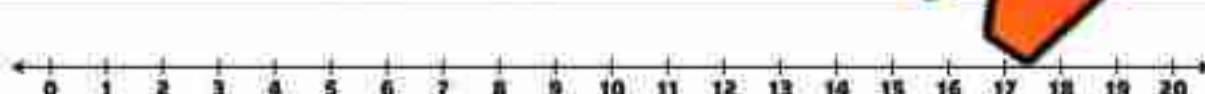
Word Form - _____

3) $X < 18$



Word Form - _____

4) $X > 15$



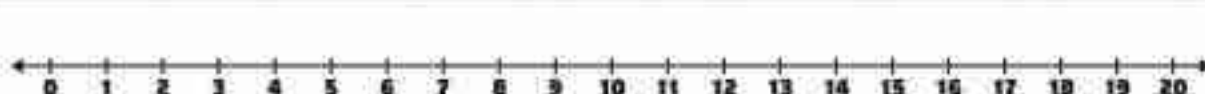
Word Form - _____

5) $X \geq 6$



Word Form - _____

6) $X \leq 3$



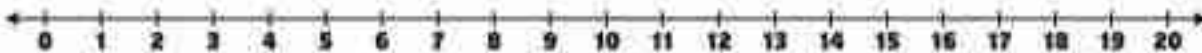
Word Form - _____

Addition Inequalities

Questions

Graph the addition inequalities using the number line

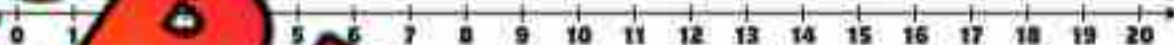
1) $3 + a > 10$



2) $8 + b \leq 15$



3) $c + 5 > 12$



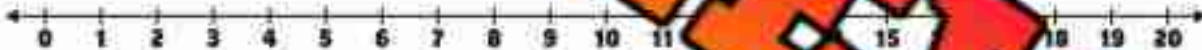
4) $d + 10 \leq 11$



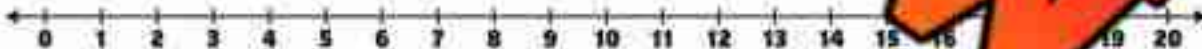
5) $13 + e \geq 15$



6) $5 + f > 18$



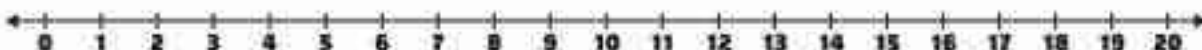
7) $g + 1 > 7$



8) $10 + h \geq 18$



9) $12 + m > 20$



10) $n + 11 \leq 16$

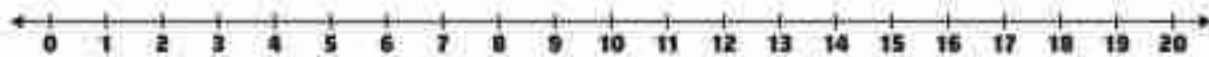


Subtraction Inequalities

Questions

Graph the subtraction inequalities using the number line

1) $13 - a > 7$



2) $18 - b \leq 13$



3) $c - 5 > 2$



4) $d - 10 \leq 6$



5) $13 - e \geq 4$



6) $5 - f > 1$



7) $g - 1 > 7$



8) $10 - h \geq 6$



9) $12 - m > 8$



10) $n - 11 \leq 9$



Inequality Word Problems

**Questions**

Answer the questions below

1) If you have to dribble a ball no more than 5 times before you shoot it in the net, how many times could you dribble the ball? Write down each number of times that would work.

2) If you had to eat at least 10 vegetables from your plate, but had only 9 vegetables on your plate, how many vegetables could you eat? List the number of vegetables you could eat.

3) If you had to find an object in the school playground that was longer than 5 m but longer than 1 m, how long could your object be? List all answers that would work.

4) If you had to make at least 10 cupcakes for your party, but had to make 18 cupcakes, how many cupcakes could you make? List all cupcakes you could make.

5) A parking garage has a speed limit of 10 km per hour. What speed could someone drive without breaking the speed limit? List all speeds someone could drive.

Inequality Word Problems

Questions

Represent your solution on a number line



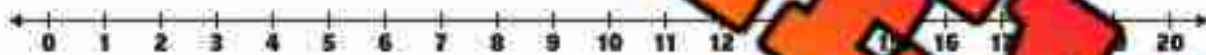
1) At a grocery store, the express line can be used by shoppers who have 8 or fewer items. What number of items can you have in order to use that line? Represent your solution on a number line.



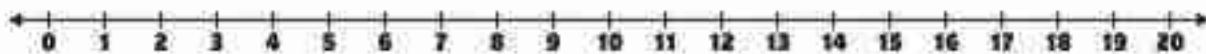
2) A basketball team has 12 games and must win more than 5 to make the playoffs. How many different win totals could they have and still make the playoffs?



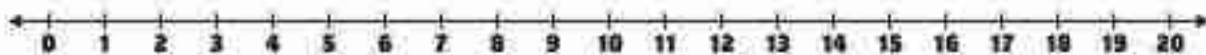
3) If you were to draw a line that is longer than 10 cm but shorter than 20 cm, how long could that line be?



4) If your teacher said you need to do at least 5 minutes of stretching but no more than 15 minutes, how many different minutes of stretching could you do?



5) If you were to walk partway to the door and the door is 20 tiles away, which tile could you walk to?



Algebra Quiz - Equations

Part 1Put a slash through the equal sign (\neq) if it is not balanced

1) $15 + 10 = 25$

2) $40 + 10 = 50$

3) $46 - 5 = 42$

4) $25 + 8 = 33$

5) $6 \times 4 = 22$

6) $30 \div 3 = 10$

Part 2

Fill in the missing number to balance the equation

1) $15 + 8 = \square$

3) $9 + \square = 15$

4) $25 + 12 = \square$

5) $\square + 12 = 25$

7) $25 - 8 = \square$

8) $\square - 9 = 12$

10) $28 - 13 = \square$

11) $\square - 12 = 22$

12) $32 - 15 = \square$

13) $\square \times 4 = 20$

14) $10 \times \square = 30$

15) $24 \div \square = 6$

16) $30 \div 6 = \square$

Part 3

Find the value of the variable

#	Equation
1	$n + 8 = 15$
2	$m = 9 + 20$
3	$28 = a - 7$
4	$3y + 27 = 39$
5	$4b = 25 - 13$

#	Equation
6	$m + 20 + 12 = 40$
7	$44 = 5t - 1$
8	$4n + 12 = 25 + 7$
9	$2 + 4 = 10 - 4$
10	$3m + 1 = 9 + 11 - 4$

PREVIEW

Part 4

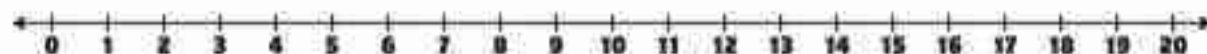
Graph the inequality on the number line and write the word form

1) $X > 4$



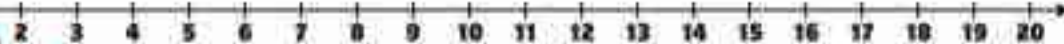
Word Form - _____

2) $X \leq 16$



Word Form - _____

3) $X < 12$



Word Form - _____

Part 5

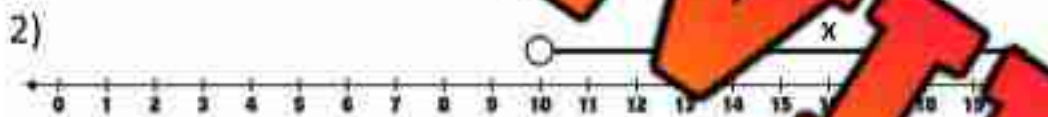
Inequality shown by each number line

1)



Answer

2)

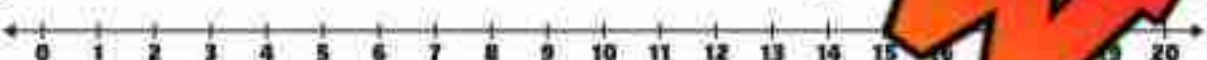


Answer

Part 6

Graph the addition and subtraction inequalities using the number line

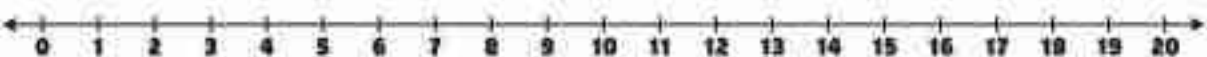
1) $5 + a > 12$



2) $4 + b \leq 15$



3) $c - 5 > 7$



4) $14 - d \leq 11$



Part 7

Follow the problem-solving steps below

- | | | |
|-----------------------------------------------------|----------------------------------------------------------|--------------------------------------------|
| <input type="checkbox"/> Read the problem carefully | <input type="checkbox"/> Underline important information | <input type="checkbox"/> Draw pictures |
| <input type="checkbox"/> Create a table or chart | <input type="checkbox"/> Solve the problem | <input type="checkbox"/> Check your answer |

- 1) Spencer has 24 marbles. He gives 4 marbles to each of his friends. How many friends got marbles from Spencer?

24
4

- 2) Sam has 175 stickers. He gives some stickers to his friends. Now he has 141 stickers. How many stickers did he give away?

- 3) Ryder had some hockey cards and then bought 27 more. Now he has 45 hockey cards. How many hockey cards did he have before he bought more?

- 4) Jesse brought 32 treats to work and gave them all away. She gave 8 to her boss and 2 to each of her friends. How many friends did she give treats to?



Grade 3
C3. Coding



	Curriculum Expectations	Pages That Cover the Expectations
C3.1	solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential, concurrent, repeating, and nested events	194 – 199, 210 – 211, 214 – 229
C3.2	read and alter existing code, including code that involves sequential, concurrent, repeating, and nested events, and describe how changes to the code affect the outcomes	200 – 209, 212 – 213



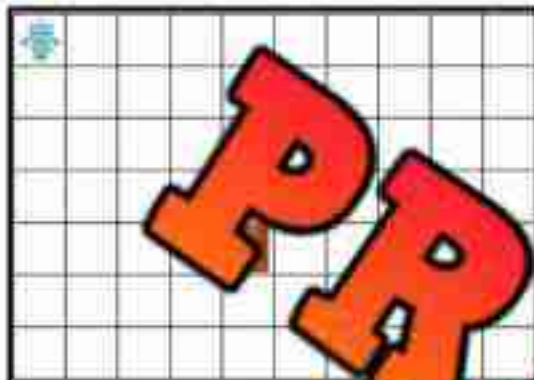
Writing Code

Writing Code - Code Bank

go right (# of spaces)
go left (# of spaces)
go down (# of spaces)
go up (# of spaces)
open door



Robot moved _____ squares.



1. Write the code that gets the robot to the door

Line 1: _____

Line 2: _____

Line 3: _____

2. Write the code that gets the robot to the store then home.

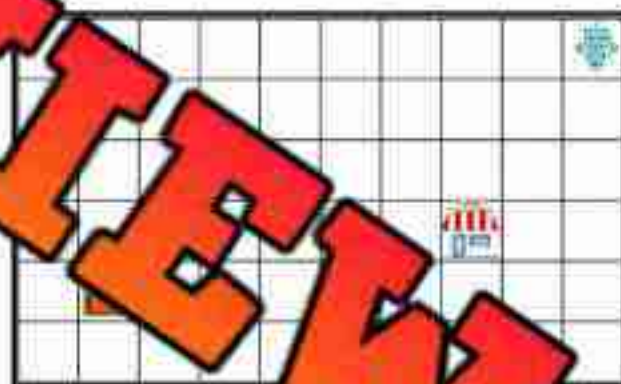
Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

Line 5: _____



Robot moved _____ squares

3. Write the code that gets the robot to the gym and then home.

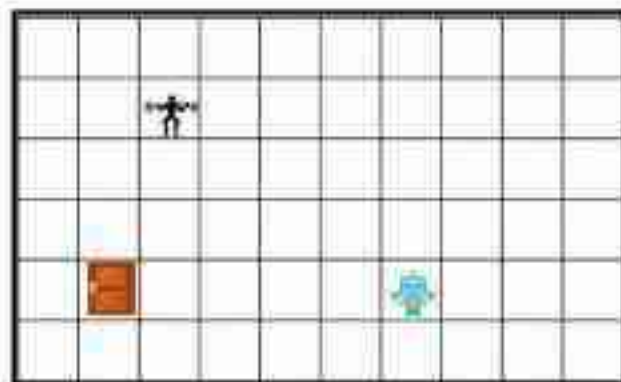
Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

Line 5: _____



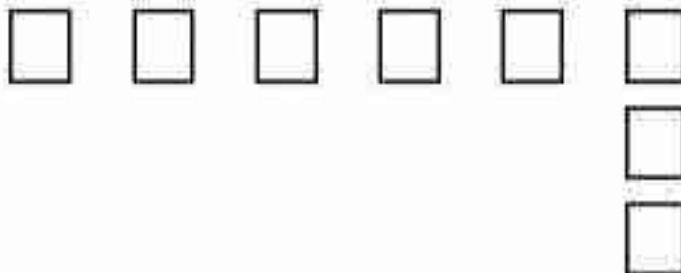
Robot moved _____ squares

Reading Code – Creating Programs**Question**

Read the code and create the program

Example**Code**

```
go right 6  
go down 3  
open door
```



Robot moved _____



1.

Code

```
go down 2  
go right 1  
go down 2  
go right 5  
open door
```



Robot moved _____ squares

2.

Code

```
go right 2  
go down 3  
go left 2  
go down 1  
go right 6  
open door
```



Robot moved _____ squares



Reading Code – Creating Programs

Question

Read the code and draw the path the robot will take

1.

Code

go left 3
go down 3
go
go
o

Robot moved _____



2.

Code

go down 3
go right 2
enter school
go down 2
go right 4
open door

Robot moved _____ squares



3.

Code

go down 3
go left 5
enter ice cream shop
go left 4
go up 4
open door

Robot moved _____ squares



Fixing Code

Question

Put the scrambled code in the correct order by labelling the steps 1-6

1. Go to school and then home

Code

- _____ - go up 1
- _____ - go down 5
- _____ - go _____
- _____ - left 3
- _____ - enter _____



2. Go to school and then home

Code

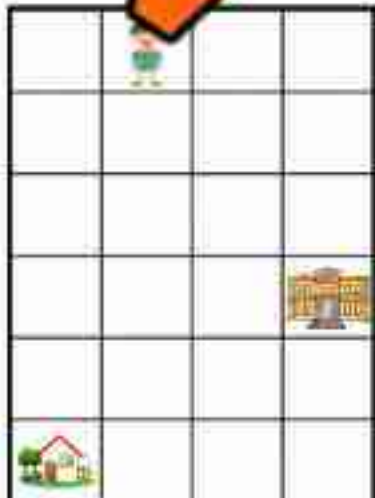
- _____ - go up 2
- _____ - go down 4
- _____ - go right 3
- _____ - enter school
- _____ - go left 1
- _____ - enter home



3. Go to school and then home

Code

- _____ - go down 2
- _____ - go down 3
- _____ - go right 2
- _____ - enter school
- _____ - go left 3
- _____ - enter home

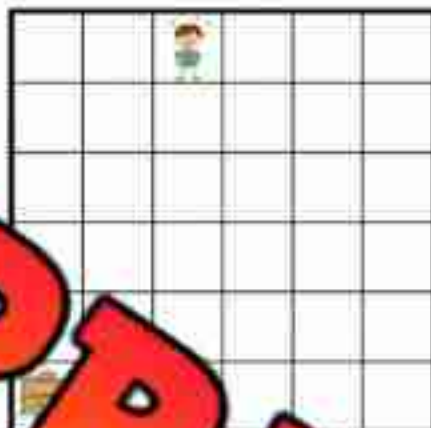


Interpreting Code

Question

Will the code work? Circle yes or no. Re-write any code that won't work

1.

Code
 go down 5
 go right 2
 enter libra


YES NO

Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

2.

Code
 go down 4
 go right 4
 enter library


YES NO

Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

3.

Code
 go up 3
 go right 4
 enter library


YES NO

Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

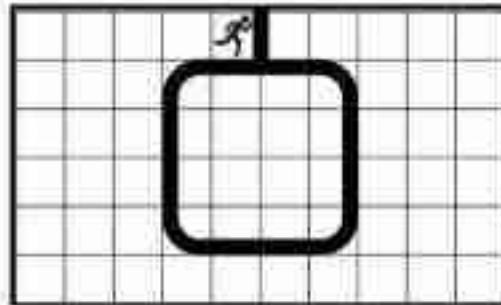
Line 5: _____

Line 6: _____

Writing Code - Loops

Writing Code - Code Bank

go right (# of spaces)
go left (# of spaces)
go down (# of spaces)
go up (# of spaces)
loop ___ times



Example

loop 5 times
go right 3
go down 5
go left 5
go up 5
go right 2
go right 1

Question

Write the code that sends the runner around the track.

1. Use a loop to send the runner around the track 5 times. (Don't forget to cross the finish line!)

Line 1: _____

Line 2: _____

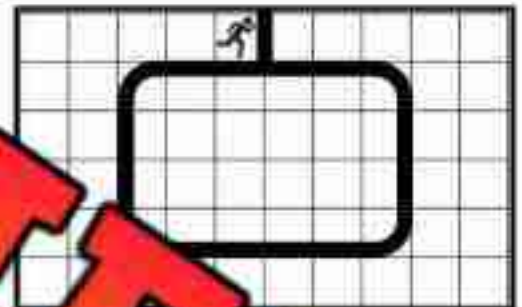
Line 3: _____

Line 4: _____

Line 5: _____

Line 6: _____

Line 7: _____



2. Use a loop to send the runner around the track 3 times. (Don't forget to cross the finish line!)

Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

Line 5: _____

Line 6: _____

Line 7: _____



Interpreting Code

Question

Will the code work? Circle yes or no. Re-write any code that won't work

1. Code

Loop 2 times

go down 2

Loop 2 times

go left 1

go down 1

enter library



YES NO

Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

Line 5: _____

2. Code

Code

loop 4 times

go down 1

go right 1

enter library



YES NO

Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

3. Code

loop 2 times

go up 1

go left 1

go right 2

go up 1

enter library



YES NO

Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

Line 5: _____

Line 6: _____

Working with Code

Question

Read the code and write what will happen. The first one is done for you

1.

Code

```
Code1 = "VE"  
Code2 = "LO"  
Code3 = "ER"  
Code4 = "DE"  
Code5 = "S"  
print ("I", Code2, Code3, Code4)
```

The Computer Program:

I LOVE CODE

2.

Code

```
Code1 = "F"  
Code2 = "UN"  
Code3 = "TH"  
Code4 = "MA"  
Code5 = "IS"  
print ("I think", Code4, Code3, Code5,  
Code1, Code2)
```

The Computer Program:

3.

Code

```
Code1 = "A"  
Code2 = "PRO"  
Code3 = "MER"  
Code4 = "GRAM"  
Code5 = "ING"  
print ("I am", Code1, Code2, Code4, Code3)
```

The Computer Program:

Working with Code

Code Bank

JillPeriod1 = 3

JillPeriod2 = 7

JillPeriod3 = 5

JillTotal = JillPeriod1 + JillPeriod2 +

JillPeriod3

= 15

Example - The Computer Program:

```
print ("In the second period of the game, Jill  
scored" JillPeriod2, "points.")
```

In the second period of the game, Jill
scored 7 points.

Question: Use the Code Bank to read the codes. Write what the program will say.

1.

Code

```
print ("In the first period  
of the game, Jill scored"  
JillPeriod1, "points.")
```

The Computer Program:

2.

Code

```
print ("Jill had",  
JillShots, "shots on  
goal yesterday.")
```

The Computer Program:

3.

Code

```
print ("Jill scored",  
JillTotal, "points in the  
game yesterday.")
```

The Computer Program:

Coding – Solving + - x ÷

Part 1

Write what the computer would reply with based on the code written

Code Written	The Computer Replied	Code Written	The Computer Replied
print (5 + 3 + 8)	<u>1</u> <u>6</u>	print (6 * 2 * 3)	— —
print (3 +	— —	print (80 ÷ 2 + 2)	— —
print (14 - 5 - 4)	—	print (40 ÷ 4 + 5)	—
print (22 - 7 - 9)	— —	print (23 + 12 - 15)	— —
print (5 * 3 * 2)	— —	print (10 ÷ 2)	— —

Part 2



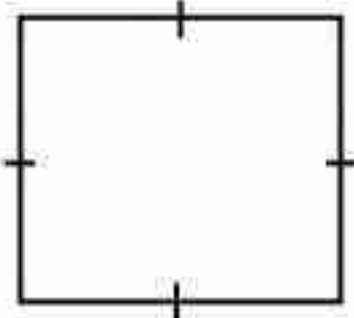
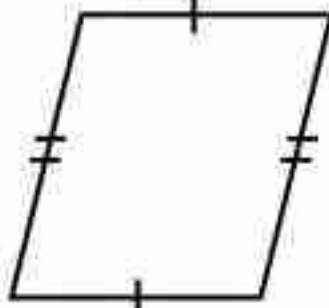
Write what the computer would reply with based on the code written

Code Written	The Computer Replied
number = 6 bignumber = number * 5 print ("The secret number is" bignumber".")	<u>h</u> — — — — — <u>m</u> — — — — —
code = 48 codeword = code + 2 print ("The secret code is" codeword".")	— — — — — — — — — —
pin = 9 bank# = pin * 5 print ("the bank pin number is" bank#".")	— — — — — — — — — —

Perimeter Coding

Directions

Write a code using the side lengths (SL) to calculate the perimeter. Try to use a different formula for perimeter in your code.

Shape	Code
 <p style="text-align: right; margin-right: 20px;"> <u>SL 2</u> 3 cm <u>SL 1</u> 7 cm </p>	<div style="border: 1px solid black; padding: 5px; background-color: #f9f9f9; margin-bottom: 5px;">Run program to calculate perimeter</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">$(SL\ 1 + SL\ 2) \times 2$</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">perimeter =</div>
 <p style="text-align: center; margin-top: 10px;"> <u>SL 1</u> 9 cm </p>	<div style="border: 1px solid black; padding: 5px; background-color: #f9f9f9; margin-bottom: 5px;">Run program to calculate perimeter</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"></div>
 <p style="text-align: right; margin-right: 20px;"> <u>SL 1</u> 11 m </p>	<div style="border: 1px solid black; padding: 5px; background-color: #f9f9f9; margin-bottom: 5px;">Run program to calculate perimeter</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"></div>
 <p style="text-align: center; margin-top: 10px;"> <u>SL 1</u> - 7 m <u>SL 2</u> 8 m </p>	<div style="border: 1px solid black; padding: 5px; background-color: #f9f9f9; margin-bottom: 5px;">Run program to calculate perimeter</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"></div>

Perimeter Coding

Directions

Follow the code and write your answer

Logic	Pseudocode	Answer
Ask the user	What is the side length of the square?	
Store user input	length = user input	
Calculate a	perimeter = length + length + length + length	
	The perimeter of the square is perimeter	

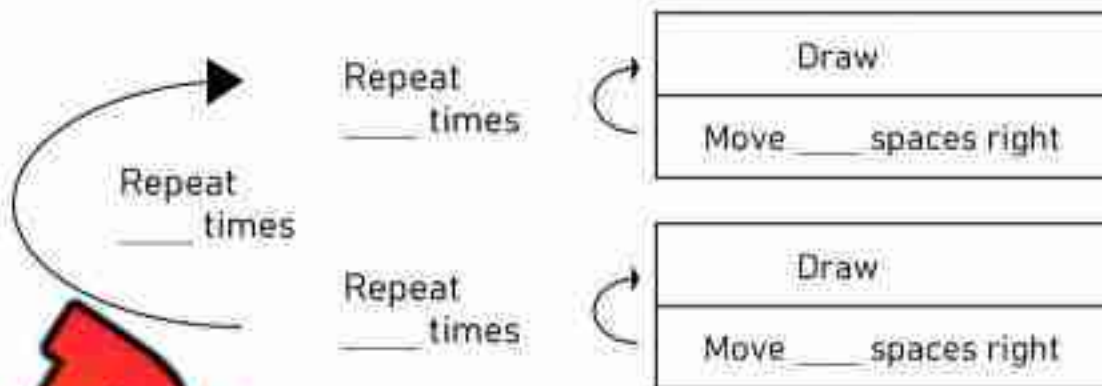
Logic	Pseudocode	Answer
Ask the user	What is the side length of the square?	
Store user input	length = user input	
Calculate and store	perimeter = length + length + length + length	
Output	The perimeter of the square is perimeter	

Logic	Pseudocode	Answer
Ask the user	What is the side length of the equilateral triangle?	
Store user input	length = user input	
Calculate and store		
Output		

Logic	Pseudocode	Answer
Ask the user	What is the side length of the equilateral triangle?	
Store user input	length = user input	
Calculate and store		
Output		

Code

Draw your own nested loops below. Use the organizer for the first one and create your own for the second.



Output

PREVIEW

Output

Coding: Repeating Event - Pattern of Squares with a Loop

Objective

What are we learning about?

Students will create a computational representation of a repeating pattern by writing and executing steps to draw a sequence of squares, aligning with expectation C3.1 (solving problems with repeating events).

Materials

What you will need for the activity.

- Grid paper (40 cm x 40 cm)
- Pencils
- Blue crayons
- Rulers



Instructions

How you will complete the activity.

1. Write a loop structure to draw a pattern: "Repeat: Draw a square with 4 cm sides, Colour it blue, Move 5 cm right."
2. Draw a square with 4 cm sides on the grid paper.
3. Colour the square blue with a crayon.
4. Move 5 cm to the right on the grid paper.
5. Follow the loop by repeating steps 4 three more times to complete 4 squares (in this example).
6. Check your pattern to ensure there are 4 blue squares, each 5 cm apart.
7. Share your pattern and loop steps with a partner to compare. Optional: create your own program using a different shape and loop pattern.

Name: _____

224

Curriculum Connection
CS.1

Code

Write the code below and then execute the program.

PREVIEW

Concurrent Coding

Concurrent codes are events that happen at the same time. It is the opposite of **sequential codes**, which happen one after the other.

Example - race to school - concurrent coding

Boy

Go down 2

Go right 2

Enter school

Girl

Go down 4

Go left 1

Enter school

Who won? Spaces traveled - (boy 4) girl 5



Questions

Who won? Spaces traveled as the vehicles race to the store

Car



Truck



Who won? Spaces traveled - car _____ truck _____

Bus

Monster
Truck

Who won? Spaces traveled - Bus _____ Monster Truck _____

F1

Sports
car

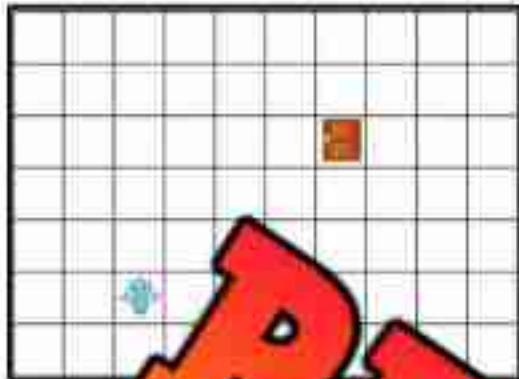
Who won? Spaces traveled - F1 _____ Sports Car _____



Coding Quiz

Part 1

Write the code below



1. Write the code that gets the robot to the door

Line 1: _____

Line 2: _____

Line 3: _____

Robot moved _____ squares

2. Write the code that gets the robot to the store and then home.

Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

Line 5: _____



Robot moved _____ squares

Part 2

Read the code and create the program

3.



Code

```
go down 2
go right 1
go down 2
go right 5
open door
```

Robot moved _____ squares



Part 3

Put the scrambled code in the correct order by labelling the steps 1-5

4. Go to school and then home

Code

- _____ -go up 2
- _____ -go down 5
- _____ -go right 1
- _____ -enter school
- _____ -go
- _____ -e



Part 4

What code sends the runner around the track

5. Use a loop to send the runner around the track 5 times. (Don't forget to cross the finish line!)

- Line 1: _____
- Line 2: _____
- Line 3: _____
- Line 4: _____
- Line 5: _____
- Line 6: _____
- Line 7: _____



Part 5

Write the message that the code has programmed

6.

Code

```
Code1 = "DE"  
Code2 = "TO"  
Code3 = "I"  
Code4 = "OO"
```

```
print ("I love", Code2, Code4, Code1, Code3)
```

The Computer Program:



Google Slides Lessons Preview





Ontario Math Curriculum Financial Literacy Unit – Grade 4

3-Part Lesson Format

Part 1 – Minds On!

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

Methods of Payment

Learning Goal

We are learning to identify and explain different methods of payment, such as cash, debit, and credit, so we can understand the many ways people pay for things and services they buy.

Methods of Payment

Is the statement True or False?

True **False**

1) Cash is made up of coins and bills that you can hold in your hand.	
2) A credit card takes money directly from your bank account when you pay.	
3) Gift cards can only be used at the store or business they were bought from.	
4) You need internet or a phone to send money using an E-transfer Money Transfer.	
5) A debit card lets you borrow money now and pay it back later.	
6) Cash is usually used for small things like snacks or bus tickets.	
7) A cheque moves money from one person's bank account to another after it's signed.	
8) Debit cards and debit cards work exactly the same way.	

Part 2 – Action!

- Surveys/Polls
- Matching
- Drag and Drop
- Videos
- And More!

Part 3 – Consolidation!

- Exit Cards
- Quick Draw
- 3-2-1 Reflection
- One-Sentence Summary

Consolidation

Put the checkmark on the correct answer for each question.

Question	A	B
1) What happens when you pay with a debit card?	Money comes from your bank account.	You borrow money to pay later.
2) What kind of card allows you to pay for a purchase with a paper bill or coin?	Debit card	Gift card
3) What does a cheque do?	Moves money from one bank account to another.	Does you allow money from the bank.
4) Which payment method allows you to borrow money that must be paid back later?	Credit card	Debit card
5) Which payment type is used for online purchases like video?	Debit	Cash
6) Which payment method usually needs a letter or a piece of paper to work?	Cash	Electronic money transfer



Ontario Math Curriculum Financial Literacy Unit – Grade 4

How Credit Cards Work

Drag the box with the correct answer.

Question

1) A credit card lets people _____ money from the bank to buy things now and pay later.

2) If people don't pay on time, they might use extra money called _____.

3) Credit cards are helpful for big or _____ purchases, like fixing a car.

4) If someone forgets to pay their bill, the bank can charge them _____ money.

5) The bank gives people a credit card so they can borrow up to a certain _____.

6) A credit card is different from cash because you have to pay for your purchases _____.

extra
later
time
borrow
interest
emergency

Class Services

Put the services below into the correct box.

Goods	Services
Bicycle	Haircut
Backpack	Car wash
Ice cream	Bank
Babysitting	Lawn mowing
Music lesson	Bus ride
Skateboard	Soccer ball
Watch	Pizza delivery
Mail delivery	LEGO set

Spending and Saving

A bank pays you an extra interest of \$10 for every \$100 you save.

Savings	Savings + Interest
1) \$400	\$500
2) \$600	\$400
3) \$800	\$2100
4) \$100	\$1200
5) \$2000	\$2400
6) \$2400	\$660
	\$2200
	\$800
	\$440
	\$630
	\$1310
	\$2640



Ontario Math Curriculum Financial Literacy Unit – Grade 4

Two Truths and a Lie

Read the statements below and decide which one is the lie.

A) Some changes are donations to help people and animals.	B) That's the only thing you can do if you have a lot of money to give.	C) Donating can be a great way to help your community and the planet.
A) Eating and eating habits make people healthy.	B) It's important to eat a variety of fresh fruits and vegetables.	C) Donating your old clothes is the best way to help people in need.
A) Volunteering your time is a great way to help people.	B) Some people donate their money to help for advertising.	C) You can't donate to get a reward every time you donate.
A) People donate because they want to help others.	B) Some people donate to help people in need.	C) Donating your money is the best way to help people.

Coin

Drag the correct coins that make the amount in each box.

70¢	
85¢	
85¢	
45¢	
80¢	

Adding Money

Write the correct amounts under each box.

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

\$10.25
\$40.50
\$134.15
\$51
\$30.25
\$51.45
\$4.15
\$130
\$45



Workbook Preview



Grade 4

F1. Money and Finances

	Curriculum Expectations	Pages That Cover the Expectations
F1.1	identify various methods of payment that can be used to purchase goods and services	5 - 21
F1.2	Preview of 75 pages from this product that contains 146 pages total.	
F1.3	earning, investing, and donating, and identify key factors to consider when making basic decisions related to each	22 - 34, 40 - 42
F1.4	explain the relationship between spending and saving, and describe how spending and saving behaviours may differ from one person to another	22 - 39, 37
F1.5	describe some ways of determining whether something is reasonably priced and therefore a good purchase	70 - 82

NAME: _____

FINANCIAL LITERACY



Methods of Payment

Methods of Payment	Explanation
<p style="text-align: center;">Cash</p> 	<p>Money in coins or bills. Mostly used to pay for smaller purchases</p>
<p style="text-align: center;">Check</p> 	<p>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 is being paid.</p>
<p style="text-align: center;">Credit Card</p> 	<p>A card that allows you to borrow money. Credit cards let you borrow money so you can only borrow what the banks think you can afford. When you borrow the money you borrowed, you pay interest. This means you pay more money than what you borrowed.</p>
<p style="text-align: center;">Debit Card</p> 	<p>A card that allows you to pay directly from your bank account. When you use your debit card, the money is sent from your bank account to the store's bank account.</p>
<p style="text-align: center;">Gift Card</p> 	<p>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.</p>
<p style="text-align: center;">Electronic Money Transfer (EMT)</p> 	<p>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.</p>

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
Check	Paying with a card that links to your bank account
Coin	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.	

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) What method of payment lets you borrow money from a bank?	Credit	Debit
2) Which method is often used for smaller, quick purchases?	Cheque	Cash
3) What method sends money directly between bank accounts online?	Transfer	Card
4) Which payment is signed and written on paper?	Digital	Cheque
5) What kind of card is limited to a specific business?	Gift	Credit

Name: _____

Mark

/5

Circle the correct answer.

1) What method of payment lets you borrow money from a bank?	Credit	Debit
2) Which method is often used for smaller, quick purchases?	Cheque	Cash
3) What method sends money directly between bank accounts online?	Transfer	Card
4) Which payment is signed and written on paper?	Digital	Cheque
5) What kind of card is limited to a specific business?	Gift	Credit

How Credit Cards Work

What is a Credit Card?

A credit card is a small plastic card that lets you borrow money from a bank to buy things. When you use a credit card, the bank pays for your purchase, and you promise to pay the bank back later.

Borrowing

1. **Borrowing Limit:** You can only borrow up to a certain amount called your credit limit.
2. **Paying Back:** Each month, you receive a bill for what you spent. You must pay a part of it by the due date.



The Importance of Timely Repayment

- **Building Credit Score:** Paying on time helps you get a good credit score, which is important for getting loans in the future.
- **Avoiding Extra Costs:** If you pay late, you will have to pay extra money called interest. This interest fee is commonly around 20% per year. If you borrow \$100 and pay late, you will be charged an extra \$20!

How Credit Cards Are Issued

Banks or other financial institutions give you a credit card after checking if you are reliable. They look at your job, how much money you make, and if you pay bills on time.

Credit Cards in Society

People use credit cards to buy things when they don't have enough cash. They are useful for shopping online or in stores and can help in emergencies when you need money quickly.

True or False

Is the statement true or false?

1) Credit cards are for borrowing money.	True	False
2) Credit cards have an unlimited borrowing limit.	True	False
3) Every credit card has a different limit.	True	False
4) Timely payments do not affect credit scores.	True	False
5) Paying on time avoids late interest fees.	True	False

Questions for the questions below

1) What is a credit card?

2) Why is paying on time important?

Fill in the blanks

Complete the statements below based on the report

1) A credit card lets you _____ money from a bank.	borrow	spend
2) Each month, you receive a _____ for your expenses.	bill	receipt
3) Paying back on time can help build a good _____.	credit score	interest rate
4) A late payment may result in a(n) _____ fee.	lesser	additional
5) Responsible credit card use involves timely _____.	investment	repayment

Activity – "Credit Card" Math Challenge

Objective

What are we learning about?

To practice subtraction and budgeting skills using a "credit card" with a set spending limit.



Materials

What you will need for the activity.

- Expenses List
- Credit Card Transaction Log sheets.
- Pencils and paper

Instructions

How you will complete the activity

1. Distribute the Credit Card Transaction Log sheet to each student with a set limit written on it.
2. Hand out the Expenses List to each student with items that they can "purchase" with their credit limit.
3. Students choose items from the Expenses List and "purchase" in their Credit Card Transaction Log, subtracting the cost from the credit limit to calculate the remaining balance.
4. Set a timer (e.g., 5 minutes) to simulate a shopping spree.
5. Have students fill out their Credit Card Transaction Log.
6. Continue the exercise with different scenarios, emphasizing the importance of not exceeding the credit limit and making wise purchasing decisions.
7. As a class, discuss the consequences of overspending and the importance of managing money wisely.
8. For homework, students can use their Expenses List and Credit Card Transaction Log to reflect on how they would spend a real budget and what they consider essential purchases.

Expenses List

Choose items that you would like to "purchase" with your credit limit.

Initial Credit Limit: \$100

Item	Cost (\$)
• Box of crayons	3.50
• Watercolor paint set	8.00
• Hardcover book	6.00
• Solar system model	12.00
• Math puzzle	7.00
• Jump rope	4.50
• Basketball	15.00
• Pencil case	5.00
• Classic children's novel	8.50
• Science magazine subscription	20.00
• Custom name tag stickers	2.00
• Lunch box with cartoon characters	5.00
• Handheld electronic game	10.00
• Movie ticket for a school trip	9.00
• Kids' cookbook	14.00
• Magic trick set	11.00
• 3D dinosaur puzzle	13.00
• Pack of athletic socks	6.00
• Binoculars for nature trips	22.00
• Set of historical adventure stories	19.00

Reflection

Answer the questions below.

1) Did you stay within your credit limit, or did you exceed it?

2) Was it difficult to stay within your budget? Why or why not?

3) What strategies did you use to manage your spending?

4) How do you think managing a real credit card might be similar or different?

PREVIEW

Understanding Debit Cards

How Debit Cards Work

Debit cards are like magic keys to your bank account. When you use a debit card, you're using the money you already have. It's different from a credit card, where you're borrowing money to pay back later.

Money in the Bank

Your bank account is like a big piggy bank, but instead of coins, it holds your money safely. Your debit card, it's linked to this account. So, if you have \$100 in your account, that's how much you can spend with your debit card.

Spending with Debit Cards

Imagine you want to buy something that costs \$15. If you use your debit card, the bank checks to make sure you have enough money. If you do, they let the purchase happen, and your account balance goes down by \$15.

Key Facts:

- Debit cards access your own money, not borrowed money.
- Your bank account must have enough money to cover purchases.
- Each time you buy something, the bank checks your account.

Electronic Transactions

When you pay with a debit card, no actual cash moves around. Everything happens electronically, like sending a text message from your card to the bank. The bank then sends a message to the store saying, "It's all good; the purchase can go through."

Debit vs. Credit Cards

Debit cards are different from credit cards.

With debit, you use the money you have, which means no extra bills later. Credit cards mean borrowing money and paying it back, sometimes with extra fees.



Identify

Decide if the statement describes a debit or credit card transaction.

	Description	Debit	Credit
1)	You are spending money that's already in your bank account.		
2)	You can borrow money up to a certain limit.		
3)	You need to pay back the money you borrow with interest.		
4)	It's linked directly to your savings or checking account.		
5)	It can affect your credit history.		
6)	You can use your card for transactions.		
7)	You might not have to pay interest if you use it.		
8)	You can withdraw cash from an ATM.		
9)	Paying late might result in a fee.		
10)	You might earn rewards for purchases.		
11)	Money comes out of your account immediately when you pay.		
12)	You may have a monthly spending limit.		
13)	Funds are deducted from your available balance when you pay.		
14)	You may earn interest on money in the account linked to the card.		
15)	Can help in case of emergencies if you don't have savings.		
16)	There's no need to pay any interest if you use it.		
17)	You could be charged with fees if you spend more than your balance.		
18)	Each time you buy something, the bank checks your balance.		
19)	No extra bills will be charged.		
20)	The bank pays for your purchase, and you promise to pay the bank back later.		

Activity: Debit Card Transaction Role Play

Objective

What are we learning about?

Students will engage in role-play to navigate various scenarios involving the use of debit cards, such as monitoring spending, managing a budget, and responding to potential fraud.

Materials

What you will need for the activity.

- Scenario cards for role-play
- Props to represent debit cards and ATMs (can be made from cardboard)
- Reflective journals for students to record their thoughts



Instructions

How you will complete the activity.

1. Divide the students into small groups and provide each group with a unique debit card scenario card.
2. Allow groups time to read and discuss their scenario, focusing on responsible use of a debit card in the given situation.
3. Students take turns role-playing their response to the scenario, whether it's checking their balance, making a purchase, or responding to a suspected fraud.
4. Following the role-play, each student will document their actions and the reasoning behind them in their reflective journals.
5. Groups will reconvene and select volunteers to present their scenarios and the actions taken during the role-plays.
6. Conclude with a class discussion on best practices for using debit cards, the importance of tracking spending, and how to safeguard personal financial information.

Scenario Cards

Cut out the topics below.

You want to buy a new video game that costs \$60, but when you check your account balance at the ATM, it shows you only have \$50.

You're at the store and you decide to buy a gift for a friend. At the checkout, the cashier tells you your card has been declined.

You notice a charge for \$20 on your bank statement from a toy store you don't remember shopping at.

Your sibling asks you to allow your debit card to buy a new book. You know your parents have said it's for emergencies only.

You're saving up for a new pair of headphones. You see a cool pair of headphones for \$30. Do you buy them?

You go to withdraw \$20 from an ATM for a field trip. You accidentally press an extra zero and it gives you \$200.

At a school book fair, you want to buy three books that cost \$7. You only brought your debit card with you.

You're at the candy store with friends and they're all buying lots of treats. You have your debit card but are trying to save money.

You've been keeping your allowance on your debit card. You find a toy online that's on sale, but it's the last day of the sale.

You receive an email claiming you've won a prize, but you need to provide your debit card information to pay for shipping.

Newspaper Article: The Role of Prepaid Cards

Smart Spending with Prepaid Cards

Publish Date: April 6, 2024

Prepaid cards are like special tickets that let you buy things until they run out of money. Unlike credit cards, which pull money straight from your bank account, prepaid cards are linked to a separate account with money loaded onto them. If you have a \$50 prepaid card, you can only spend \$50.

Expert in personal finance, Alex Morgan, explains, "Prepaid cards are great for learning how to manage money. Once the money on the card is used, it's gone until you add more. It's like having a wallet with only a certain amount of cash."

For 10-year-old Jamie, a prepaid card helped her learn to spend wisely. She says, "I used my prepaid card to buy a new book and some snacks. I had to

think about what I really wanted because I knew I only had \$30 on my card."

Prepaid cards are different from credit cards too. With a credit card, you borrow money to buy things and pay back later, sometimes with extra fees. But with a prepaid card, you only spend what you've already put on the card, which helps avoid overspending and debt.

Many people use prepaid cards to control their spending and stay on a budget. It's a simple way to learn how to save and make smart choices.



Fill In The Blanks

Complete the statements below based on the story

1) Prepaid cards have a _____ amount of money on them.	fixed	unlimited
2) Prepaid cards help avoid _____ and debt.	saving	overspending
3) Prepaid cards can be _____ if you spend all the money on it.	reloaded	discarded
4) If you have \$100 on your card, you can spend only _____.	\$90	\$100
5) You only spend what you've _____ on prepaid cards.	lost	put

Question: How are prepaid cards different from debit and credit cards?

PREVIEW

Draw

Design your prepaid card. At the bottom, write a tip for using it wisely.

PREVIEW



Fact or Fiction – The Roles of Prepaid Cards

Objective

What are we learning about?

Improving critical thinking skills and understanding the role of prepaid cards.

Materials

What you will need for the activity.

- "Fact or Fiction" statements about the role of prepaid cards.
- A 'Fact' sign and 'Fiction' sign to place on opposite sides of the room.
- Space in the classroom for students to move to the 'Fact' or 'Fiction' side.



Instructions

How you will complete the activity.

1. Your teacher will read statements related to prepaid cards. Pay close attention to each statement.
2. Think about whether you believe the statement is true or false based on what you've learned about savings accounts.
3. If you decide the statement is true, move to the 'Fact' side of the room.
4. If you believe the statement is false, move to the 'Fiction' side of the room.
5. Remain on your chosen side and listen to the explanation for the correct answer.
6. When the correct answer is revealed, discuss as a group why it is a fact or fiction.
7. Return to the centre of the room, ready for the next statement.
8. Engage in the activity with your classmates and learn together!

Fact or Fiction

Read the statements to the class

#	Statement	Fact or Fiction
1	Prepaid cards have a set amount of money loaded on them.	Fact
2	Prepaid cards automatically refill themselves each month.	Fiction
3	All stores accept prepaid cards as a form of payment.	Fact
4	You can only spend what is on the prepaid card, not more.	Fact
5	Prepaid cards can be used to get a loan from a bank.	Fiction
6	Prepaid cards are a good way to control spending.	Fact
7	Prepaid cards are not linked to a bank account.	Fiction
8	When the money on a prepaid card is used up, you can add more.	Fact
9	Prepaid cards can be overcharged and you can't pay later.	Fiction
10	Once the money on the card is used, it's gone until you add more.	Fact
11	You can use a prepaid card to borrow money like a credit card.	Fiction
12	Kids are not allowed to use prepaid cards.	Fiction
13	Prepaid cards can have negative balances if you overspend.	Fiction
14	You can use prepaid cards to withdraw cash at any ATM.	Fiction
15	Prepaid cards have a limit of \$100.	Fiction
16	Prepaid cards always come without any fees.	Fiction
17	You need a bank account to use a prepaid card.	Fiction
18	You can build a credit history using a prepaid card.	Fiction
19	Many prepaid cards come with a PIN for security.	Fact
20	Prepaid cards are different from credit cards.	Fact

Goods and Services

Goods

We spend money on **goods** and **services** so we can survive and enjoy our lives. A **good** is something you can see and hold. For example, pens, salt, apples, and drinks. Goods are made so they can be sold to people to make their lives better. When a business sells a good, they are earning money.

Goods can be things that we need, like food and clothing. Goods can also be things we don't need but want. Examples of these goods that we want are toys, computers, video games and televisions.



Some **services** are activities that others do for you to make your life better.

Some **services** are things we need. For example, doctors offer a service to help us stay healthy. Other examples of services we need are police officers, and firefighters.

NHL players are a service we don't need, but that we want. We pay to watch them play hockey. Other services that we want but don't need are restaurant servers and movie theaters.

Part 1 Is the description a good or service?

1. You buy a new book	Good	Service
2. A chef cooks you a meal	Good	Service
3. A nurse checks your temperature	Good	Service
4. You buy a bag of chips	Good	Service
5. Someone shovels your driveway	Good	Service

Part 2 Write examples of goods and services below

Goods	Services

Exit Cards

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

Name: _____

Mark

Is the statement true (T) or false (F)?

1) Goods are things we can see, touch, and sometimes eat.	T
	F
2) A service is something we can hold in our hands.	T
	F
3) Video games and televisions are examples of goods we want, not need.	T
	F
4) We pay money for both goods and services to make life better.	T
	F

Name: _____

Mark

Is the statement true (T) or false (F)?

1) Goods are things we can see, touch, and sometimes eat.	T
	F
2) A service is something we can hold in our hands.	T
	F
3) Video games and televisions are examples of goods we want, not need.	T
	F
4) We pay money for both goods and services to make life better.	T
	F

Name: _____

Mark

Is the statement true (T) or false (F)?

1) Goods are things we can see, touch, and sometimes eat.	T
	F
2) A service is something we can hold in our hands.	T
	F
3) Video games and televisions are examples of goods we want, not need.	T
	F
4) We pay money for both goods and services to make life better.	T
	F

Name: _____

Mark

Is the statement true (T) or false (F)?

1) Goods are things we can see, touch, and sometimes eat.	T
	F
2) A service is something we can hold in our hands.	T
	F
3) Video games and televisions are examples of goods we want, not need.	T
	F
4) We pay money for both goods and services to make life better.	T
	F

Need Vs Want

Needs

We need goods and services to survive. We pay for food, water, shelter, and heat so we can live comfortably. These are **needs** that we spend our money on.

Our needs have changed over the years. Centuries ago, the needs of people were more basic, as people didn't need technological advancements we have now. Some of these needs are important because they allow us to do our jobs. For example, gas for cars was not a need in the 1800s because cars did not exist. Gas is considered a need now because many people need gas to get to work. Other examples of needs are medicine for us to get better and internet for us to work or learn at home.



Wants

We also spend money on things that are **wants**. Wants are things that we do not need. Examples of wants are video games, and televisions.

Wants are important because they make us feel good. Having entertaining goods like toys and video games make us feel good, which is important. However, if we spend too much on our wants, we may not have enough money for our needs.



Part 1

Is the description a need or a want?

1. You buy tickets to watch your favourite hockey team play	Need	Want
2. Your parents pay the internet bill	Need	Want
3. You pay for Netflix so you can watch TV and movies	Need	Want
4. You buy a basketball hoop so you can practice basketball	Need	Want
5. Your parents pay the electricity bill	Need	Want

Part 2

Write examples of needs and wants below

Needs	Wants

Activity: The Needs vs. Wants Game

Directions

For each item listed, place a checkmark under 'Need' if it's essential, or 'Want' if it's an additional comfort. Some items may fit both categories.

	Item Description	Need	Want
1	Fresh vegetables and fruit		
2	Brand-name sneakers		
3	Winter coat		
4	The latest video game console		
5	Basic school supplies		
6	Water for drinking		
7	A cell phone with internet access		
8	Books for pleasure reading		
9	Medications for health		
10	Movie or concert tickets		
11	School supplies		
12	Jewelry and accessories		
13	Amusement park trip		
14	Public transportation pass		
15	Cable TV subscription		
16	Internet service at home		
17	A bicycle for transportation		
18	Fast food meals		
19	A pet		
20	A family vacation		

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 participating in consumerism. If you only buy what you need, you are not participating in consumerism. The problem many people have is buying the things they do not need, which are called wants. A study in 2019 found that the average 10-year-old has 100 toys! That is too many toys to play with everyday, which means many of the toys are not needed.

Another study found that people in 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 new 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. They use top campaigns designed around getting us to spend our hard-earned money on their products. They use strategic forms of advertising to appeal to different age groups 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

Spending and Saving

What is Spending?

We all need to spend money to get the things we need in life. For example, our families spend money on electricity, heat, and water so that we can be comfortable. **Spending** money means we send our money to a business or another person in exchange for a good or service.



Spending money on needs is something every family must do. When we spend too much money on wants, it can be difficult to save.

What is Saving?

Saving money means we put money in a different bank account so that we don't spend it. Having savings can help in the event of a family member losing their job. Savings can also help pay for unexpected expenses, like a new roof.

When we put money in a savings bank account, the money will make us more money. This is known as being paid interest. The bank will pay us interest because we use them to hold our money.

When we have extra money, we should consider saving it instead of spending it on wants we don't need. Even if you earn money as a child, you could keep saving it to the point where it could help you buy a house when you are older. How cool would that be?



Part 1

Answer the questions below

1. What would you do with extra money you had? Would you spend it or save it? Explain.

2. Why is it good to save money?

Part 2

A bank pays \$5 for every \$100 you have in your savings account

Savings	Savings + Interest
1) \$300	\$315
2) \$500	
3) \$800	

Savings	Savings + Interest
4) \$1000	
5) \$1500	
6) \$2200	

Role-Play: Spending and Saving

Objective

What are we learning about?

Students will act out real-life situations to understand the relationship between spending and saving. They will explore how money can be used for needs, wants, or savings, and how different people may make different financial choices. They will learn about the factors that influence decisions about money, such as income, expenses, family values, lifestyle, personality, and circumstances. This activity will help students see how saving and spending behaviours can be different from one person to another.

Materials

What do we need for our activity?

- Scenario cards (with different situations)
- Props or costumes (optional)
- Timer or stopwatch



Instructions

How will we complete this activity?

1. Divide the class into small groups of 3 to 4 students.
2. Provide each group with a scenario card that outlines a specific situation about spending or saving money.
3. Give out roles to each student in the group, assigning them a character or position within the scenario (e.g., child deciding whether to buy or save, parent giving advice, friend suggesting another option).
4. If available, distribute props or costumes that may help students act out their roles more effectively.
5. Set the timer to allow groups a set amount of time to prepare their role-play.
6. Allow each group to present their role-play to the class.
7. After all groups have presented, lead a class discussion on what students noticed about the different saving and spending decisions and the factors that influenced them.
8. Distribute reflection sheets for students to write about what they learned and how people's saving and spending behaviours can differ.

Criteria Use the criteria below to complete the activity.

Criteria	Description
Creativity	Show what your character would say or do in a real spending or saving situation. Use ideas that make the role-play fun and realistic.
Voice	Speak clearly and loud enough so everyone can hear. Use your voice to show how your character feels.
Actions	Use body movements and expressions to act out your role (e.g., handing over money, putting coins in a piggy bank, talking about choices).
Stay in Role	Stay in character from start to finish. Don't slip out until the role-play is over.
Teamwork	Work together as a group. Take turns, listen to each other, and make sure everyone has a part to play.
Knowledge of Spending and Saving	Show what you know about spending and saving. Make sure your role-play shows how choices and how those choices can be different.

Scenario Cards

Cut out the topic

	Description
1. Family Job Loss	A parent just lost their job. The family is at the store and has no money. One child asks if they can still go to the movies this weekend. The parent explains that with less income , they need to cut extra spending and focus on shelter and food first. Another family member suggests saving money by borrowing books from the library instead of buying them.
2. Culture and Traditions	A child gets \$20 for their birthday. One friend says, "Let's go buy a new toy!" but the child explains that in their family, it's important to give some money to their place of worship or to help with a cultural festival. They decide to spend part on themselves and part on their tradition. The skit shows how culture or family traditions affect money choices.

Scenario Cards

Cut out the topics below.

Description

3. Healthy vs.
Cheap Food

A parent and child are shopping. The child wants chips and cookies because they are cheaper. The parent explains that fruit and vegetables cost more but are healthier. They decide to buy a mix—some fruit and one treat. The skit shows how **health** can change how families spend money.

4. Saving for
Education

Two students are talking. One wants to save for college or a laptop for school. Their sibling wants to buy a new video game now. The older student explains they are choosing to save instead. The skit shows how **stage of life and priorities** affect spending—older students think more about the future.

5. Environmental
Impact

A family is choosing between buying plastic water bottles every week or buying reusable bottles. The reusable ones cost more at first. A child says, "It saves money in the long run and is better for the planet." The skit shows how **environmental impact** can affect spending.

6. Lifestyle Choices

Two families are planning summer break. One spends money on an expensive vacation trip (airplane, hotel, tickets). The other spends less and stays home, using money for backyard improvements like a small pool. Both families are happy, but their **lifestyle choices** are different.

7. Inequality in
the Community

Two students talk about signing up for hockey. One can afford the gear and fees, but the other cannot because their family has high rent and bills. They discuss how **family circumstances and income** affect whether they can spend or save for activities.

Name: _____

38

Curriculum Connection
ELA

My Role

Draw a picture of what your character did during the role-play.

PREVIEW

Rubric

How did you do on the activity?

Criteria	1 Point	2 Points	3 Points	4 Points
Creativity	Did not try to act out the scene.	Tried a little but added few ideas.	Showed imagination and made the scene clear.	Used great ideas that made the role-play fun and realistic.
Voice	Too quiet to hear.	Sometimes clear but not strong.	Clear voice that matched the character.	Loud and clear voice that kept interest.
Action	A few actions that were not connected.	A few actions, not always connected.	Used actions that fit the role.	Many actions that made the role believable.
Stay in Role	Left the character sometimes.	Sometimes stayed in the character.	Stayed in role most of the time.	Stayed in role the whole time.
Teamwork	Did not help or listen.	Did not always help or listen.	Helped others and worked with the group.	Shared, listened, and worked well the whole time.
Knowledge of Spending and Saving	Did not show knowledge of saving or spending.	Showed a little knowledge but missing details.	Showed some knowledge about saving and spending.	Clearly showed how people make choices about saving and spending.

Teacher Comments

Mark

Student Comments - What Could You Do Better?

Introduction to Investing

What is Investing?

Investing means we are spending money in hopes to make more money. If you have put money into a savings account, you have already invested your money. This is because your money is making you interest, which means it is making you more money.

We can invest in many different ways. You could invest in a shovel so that you could shovel your neighbours driveway and earn money. In this example, you are investing money in the shovel so that you can make more money. You are making more money because you are buying the shovel once and you are using it multiple times to make money.

You could also invest money on stocks in the stock market. When you buy a stock, you are putting your money to a business. If the business does well and makes more money, then you will be paid more money. If the business does poorly and loses money, you will not get as much money back and you could lose money.

Investing can be risky. Some investments are safer than others. Buying a shovel when your neighbours have already agreed to shovel your driveway is a safe investment. But, if the shovel breaks, your investment is not worth anything. Investing in a stock can also be risky if the business loses money.



Part 1

Answer the questions below

1) What is an investment? What are two ways you can invest your money?

2. Name an investment you would like to invest in. Explain the investment.

Part 2

An investment pays you 2x the amount of money you pay

Investment	Investment Profit
1) \$250	\$500
2) \$420	
4) \$510	

Investment	Investment Profit
4) \$850	
5) \$1230	
6) \$3420	

Part 1

Business Plan - What business would you start?



1. What goods or services will you provide?

2. How much money will you charge for your goods or services?

3. How many customers do you think you will have a year?

Part 2

What items would you need to buy?

Items to Buy	Costs



Part 3

Financial Statements

Year	Customers	Earnings
1		
2		
3		
4		
5		



Part 4

Final Earnings After Investment Costs

How much total earnings did you make after 5 years? (Earnings - Total Costs)

Name: _____

Donating

What is a Donation?

A **donation** is when something is given to a charity, an individual, or to help a cause. A donation is different than buying and selling because it is a one-way transaction. In a normal transaction, money goes one way and a good or service goes the other. A donation means that the recipient does not have to give anything back.

A **charity** is an organization set up to provide help to those in need. For example, the Big Brothers Big Sisters organization is a charity that helps kids throughout Canada. They match adults with kids who need an adult role model in their lives. Without donations, Big Brothers Big Sisters would have to close, and those kids wouldn't have mentors.

How do we donate?

You may have noticed someone asking for donations in grocery stores. It is also possible that someone has knocked on your door asking for a donation. These people help charities by raising money. You can also help others.

Donations can be in the form of money, goods, or services. We sometimes donate cash to go to local food banks. Many people also donate money to the Terry Fox Foundation. Families sometimes donate clothes to those who are in need for low prices. You can also donate your time by volunteering for a charity for free.



Part 1

Answer the questions below

1) What is a donation? What things can be donated?

2) Have you donated anything before? Explain.

Part 2

Circle whether the description is a donation - yes or no.





1. James gives money to Steve to cut his grass	Yes	No
2. Nick gives a Toonie for Terry to the Terry Fox Foundation	Yes	No
3. Gracie goes into school and reads with kids without being paid	Yes	No
4. A magician comes into your school to perform and is paid \$100	Yes	No
5. Kayla gives her old toys to some younger friends	Yes	No

Counting Dollars




				Total
\$100	\$50	\$20	\$20	\$190

Questions Count the money in each column. Then add up the total.

1)

				Total


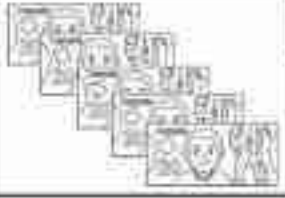
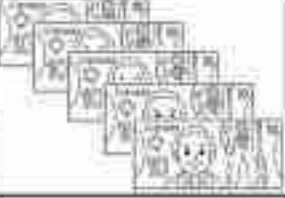

2)

			Total

3)

				Total

4)


				Total

Counting Dollars

Questions

Count the money and write down the total

1)  \$ _____

2)  \$ _____

3)  \$ _____

4)  \$ _____

5)  \$ _____

6)  \$ _____

7)  \$ _____

Counting Cents



= 25¢



= 10¢



= 5¢



= 25¢

Questions

Count the money in each column to make a benchmark cent amount



1) _____



3) _____



4) _____



5) _____



6) _____



7) _____



8) _____



9) _____



10) _____



11) _____



12) _____

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

¢	\$
1000¢	\$1.00
200¢	
300¢	
400¢	
500¢	\$5.00
600¢	
700¢	
800¢	
900¢	\$9.00
1000¢	

¢	\$
150¢	\$1.50
250¢	
325¢	
450¢	
525¢	
600¢	
700¢	
800¢	\$7.20
900¢	
999¢	

Part 2 Circle the biggest 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

Counting Canadian Coins



= 100¢ or \$1.00



= 10¢



= 200¢ or \$2.00



= 25¢



= 5¢



= 25¢

Questions

Count the coins below



1) _____



2) _____



3) _____



4) _____



5) _____



7) _____



8) _____



9) _____



10) _____







11) _____



















12) _____

Counting Canadian Coins

				Total
200¢	100¢	50¢	20¢	370¢

Questions Count the money in each column and then add up the total

1)					Total
2)					Total
3)					Total
4)					Total

Name: _____

50

Curriculum Connection
F12

Making Change

		
\$6	\$23	\$37

Questions: Make the change by drawing the correct bills and coins

1) \$4

3) \$12

4) \$15

5) \$18

6) \$24

7) \$28

8) \$35

9) \$41

10) \$32

11) \$39

12) \$47

Counting Money

Questions

Count the money and write down the total

1)



\$ _____

2)



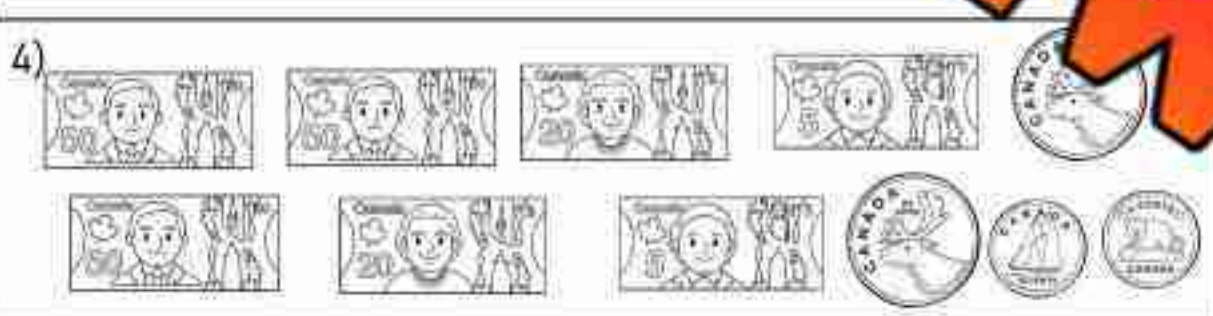
\$ _____

3)



\$ _____

4)



\$ _____

5)






















\$ _____

Calculating Change Using \$1

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 \$2

Questions

Calculate how much change you will get

Money Used and Item	Change Due	Money Used and Item	Change Due
1)  \$1	= _____ ¢	6)  \$1.45	= _____ ¢
2)  \$1.50	= _____ ¢	7)  \$1.80	= _____ ¢
3)  \$1.75	= _____ ¢	8)  \$2.00	= _____ ¢
4)  \$1.25	= _____ ¢	9)  \$1.65	= _____ ¢
5)  \$1.40	= _____ ¢	10)  \$1.70	= _____ ¢

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) 	= \$ _____

Exit Cards

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




Name: _____

Calculate how much change you will get.

Money Used and Item	Change Due
1) 	= \$ _____
2) 	= \$ _____
3) 	= \$ _____




Name: _____

Calculate how much change you will get.

Money Used and Item	Change Due
1) 	= \$ _____
2) 	= \$ _____
3) 	= \$ _____

Name: _____

Calculate how much change you will get.

Money Used and Item	Change Due
1) 	= \$ _____
2) 	= \$ _____
3) 	= \$ _____

Name: _____





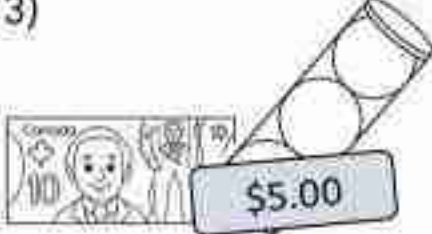





Calculate how much change you will get.

Money Used and Item	Change Due
1) 	= \$ _____
2) 	= \$ _____
3) 	= \$ _____

Calculating Change Using \$10

Questions











Calculate how much change you will get

Money Used and Item	Change Due	Money Used and Item	Change Due
1) 	= \$ _____	6)  \$6.00	= \$ _____
2)  \$2.00	= \$ _____	7)  \$6.50	= \$ _____
3)  \$5.00	= \$ _____	8) 	= \$ _____
4)  \$9.00	= \$ _____	9)  \$4.00	= \$ _____
5)  \$3.00	= \$ _____	10)  \$1.00	= \$ _____

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) 	= \$ _____

Calculating Change Using \$50 and \$100

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) 	= \$ _____





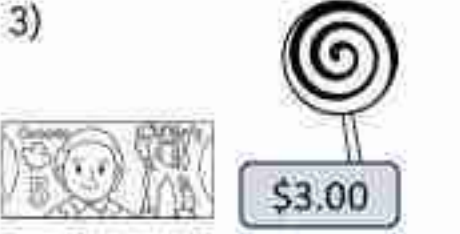





Calculating Change



Change
= \$8

Questions

Calculate how much change you will get

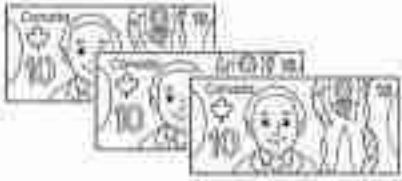

Money Used and Item	Change Due	Money Used and Item	Change Due
1) 	= _____	6) 	= _____
2) 	= _____	7) 	= _____
3) 	= _____	8) 	= _____
4) 	= _____ ¢	9) 	= _____
5) 	= _____	10) 	= _____

Name: _____



61

Curriculum Connection
F1.2



Adding Money



		Total
\$30	\$15	\$45

Questions Add the money below

		Total
\$ _____	\$ _____	\$ _____

		Total
\$ _____	\$ _____	\$ _____











		Total
\$ _____	\$ _____	\$ _____

		Total
\$ _____	\$ _____	\$ _____

Adding Money

Questions


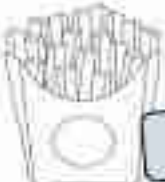
Add the money below

		Total
\$ _____	\$ _____	\$ _____
		Total
\$ _____	\$ _____	\$ _____
		Total
\$ _____	\$ _____	\$ _____
		Total
\$ _____	\$ _____	\$ _____
		Total
\$ _____	\$ _____	\$ _____



Adding Multiple Items



Questions



Add up the total price of the items

 \$6.00	 \$3.00	Total
\$ _____	\$ _____	\$ _____

 \$22.00	 \$16.00	Total
\$ _____	\$ _____	\$ _____

 \$38.00	 \$ _____	Total
\$ _____	\$ _____	\$ _____











 \$8.00	 \$16.00	Total
\$ _____	\$ _____	\$ _____

 \$17.00	 \$18.00	Total
\$ _____	\$ _____	\$ _____




Adding Multiple Items

Questions

Add up the total price of the items

 \$1.50	 \$2.00	Total
\$ _____	\$ _____	\$ _____
 \$4.50	 \$4.50	Total
\$ _____	\$ _____	\$ _____
 \$5.75	 \$3.50	Total
\$ _____	\$ _____	\$ _____
 \$16.50	 \$12.25	Total
\$ _____	\$ _____	\$ _____
 \$43.15	 \$55.65	Total
\$ _____	\$ _____	\$ _____


Providing Change to Customers

Money Used	Item	Item	Change Due
			\$1.00

Questions Pick up the items and provide change based on what the customer paid with

Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

Providing Change to Customers




Money Used	Item	Item	Change Due
			\$6.00




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

Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

Money Word Problems

Questions

Answer the word problems below

1) Jim was shopping for a basketball and a pump. The pump is \$6, and the basketball is \$16. He hands the cashier \$25. How much change will he get?



2) Paul works at an ice cream shop. A customer orders 2 ice cream cones for \$4. They hand him a 10 bill. How much change does he need to give back?

3) Ally went to the movies tonight with her mom. She paid \$8 for her movie ticket, \$6 for her popcorn, and \$4 for her drink. How much money did she spend?



4) Lexi has saved enough money to buy a game for her computer. It costs \$44 and she hands the cashier a \$50 bill. Will she have enough money left to buy a \$5 ice cream?

Exit Cards

Cut Out

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

Name: _____

Answer the question below.

Zara wants to buy a T-shirt for \$12 and a hat for \$11. She has \$25. Does Zara have enough money? If yes, how much change will she get?

Name: _____

Answer the question below.

Zara wants to buy a T-shirt for \$12 and a hat for \$11. She has \$25. Does Zara have enough money? If yes, how much change will she get?

Name: _____

Answer the question below.

Zara wants to buy a T-shirt for \$12 and a hat for \$11. She has \$25. Does Zara have enough money? If yes, how much change will she get?

Name: _____

Answer the question below.

Zara wants to buy a T-shirt for \$12 and a hat for \$11. She has \$25. Does Zara have enough money? If yes, how much change will she get?

Determining a Good Purchase

Making Good Purchases

Before we make a purchase, we should check the reviews, price, and ratings of the good or service.

- Reviews** – are customer judgements of goods or services. Reviews can only be written by people who have purchased the service or good. Reading reviews before we purchase something is important because it gives us an unbiased (true) understanding of the good/service.
- Price** – Check the same good/service on different websites or at different stores to get an understanding if it is well priced or over-priced.
- Ratings** – Customers who have purchased a good/service can leave a rating of 1 through 5 stars. Ratings are usually in the form of stars. When we research something to purchase we can see how many stars the good/service gets. If it gets 1 star we probably don't want to buy something we want to buy.



Questions

Check out the rating and price.

Then explain if you'd buy it or not.



\$29.50



5 ratings

Review: "This hat is well-made, but the beak is a bit shorter than I thought."

Would you purchase? Explain.



\$79.99



1 rating

Review: "This cost a lot of money. I bought it well before I threw it against a wall. Now its broken! Cheap!!!"

Would you purchase? Explain.

Name: _____

71



\$249.99



187 ratings

Review: "This bike is amazing dude! I can do some gnarly tricks on it. Stop looking at me, I bought it already!"

Would you purchase? Explain.



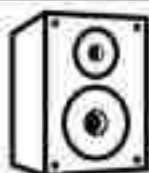
\$49.99



84 ratings

Review: "These headphones are okay when they work. The Bluetooth keeps disconnecting 😞"

Would you purchase? Explain.



\$120.00



36 ratings

Review: "This speaker has some serious sound. I am loving it, but it is a tad big."

Would you purchase? Explain.



\$7.99



18 ratings

Review: "This soccer ball is decent, especially if you're on a budget. It has worn down fast, but it still works."

Would you purchase? Explain.

PREVIEW

Newspaper Article: The Cost of Impulse Buying

Think Before You Buy: The Price of Impulse Shopping

Publish Date: April 9, 2024

Impulse buying means buying things you didn't plan to buy just because you see them and want them right away. This can be fun, but it can hurt your wallet and save money for other things.

Sarah, a fourth-grader, had \$50 for a new book series she wanted. One day she saw a cool toy and bought it for \$30 without thinking. Later, she didn't have enough for the books.

Dr. Martin Hayes, a financial expert, explains, "Impulse buying can use up money meant for important things. It's like eating a big cake before dinner; it seems good at the moment but may not be the best decision."

A survey showed that kids spend \$20 extra each month on toys they didn't plan to buy. That's \$240 a year!

Planning helps avoid this. If Sarah had waited a day or two, she might have decided the books were more important than the toy.

John, another fourth-grader, had a similar experience. He used to spend his allowance right away on snacks and toys. After learning about budgeting,

John started asking himself, "Do I really need this?" before buying anything. Six weeks later, he had saved enough to buy the video game console he really wanted. His parents say that waiting and making good decisions can help save money for better things.

Learning to resist impulse buying can also teach valuable lessons in patience and self-control, which are important skills for financial health in the long run.



True or False

Is the statement true or false?

1) Impulse buying is always planned.	True	False
2) Kids spend \$240 on unplanned toys yearly.	True	False
3) If you want something, you need to buy it.	True	False
4) Budgeting doesn't change one's spending.	True	False
5) Patience is unrelated to financial health.	True	False

Question Answer the questions below

1) What is impulse buying?

2) How can impulse buying affect financial goals?

Identify

Draw a 😊 if the statement is smart buying and ☹️ if it is not smart buying.

1) Maya instantly buys a shiny toy and soon ignores it.

2) Liam grabs a game everyone has but doesn't like.

3) Aiden buys a sale-priced skateboard he wanted.

4) Ella saves up for a book she's eager to read.

5) Zoe picks a new pencil case she doesn't need.

Budgeting Game: Making Thoughtful Purchases

Objective

What are we learning about?

Understand the impact of impulse buying on personal finances and emphasize the importance of self-control and planning in maintaining a budget.

Materials

What you will need for the activity.

- Items to purchase (e.g., toys, snacks, books)
- Goal cards (e.g., saving for a toy, saving for a school trip)
- Worksheets for listing items and their prices



Instructions

How you will complete the activity.

1. Discuss the concept of impulse buying and the importance of mindful spending.
2. Distribute the list of items with prices and goals for each student.
3. Provide worksheets for students to list what they want to purchase along with the prices.
4. Game Round 1 - Unrestricted Purchasing: Instruct students to list items and write down anything they want to "purchase," regardless of price or necessity.
5. Game Round 2 - Need-Based Purchasing: Now, students must review their initial list and revise it, this time only writing down what they truly need, including the prices.
6. Encourage critical thinking about each item's importance and how it aligns with their financial goals.
7. Have students compare their want-based list from Round 1 with their need-based list from Round 2.
8. Discuss the differences and introduce basic budgeting skills to help prioritize spending according to their goals.
9. Stress the benefits of self-control and budget planning, encouraging students to employ these strategies in their daily lives.

Items

List of items to choose from

	Item	Price
1)	Pencil	\$1.00
2)	Water Bottle	\$3.00
3)	Lunchbox	\$5.00
4)	Smartphone	\$20.00
5)	Winter Hat	\$1.00
6)	School Bag	\$15.00
7)	Calculator	\$10.00
8)	Notebook	\$2.50
9)	Sandwich	\$2.00
10)	Apple	\$0.50
11)	Eraser	\$0.75
12)	Glue Stick	\$1.20
13)	Scissors	\$2.00
14)	Lined Paper Pack	\$1.50
15)	Markers Set	\$4.50

	Item	Price
16)	Story Book	\$6.00
17)	Video Game	\$30.00
18)	Movie Ticket	\$12.00
19)	Board Game	\$20.00
20)	Action Figure	\$15.00
21)	Candy	\$1.00
22)	Bicycle	\$100.00
23)	Basketball	\$12.00
24)	Comic Book	\$4.00
25)	Toy Car	\$1.00
26)	Chocolate	\$2.00
27)	Stuffed Animal	\$10.00
28)	Skateboard	\$40.00
29)	Art Supplies	\$15.00
30)	Music Album	\$14.00

Name: _____

Round 1: List any item you want.		
	Item	Price
1)		
2)		
3)		
4)		
5)		
6)		
7)		
8)		
9)		
10)		
11)		
12)		
13)		
14)		
15)		
TOTAL:		\$

Round 2: List only items you need.		
	Item	Price
1)		
2)		
3)		
4)		
5)		
6)		
7)		
8)		
9)		
10)		
11)		
12)		
13)		
14)		
15)		
TOTAL:		\$

PREVIEW

Blog Post: Comparing Prices and Shopping Smart

Smart Shopping 101

Date: April 12, 2024

Author: By Annie Smart

3-minute read

Today we're diving into the world of smart shopping. Did you know that comparing prices can save your family lots of money? Let's explore how!

When shopping, always check the price tags closely. For example, if a 500g box of cereal costs \$4 and a larger box costs \$6, the larger box gives you more for your money. That's called comparing quantities.

Sales are your friend! If an item is usually \$10 and it's on sale for \$8, you save \$2 just by buying the right item. Also, using coupons can make prices drop even more. Imagine you have a \$1 coupon for an \$8 sale item; it will only cost you \$7 now!

Bulk buying is another smart strategy. Buying larger quantities can be cheaper in the long run. For instance, a single roll of paper towels might cost \$1, but a 12-pack could be just \$10, saving you \$2.

Let's be smart shoppers by comparing prices, waiting for sales, using coupons, and buying in bulk!

Till next time,
Annie Smart

Comments:



Alex Johnson April 13, 2024

Good points, Jamie! But remember, bulk buying is only worth it if you use all the products before they expire.

Like Reply 8h ago



Casey Lee - April 13, 2024

I think bulk buying is usually beneficial, Alex, especially for non-perishable items, as they can be stored and used over time.

Like Reply 1h ago

True or False

Is the statement true or false?

1. Smart shopping can save money.	True	False
2. Buying on sale never saves money.	True	False
3. Coupons increase the price of items.	True	False
4. It's unwise to use all products before they expire.	True	False
5. Comparing prices is not smart shopping.	True	False

Qualify your answers by answering the questions below

A



Compare the two backpacks. Which one do you think is the smarter buy and why do you think so?

B



2) Think about the backpacks. If Backpack B costs twice the price of Backpack A but might wear out three times as fast, which is the smarter buy? Why?

Exit Cards

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

Name: _____

Mark

Fill in the blank space.

1) A 1000g box of cereal costs \$7, and a 500g box costs \$4. The better deal is the _____ box.

2) Using a _____ can help you pay less at the store.

3) Buying in _____ can save you money over time.

4) If something is on _____, the price goes down.

Name: _____

Mark

Fill in the blank space.

1) A 1000g box of cereal costs \$7, and a 500g box costs \$4. The better deal is the _____ box.

2) Using a _____ can help you pay less at the store.

3) Buying in _____ can save you money over time.

4) If something is on _____, the price goes down.

Name: _____

Mark

Fill in the blank space.

1) A 1000g box of cereal costs \$7, and a 500g box costs \$4. The better deal is the _____ box.

2) Using a _____ can help you pay less at the store.

3) Buying in _____ can save you money over time.

4) If something is on _____, the price goes down.

Name: _____

Mark

Fill in the blank space.

1) A 1000g box of cereal costs \$7, and a 500g box costs \$4. The better deal is the _____ box.

2) Using a _____ can help you pay less at the store.

3) Buying in _____ can save you money over time.

4) If something is on _____, the price goes down.

Activity - The Price Detective

Objective

What are we learning about?

To learn how to make smart buying by comparing the unit prices of items.

Materials

What you will need for the activity.

- List of 10 common grocery items with different brands and sizes (provided by the teacher)
- Pencil and paper
- Calculator (optional)



Instructions

How you will complete the activity.

1. Hand out the list of grocery items to the students. Each item has at least two different sizes or brands with prices.
2. Discuss the concept of unit price and why it's important for smart shopping choices.
3. Show the students how to calculate the unit price by dividing the price by the number of units (e.g., price per liter, per kilogram, per item).
4. Assign the task of calculating the unit price for each item on the list and writing it in the table.
5. Have students circle or highlight which item for each is the smartest buy based on the unit price.
6. Students will summarize their findings on which brand or size offers the best value for money.
7. Facilitate a class discussion on the results and share smart shopping strategies.

Instructions

Calculate the unit price and determine which option is the smarter buy. Circle your choice.

Remember: To calculate the unit price, divide the Price by the Size/Quantity.

Item	Size/ Quantity	Price (CAD)	Unit Price (CAD)	Smarter Buy	
				A	B
1) Milk	A) 2L	\$3.80	\$1.90/L	A	B
	B) 1L	\$2.00	\$2.00/L		
2) Bread	A) 1 loaf	\$2.50	\$2.50/loaf	A	B
	B) 2 loaves	\$4.50	\$2.25/loaf		
3) Apples	A) 10 count	\$1.50	\$0.15/apple	A	B
	B) 5 count	\$0.75	\$0.15/apple		
4) Peanut Butter	A) 250g	\$3.25	\$12.90/kg	A	B
	B) 500g	\$5.50	\$11.00/kg		
5) Toothpaste	A) 100ml	\$2.00	\$20.00/L	A	B
	B) 200ml	\$3.50	\$17.50/L		
6) Eggs	A) 12 count	\$4.00	\$0.333/egg	A	B
	B) 6 count	\$2.25	\$0.375/egg		
7) Cereal	A) 500g	\$5.00	\$10.00/kg	A	B
	B) 1kg (1000g)	\$8.50	\$8.50/kg		

Reflection

Answer the questions below.

1) Which item had the greatest difference in unit price?

2) How did the unit price change how you looked at the prices?

3) Can you think of a scenario where you might choose the item with the lowest unit price?

4) How can this exercise help you when shopping in real life?

PREVIEW

Financial Literacy Test

Part 1

Count the money in each column. Then add up the total

1)					Total
2)					Total

Part 2

An investment pays you _____ of money you pay

Investment	Investment Profit	Investment	Investment Profit
1) \$150		4) \$20	
2) \$320		5) \$1	
3) \$440		6) \$2420	

Part 3

Is the description a good or service?

1. You buy a new Television	Good	Service
2. A doctor checks your heart rate	Good	Service
3. A teacher teaches you something new	Good	Service


Part 4


Circle whether the description is a donation - yes or no



1. Paul gives his empty bottles to a youth hockey team	Yes	No
2. Doug gives ten dollars to the Heart and Stroke Foundation.	Yes	No
3. Olivia trades her brownie to Justin for his chips.	Yes	No

Part 5

Fill in the table to provide change to your customer

Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

Money Used	Item	Item	Change Due
			_____

Part 6

Check out the ratings, prices, and reviews. Explain if you'd buy it or not.

 \$120.00

 42 ratings

Review: "This scooter works pretty well. I like the look of it, but I wish it was a bit faster"

Would you purchase? Explain.

 \$489.99

 18 ratings

Review: "This is a cool system gaming unit, but it was expensive."

Would you purchase? Explain.

Part 7

Answer the word problems below

1. Lucas goes to an ice cream shop and buys two cones for \$3.75 each. He hands the cashier a \$10 bill. How much change will he get back?



2. Scott works at a movie theater. A customer buys a drink and some popcorn. The drink is \$2.00 and the popcorn is \$4.50. The customer gives Scott \$10. How much change will he give the customer?

**Part 8**

Which method of payment would you use in the following?

Scenario	Method of Payment Credit card, debit card, email transfer, or cash
1) You are buying a chocolate bar for \$1.00	
2) You want to send money to a friend	
3) You are buying a TV for \$500 and you want to pay for it later	
4) You are buying groceries from your bank account	



Google Slides Lessons Preview





Ontario Math Spatial Sense Unit – Grade 4

3-Part Lesson Format

Part 1 – Minds On!

- Learning Goals
- Discussion Questions
- Why Math Is Important
- And More!

Discussion Questions

- 1) **Rectangle Hunt!** – What objects around you are rectangles?
- 2) **Mirror Magic!** – Can you draw a line down a rectangle so both sides look exactly the same? What is that line called?
- 3) **Rectangle or Not?** – If a shape has no right angles, can it still be a rectangle? Why or why not?

Sides of a Shape

How many sides does the shape have? Drag the numbers to answer.

1	2	3	4	5
6	7	8	9	0

Shapes: Yellow trapezoid, Blue triangle, Green arrow, Red star, Purple double-headed arrow, Pink X, Green bird, Orange fish, Cyan butterfly, Yellow flower.

Part 2 – Action!

- Questions
- Matching
- Drag and Drop
- Videos
- And More!

Part 3 – Consolidation!

- Exit Cards
- Word Problems
- Quizzes
- Student Created Quizzes

Lines of Symmetry Word Problems

Answer the questions below:

- 1) Open shows a regular hexagon for his math poster. How many lines of symmetry does the hexagon have?
- 2) Miss Galt cut a parallelogram with two parallel horizontal sides. How many lines of symmetry does her paper have?
- 3) Oliver folds a rectangular piece of paper in half horizontally. How many lines of symmetry does the original rectangle have and how many lines of symmetry does the folded half have now?



Ontario Math Spatial Sense Unit – Grade 4

Line of Symmetry on Real-Life Objects

Draw a line of symmetry on the real-life images below.

... a Clock

Write them on the right spots.

Using a Coordinate System

Drag the labels and explain the translation to get from the first animal to the second.

Symbols	Directions
→	Go Right 3 and Down 5
→	Go _____ and _____
→	Go _____ and _____
→	Go _____ and _____
→	Go _____ and _____
→	Go _____ and _____



Ontario Math

Spatial Sense Unit – Grade 4

Measuring Capacity – Millilitre (ML) and Litre (L)

Which unit would you use to measure the capacity of the things below. Drag the labels to answer.

Baby Bottle	Container	Bathtub	Spice Jar	Lemon Bottle	Pool
Water Tank	Cup	Jug	Soda Can	Watering Can	Perfume Bottle

Labels: Litres (L), Millilitres (mL)

Which Capacity?

Drag the circle to the estimate you think is correct.

1) A travel mug	<input type="radio"/> a) 30mL <input type="radio"/> b) 3L <input type="radio"/> c) 450mL <input type="radio"/> d) 20L	
2) A fish tank	<input type="radio"/> a) 300mL <input type="radio"/> b) 50L <input type="radio"/> c) 700mL <input type="radio"/> d) 1000L	
3) A milk container	<input type="radio"/> a) 70mL <input type="radio"/> b) 10L <input type="radio"/> c) 500mL <input type="radio"/> d) 4L	
4) A rice cooker	<input type="radio"/> a) 3L <input type="radio"/> b) 500L <input type="radio"/> c) 10000mL <input type="radio"/> d) 0mL	
5) A soda can	<input type="radio"/> a) 100mL <input type="radio"/> b) 12L <input type="radio"/> c) 350mL <input type="radio"/> d) 9L	
6) A bathtub	<input type="radio"/> a) 900mL <input type="radio"/> b) 200L <input type="radio"/> c) 200mL <input type="radio"/> d) 30L	

Measuring Height – Bookshelves

Measure the height of the bookshelves below. Write the numbers to answer in the white box.

1 2 3 4 5 6 7 8 9 0

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



Workbook Preview





Grade 4

E1 – Geometric and Spatial Reasoning

	Curriculum Expectations	Pages That Cover the Expectations
E1.1	identify geometric properties of rectangles, including the number of right angles, parallel and perpendicular sides, and lines of symmetry	5 – 45
E1.2	that move a point from one coordinate to another	46 – 61
E1.3	describe and perform translations and reflections on a grid, and predict the results of these transformations	62 – 85

**Preview of 130 pages from
this product that contains
484 pages total.**

Name: _____

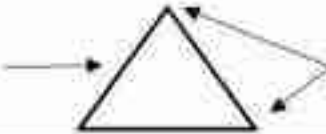
7

Curriculum Connection
E11

Sides and Vertices

Reminder:

Side



Vertices

Part 1

How many sides and vertices does the shape have?

1.	2.	3.	4.	5.
_____ sides	_____ sides	_____ sides	_____ sides	_____ sides
_____ vertices	_____ vertices	_____ vertices	_____ vertices	_____ vertices
6.	7.	8.	10.	
_____ sides	_____ sides	_____ sides	_____ sides	
_____ vertices	_____ vertices	_____ vertices	_____ vertices	

Part 2

Draw a shape with the correct number of vertices and sides

1.	2.	3.	4.	5.
_____	_____	_____	_____	_____
3 sides	4 sides	5 sides	6 sides	7 sides
3 vertices	4 vertices	5 vertices	6 vertices	7 vertices

Exit Cards

Cut Out

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

Name: _____

1) Fill in the blanks about the shape.

Sides: _____



Vertices: _____

2) Draw a shape with 6 sides and 6 vertices.

Name: _____

1) Fill in the blanks about the shape.

Sides: _____



Vertices: _____

2) Draw a shape with 6 sides and 6 vertices.

Name: _____

1) Fill in the blanks about the shape.

Sides: _____



Vertices: _____

2) Draw a shape with 6 sides and 6 vertices.

Name: _____

1) Fill in the blanks about the shape.

Sides: _____



Vertices: _____

2) Draw a shape with 6 sides and 6 vertices.

Sides and Vertices Word Problems



Questions

Answer the questions below

	Word Problems	Answers
1	A shape has 3 sides and 3 vertices. What is it?	
2	Sam has a figure with 4 sides of equal length. How many vertices does it have?	
3	A shape has 4 vertices and 4 sides. What shape is it?	
4	A classroom door is shaped like a rectangle. How many sides and vertices does it have?	
5	A piece of fabric is 10 metres long and 6 metres wide. A裁缝 wants to cut it into a different shape that is 15 metres long and 4 metres wide. How many sides and vertices will the new piece of fabric be if it has the same area as the original piece?	
6	An octagon is featured on a sign. Count the sides and vertices.	
7	A hexagon-shaped frame holds a picture. How many sides and vertices does this shape have?	
8	If a shape has 6 sides, and all sides are equal, what is the number of vertices?	

Parallel, Perpendicular and Intersecting Lines



Part 1

Label the lines parallel, perpendicular, or intersecting

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

Part 2

Draw a second line that is intersecting, perpendicular, or parallel to the other line

1) Perpendicular	2) Parallel	3) Intersecting	4) Parallel
5) Intersecting	6) Perpendicular	7) Intersecting	8) Parallel

Parallel and Perpendicular Lines in Rectangles

Part 1

Label the parallel lines with arrows. The first one is done for you.

1)



2)



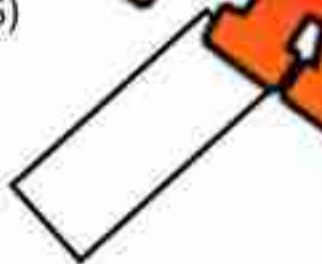
3)



4)



5)



7)

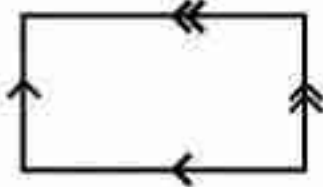


8)

**Part 2**

Draw one or two arrows to make the lines perpendicular.

1)



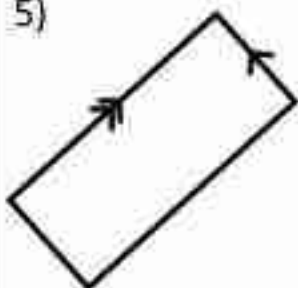
2)



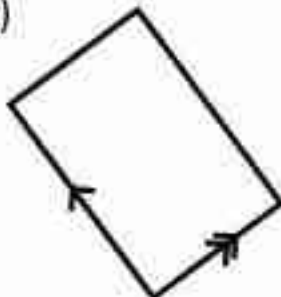
3)



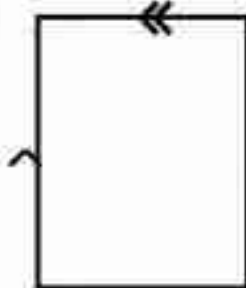
5)



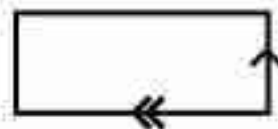
6)



7)



8)



Name: _____

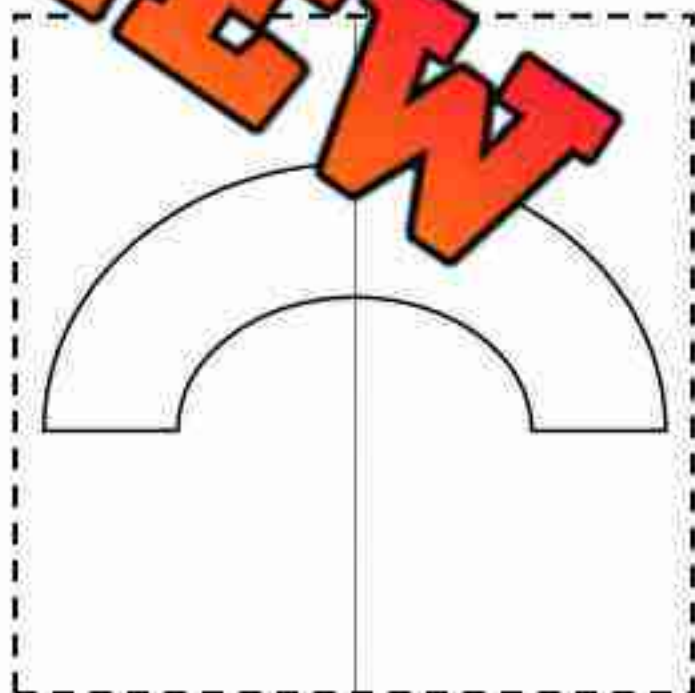
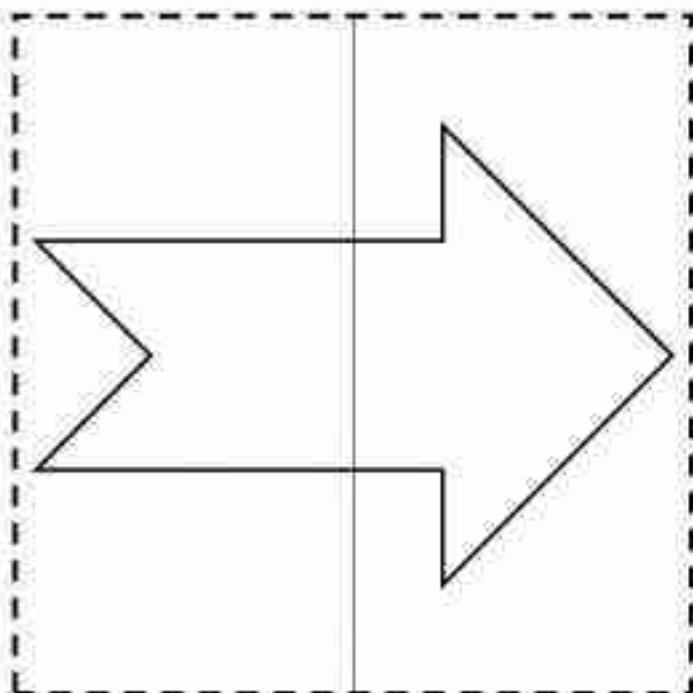
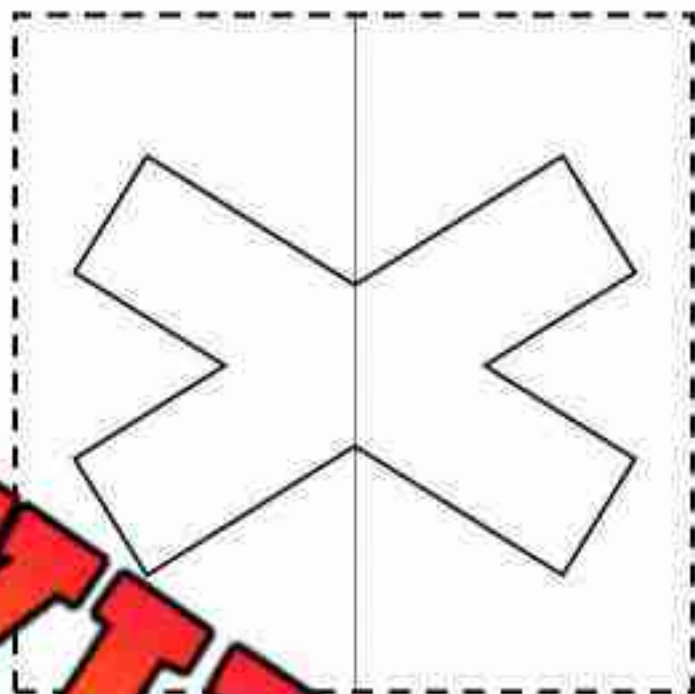
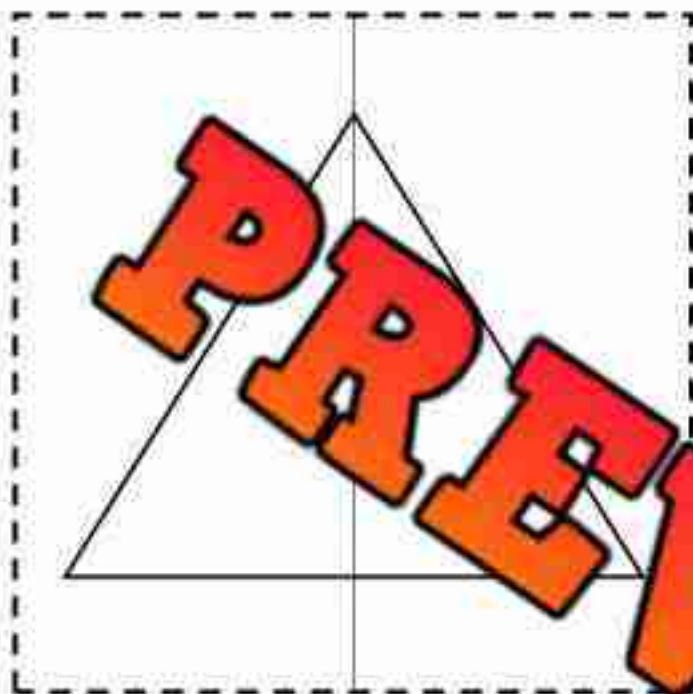
18

Curriculum Connection
E3.3

Line of Symmetry - Folding

Directions

Cut out the box. Then fold it to see if the shape is symmetrical



PREVIEW

Line of Symmetry

**Questions**

Is the dotted line a line of symmetry? Write yes or no.

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

Line of Symmetry – Finishing the Picture

Directions: Use the grid to help you finish the picture. Draw the symmetrical part.



FINISH THE PICTURE

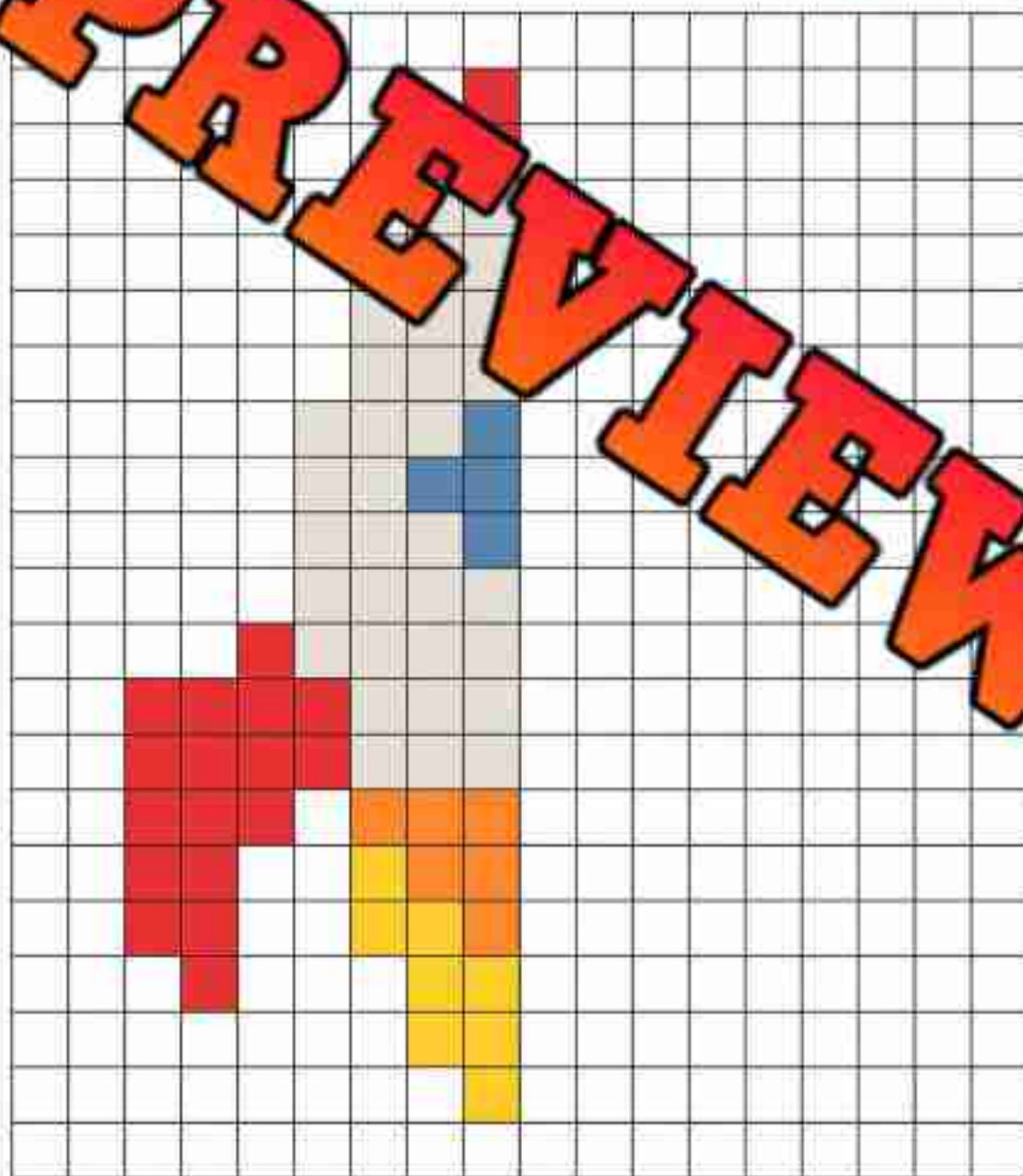


Name: _____

Line of Symmetry – Finishing a Picture**Directions**

Use the grid to help you finish the picture. Draw the rocket symmetrical

COMPLETE THE PICTURE

**PREVIEW**

Symmetry in Indigenous Designs



Draw the mirror image of the wampum belt.

Directions



**SENECA
NATION**
Keepers of the
Western Door

ONONDAGA NATION
Keepers of the Central Fire
and the heart of the Five
Nations loyal to the Great
Law of Peace

**ONEIDA
NATION**

**MOHAWK
NATION**
Keepers of the
Eastern Door

PREVIEW

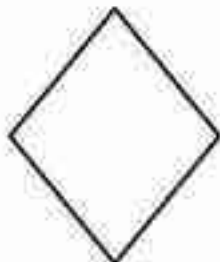
Drawing Lines of Symmetry**Questions**

Draw a line of symmetry on the shapes below

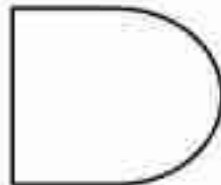
1)



2)



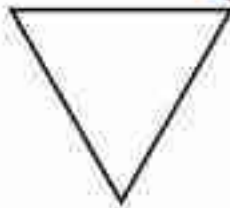
3)



4)



5)



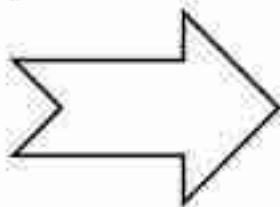
7)



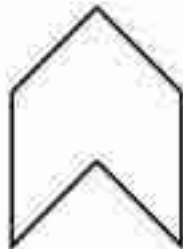
8)



9)



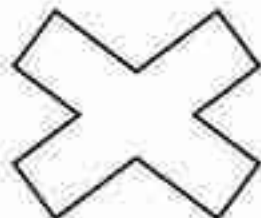
10)



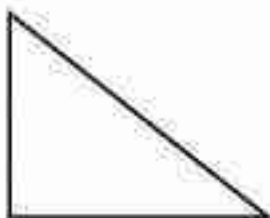
11)



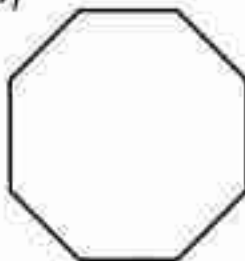
13)



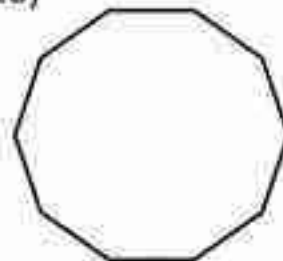
14)



15)



16)



Lines of Symmetry Word Problems

Questions

Answer the questions below



	Word Problems	Answers
1	In art class, Sarah draws a square. How many lines of symmetry does her square have?	
2	_____ as a triangle. If the flag is equilateral, how many lines of symmetry does it have?	
3	Aisha cuts out a heart for a project. How many lines of symmetry does the heart have?	
4	Jason draws a rectangle and then cuts it in half vertically. How many lines of symmetry does the original rectangle have, and how many does each half have now?	
5	Jade examines an oval-shaped track. Determine the number of lines of symmetry the oval has.	
6	Liam folds a piece of paper into a kite shape. How many lines of symmetry are in Liam's kite?	

Exit Cards

Cut Out

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

Name: _____

1) How many lines of symmetry does the shape have?



2) Draw the lines of symmetry on the shape below.



Name: _____

1) How many lines of symmetry does the shape have?



2) Draw the lines of symmetry on the shape below.



Name: _____

1) How many lines of symmetry does the shape have?



2) Draw the lines of symmetry on the shape below.

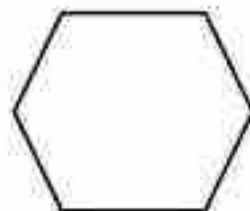


Name: _____

1) How many lines of symmetry does the shape have?



2) Draw the lines of symmetry on the shape below.



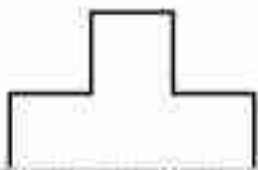
Drawing Mirror Image Using Line of Symmetry**Questions**

Draw the mirror image of the shapes below

1)



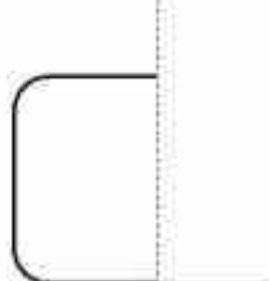
2)



3)



4)



5)



6)



8)



9)



10)



11)



12)



Drawing Mirror Objects Using Real – Life Objects**Questions**

Draw the mirror image of the real-life objects below

1)



2)



3)



4)



5)



6)



8)



9)



10)



11)



12)



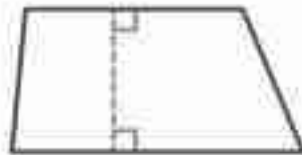
Quadrilaterals

Trapezium



No sides are parallel

Trapezoid



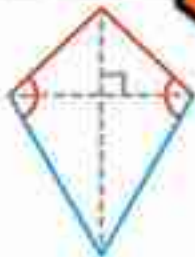
Two sides are parallel

Parallelogram



Two pairs of parallel sides

Kite



Two pairs of adjacent sides are of equal length

Rhombus

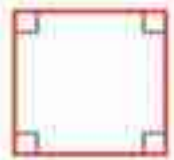
Four sides are of equal length

Rectangle



right

Square

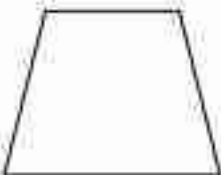


All four sides are of equal length

Directions

Write the names of the quadrilaterals.

1)



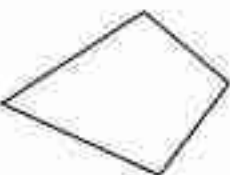
2)



3)



5)



6)



7)



8)



Name: _____

42

Quadrilaterals

Directions

Describe the geometric properties and draw each of the quadrilaterals



Quadrilateral	Geometric Properties	Draw Shape
Kite		
Rhombus		
Trapezoid		
Trapezium		
Square		
Rectangle		
Parallelogram		



PREVIEW

Quadrilaterals

Explain

What are the differences between a rectangle and a...



Square	Rectangle
	
	Differences
PREVIEW	

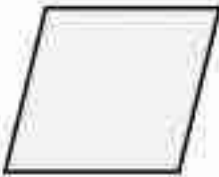

Rhombus	Rectangle
	
Similarities	Differences
PREVIEW	

Name: _____

Quadrilaterals

Explain What are the differences between a rectangle and a...

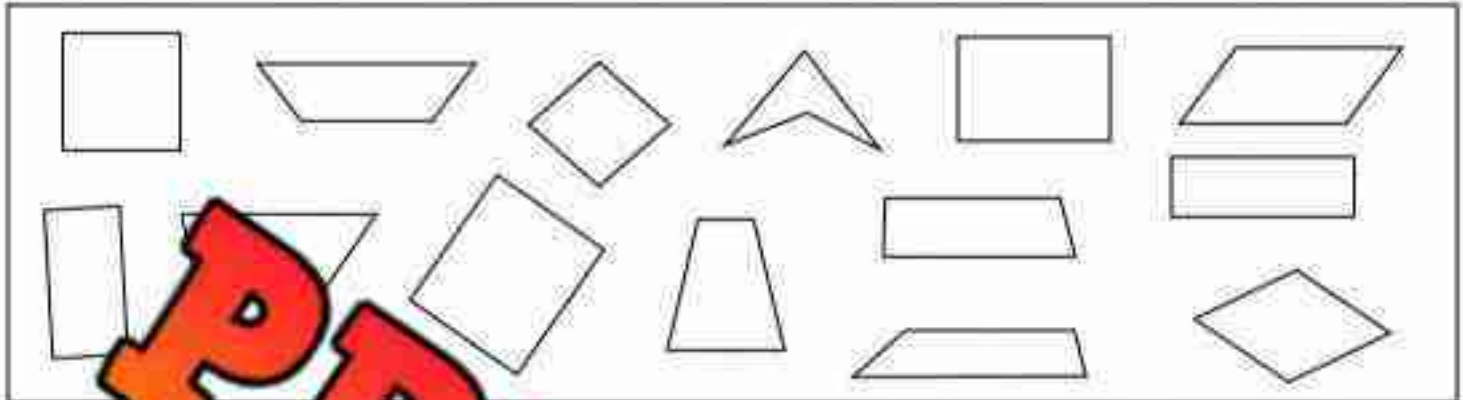
Trapezoid	Rectangle
	
	Differences

Parallelogram	Rectangle
	
Similarities	Differences

PREVIEW

Geometric Properties - Rectangles

Part 1 Colour or circle the rectangles in the collection of quadrilaterals below



Part 2 Label the shapes below using their geometric properties

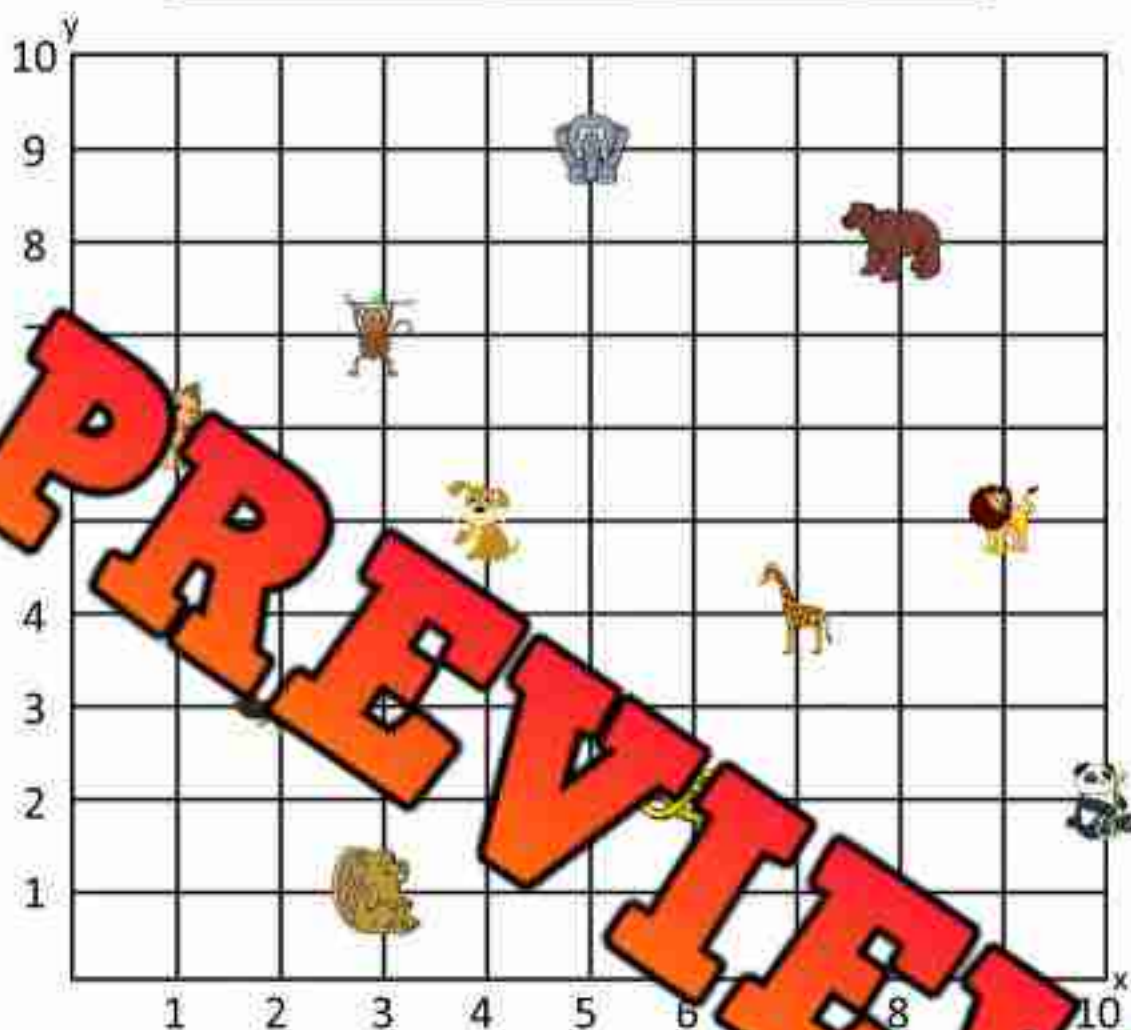
<p>1) </p>	<p>3) </p>
<p>Four equal sides? Yes No</p>	<p>Four equal sides? Yes No</p>
<p>Four 90° angles? Yes No</p>	<p>Four 90° angles? Yes No</p>
<p>Lines of symmetry = <input style="width: 30px;" type="text"/></p>	<p>Lines of symmetry = <input style="width: 30px;" type="text"/></p>

Part 3 Answer the questions below

1) Why are all squares' rectangles, but not all rectangles are squares?






2) Why are all squares' rhombuses, but not all rhombuses are squares?






Using a Coordinate System

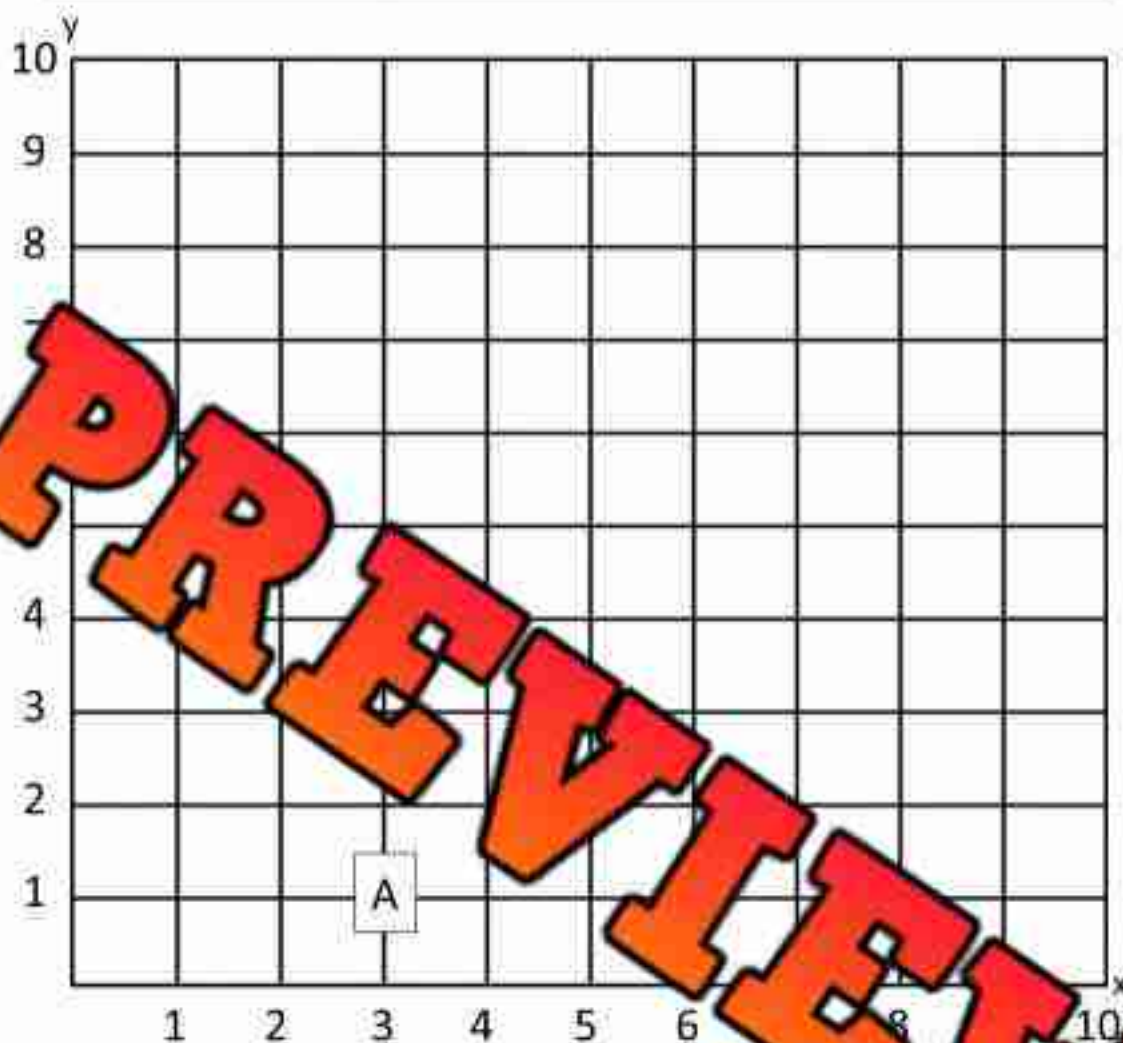


Instructions

Label the objects on the grid by using the number on the x-axis.

Symbol	Coordinates (x, y)
	(6, 2)
	(,)
	(,)
	(,)
	(,)

Symbol	Coordinates (x, y)
	(,)
	(,)
	(,)
	(,)
	(,)

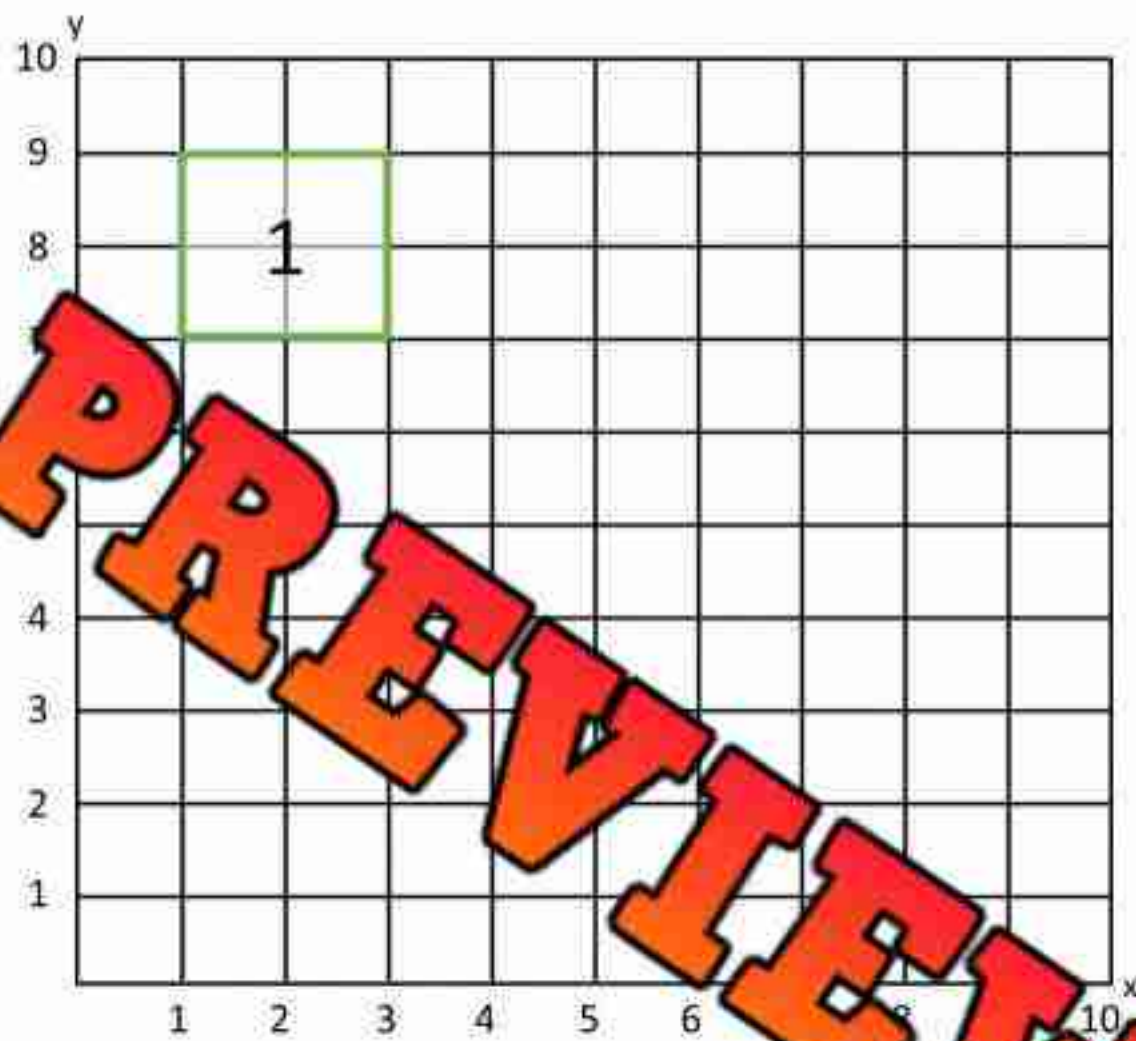
Using a Coordinate Grid - Challenge**Instructions**

Write the letters on the grid according to the

Letter	Coordinates (x, y)
A	(3, 1)
B	(2, 5)
C	(10, 10)
D	(9, 7)
E	(6, 4)

Letter	Coordinates (x, y)
F	(3, 7)
G	(1, 5)
H	(7, 3)
I	(4, 8)
J	(8, 9)

Plotting Polygons on a Coordinate Grid



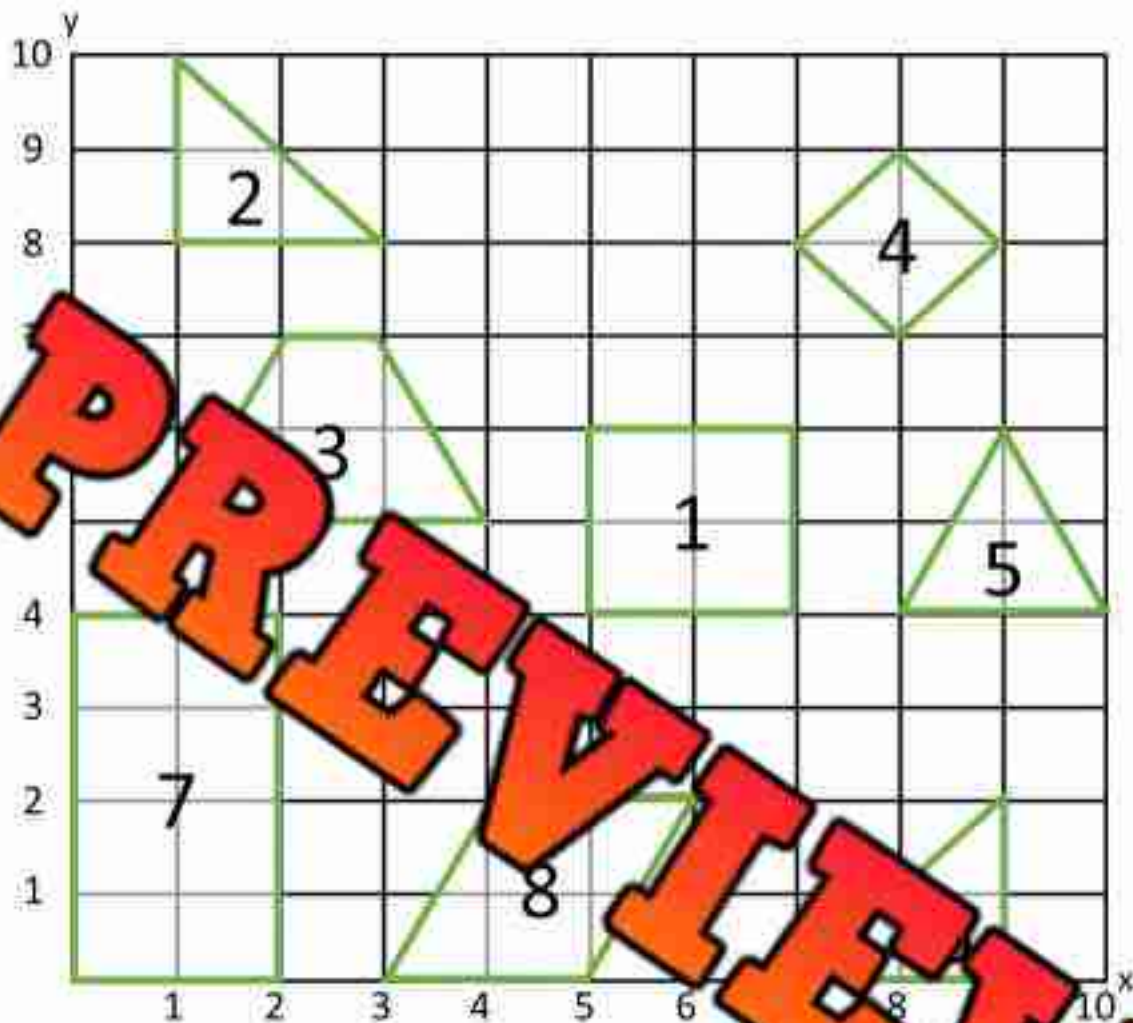
Instructions

Place a point using the coordinates. Connect the points to form a polygon.

Polygon	Coordinates (x, y)
1	(1, 7), (3, 7), (3, 9), (1, 9)
2	(5, 4), (7, 4), (5, 6)
3	(2, 1), (3, 1), (3, 3), (4, 3)
4	(6, 0), (6, 2), (9, 0), (9, 2)

Polygon	Coordinates (x, y)
5	(8, 8), (10, 8), (9, 10)
6	(9, 5), (10, 6), (9, 7), (8, 6)
7	(4, 8), (7, 8), (6, 10), (5, 10)
8	(8, 3), (8, 4), (9, 4), (9, 3)

Plotting Polygons on a Coordinate Grid



Instructions

Write the coordinates for the vertices of each

Polygon	Coordinates (x, y)
1	
2	
3	
4	

Polygon	Coordinates (x, y)
5	
6	
7	
8	

Using a Coordinate Grid - Challenge**Instructions**

Write the letters on the grid according to the

Letter	Coordinates (x, y)
A	(25, 55)
B	(65, 25)
C	(35, 80)
D	(15, 30)
E	(80, 30)

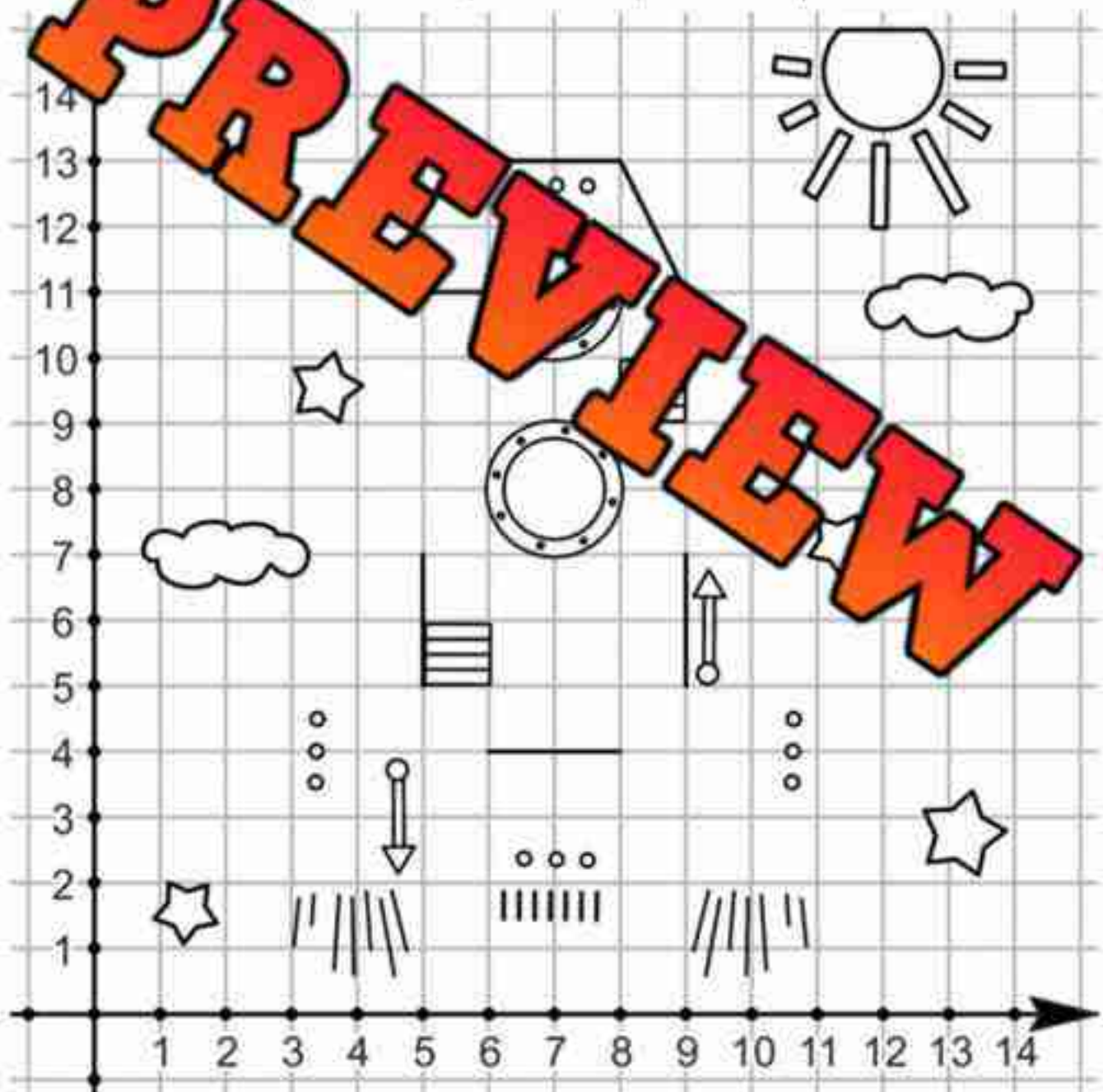
Letter	Coordinates (x, y)
F	(85, 45)
G	(65, 65)
H	(95, 10)
I	(40, 85)
J	(90, 65)

Drawing With Coordinates

Instructions

Plot and connect the dots with the coordinates below

(8, 11),	(9, 2),	(6, 3),	(5, 8),	(6, 13).
(9, 11),	(9, 4),	(5, 4),	(5, 11),	
(9, 8),	(8, 3),	(5, 2),	(6, 13),	
(11, 5),	(8, 2),	(3, 2),	(7, 14),	
(1, 2),	(6, 2),	(3, 5),	(8, 13),	



Drawing With Coordinates

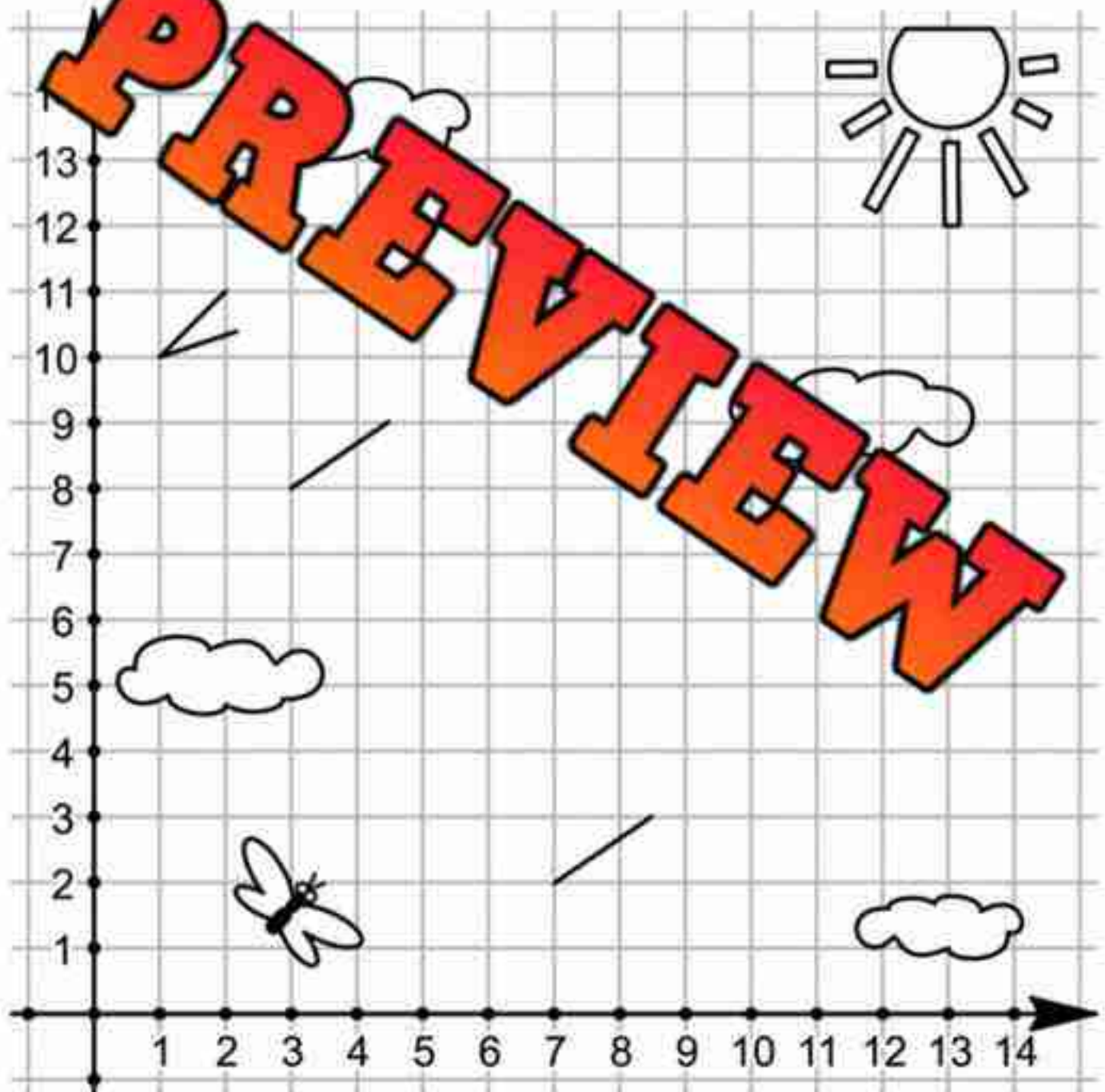
Instructions

Plot and connect the dots with the coordinates below.

To reveal the mystery picture plot and connect the dots with coordinates:

(10, 13), (2, 11), (3, 8), (3, 10), (6, 8), (10, 13), (3, 10)

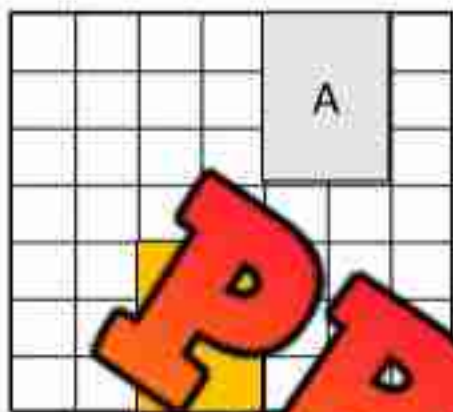
and (6, 5), (14, 7), (5, 6), (6, 5), (7, 2), (7, 4), (14, 7), (10, 2), (7, 4).



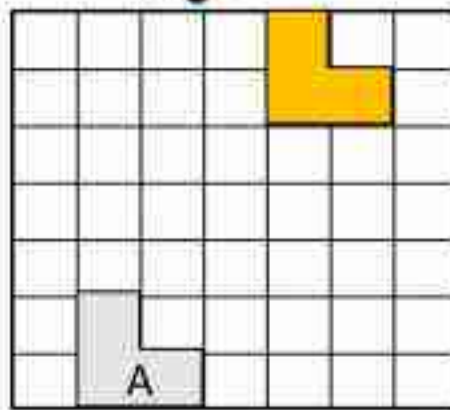
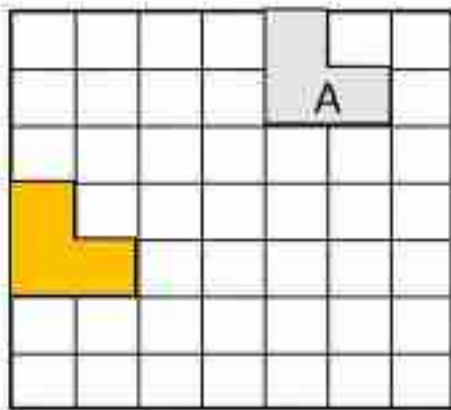
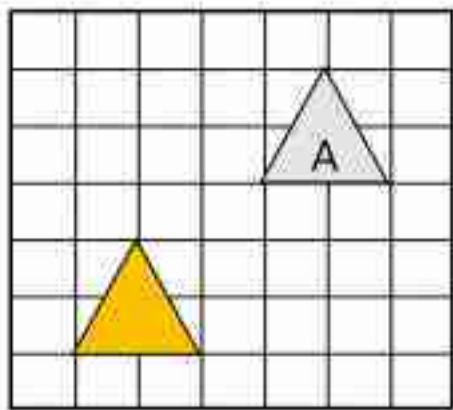
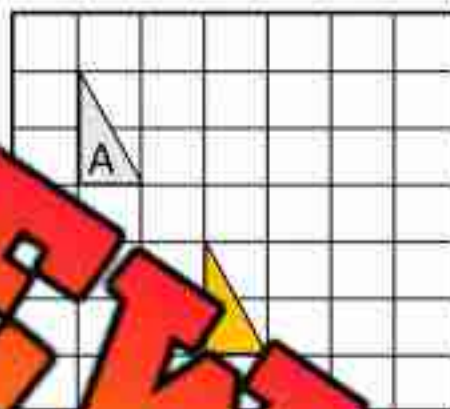
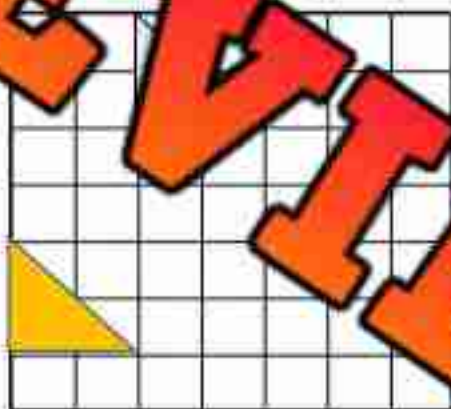
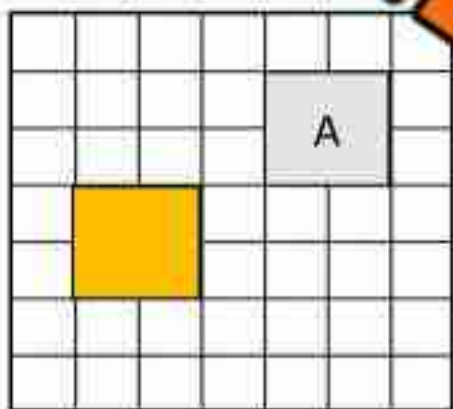
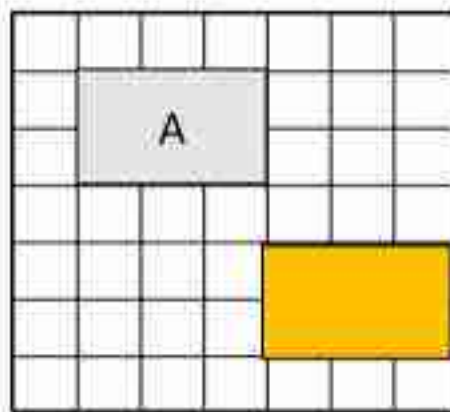
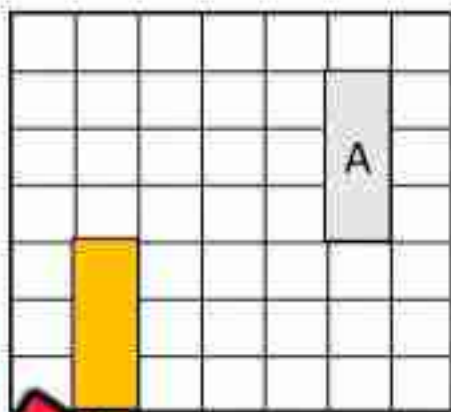
Describing Translation

Instructions

Describe the translations below using arrows. Shape A is the original object



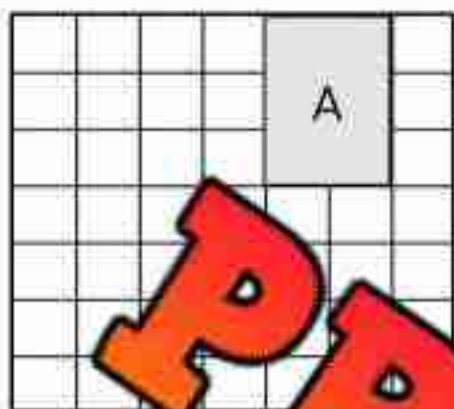
4 ↓, 2 ←



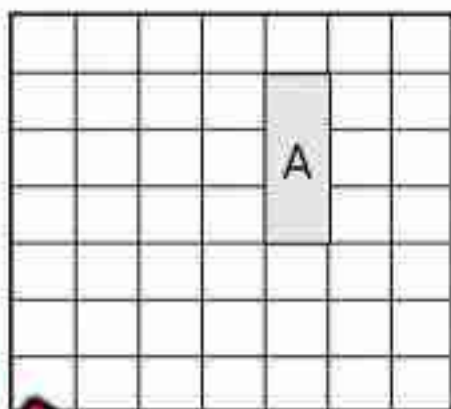
Performing Translations

Instructions

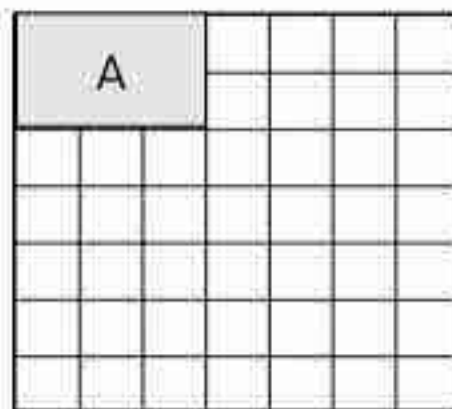
Draw the translations below. Shape A is the original object



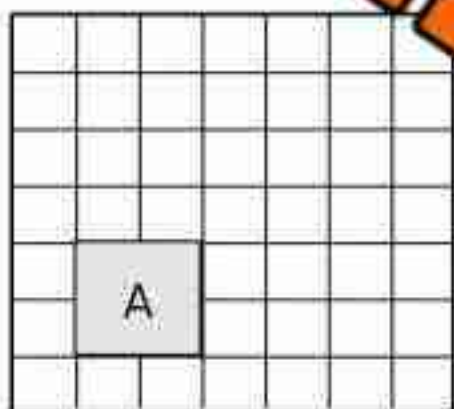
4 ↓



2 ↓, 3 ←



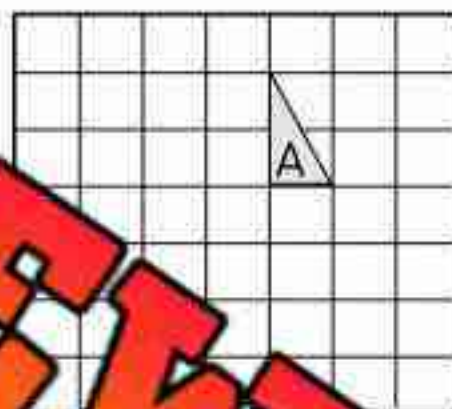
3 ↓, 2 →



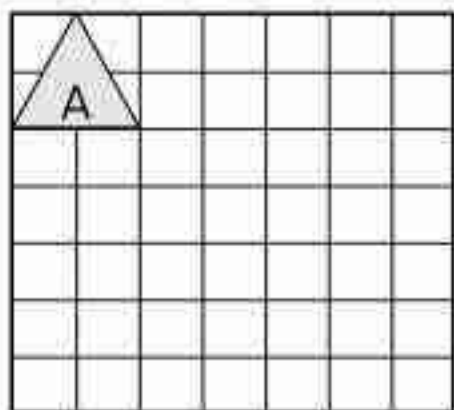
2 ↑, 4 →



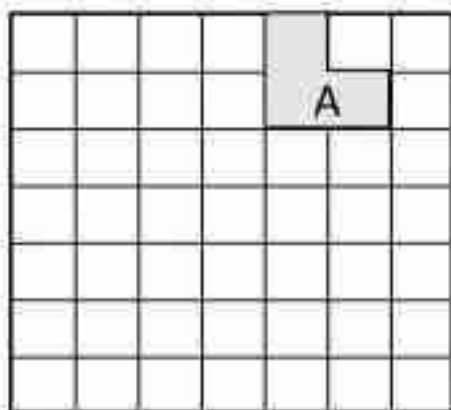
3 ↓, 2 →



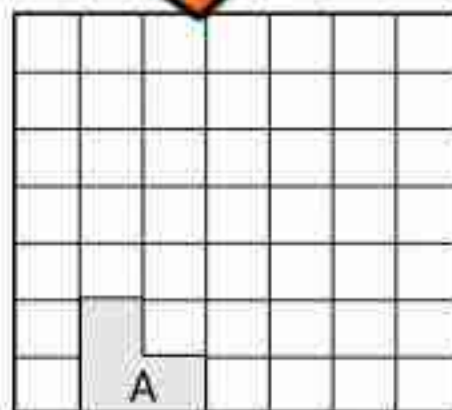
←



3 ↓, 4 →



3 ↓, 4 ←



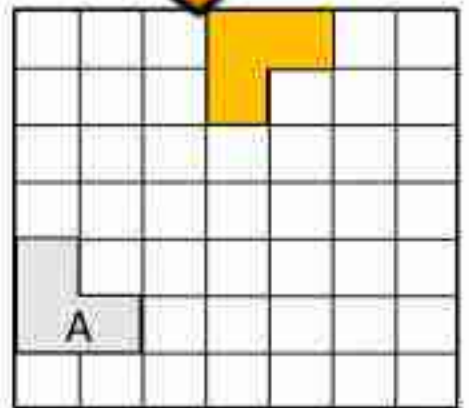
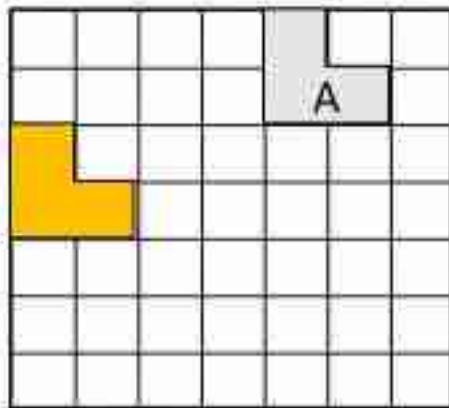
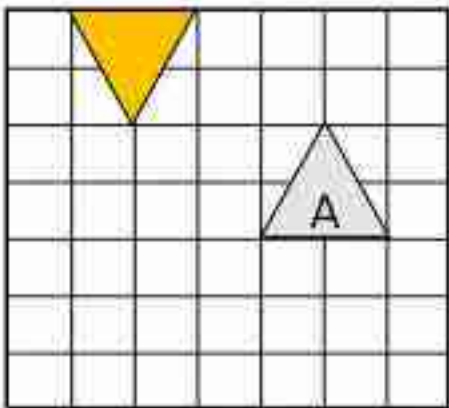
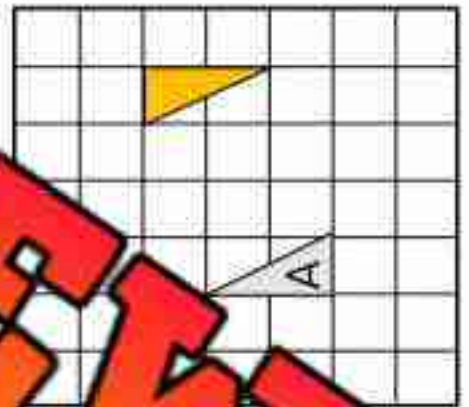
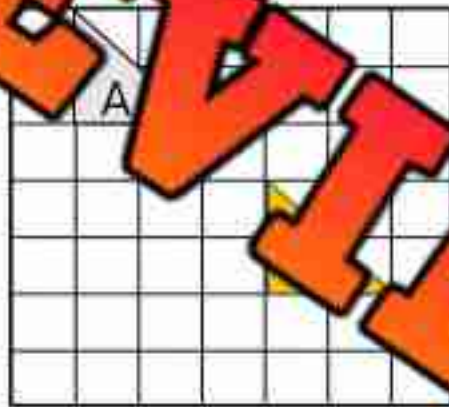
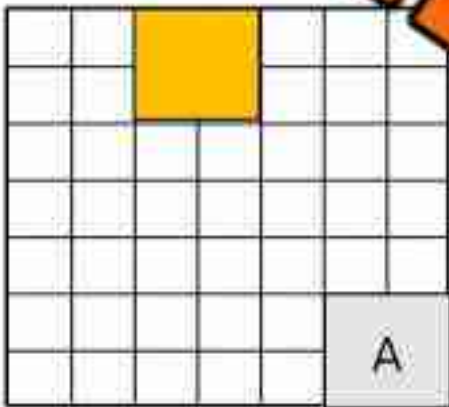
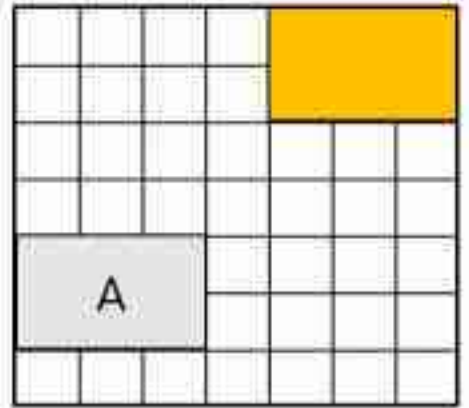
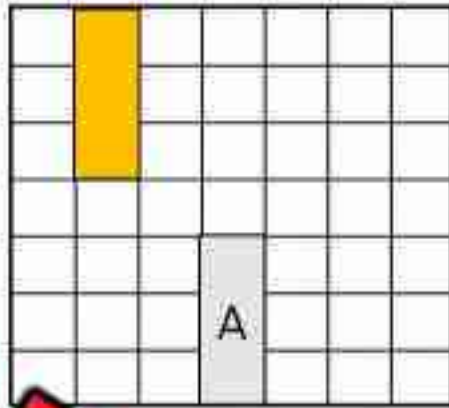
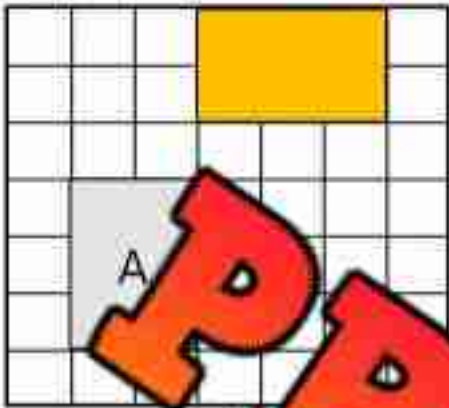
5 ↑, 4 →

Name: _____

Translation or Not?

Instructions

Is the transformation a translation or not? Write yes or no.



PREVIEW

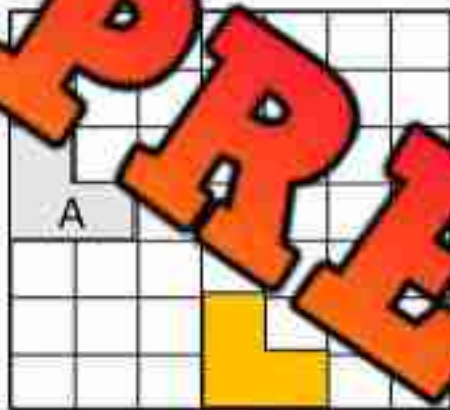
Exit Cards

Cut Out

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

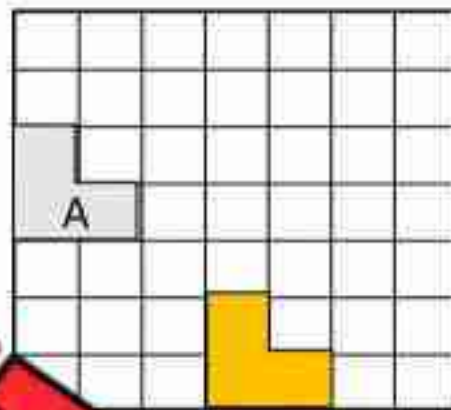
Name: _____

Describe the translation below. Shape A is the original object.



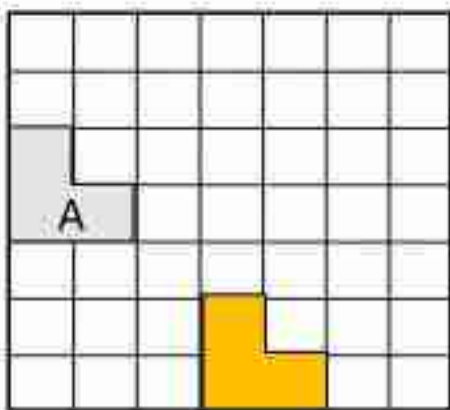
Name: _____

Describe the translation below. Shape A is the original object.



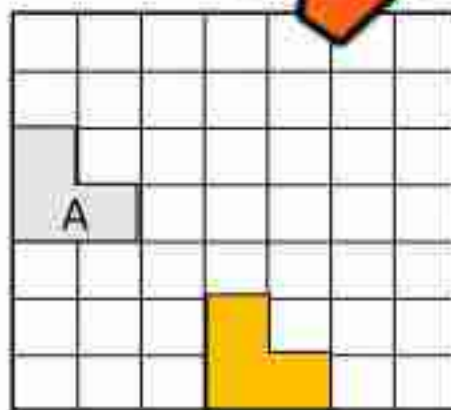
Name: _____

Describe the translation below. Shape A is the original object.



Name: _____

Describe the translation below. Shape A is the original object.



Math Activity: Translation Relay Race

Objective

What are we learning about?

To help students understand and describe translations on a Cartesian plane through a fun and engaging relay race activity.

Materials

What you will need for the activity.

- Graph paper
- Protractors
- Colored pencils/markers
- Pencils and erasers
- Translation task cards



Instructions

How you will complete the activity

1. **Explain Translations:** Start by explaining translations on the Cartesian plane involve moving shapes without rotating or resizing them.
2. **Distribute Materials:** Provide each team with a sheet of graph paper and a set of translation task cards.
3. **Form Teams:** Divide the class into small teams, each sitting up behind a desk with their graph paper and task cards.
4. **Translation Task:** The first student in each team picks a translation task card and strategically draws a shape on the grid, ensuring it can fit after the translation.
5. **Perform Translation:** The student then moves the shape according to the instructions on the task card and draws the new position on the grid.
6. **Pass to Next Student:** The student then goes to the end of the line, and the next student steps up.
7. **Repeat Process:** The next student repeats the process: drawing the shape at its new position, selecting a new translation task card, and performing the translation.
8. **Continue Relay:** Continue the relay until all team members have had a turn or all task cards are used.
9. **Verification and Discussion:** The teacher verifies the translations, and the class discusses the different translations and observations.

Task Cards

Cut out the cards below

Card 1:Move 2 units \rightarrow and 1 unit \uparrow **Card 6:**Move 2 units \leftarrow and 3 units \uparrow Move 3 units \leftarrow and 2 units \downarrow **Card 7:**Move 1 unit \rightarrow and 4 units \downarrow **Card 3:**Move 1 unit \rightarrow and 3 units \uparrow **Card 8:**Move 3 units \leftarrow and 2 units \uparrow **Card 4:**Move 4 units \rightarrow and 2 units \uparrow **Card 9:**Move 2 units \rightarrow and 2 units \downarrow **Card 5:**Move 1 unit \leftarrow and 2 units \downarrow **Card 10:**Move 1 unit \leftarrow and 3 units \uparrow **PREVIEW**

Task Cards

Cut out the task cards below

Card 11:Move 4 units \rightarrow and 1 unit \downarrow **Card 16:**Move 2 units \leftarrow and 2 units \uparrow **Card 17:**Move 2 units \rightarrow and 3 units \downarrow **Card 13:**Move 3 units \rightarrow and 2 units \downarrow **Card 18:**Move 5 units \rightarrow and 2 units \downarrow **Card 14:**Move 3 units \leftarrow and 5 units \uparrow **Card 19:**Move 5 units \rightarrow and 4 units \downarrow **Card 15:**Move 4 units \rightarrow and 3 units \uparrow **Card 20:**Move 5 units \leftarrow and 1 unit \uparrow **PREVIEW**

Name: _____

71

Curriculum Connection
K2.3

Grid Paper

1 x 1 cm grid paper

PREVIEW

Name: _____

73

Curriculum Connection
E13

Drawing Reflections

Instructions

Draw the shape across the reflection line

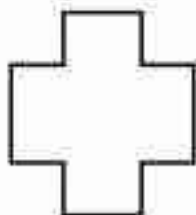
1)



2)



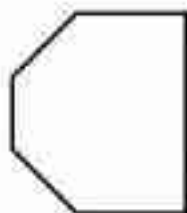
3)



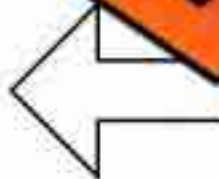
4)



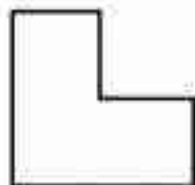
5)



6)



7)



8)



PREVIEW

Exit Cards

Cut Out

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

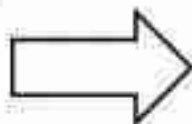
Name: _____

Draw the shape across the reflection line.

1)



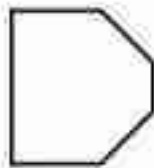
2)



Name: _____

Draw the shape across the reflection line.

1)



2)



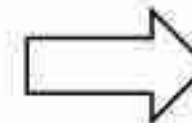
Name: _____

Draw the shape across the reflection line.

1)



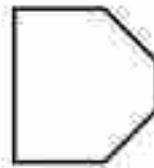
2)



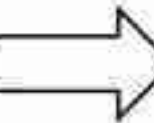
Name: _____

Draw the shape across the reflection line.

1)



2)

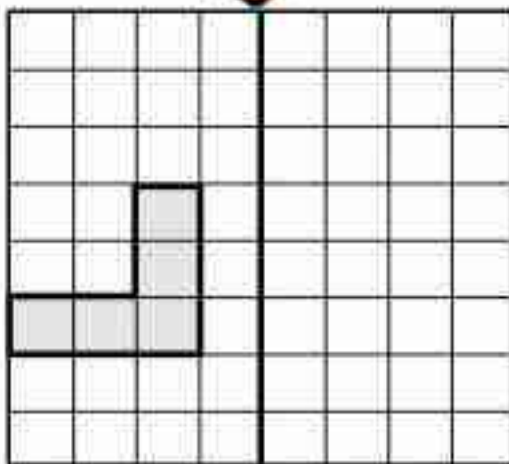
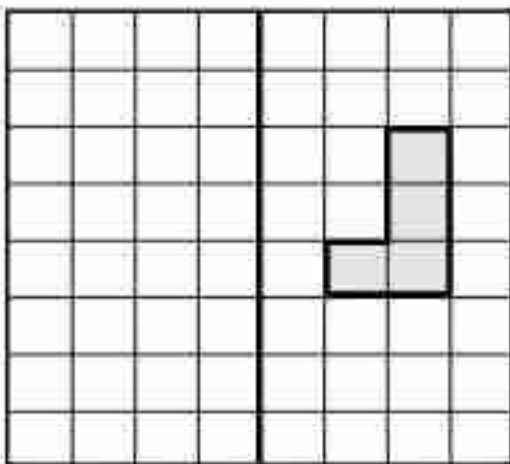
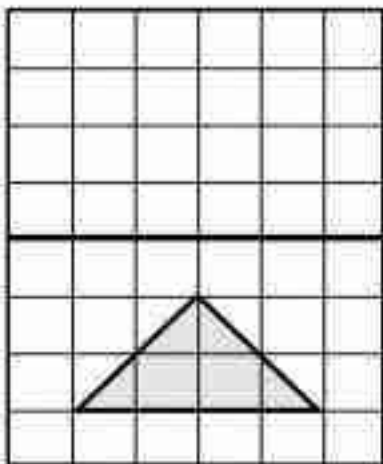
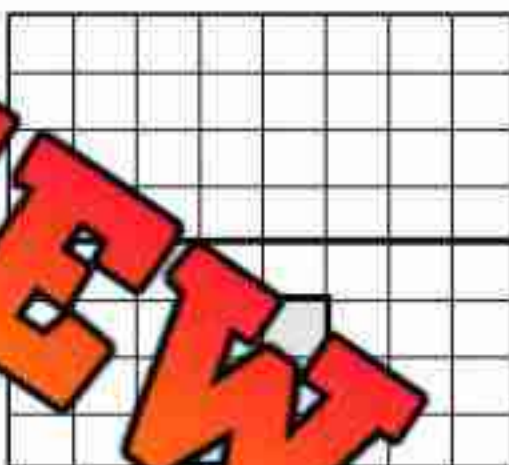
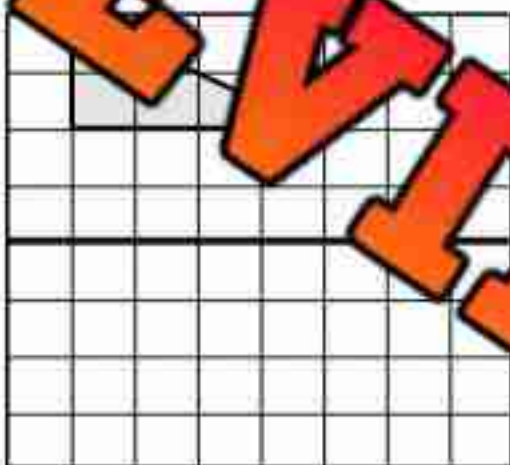
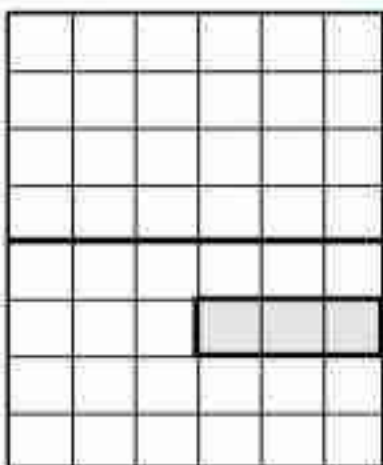
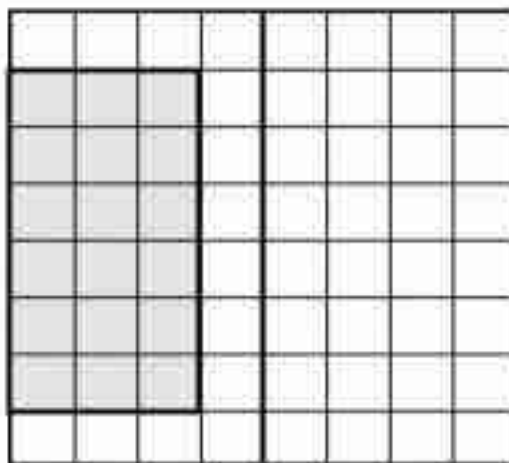
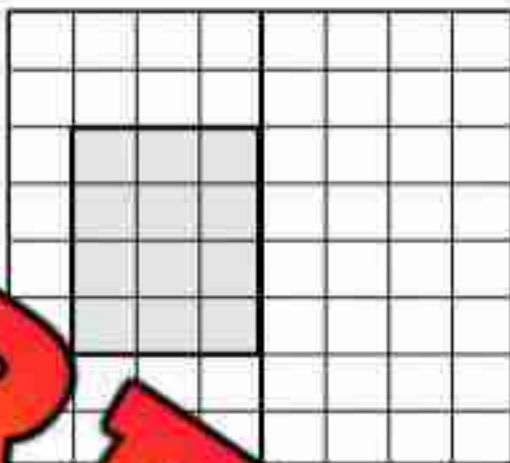
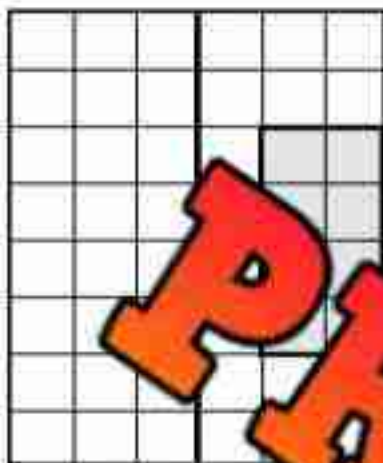


Name: _____

Drawing Reflections

Instructions

Reflect the shapes across the mirror line



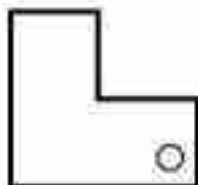
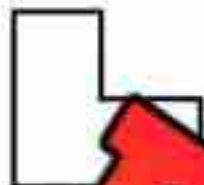
PREVIEW

Transformation

Instructions

Is the transformation a translation, reflection or rotation?

1)

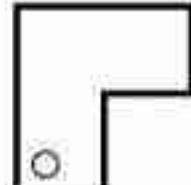
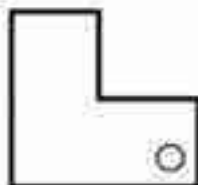


Translation

Reflection

Rotation

2)

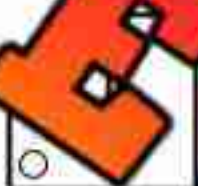
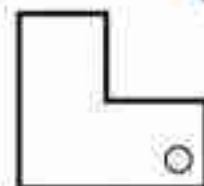


Translation

Reflection

Rotation

3)

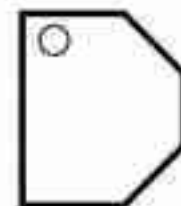
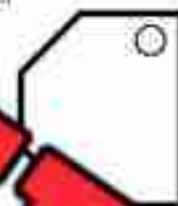


Translation

Reflection

Rotation

4)

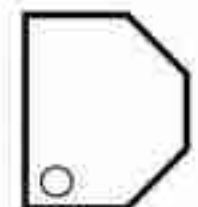
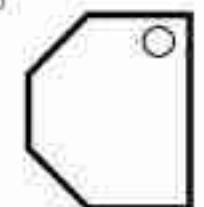


Translation

Reflection

Rotation

5)



Translation

Reflection

Rotation

6)

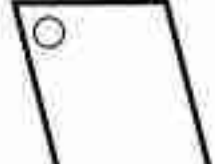


Translation

Reflection

Rotation

7)

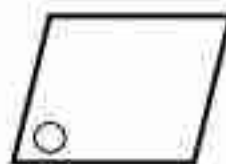
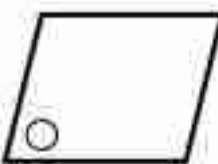


Translation

Reflection

Rotation

8)



Translation

Reflection

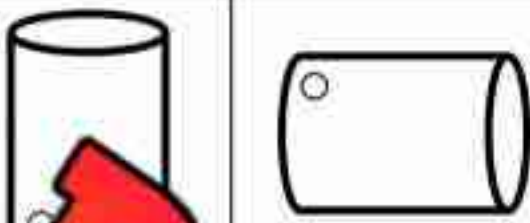
Rotation

Transformations of 3D Objects

Instructions

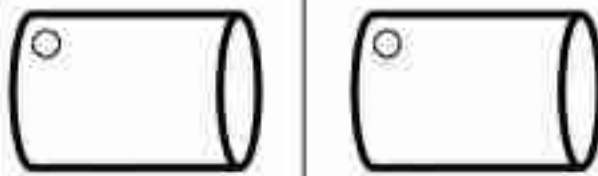
Is the transformation a translation, reflection or rotation?

1)



Translation Reflection Rotation

2)



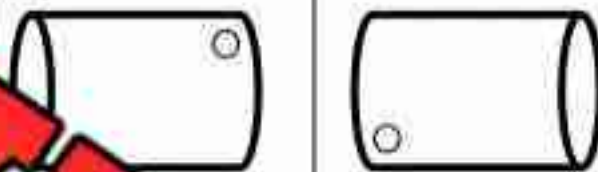
Translation Reflection Rotation

3)



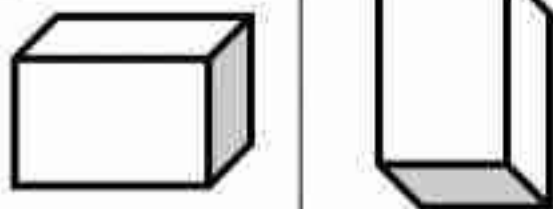
Translation Reflection Rotation

4)



Translation Reflection Rotation

5)



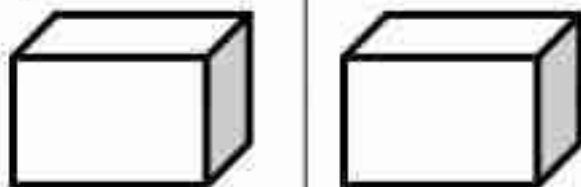
Translation Reflection Rotation

6)



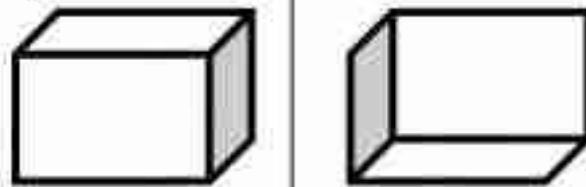
Translation Reflection Rotation

7)



Translation Reflection Rotation


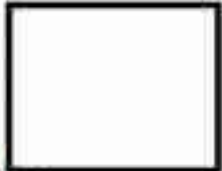
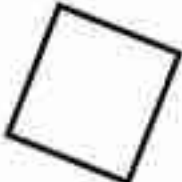

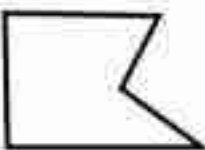
8)



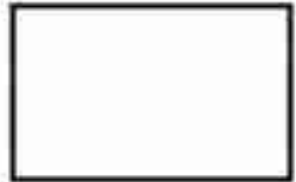


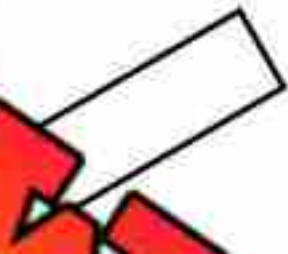
Translation Reflection Rotation

Geometry Test




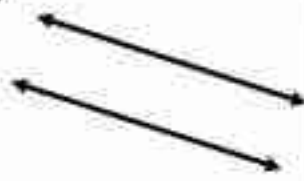
Part 1 How many sides and vertices does the shape have?

1.		2.		3.		4.		5.	
_____ sides	_____ sides	_____ sides	_____ sides	_____ sides	_____ sides	_____ sides	_____ sides	_____ sides	
_____ vertices	_____ vertices	_____ vertices	_____ vertices	_____ vertices	_____ vertices	_____ vertices	_____ vertices	_____ vertices	

Part 2 Label the right angle, acute angle, and obtuse angle. Write how many right angles there are.

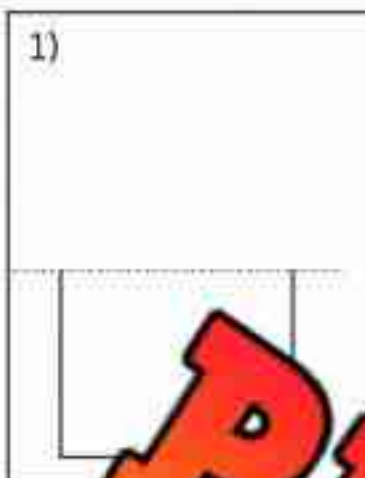
1)	2)	3)	4)
			
_____	_____	_____	_____

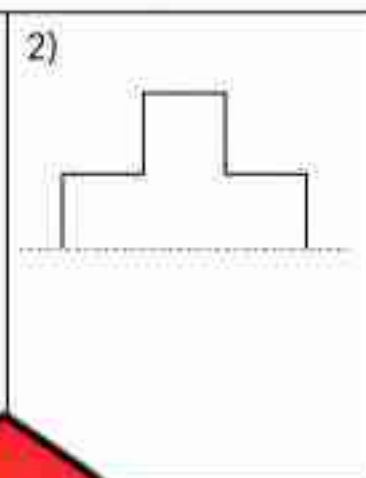
Part 3 Circle if the lines are parallel or perpendicular

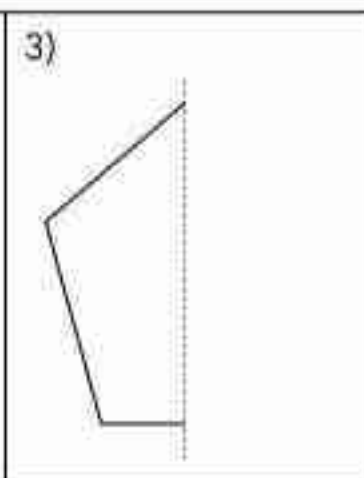
1)	2)	3)	4)
			
parallel perpendicular	parallel perpendicular	parallel perpendicular	parallel perpendicular

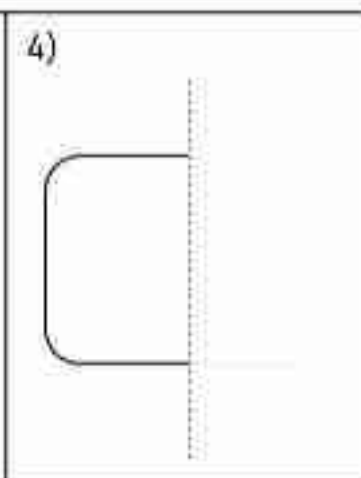
Part 4

Draw the mirror image of the shapes below

1) 

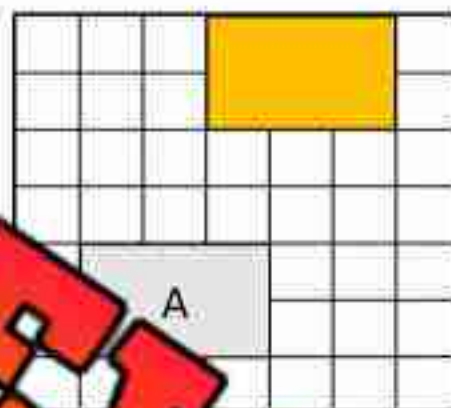
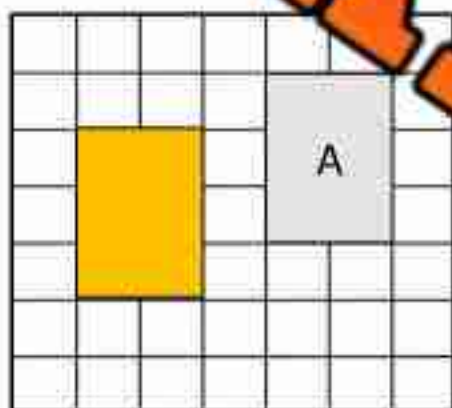
2) 

3) 

4) 

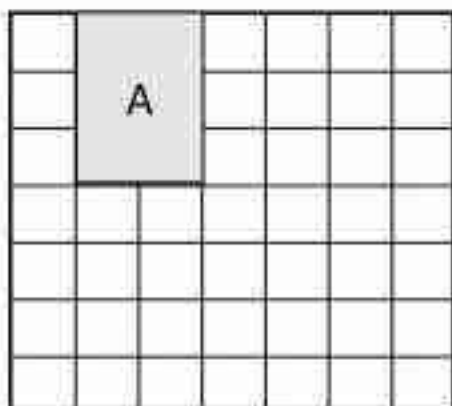
Part 5

Draw the mirror images below. Shape A is the original object

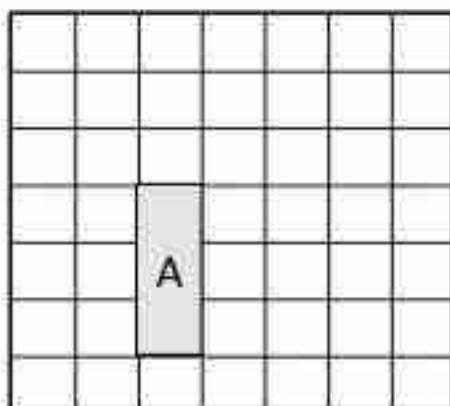


Part 6

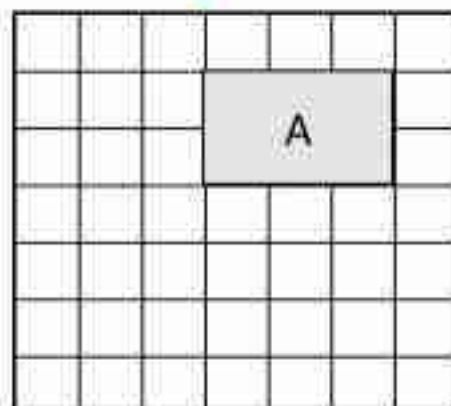
Draw the translations below. Shape A is the original object



down 4



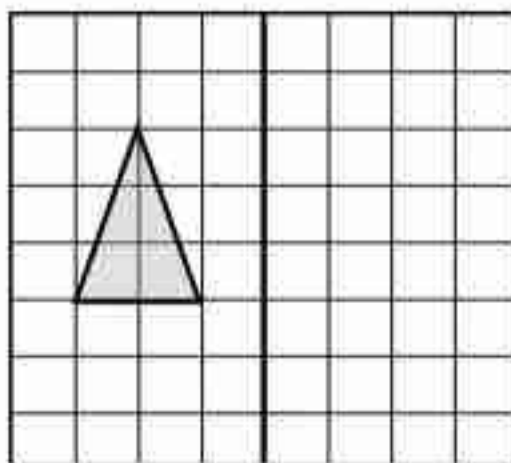
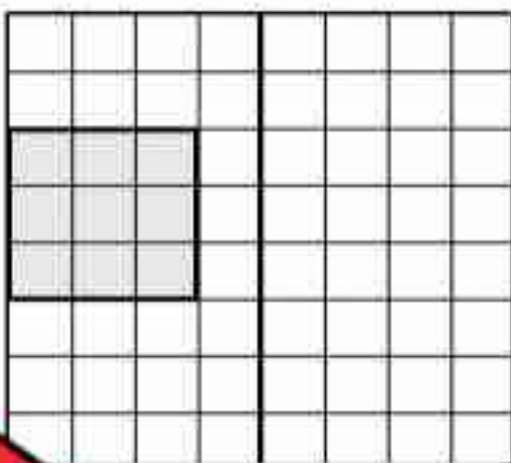
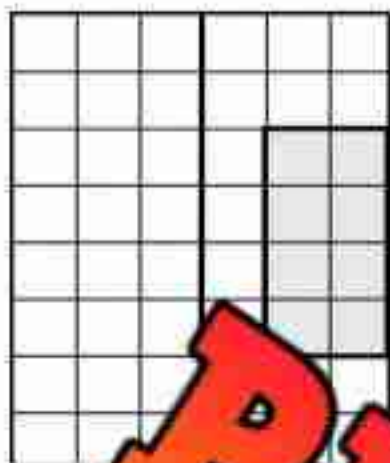
up 2, right 2



down 3, left 2

Part 7

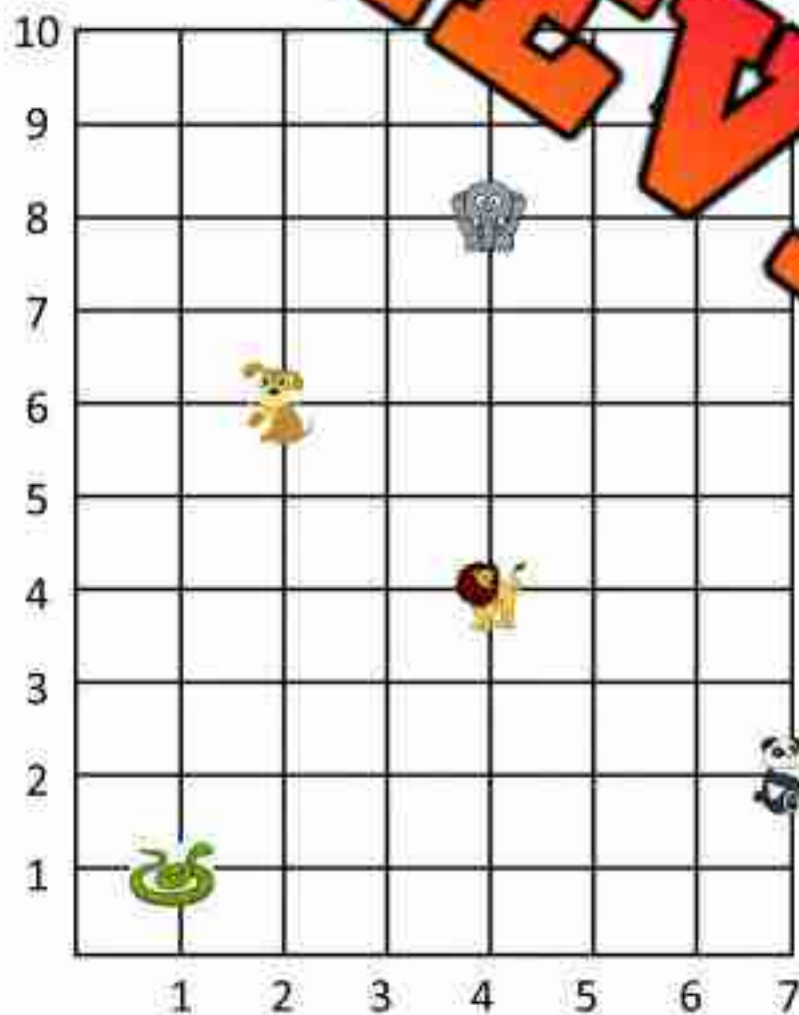
Reflect the shapes across the mirror line









Part 8

Use the grid to answer the questions below

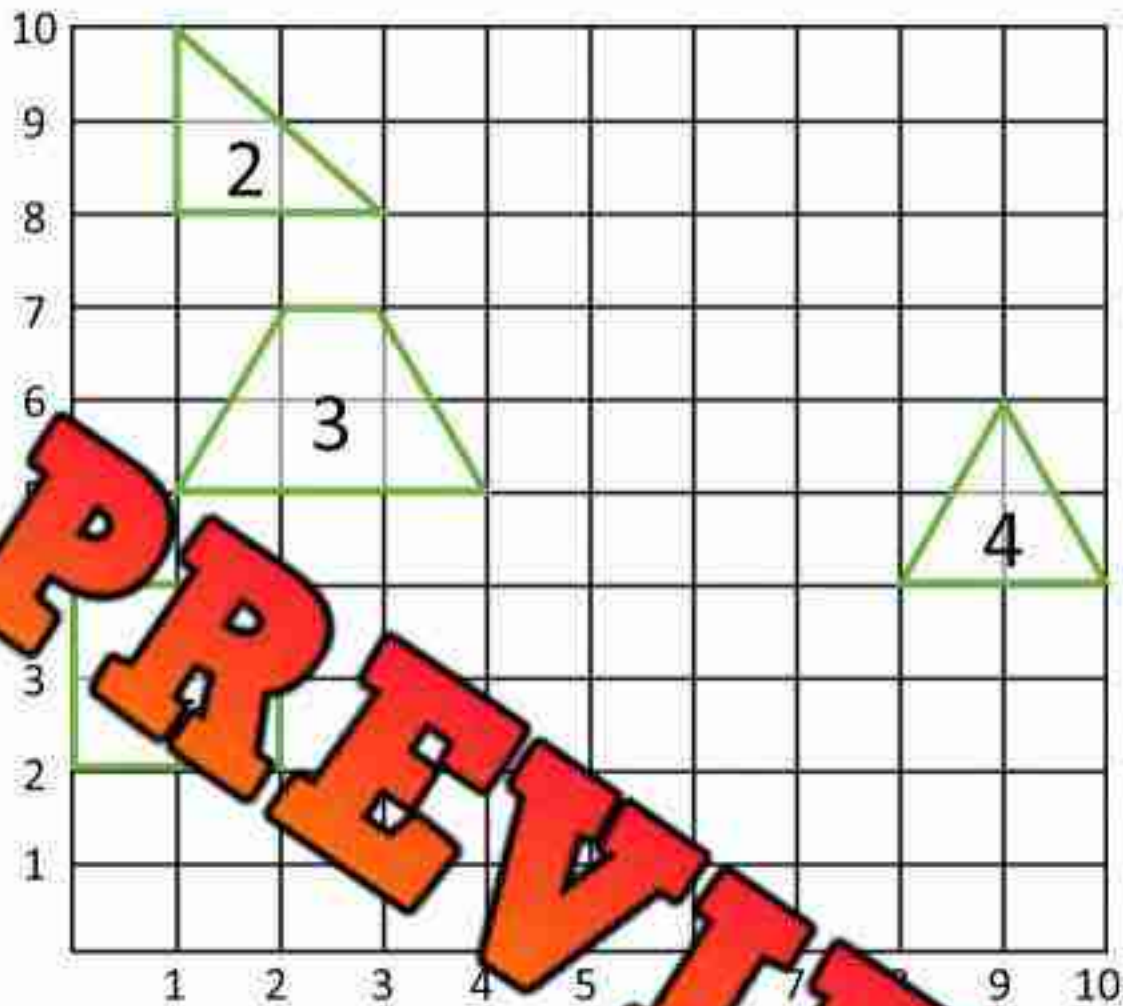
1. Write the coordinates of the symbols



Symbol	Coordinates
	(<u> </u> , <u> </u>)
	(<u> </u> , <u> </u>)
	(<u> </u> , <u> </u>)
	(<u> </u> , <u> </u>)
	(<u> </u> , <u> </u>)
	(<u> </u> , <u> </u>)

2. Write the letters on the grid

Letter	Coordinates
A	(3, 1)
B	(1, 5)
C	(6, 10)



Part 9

Follow the instructions below

1) Write the coordinates for each Polygon

Polygon	Coordinates
1	
2	
3	
4	

2) Draw the polygons using the coordinates

Polygon	Coordinates
5	$(7, 8), (8, 7), (9, 8), (8, 9)$
6	$(7, 0), (9, 0), (9, 2)$
7	$(4, 6), (4, 10), (6, 6), (6, 10)$
8	$(3, 0), (4, 2), (5, 0), (6, 2)$





Grade 4

E2 – Measurement



	Curriculum Expectations	Pages That Cover the Expectations
E2.1	explain the relationships between grams and kilograms as metric units of mass, and between litres and millilitres as metric units of capacity, and use benchmarks for these units to estimate mass and capacity	87 – 99, 102 – 108
E2.2	use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity	90 – 97, 100 – 101, 109 – 147
E2.3	solve problems involving elapsed time by applying the relationships between different units of time	148 – 207
E2.4	identify angles and classify them as right, straight, acute, or obtuse	208 – 230
E2.5	use the row and column structure of an array to measure the areas of rectangles and to show that the area of any rectangle can be found by multiplying its side lengths	231 – 250, 258 – 261
E2.6	apply the formula for the area of a rectangle to find the unknown measurement when given two of the three	251 – 257

Measuring Capacity – Millilitre (mL) and Litre (L)

Millilitre (mL)	Litre (L)
Used to measure capacity of small containers	Used to measure capacity of mid to large sized containers
	



Part 1 Use the information above to decide which unit you would use to measure

1) Cup of apple juice	6) Wheelbarrow of liquid	
2) Dump truck of cement	7) Milk carton	
3) Can of pop	8) Water in bathtub	
4) Spoonful of medicine	9) Cup of medicine	
5) Bucket of water	10) Bathtub of water	

Part 2 Write something that you would measure using the unit of measurement

1) Millilitre		5) Millilitre	
2) Litre		6) Litre	
3) Millilitre		7) Millilitre	
4) Litre		8) Litre	

Metric System Units – Capacity – Decimal Conversions

Millilitre (mL)	Litre (L)
1000 mL = 1L 1800 mL = 1.8L 	1.5L = 1500mL 3.3L = 3300mL 

Part 1 Fill in the tables below

mL	L
1000	1
2000	
3000	
	5
6000	
7000	
8000	
	9
	10

mL	L
1500	
	2.5
	3.5
4500	
6500	
	7.5
10500	

Part 2 Convert the units of measurement below

1) 1.7L _____ mL

5) 2100mL _____ L

9) 4.5L _____ mL

2) 5.4L _____ mL

6) 4700mL _____ L

10) 5500mL _____ L

3) 8400mL _____ L

7) 3.6L _____ mL

11) 4500mL _____ L

4) 3L _____ mL

8) 7200mL _____ L

12) 2500mL _____ L

Which has the Largest Capacity?



Part 1

Which measurement has the largest capacity?

1)	5.2L	510mL	2300mL	1.9L
2)	10.3L	3500mL	2.1L	1600L
3)	67L	608L	2300L	3.5L
4)	4500mL	6500L	1.6L	
5)	3600mL	2200mL	3.1L	

Part 2

Read the problem and choose the correct answer below.

- Henry and Ruby both have juice boxes. Henry's juice box is 231ml and Ruby's is 0.5L. Who's juice box has a larger capacity?

- Jesse is ordering soup from a restaurant. She can choose between a 1100mL soup or a 1.1L soup. Which option should she choose if she wants the larger soup?

- Traci and Emma are arguing over who's water bottle has the larger capacity. Traci's bottle has a capacity of 2.2L and Emma's bottle holds 1955mL.

Around the World Math Race: Converting L and ML

Objective What are we learning about?

Students will practice converting between liters and milliliters by quickly answering conversion questions in a competitive and engaging game format.

Materials What you will need for the activity.

- Liter and milliliter conversion questions (e.g., converting liters to milliliters and vice versa)
- Optional: Timer
- Chairs arranged in a circle



Instructions How to complete the activity

1. **Setup:** Arrange chairs in a circle, with one student seated in a chair. One student stands behind a seated student to start the game.
2. **Explain the Game:** Explain to the students they will be participating in a race around the circle by answering conversion questions. The student who answers correctly first moves around the entire circle and return to their original position.
3. **Start the Game:** The teacher reads out a conversion question (e.g., "How many milliliters are in 2.2 liters?").
4. **Answering the Question:** The standing student and the seated student in front of them compete to answer the question first. The student who answers correctly first moves to stand behind the next seated student, while the other student remains seated.
5. **Continue the Race:** The teacher continues reading out questions, and the process repeats. The standing student continues to move around the circle, answering questions at each stop.
6. **Winning the Game:** The first student to make it around the entire circle and return to their original position wins the race.
7. **Review:** After the game, review some of the questions and answers with the class to reinforce the concepts and ensure understanding.

Questions

Use the questions below for the game

Questions

What is the equivalent of 1.5 liters in milliliters?

How many milliliters are in 2.2 liters?

How many liters are in 600 milliliters?

How many liters are in 6200 milliliters?

What is the equivalent of 0.75 liters in milliliters?

How many milliliters are in 3.5 liters?

How many liters are in 450 milliliters?

How many liters are in 1800 milliliters?

What is the equivalent of 0.25 liters in milliliters?

How many milliliters are in 4.2 liters?

How many liters are in 1200 milliliters?

How many liters are in 5000 milliliters?

What is the equivalent of 1.25 liters in milliliters?

How many milliliters are in 6.3 liters?

How many liters are in 700 milliliters?

How many liters are in 3600 milliliters?

What is the equivalent of 2.5 liters in milliliters?

How many milliliters are in 5.8 liters?

How many liters are in 900 milliliters?

How many liters are in 4700 milliliters?

What is the equivalent of 0.5 liters in milliliters?

How many milliliters are in 7.4 liters?

PREVIEW

Capacity - Comparing mL

There are 250 mL in one cup. The average juice box holds 200 mL. A can of soda holds 355 mL, while a larger bottle of soda could hold 591 mL, 710 mL, or up to 2000 mL (2L). A tablespoon holds 15 mL.



Part 1

Does the container hold more or less than 500 mL?

1)



more

2)



more less

3)



more less

4)



more less

6)



more less

7)



more less

8)



more less



more less

Part 2

Give examples of containers that hold more or less than 500 mL.

Containers More Than 500 mL	Containers Less Than 500 mL

Which Capacity is the Largest?**Instructions**

Which measurement makes the most sense for the picture shown

1) A pool

- a) 30,000L
- b) 1000mL
- c) 50L



2) A cup

- a) 300L
- b) 250mL
- c) 3L



3) A bottle

- a) 1L
- b) 100mL
- c) 5000mL



4) A spoon

- a) 10kL
- b) 1L
- c) 500mL



5) A wheelbarrow

- a) 100L
- b) 10L
- c) 500mL



6) A bucket

- a) 100L
- b) 10L
- c) 300mL



7) A hot tub

- a) 20L
- b) 2000L
- c) 500mL



8) A juice box

- a) 250mL
- b) 1L
- c) 20L



9) A bath tub

- a) 5L
- b) 300L
- c) 500mL



10) A gas tank

- a) 50L
- b) 500mL
- c) 1000mL



Exit Cards

Cut Out

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

Name: _____

Which measurement makes the most sense for the picture shown?

1) A watering can a) 10L b) 100mL c) 50L	3) A kiddie pool a) 2L b) 200L c) 50mL	5) A teapot a) 1L b) 50mL c) 10L
2) A milk carton a) 500mL b) 3L c) 50L	4) A fire truck water tank a) 10,000L b) 500mL c) 1L	6) A fish tank a) 10L b) 50L c) 1L

Name: _____

Which measurement makes the most sense for the picture shown?

1) A watering can a) 10L b) 100mL c) 50L	3) A kiddie pool a) 2L b) 200L c) 50mL	5) A teapot a) 1L b) 50mL c) 10L
2) A milk carton a) 500mL b) 3L c) 50L	4) A fire truck water tank a) 10,000L b) 500mL c) 1L	6) A fish tank a) 10L b) 50L c) 1L

Measuring Mass - Grams

In Canada, we use the metric system. The metric system has 3 main units that we use to measure the mass of objects.



Milligram (mg)	Gram (g)	Kilogram (kg)
Measure light weights	Measure average weights	Measure heavy weights

Part 1 Use the information above to decide which unit you would use to measure

1) A basketball	6) A grain of sand
2) A book	7) A pencil
3) A chocolate bar	8) A car
4) A car	9) A bathtub
5) A TV	10) A grape

Part 2 Write things that you would measure in grams and kilograms below

1) Milligram		5) Gram	
2) Gram		6) Kilogram	
3) Kilogram		7) Milligram	
4) Milligram		8) Gram	

Measuring Mass - Grams

Milligram (mg)	Gram (g)	Kilogram (kg)
1000 mg = 1g	1000g = 1kg	1kg = 1000g
		

Part 1

Complete the tables below

mg	g	g	g	kg	g	kg
1000	1	1000	1.5	1000	1	1500
2000	2	2500			2	2500
	3		3.5	3000		3500
4000		4500				4.5
5000		5500		5		5.5
	6		6.5			6500
	7		7.5			7500
	8		8.5	8000		8.5
9000		9500				9.5
10000		10500		10000		

Part 2

Convert the units of measurement below

1) 1g	_____ mg	5) 5kg	_____ g	9) 5.5g	_____ mg
2) 3g	_____ mg	6) 3000mg	_____ g	10) 7500mg	_____ g
3) 5000mg	_____ g	7) 10 000mg	_____ g	11) 8.5kg	_____ g
4) 2000g	_____ kg	8) 3kg	_____ g	12) 3500g	_____ kg

Which Has The Most Mass ?**Part 1**

Which measurement has the most mass? Circle it.

1)	10g	200mg	100mg	1kg
2)	20g	200mg	5kg	1000g
3)	5g	500g	1000g	10kg
4)	5000mg	5000mg	2000g	1kg
5)	5000mg	2000mg	2000mg	1kg

Part 2

Read the problems and answer them below

1. Kyle and Matt weighed their pencils on a scale. Kyle's pencil is 120g and Matt's pencil is 1500mg. Whose pencil weighs more?
2. John is deciding which backpack to buy. The blue backpack can hold 9000g and the green backpack can hold 9000g. Which backpack should he buy? He wants the stronger backpack?
3. Mary and Kate had a contest to see who's bridge could support more mass. Mary's bridge held 10 000mg and Kate's held 9kg. Who won the contest?



Ordering Measurements

Part 1

Order the measurements from lightest to heaviest

Masses	Order (Lightest to Heaviest)			
1) 15 g, 3 kg, 120 g, 2 kg	15 g	120 g	2 kg	3 kg
2) 500 g, 750 g, 250 mg				
3) 1.5 kg, 200 g, 1 kg				
4) 1000 mg, 3.6 kg				
5) 2000 mg, 2.1 g, 1100 g, 1 kg				

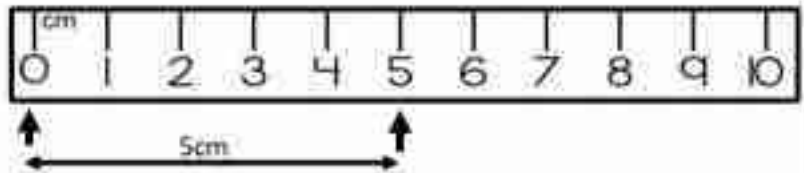
Part 2

Order the measurements from lightest to heaviest

Masses	Order (Lightest to Heaviest)			
1) 7 kg, 3 kg, 1.5 kg, 1 kg				
2) 4 g, 0.1 kg, 200 g, 5000 mg				
3) 5 kg, 2000 g, 1 kg, 8000 mg				
4) 4 kg, 1.5 kg, 2 kg, 5000 mg				
5) 2000 mg, 3000 g, 5000 g, 4 kg				

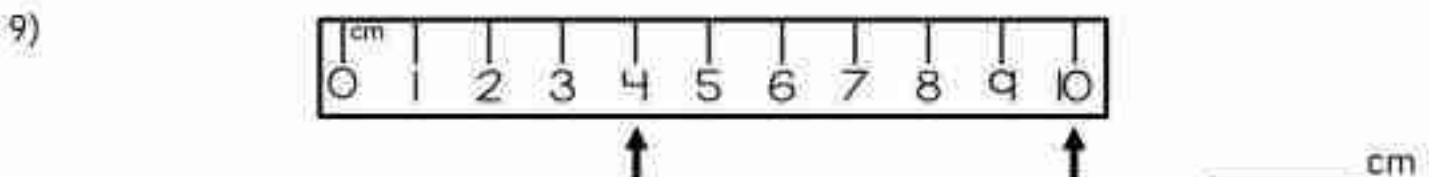
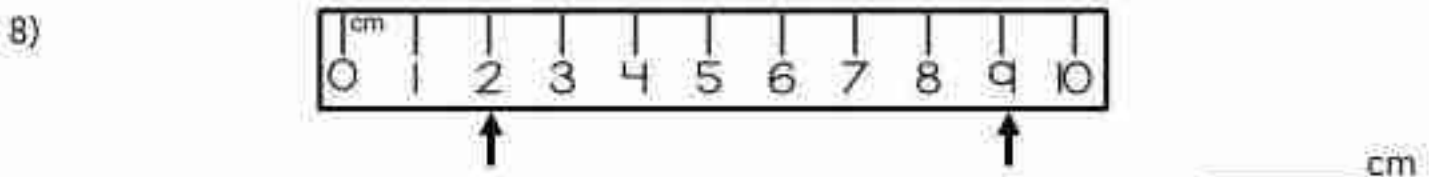
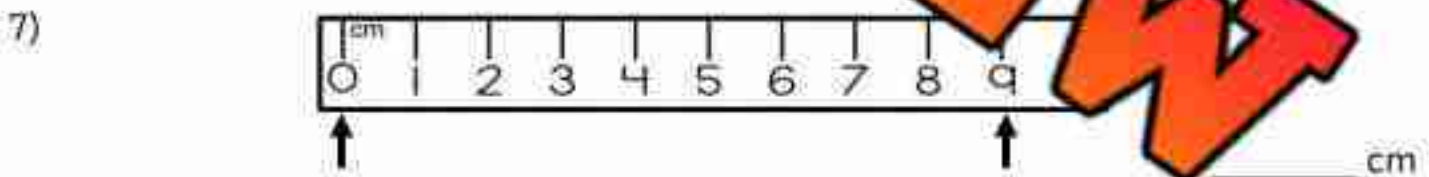
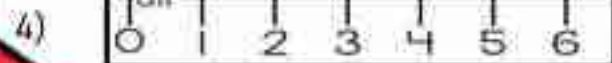
Measuring in Centimeters

We can accurately measure the length of something by using a ruler.



Questions

Read the rulers below to find the distance between the arrows:



Measuring in Centimeters**Part 1**

Use a ruler to measure the lines below

1) 
_____ cm2) 
_____ cm3) 
_____ cm4) 
_____ cm5) 
_____ cm6) 
_____ cm7) 
_____ cm**Part 2**

Draw a line that is the correct length

1) _____
5 cm2) _____
3 cm3) _____
6 cm4) _____
2 cm5) _____
4 cm6) _____
7 cm

Exit Cards

Cut Out

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

Name: _____

- 1) Use a ruler to measure the lines below



_____ cm

- 2) Draw a line that is the correct length

3 cm

Name: _____

- 1) Use a ruler to measure the lines below



_____ cm

- 2) Draw a line that is the correct length

3 cm

Name: _____

- 1) Use a ruler to measure the lines below



_____ cm

- 2) Draw a line that is the correct length

3 cm

Name: _____

- 1) Use a ruler to measure the lines below



_____ cm

- 2) Draw a line that is the correct length

3 cm

Measuring Height – Lollipops**Questions**

Measure the height of the lollipop sticks



Measuring Length in CM

Directions

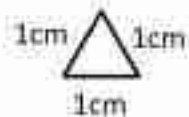
Use a ruler to measure the following things



Objects to Measure	Length in CM
1) The length of this paper	
2) The length of your foot/shoe	
3) The length of your hand (thumb to pinky)	
4) The length of your pencil	
5) The length of a marker	
6) The length of a paperclip	
7) The length of an eraser	
8) The height of a water bottle	
9) The length and width of a book	Length = Width =
10) The width of your desk or table	

Measuring Triangle Side Lengths

An **equilateral triangle** has 3 equal side lengths. You can see if a triangle is an equilateral by measuring the side lengths. If the lengths are the same, it is an equilateral triangle.



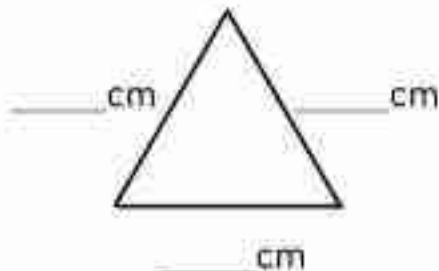
Part 1

Use a ruler to measure the equilateral triangles

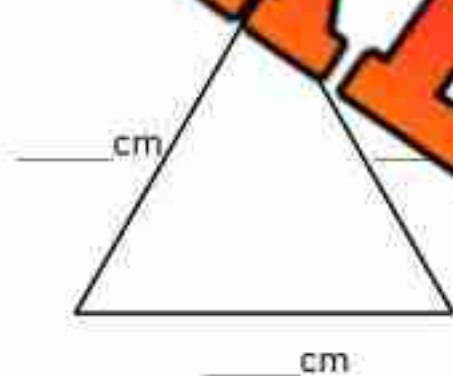
1)



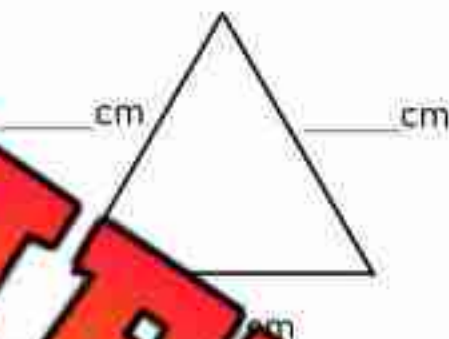
2)



3)



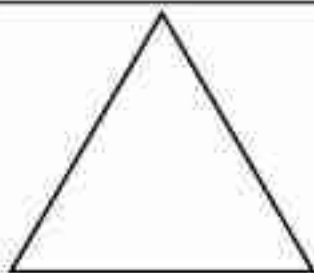
4)



Part 2

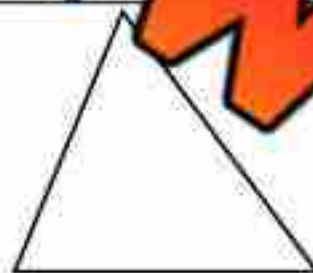
Are the triangles equilaterals?

1)



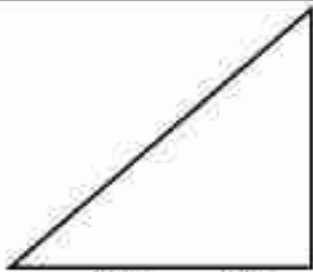
Yes No

2)



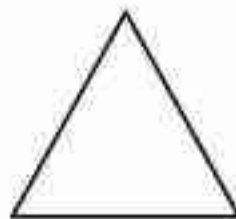
Yes No

3)



Yes No

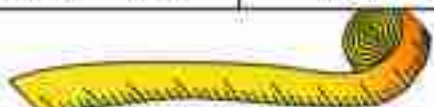
4)



Yes No

Metric System Units - mm, cm, m, km

Millimetre (mm)	Centimetre (cm)	Metre (m)	Kilometre (km)
10mm = 1cm 1000mm = 1m	100cm = 1m 1cm = 10mm	1m = 100cm 1000m = 1km	1km = 1000m



Part 1 Complete the tables below

mm	cm	m	m	km
10	100	1	1000	1
20		2	2000	2
30		3		3
40	400		4000	
50		5		5
	600	6		6
		7		
	800	8		8
90		9		9
100	1000			

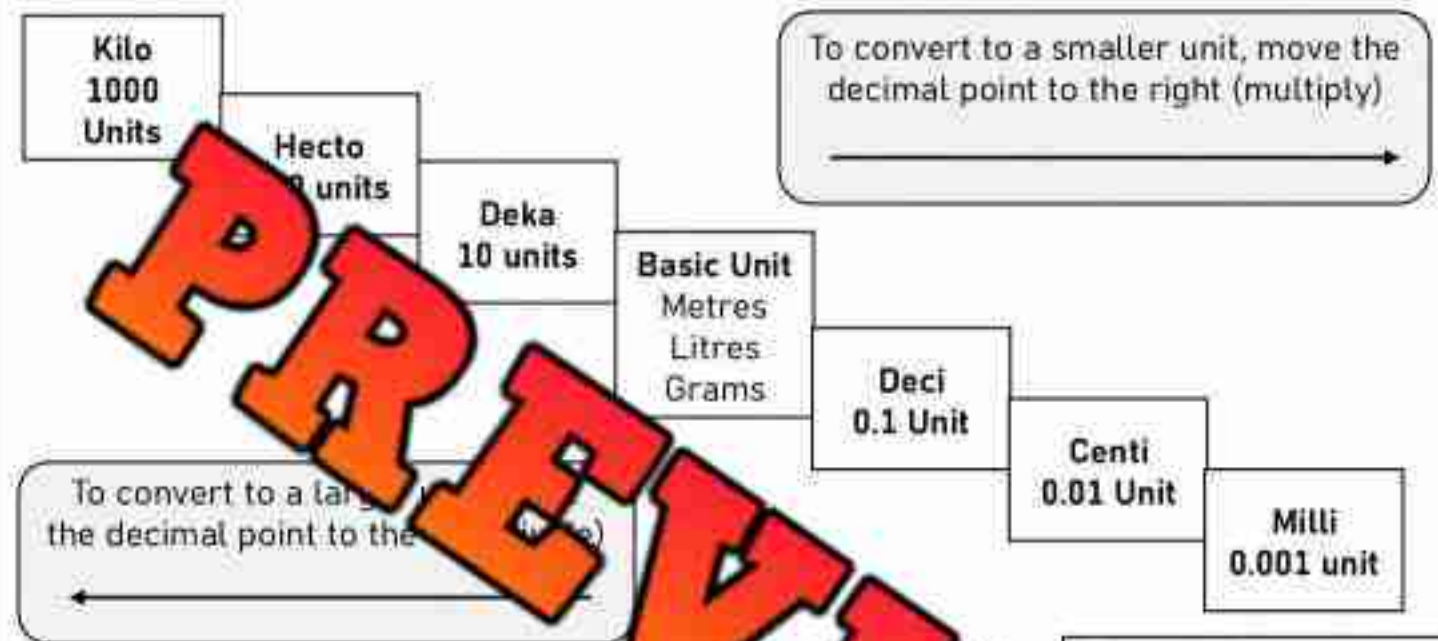
Part 2 Convert the units of measurement below

1) 1m	_____ cm	5) 5m	_____ cm	9) 500cm	_____ m
2) 20mm	_____ cm	6) 50mm	_____ cm	10) 500mm	_____ cm
3) 2cm	_____ mm	7) 100mm	_____ cm	11) 8m	_____ cm
4) 50cm	_____ mm	8) 30cm	_____ mm	12) 300cm	_____ m

Converting Units – Ladder Method

We can use the ladder method to convert any metric unit of measurement to another simply by following the rules below.

Ladder Method



Instructions

1. Find your starting unit of measurement.
 2. Count the jumps to get to your ending unit of measurement.
 3. Move the decimal the number of jumps up or down.
- Moving Up = Left and Moving Down = Right**

EXAMPLE

5m = _____ mm
 5m = 5000mm (5 jumps down - decimal 3 right)
 5km = 5000m

Practice

Convert the units of measurement below

1) 3.5m	_____ mm	5) 7.6km	_____ m	9) 15 500m	_____ km
2) 543mm	_____ cm	6) 600m	_____ km	10) 6400mm	_____ m
3) 428cm	_____ mm	7) 645m	_____ cm	11) 8.8m	_____ cm
4) 1400m	_____ km	8) 512cm	_____ mm	12) 16.5cm	_____ mm

Which is Longer?

Part 1

Which distance is farther? Circle the longest distance.

1)	10.5m	200.2cm	10.5mm	1.5km
2)	32.5cm	380mm	0.5km	1000m
3)	50m	535cm	5.5m	0.5km
4)	3.3m	1000mm	156cm	
5)	712cm	3000mm	4.5m	

Part 2

Read the problem and answer below

1. Fred and Norm both walk to school. Fred walks 1.5 km and Norm walks 1 753 m. Who walks further to school?
2. Nick and Ryan both competed in long jump at the track meet. Nick jumped 3.5m and Ryan jumped 329cm. Who jumped further?
3. Max and Rudy are arguing over whose pencil is longer. Max's pencil is 9.4cm long and Rudy's is 95mm long. Whose pencil is longer?



Exit Cards

Cut Out

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

Name: _____

1) Convert the units of measurement below.

- a) 6 900 km = _____ m
b) 9.57 m = _____ cm
c) 64 000 m = _____ km

2) Solve the problem below.

Emma and Olivia both walk to school. Emma walks 3.5 km and Olivia walks 3450 m. Who walks further to school?

Name: _____

1) Convert the units of measurement below.

- a) 6 900 km = _____ m
b) 9.57 m = _____ cm
c) 64 000 m = _____ km

2) Solve the problem below.

Emma and Olivia both walk to school. Emma walks 3.5 km and Olivia walks 3450 m. Who walks further to school?

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Emma and Olivia both walk to school. Emma walks 3.5 km and Olivia walks 3450 m. Who walks further to school?

Name: _____

1) Convert the units of measurement below.

- a) 6 900 km = _____ m
b) 9.57 m = _____ cm
c) 64 000 m = _____ km

2) Solve the problem below.

Emma and Olivia both walk to school. Emma walks 3.5 km and Olivia walks 3450 m. Who walks further to school?

Memory Game: Matching Equivalent Units

Objective

What are we learning about?

Students will practice converting and matching equivalent units of measurement, including millimeters, centimeters, meters, and kilometers, to enhance their understanding of metric system conversions.

Materials

What you will need for the activity.

- Sets of Memory Game cards with units of measurement (see page 131 for details)
- Tables or clean floor space for each group to lay out their cards



Instructions

How you will complete the activity.

1. Divide the class into groups of 3 or 4 students each.
2. Give each group a set of Memory Game cards.
3. Have each group lay all the cards face down in a grid on a table or floor.
4. Students take turns flipping over two cards at a time, trying to find a match with equivalent units of measurement.
5. If a student finds a match (e.g., 1 meter and 100 centimeters), they remove those cards from the grid and keep them.
6. If the cards do not match, they are turned back over, and the next student takes a turn.
7. The game continues until all the cards have been matched.
8. After the game, review the equivalent units of measurement with the class, ensuring students understand the conversions.

Cards

Memory Game Cards

1 centimeter

10 millimeters

PREVIEW

200 centimeters

1 kilometer

100 centimeters

3 meters

300 centimeters

0.5 kilometers

500 meters

Cards

Memory Game Cards

2.25 meters

225 centimeters

2.5 kilometers

9500 meters

5.5 meters

550 centimeters

0.5 centimeters

5 millimeters

0.75 meters

75 centimeters

PREVIEW

Measuring in Centimetres and Millimetres

Part 1

Use a ruler to measure the lines below

1)



_____ cm

_____ mm

2)



_____ cm

_____ mm

3)



_____ cm

_____ mm

4)



_____ cm

_____ mm

5)



_____ cm

_____ mm

6)



_____ cm

_____ mm

7)



_____ cm

_____ mm

_____ mm

Part 2

Draw a line that is the correct length

1)

70 mm

2)

4 cm

3)

60 mm

4)

2 cm

5)

3 cm

6)

50 mm

Exit Cards

Cut Out

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

Name: _____

- 1) Use a ruler to measure the lines below



- 2) Draw a line that is the correct length

50 mm

Name: _____

- 1) Use a ruler to measure the lines below



_____ cm _____ mm

- 2) Draw a line that is the correct length

50 mm

Name: _____

- 1) Use a ruler to measure the lines below



_____ cm _____ mm

- 2) Draw a line that is the correct length

50 mm

Name: _____

- 1) Use a ruler to measure the lines below



_____ cm _____ mm

- 2) Draw a line that is the correct length

50 mm

Measuring Distance in km

Use "Google Maps" to determine the distance in kilometres from your school to places around the world.

Steps:

- 1) Type in "directions Google maps" using Google search engine
- 2) Type your school's name into the starting point
- 3) Type in the destinations that are listed below and write the distance in km



Direction: Find the distance from the destinations below to your school

	Destinations - Cities in Ontario	Distance - km
1)	Barrie	
2)	Brantford	
3)	Cambridge	
4)	Hamilton	
5)	Windsor	
6)	London	
7)	Pembroke	
8)	Sarnia	
9)	Sault Ste. Marie	
10)	North Bay	
Add your own below		
11)		
12)		
13)		
14)		
15)		

Measuring Distance in km**Directions**

Find the distances from your school to local places in your community

	Description	Destination's Name	Distance - km
1)	Grocery Store		
2)	Convenience Store		
3)	Post Office		
4)	Hospital		
5)	Movie Theater		
6)	Police Station		
7)	Fire Station		
8)	Hospital		
9)	Post Office		
10)	Nearest College or University		
Add your own below			
11)			
12)			
13)			
14)			
15)			

Unit Test – Metric System Units

Part 1

Would you measure the containers below using litres or millilitres?

1) Cup of apple juice	
2) Dump truck of cement	
3) Can of	

4) Wheelbarrow of liquid	
5) Juice box	
6) Water in a hot tub	

Part 2

Complete the tables below

mL	
1000	
2000	
3000	
	4
	5
6000	
7000	
8000	
	9
	10

mL	L
1500	
	2.5
	3.5
8500	
	9.5
10500	

Part 3

Convert the units of measurement below

1) 1.7L = _____ mL

2) 2100mL = _____ L

3) 4.5L = _____ mL

4) 5.4L = _____ mL

5) 4700mL = _____ L

6) 5500mL = _____ L

Part 4

Would you measure the objects below using grams or kilograms?

1) A basketball	
2) A book	
3) A car	

4) A large bag of flour	
5) A pencil	
6) A television	

Part 5

Write the units of measurement below

1) 1g		kg		g	3) 5.5g		mg
4) 3g		mg		g	6) 7500mg		g





Part 6

Which measurement has the most of the object?

1) 10g	200mg	1kg
2) 20g	200mg	5kg

Part 7

Use a ruler to measure the lines below

1)  _____ cm _____ mm	2)  _____ cm _____ mm
3)  _____ cm _____ mm	4)  _____ cm _____ mm

Part 8

Circle which distance is the largest

1) Length of a pencil.

- a) 30cm
- b) 10mm
- c) 1km
- d) 10cm

2) Length of a soccer field

- a) 100m
- b) 500m
- c) 2km
- d) 500cm

3) Distance from Ottawa to Toronto

- a) 100km
- b) 45km
- c) 500cm
- d) 500m

4) Length of a gym

- a) 15m
- b) 3m
- c) 300cm
- d) 200mm

5) Length of a bus

- a) 1km
- b) 13m
- c) 300cm
- d) 2000mm

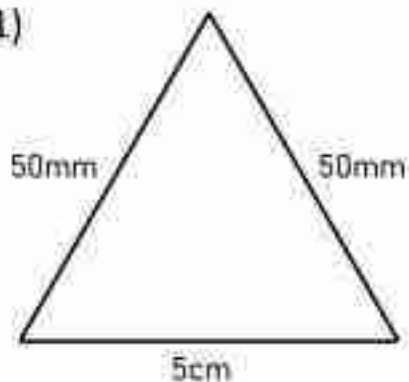
6) Length of an eraser on the end of a pencil

- a) 2m
- b) 2cm
- c) 10cm
- d) 10mm

Part 9

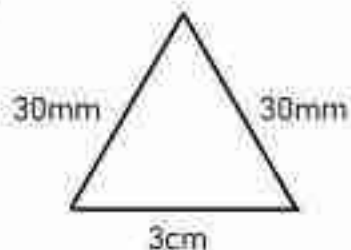
Find the perimeter of the equilateral triangles below

1)



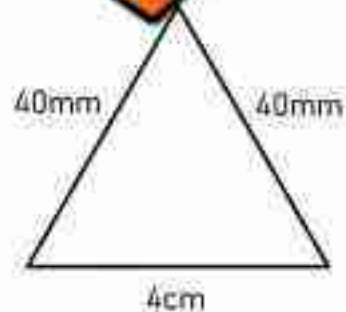
Perimeter = _____ cm

2)



Perimeter = _____ mm

3)



Perimeter = _____ cm

Digital Clocks – How Much Time Has Elapsed

Questions

Read the digital clocks. How many minutes/seconds have gone by?

Start Time	End Time	How Much Time Has Passed?	
4 : 11 : 16	4 : 24 : 45	Minutes	13
		Seconds	29
5 : 01 : 12	5 : 08 : 28	Minutes	
		Seconds	
8 : 21 : 08	8 : 29 : 09	Minutes	
		Seconds	
6 : 34 : 36	6 : 59 : 11	Minutes	
		Seconds	
7 : 14 : 32	7 : 22 : 55	Minutes	
		Seconds	
1 : 37 : 35	1 : 52 : 53	Minutes	
		Seconds	
3 : 27 : 14	3 : 39 : 35	Minutes	
		Seconds	

Exit Cards

Cut Out

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

Name: _____

1) How many minutes/seconds have gone by?

Start Time	End Time	How Much Time Has Passed?	
3:15:56	3:45:59	Minutes	
		Seconds	
12:07:22	12:22:28	Minutes	
		Seconds	
9:33:10	9:48:29	Minutes	
		Seconds	

Name: _____

1) How many minutes/seconds have gone by?

Start Time	End Time	How Much Time Has Passed?	
3:15:56	3:45:59	Minutes	
		Seconds	
12:07:22	12:22:28	Minutes	
		Seconds	
9:33:10	9:48:29	Minutes	
		Seconds	

Name: _____

1) How many minutes/seconds have gone by?

Start Time	End Time	How Much Time Has Passed?	
3:15:56	3:45:59	Minutes	
		Seconds	
12:07:22	12:22:28	Minutes	
		Seconds	
9:33:10	9:48:29	Minutes	
		Seconds	

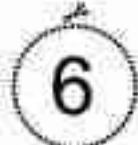
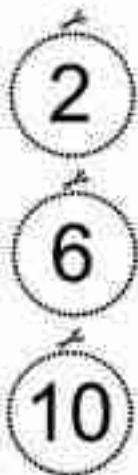
Name: _____

1) How many minutes/seconds have gone by?

Start Time	End Time	How Much Time Has Passed?	
3:15:56	3:45:59	Minutes	
		Seconds	
12:07:22	12:22:28	Minutes	
		Seconds	
9:33:10	9:48:29	Minutes	
		Seconds	

Making a Clock**Directions**

Cut out the parts of the clock and paste them in the right spots



Analog Clock

An **analog clock** tells us what time it is. The short hand tells us what hour it is. When the hour hand moves around, it goes up by 1 each time. The long hand tells us how many minutes have gone by in the hour. The long hand goes up by 5 minutes at each interval.

Part 1 Fill in the minutes around the clock. Then label the hour and minute hand



Part 2 How many minutes have gone by in the hour?











Telling Time – Nearest Hour**Questions**

What time is it? Write the times on the digital clocks below

1)



:00

2)



:00

3)



:00

4)



:00

5)



:00

6)



:00

7)



:00

8)











:00

How Many Hours Have Passed ?

Questions

Label the clocks and determine how many hours have gone by?

Start Time	End Time	How Much Time Has Passed?
1)  _____ : _____	 _____ : _____	_____ Hours
2)  _____ : _____	 _____ : _____	_____ Hours
3)  _____ : _____	 _____ : _____	
4)  _____ : _____	 _____ : _____	_____ Hours

Telling Time – Half Past**Questions**

What time is it? Write the times on the digital clocks below.

1)



2)



3)



4)



5)



6)



7)



8)



Telling Time – Quarter To, Quarter After



Quarter To



Quarter After

Questions

Is the time – Quarter To or Quarter After? Circle the answer

1)



Quarter To

Quarter After

2)



Quarter To

Quarter After

3)



Quarter To

Quarter After

4)



Quarter To

Quarter After

5)



Quarter To

Quarter After

6)



Quarter To

Quarter After

7)



Quarter To

Quarter After

8)



Quarter To

Quarter After

9)



Quarter To

Quarter After

10)



Quarter To

Quarter After

11)



Quarter To

Quarter After

12)



Quarter To

Quarter After

Telling Time – Every 5 Minutes**Questions**

Read the clock and write the time below

1)



2)



3)



4)



5)



6)



7)



8)



9)



10)



11)



12)



Exit Cards

Cut Out

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

Name: _____

1) What time is it?

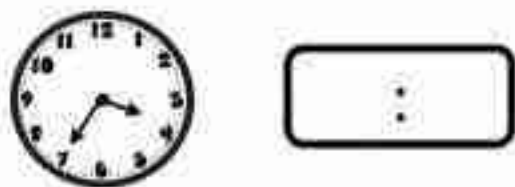


2) Draw the time on the clock: 5:15



Name: _____

1) What time is it?

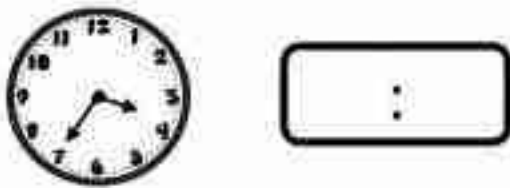


2) Draw the time on the clock: 5:15



Name: _____

1) What time is it?



2) Draw the time on the clock: 5:15



Name: _____

1) What time is it?



2) Draw the time on the clock: 5:15



24 – Hour Clock

The 24-hour clock can also be used to tell time. The clock is divided into 24 hours, which means we don't need to repeat the 12-hour A.M. and P.M. cycle. When it is 3:00pm, it is 15:00 on a 24-hour clock. Many people refer to the 24-hour clock as military time. The 24-hour clock is often used in airports and when tracking time between countries.



Questions Assuming it is the afternoon, what time does the clock read in 24hr time?



_____ : _____



_____ : _____



_____ : _____



_____ : _____



_____ : _____



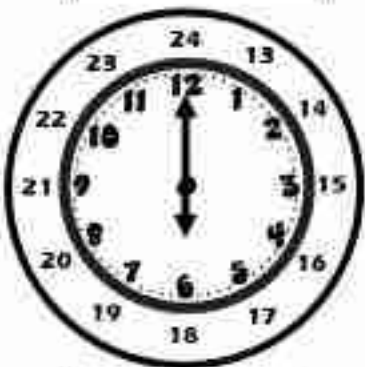
_____ : _____



_____ : _____



_____ : _____



_____ : _____

Name: _____

182

Matching Game: Telling Time To The Nearest Minute

Objective

What are we learning about?

To help students practice telling time to the nearest minute by matching digital times to their analog counterparts.

Materials: What you will need for the activity.

- Pre-prepared and cut out matching game cards with digital times and analog clocks.
- Small bags or envelopes to hold the card sets for each group.



Instructions

How you will complete the activity.

1. Before the class, the teacher will cut out the prepared matching game cards.
2. Divide the students into small groups and give each group a small envelope containing a set of the matching cards.
3. In their groups, students will spread out the cards face down on their table.
4. Each person takes a turn to try to match two cards – one digital time with its matching analog clock.
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.

Name: _____

183

Cards

Matching Game Cards

Analog Clock

Digital Clock



12:16



1:50



2:16



8:16



9:38

PREVIEW

Name: _____

184

Cards

Matching Game Cards

Analog Clock

Digital Clock



12:21



3:44



9:17



5:52



12:53

PREVIEW

Cards

Matching Game Cards

Analog Clock



Digital Clock

9:01



4:50



7:17



2:27



10:58

PREVIEW

Measuring Time – Seconds, Days, Hours, Minutes

Seconds (sec)	Minutes (min)	Hours (hr)	Days (d)
60 seconds = 1 minute	60 minutes = 1 hour	24 hours = 1 day	1 day = 24 hours

Part 1 Fill in the tables below



Seconds	Minutes	Minutes	Hours	Hours	Days
60	1	60	1	24	1
120	2		2	48	2
		180		72	
					4
300			5		5
360				144	
420				168	
	8	480			8
	9	540			9
600			10		2

Part 2 Convert the units of measurement below

1) 1 hr	_____ min	5) 240 mins	_____ hrs	9) 5 d	_____ hrs
2) 240 sec	_____ min	6) 72 hrs	_____ d	10) 360 min	_____ hrs
3) 180 sec	_____ min	7) 540 mins	_____ hr	11) 240 hrs	_____ d
4) 2 d	_____ hr	8) 168 hrs	_____ d	12) 480 mins	_____ hrs

Elapsed Time Using Timelines – Word Problems

Questions Use the timeline to solve the problems below. The first one is done for you

1) Chris went skiing at 1:05pm. He went home at 6:25pm. How long did he ski for?



Answer

55m + 2

1h 2

5m

2) Kevin ran a marathon on Saturday. He started at 8:10am and finished at 2:30pm. How long did it take him to run the marathon?



3) Becca drove from Regina to Saskatoon. She started at 7:00am and arrived at 10:10am. How long was the drive?






4) One of the longest movies ever made is 5 hours and 25 minutes. If you started the movie at 1:15pm, what time would it finish?






Elapsed Time Using Timelines**Questions**

How much time has gone by from the first clock to the second clock?




1)

	
4:15	5:55
	
Answer	




2)

	
2:15	11:25
	
Answer	




3)

	
3:50	7:00
	
Answer	




4)

	
1:30	10:25
	
Answer	

5)

	
12:00	7:55
	
Answer	

6)

	
2:55	8:50
	
Answer	

Elapsed Time – Hours/Minutes – Word Problems**Questions**

Read the problems and solve them below.

1. David played in a basketball game that started at 7:15pm. The game ended at 8:50pm. How long was the game?



2. _____ started studying at 3:10pm. He finished studying at 4:47pm. How long did he study for?

3. James started his test at 12:45pm. He has an hour and 25 minutes to finish the test. What time does he need to be done by?



4. Stephanie put her brownies in the oven at 4:07pm. They need to bake for 45 minutes. What time should she take them out?

5. Emma's flight took off at 2:20pm. It landed at 6:15pm. How long was the flight?





Exit Cards

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

Name: _____



1) How much time has gone by from the first clock to the second clock?

1)		
	2:15	3:50
Answer		

2) Solve the problem below.
Emma's flight took off at 3:25pm. It landed at 8:05pm. How long was the flight?

Name: _____



1) How much time has gone by from the first clock to the second clock?

1)		
	2:15	3:50
Answer		

2) Solve the problem below.
Emma's flight took off at 3:25pm. It landed at 8:05pm. How long was the flight?

Name: _____



1) How much time has gone by from the first clock to the second clock?

1)		
	2:15	3:50
Answer		

2) Solve the problem below.
Emma's flight took off at 3:25pm. It landed at 8:05pm. How long was the flight?

Name: _____

1) How much time has gone by from the first clock to the second clock?

1)		
	2:15	3:50
Answer		

2) Solve the problem below.
Emma's flight took off at 3:25pm. It landed at 8:05pm. How long was the flight?

Biking Adventure Elapsed Time Challenge Problems**Questions**

Follow the problem-solving steps below

- | | | |
|-----------------------------------------------------|----------------------------------------------------------|--------------------------------------------|
| <input type="checkbox"/> Read the problem carefully | <input type="checkbox"/> Underline important information | <input type="checkbox"/> Draw pictures |
| <input type="checkbox"/> Use a timeline | <input type="checkbox"/> Solve the problem | <input type="checkbox"/> Check your answer |

Sara went on a bike ride to a far away park today. She left her house at 9:25am.

- a) Sara had lunch after biking for 2 hours and 25 minutes. What time did she have lunch?



- b) She arrived at the park at 2:30pm. How long did it take her to get to the park?

- c) After staying at the park for an hour, she headed home. It took her the same amount of time to get home as it did to get to the park. What time did she arrive home?

Task Cards: Elapsed Time**Objective**

What are we learning about?

To enhance students' ability to calculate exact elapsed times to the minute and reinforce their understanding of time management and clock reading skills.

Materials

What you will need for the activity.

- 24 task cards
- Separate sheet for answers
- Pen or pencil

8-11h
16-18h**Instructions**

What you will do for the activity.

1. Start by explaining the importance of time calculation in daily activities and how it relates to real-life situations.
2. Distribute a set of 24 task cards to each pair of students.
3. Provide each pair with a separate sheet of paper for recording their answers.
4. Instruct students to work in pairs to encourage collaboration and discussion, which can help them learn from each other's reasoning.
5. Explain that they are not required to work through the task cards in order. They can choose any card to start with and proceed at their own pace.
6. Students should write down just the letter of their answer (A, B, or C) on the answer sheet next to the corresponding task card number.
7. If you're using a timer, set a time limit to add a level of challenge and help manage the activity period. This could be the length of the class or a shorter interval, depending on your goals.
8. Once the time is up, or all pairs have completed as many cards as they can, go over the answers as a class. This review helps solidify learning and address any common mistakes or misunderstandings.
9. Encourage pairs to discuss strategies they used and any difficulties they encountered during the activity.

Task Cards

Cut out the task cards below

Card 9:

Start: 10:00 AM, End: 12:30 PM -
What is the elapsed time?

- A) 2 hours
- B) 2.5 hours
- C) 3 hours

Card 13:

Start: 9:09 AM, End: 11:54 AM -
What is the elapsed time?

- A) 2 hours 45 minutes
- B) 2 hours 55 minutes
- C) 2 hours 35 minutes

Start: 4:15 PM, End: 6:45 PM - How
much time has passed?

- A) 2 hours
- B) 2.5 hours
- C) 3 hours

Card 14:

Start: 2:50 PM, End: 4:32 PM - How
long was the duration?

- A) 1 hour 42 minutes
- B) 1 hour 52 minutes
- C) 1 hour 32 minutes

Card 11:

Start: 8:22 AM, End: 10:47 AM -
How much time has elapsed?

- A) 2 hours 25 minutes
- B) 2 hours 15 minutes
- C) 2 hours 35 minutes

Start: 1:05 PM, End: 4:06 AM -
Calculate the elapsed time.

- A) 3 hours
- B) 3 hours 51 minutes
- C) 3 hours 31 minutes

Card 12:

Start: 1:13 PM, End: 3:38 PM - How
much time has passed?

- A) 2 hours 15 minutes
- B) 2 hours 25 minutes
- C) 2 hours 35 minutes

Card 16:

Start: 5:50 PM, End: 7:20 PM - How
much time has elapsed?

- A) 1 hour 30 minutes
- B) 1 hour 40 minutes
- C) 1 hour 20 minutes

Task Cards

Cut out the task cards below

Card 17:

Start: 11:11 AM, End: 12:46 PM -
What is the duration of this
interval?

- A) 1 hour 25 minutes
- B) 1 hour 35 minutes
- C) 1 hour 45 minutes

Card 21:

Start: 7:42 AM, End: 9:17 AM - How
much time has elapsed?

- A) 1 hour 35 minutes
- B) 1 hour 25 minutes
- C) 1 hour 30 minutes

Card 22:

Start: 3:03 PM, End: 5:08 PM - How
long is the period?

- A) 1 hour 55 minutes
- B) 1 hour 45 minutes
- C) 1 hour 35 minutes
- A) 2 hours 5 minutes
- B) 2 hours 15 minutes
- C) 2 hours 10 minutes

Card 19:

Start: 10:30 AM, End: 12:05 PM -
What is the elapsed time?

- A) 1 hour 35 minutes
- B) 1 hour 25 minutes
- C) 1 hour 45 minutes

Start: 1:29 AM, End: 3:58 AM -
What is the elapsed time?

- A) 2 hours 29 minutes
- B) 2 hours 48 minutes
- C) 2 hours 55 minutes

Card 20:

Start: 4:40 PM, End: 7:15 PM - How
much time has passed?

- A) 2 hours 35 minutes
- B) 2 hours 25 minutes
- C) 2 hours 45 minutes

Card 24:

Start: 12:14 PM, End: 3:46 PM -
How long is the period?

- A) 3 hours 32 minutes
- B) 3 hours 22 minutes
- C) 3 hours 28 minutes

Name: _____

199

Task Cards: Elapsed Time

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

Elapsed Time Using Fractions

We can use fractions to explain how much time has elapsed. When using fractions, we use one hour as the whole. For example, if an event took 3 hours and 30 minutes, we could say it took $3\frac{1}{2}$ hours. If it took 2 hours and 20 minutes, we could say it took $2\frac{1}{3}$ hours.



Part 1 Write the fraction for the elapsed time

Elapsed Time	Fraction	Elapsed Time	Fraction
30 minutes	$\frac{1}{2}$ hour	20 minutes	
15 minutes		40 minutes	
45 minutes		90 minutes	

Part 2 Write the fraction for the elapsed time

Elapsed Time	Fraction	Elapsed Time	Fraction
1 hour 30 minutes	$1\frac{1}{2}$ hours	4 hours 30 minutes	
2 hours 15 minutes		6 hours 20 minutes	
5 hours 45 minutes		120 minutes	

Part 3 Write the fraction for the elapsed time



Ellie studied from 5:15 pm to 7:30 pm for a test. How many hours did she study?

Elapsed Time Using Fractions - Word Problems**Questions**

Read the problems and solve them below using fractions

Word Problems

1

Emily started her piano practice at 4:15 PM and finished at 6:45 PM. How many hours did she practice?



2

A movie lasts 2 hours and starts at 6:45 PM. What time does it end?

3

A bus ride starts at 7:00 AM and ends at 9:50 PM. How long is the ride in hours?



4

A train journey lasts $3 \frac{1}{4}$ hours. If it starts at 7:00 AM, what time does the train arrive?

5

Julia watched a movie starting at 2:30 PM and ending at 5:00 PM. How much time did she spend watching the movie?

6

A science experiment takes $2 \frac{3}{4}$ hours to complete. If it starts at 10:05 AM, what time will it finish?

Unit Quiz - Time

Part 1

Convert the units of measurement below

1) 2 hr _____ min

5) 300 mins _____ hr

9) 4 d _____ hrs

2) 360 sec _____ min

6) 48hrs _____ d

10) 240 min _____ hrs

3) 18 _____

7) 540 mins _____ hr

11) 240 hrs _____ d

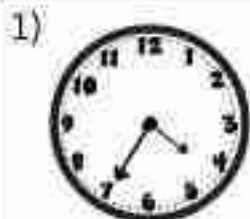
4) 3 d _____

8) _____ d

12) 480 mins _____ hrs

Part 2

How much time has gone by from the first clock to the second clock?



4:35



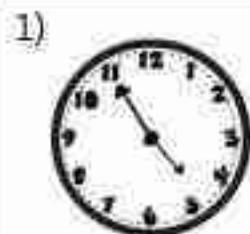
9:35



1:05

Part 3

What time is it? How much time has gone by from the first clock to the next









Part 4

Follow the problem-solving steps below

- Read the problem carefully
 Underline important information
 Draw pictures
 Use a timeline
 Solve the problem
 Check your answer

Devin played video games a lot today. He started playing at 7:35am when he woke up. He took a break at noon (12:00pm) for lunch.

- a) How long did Devin play video games this morning?



- b) Devin joined some of his friends at 2:15pm for more video games. They played together until 5:50pm. How long did he play video games with his friends?

- c) Devin ended up playing 9 hours of video games today. He started playing again after dinner at 7:10pm. What time did he finish playing?

Superimposing Angles

Compare

Cut out the angles and use them to compare the two angles above.
Circle the larger angle.

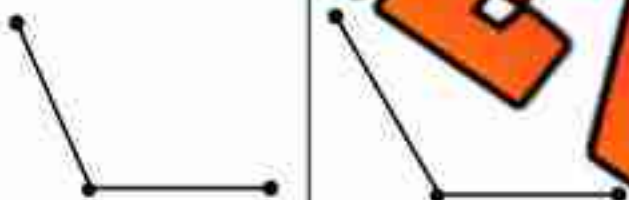
1)



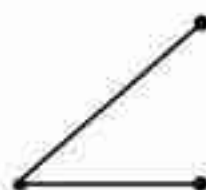
2)



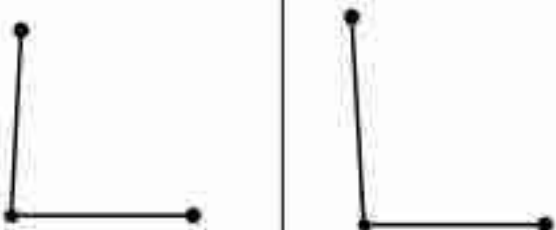
3)



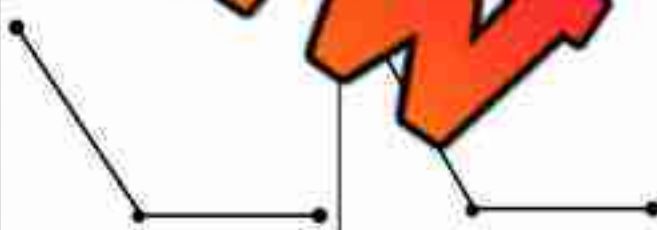
4)



5)



6)



90° Angle


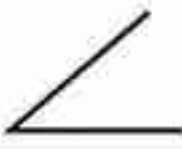




120° Angle







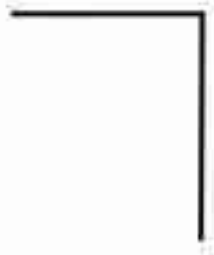

45° Angle

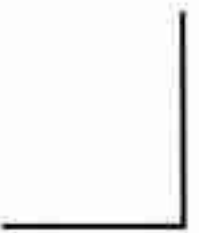



Naming Angles – Right, Obtuse, Acute, and Straight

Right Angle - 90° angle	Acute Angle - smaller than 90° angle	Obtuse Angle - larger than 90° angle	Straight Angle - A straight line
			


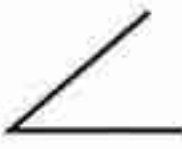


Question Label the angle – straight, acute, obtuse, or right

1) 	3) 	4) 	
right acute obtuse	right acute obtuse	right acute obtuse	right acute obtuse

5) 	6) 	7) 	
straight acute obtuse	right acute obtuse	right acute obtuse	right acute obtuse

9) 	10) 	11) 	12) 
right acute obtuse	right acute obtuse	right acute obtuse	right acute obtuse

Drawing Angles – Right, Obtuse, Acute, and Straight

Right Angle - 90° angle	Acute Angle - smaller than 90° angle	Obtuse Angle - larger than 90° angle	Straight Angle - A straight line
			

Question Draw examples of acute, straight, obtuse, and right angles

1)		3)	4)
Acute	Obtuse		Straight
5)	6)	7)	8)
Obtuse	Right	Acute	Straight
9)	10)	11)	12)
Right	Acute	Obtuse	Straight

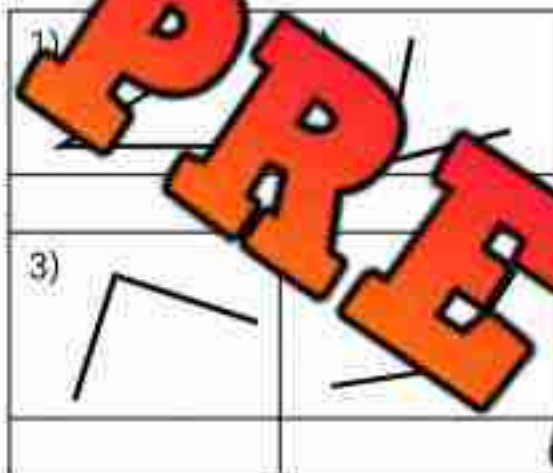
Exit Cards

Cut Out

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

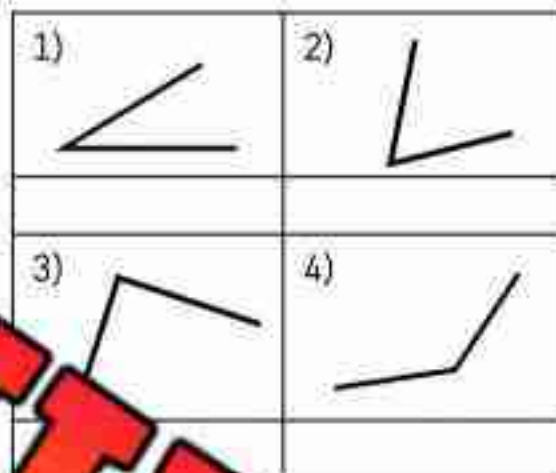
Name: _____

Label the angle - acute, obtuse or right



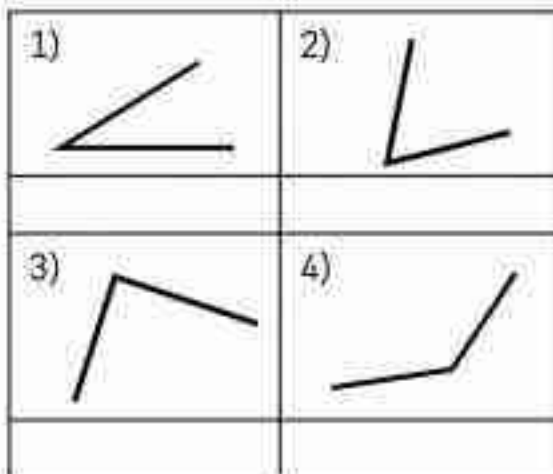
Name: _____

Label the angle - acute, obtuse or right



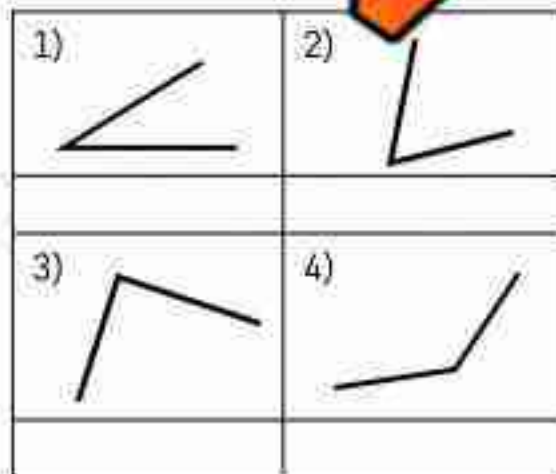
Name: _____

Label the angle - acute, obtuse or right


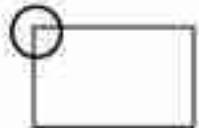
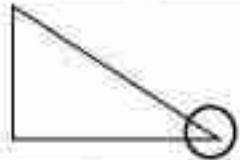
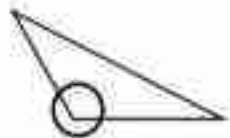


Name: _____




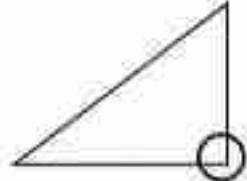
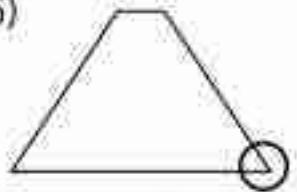


Label the angle - right







Naming Angles in Shapes

Straight Angle	Right Angle	Acute Angle	Obtuse Angle
			

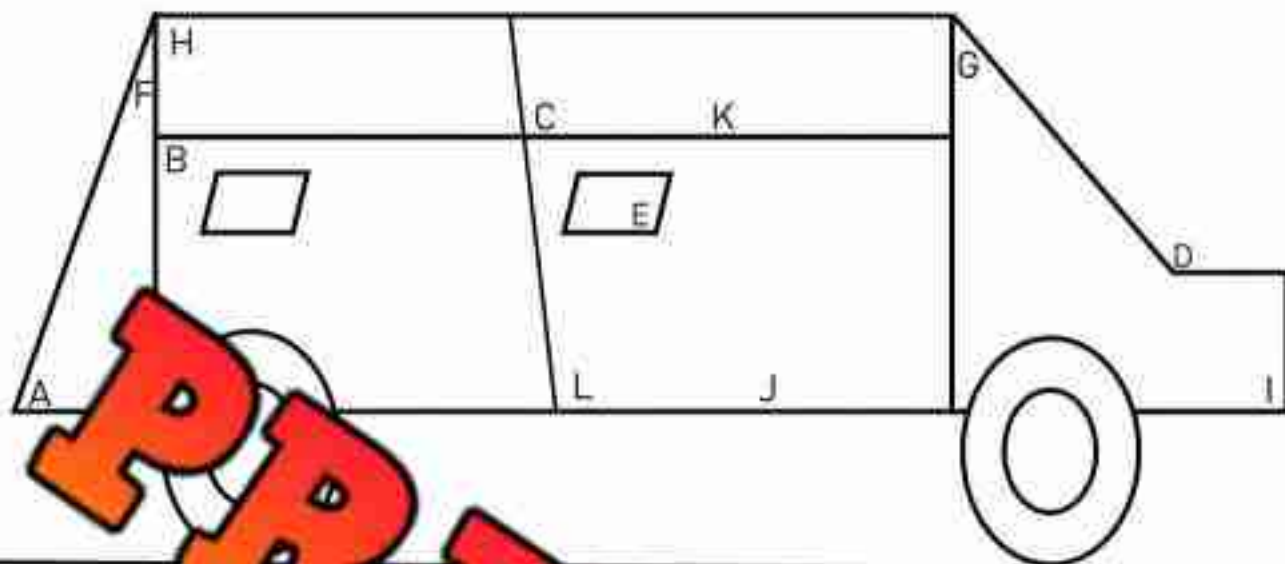
Part 1 Identify the angle that is circled. Then label it obtuse, acute, right, or straight.

1) 	2) 	3) 	4) 
Right Angle			
5) 	6) 	7) 	

Part 2 Circle the angles below on the shapes

9) 	10) 	11) 	12) 
Acute Angles	Obtuse Angles	A right angle	A straight angle

Finding Obtuse, Acute, Straight, and Right Angles



Questions: What are the angles labeled with a letter – straight, acute, obtuse, or right?

Letters	Angle
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	
K	
L	

Finding Obtuse, Acute, Straight, and Right Angles



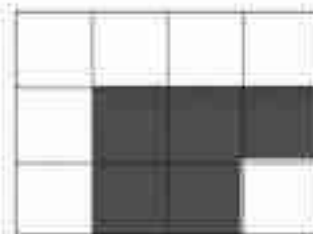
Questions What are the angles with a letter – Straight, Acute, Obtuse, or Right

Letters	Name of Angle	Name of Angle
A		
B		
C		K
D		L
E		M
F		N
G		O
H		P

Introduction to Area

Area is the amount of surface or space inside a two-dimensional region.

Example - The area of the shape is 5 square units.



Questions

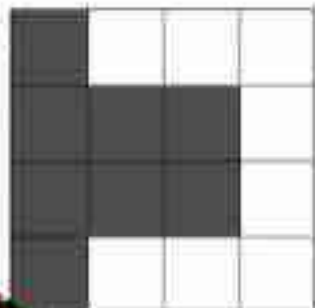
What is the area of the shape in square units?

1)



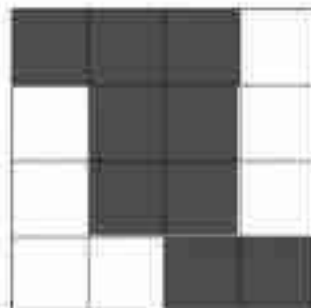
_____ squares

3)



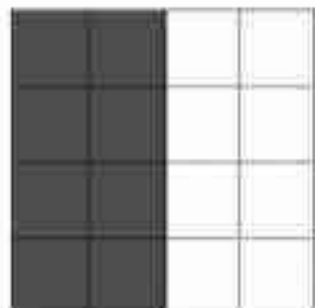
_____ squares

4)



_____ squares

5)



_____ squares

6)



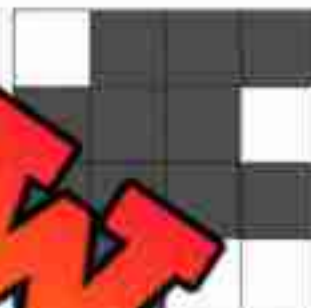
_____ squares

7)



_____ squares

8)



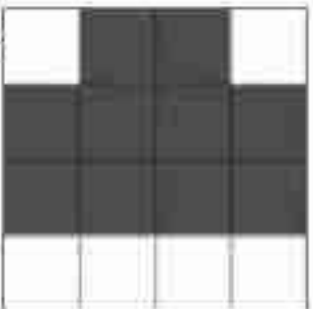
_____ squares

9)



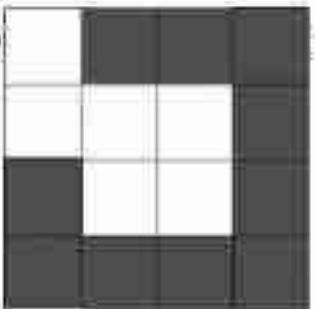
_____ squares

10)



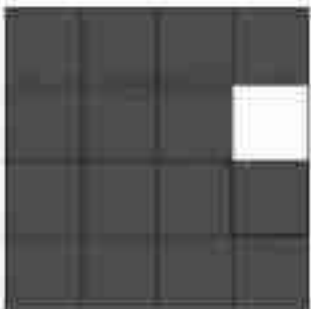
_____ squares

11)



_____ squares

12)

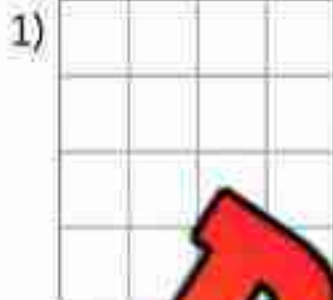


_____ squares

Introduction to Area

Questions

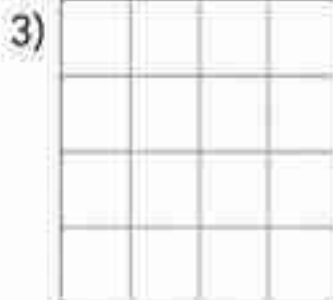
Shade in the area



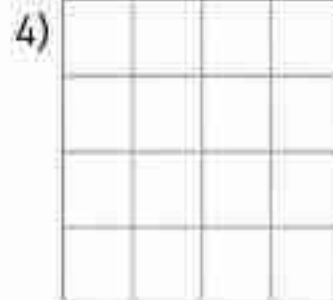
5 square units



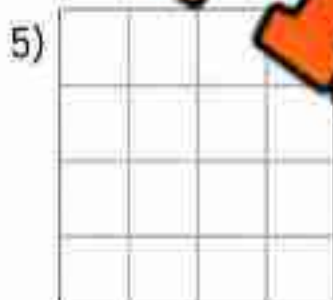
4 square units



11 square units



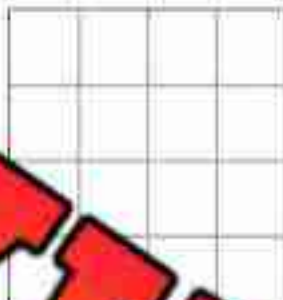
10 square units



16 square units



13 square units



10 square units



15 square units



27 square units



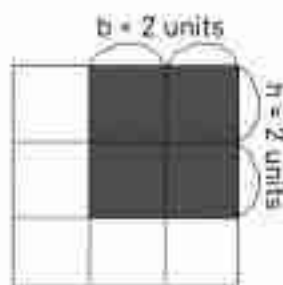
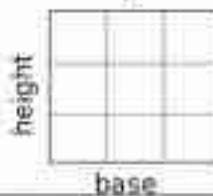
33 square units

PREVIEW

Area – Units Squared

When we calculate the area of a shape, we can use the following formula:

$$A = \text{base (b)} \times \text{height (h)}$$



$$\begin{aligned} A &= l \times w \\ A &= 2 \times 2 \\ A &= 4 \text{ units}^2 \end{aligned}$$

Question Find the area of the shapes below

1)

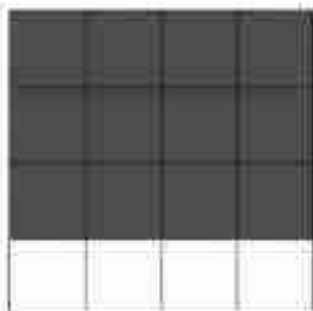


2)



$$\begin{aligned} A &= b \times h \\ A &= ___ \times ___ \\ A &= ___ \text{ units}^2 \end{aligned}$$

3)



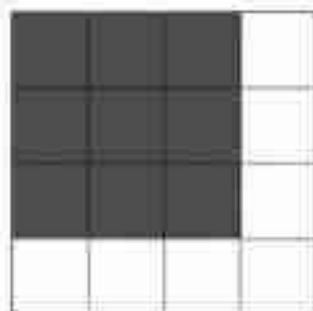
$$\begin{aligned} A &= b \times h \\ A &= ___ \times ___ \\ A &= ___ \text{ units}^2 \end{aligned}$$

4)



$$\begin{aligned} A &= b \times h \\ A &= ___ \times ___ \\ A &= ___ \text{ units}^2 \end{aligned}$$

5)



$$\begin{aligned} A &= b \times h \\ A &= ___ \times ___ \\ A &= ___ \text{ units}^2 \end{aligned}$$

6)



$$\begin{aligned} A &= b \times h \\ A &= ___ \times ___ \\ A &= ___ \text{ units}^2 \end{aligned}$$

7)



$$\begin{aligned} A &= b \times h \\ A &= ___ \times ___ \\ A &= ___ \text{ units}^2 \end{aligned}$$

Name: _____

237

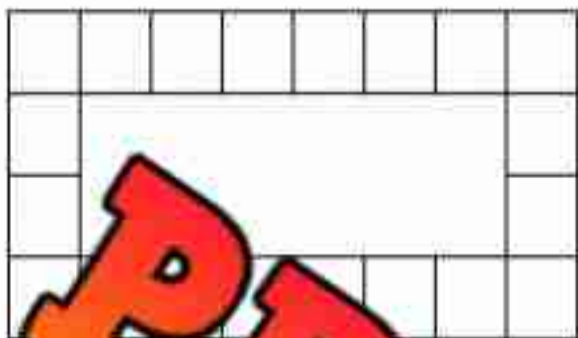
Curriculum Connection
E2.5

Calculating Area Using CM

Questions

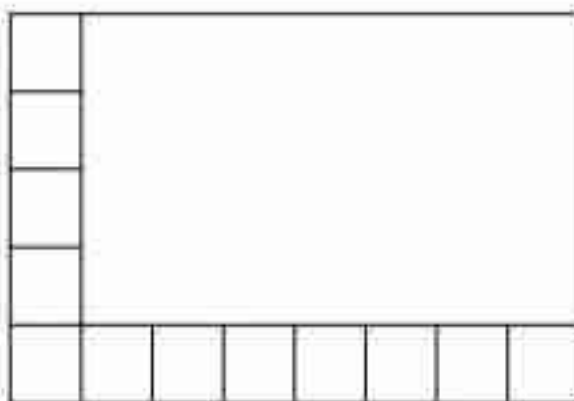
Predict the area of rectangles below

1)



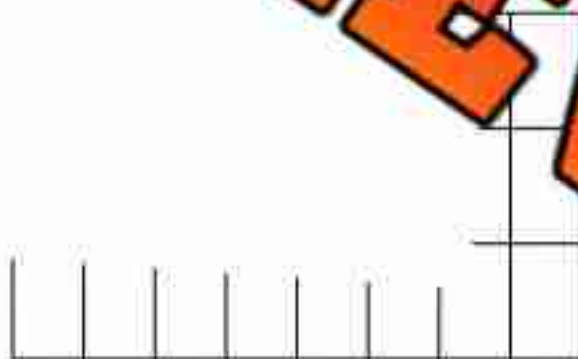
Area = _____

2)



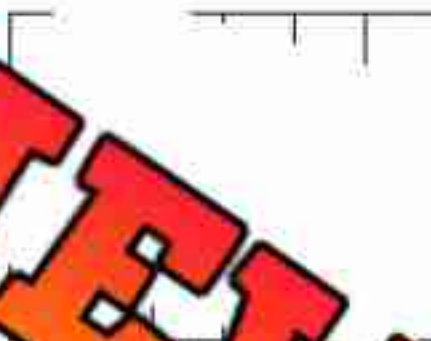
Area = _____

3)



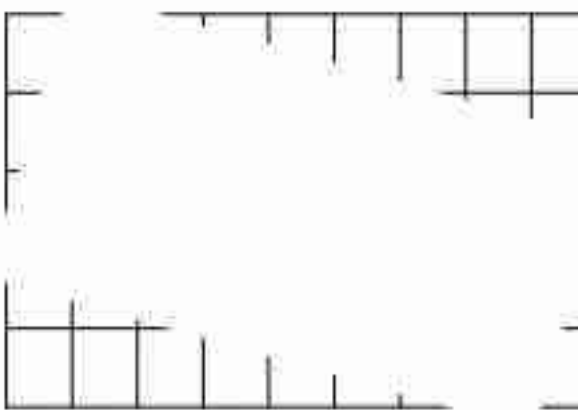
Area = _____

4)



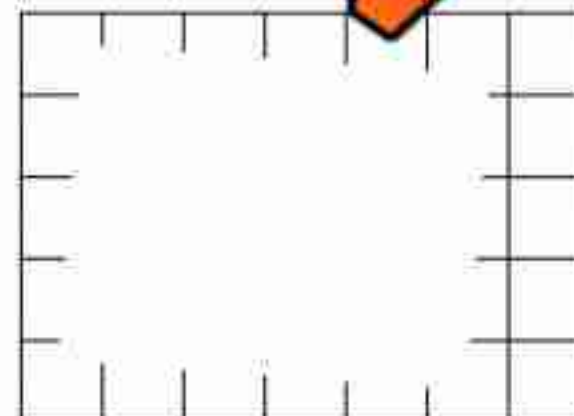
Area = _____

5)



Area = _____

6)



Area = _____

PREVIEW

Calculating Area Using CM

We can draw lines on shapes to segment them into cm squares. Try your best to make the squares equal.

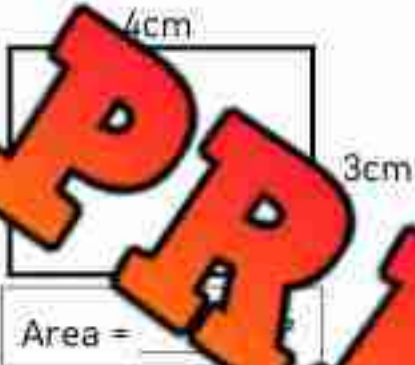
2cm

5cm

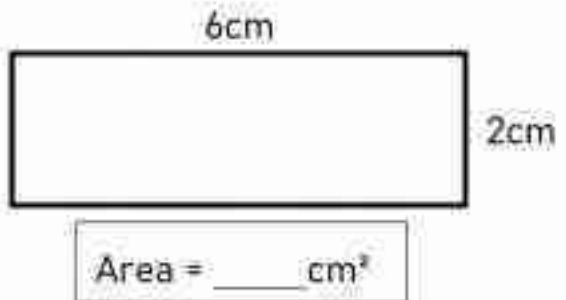
**Questions**

Draw lines in the shapes below to create cm squares. Then count the squares

1)



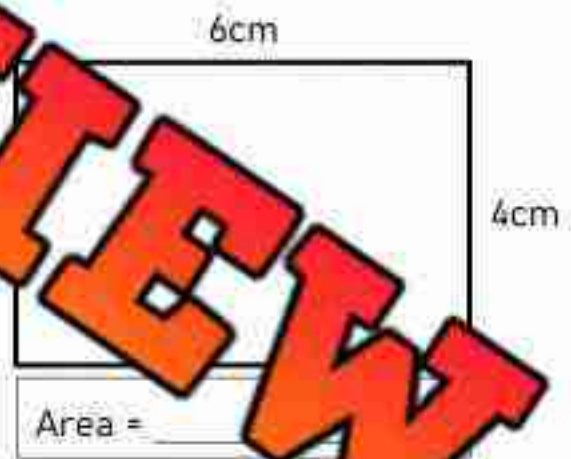
2)



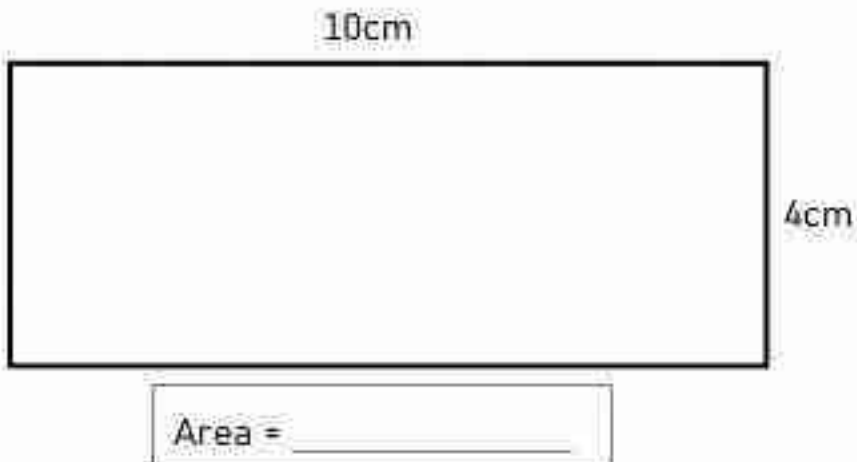
3)



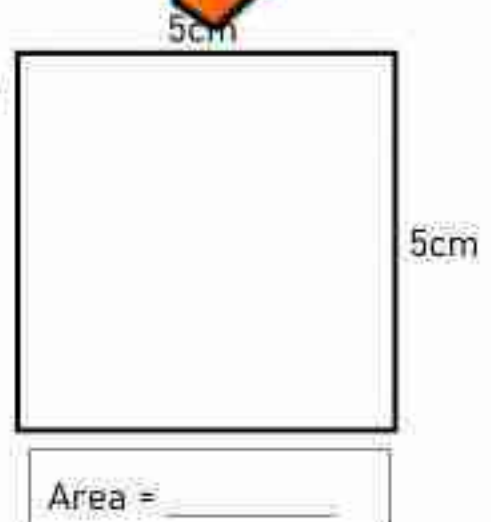
4)



5)



6)



Exit Cards

Cut Out

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

Name: _____

Find the area ($A = b \times h$)

a)



Area = _____

b)



7m

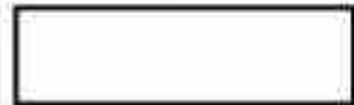
 $A =$ _____ $A =$ _____ m^2

Name: _____

Find the area ($A = b \times h$)

a)

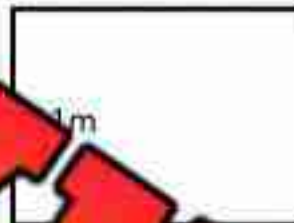
3cm



8cm

Area = _____

b)



7m

 $A = b \times h$ $A =$ _____ \times _____ $A =$ _____ m^2

Name: _____

Find the area ($A = b \times h$)

a)

3cm



8cm

Area = _____

b)



7m

 $A = b \times h$ $A =$ _____ \times _____ $A =$ _____ m^2

Name: _____

Find the area ($A = b \times h$)

a)

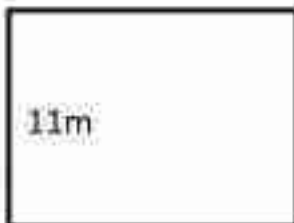
3cm



8cm

Area = _____

b)



7m

 $A = b \times h$ $A =$ _____ \times _____ $A =$ _____ m^2

Finding the Area of Rectangles**Questions**Find the area ($A = b \times h$)

1)

4cm

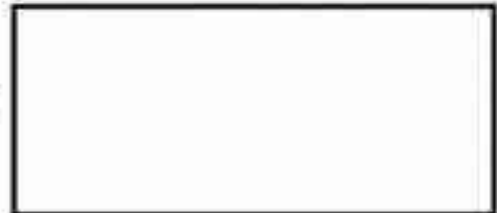


2cm

Area = _____ cm^2

2)

5cm



3cm

Area = _____

3)

5cm



4cm

Area = _____

4)

10cm

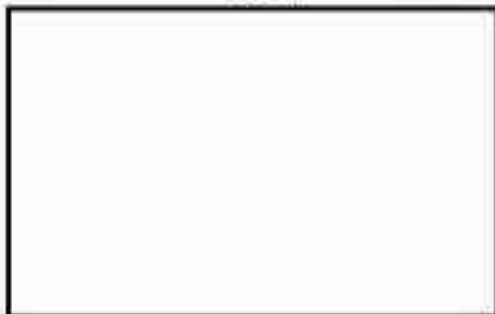


3cm

Area = _____

5)

7cm

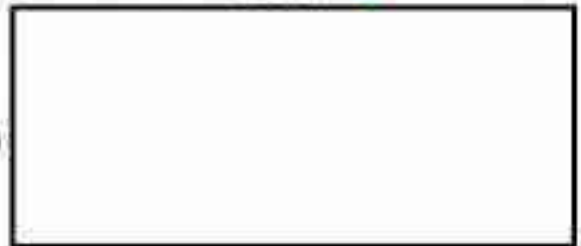


5cm

Area = _____

6)

10cm

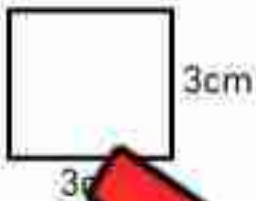


3cm

Area = _____

Finding the Area of Rectangles**Questions**Find the area ($A = b \times h$)

1)



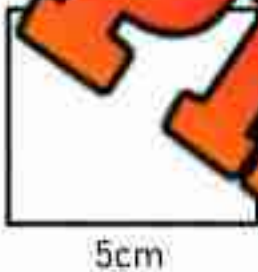
Area = _____

2)



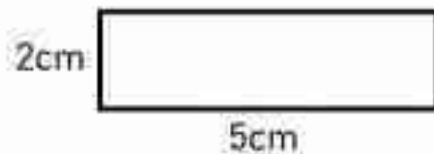
Area = _____

3)



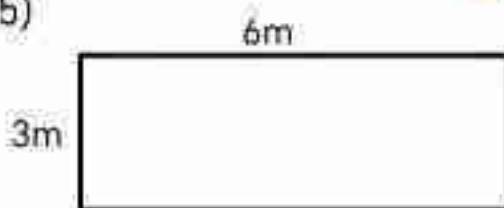
Area = _____

4)



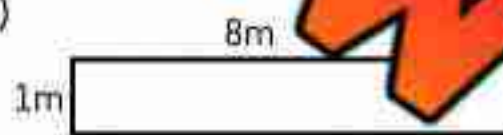
Area = _____

5)



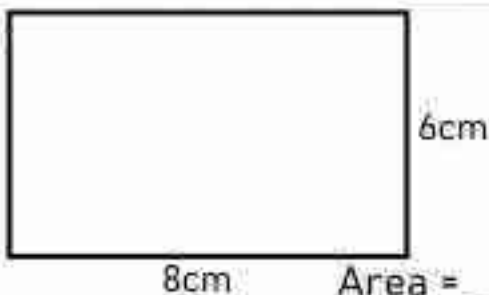
Area = _____

8)



Area = _____

7)



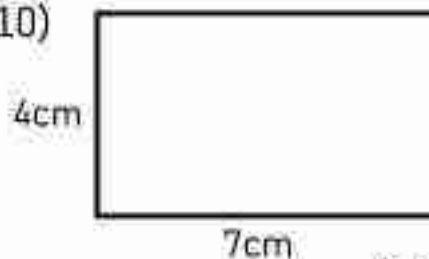
Area = _____

9)



Area = _____


10)



Area = _____

Area Word Problems**Questions**

Answer the questions below

	Word Problems	Answers
1	<p>A rectangular room is 9 metres long and 6 metres wide. If a square tile covers an area of 2 square metre, how many tiles will you need to cover the entire floor?</p>	
2	<p>Mike wants to lay sod in a rectangular yard that measures 12 metres by 7 metres. A roll of sod covers an area of 4 square metres. How many rolls does he need to buy?</p>	
3	<p>A rectangular billboard measures 5 metres in height and 10 metres in length. An advertiser wants to rent half of the billboard's space for a month. If the cost is \$20 per square metre per month, how much will the advertiser pay?</p> 	

Exit Cards

Cut Out

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

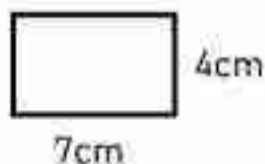
Name: _____

1) Calculate the area. _____

2) A paper is 9cm tall and 6cm wide.
What is the area of the paper?

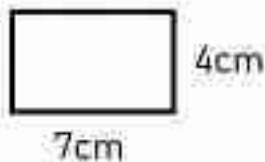
Name: _____

1) Calculate the area. _____

2) A paper is 9cm tall and 6cm wide.
What is the area of the paper?

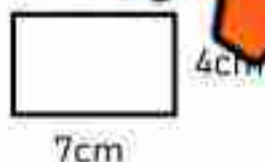
Name: _____

1) Calculate the area. _____

2) A paper is 9cm tall and 6cm wide.
What is the area of the paper?

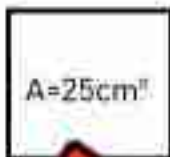
Name: _____

1) Calculate the area. _____

2) A paper is 9cm tall and 6cm wide.
What is the area of the paper?

Finding the Missing Information**Questions**Find the area ($A = b \times h$)

1)

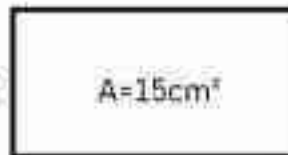


Base = _____

Height = _____

Area = _____

2)



Base = _____

Height = _____

Area = _____

3)

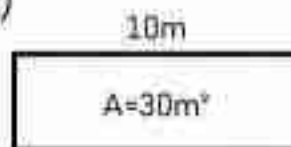


Base = _____

Height = _____

Area = _____

4)

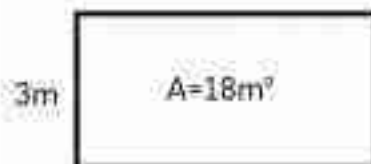


Base = _____

Height = _____

Area = _____

5)



Base = _____

Height = _____

Area = _____

6)

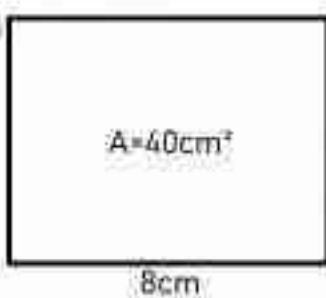


Base = _____

Height = _____

Area = _____

7)

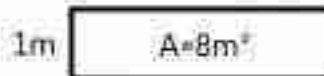


Base = _____

Height = _____

Area = _____

8)

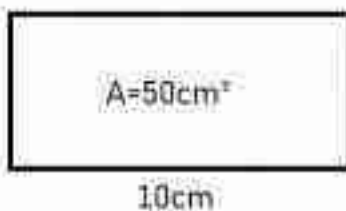


Base = _____

Height = _____

Area = _____

9)

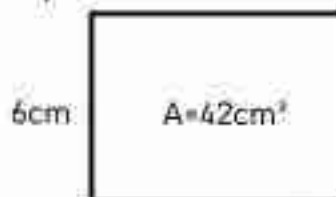


Base = _____

Height = _____

Area = _____

10)



Base = _____

Height = _____

Area = _____

Finding the Missing Information – Word Problems**Questions**

Use the information you have to find the missing height or base

1) A piece of paper has an area of 80cm^2 . The base of the paper is 8cm . What is the height of the paper?



2) John's yard has an area of 72m^2 . The height of the yard is 8m . What is the base?

3) A bus has an area of 21m^2 . The height of the bus is 3m . What is the base?



4) A square poster has an area of 25cm^2 . What is the base and height?

5) A cookie sheet has an area of 48cm^2 . The base of the sheet is 6cm . What is the height of the cookie sheet?



Calculating Area - House



PREVIEW

Questions

Calculate the area of the rooms in the house.

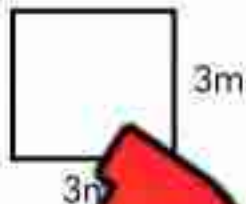
Room	Area
Garage	
Front Porch	
Living Room	
Entrance	
Hallway	
Dining Room	
Kitchen	
Balcony	

Room	Area
Back Deck	
Bathroom 1	
Bathroom 2	
Bathroom 3	
Bedroom 1	
Bedroom 2	
Bedroom 3	

Unit Test – Area**Part 1**

Find the area

1)



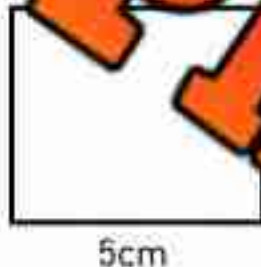
Area = _____

2)



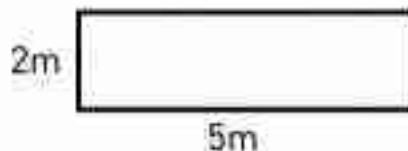
Area = _____

3)



Area = _____

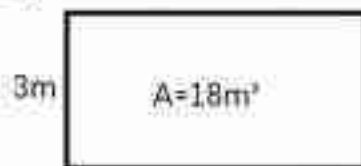
4)



Area = _____

Part 2Find the area ($A = b \times h$)

1)



Base = _____

Height = _____

Area = _____

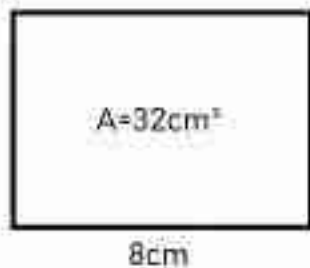
2)



Height = _____

Area = _____

3)

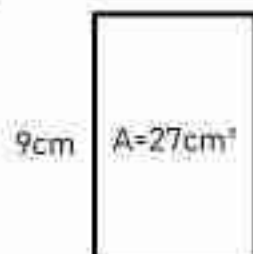


Base = _____

Height = _____

Area = _____

4)



Base = _____

Height = _____

Area = _____

Part 3 Solve the word problems below. Make sure to show your work.

1) A piece of paper is 8cm wide and 10cm tall. What is the area of the paper?

2) Henry's picture frame has an area of 56cm^2 . The frame has a base of 7cm. What is the height of the frame?

3) A bus has an area of 72m^2 and a height of the bus in 4m. What is the base?

Part 4 Answer the questions about centimeter squared referents.

1) What is a good referent for a cm^2 ?

2) Using the referent above, how many centimetres squared is this paper?

3) Using the referent above, how many cm^2 is your desk/tabletop?

4) Using the referent above, how many cm^2 is the average phone?



Google Slides Lessons Preview





Ontario Math Curriculum

Data - Graphing & Probability - Grade 4

3-Part Lesson Format

Part 1 – Minds On!

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

QUALITATIVE VS QUANTITATIVE DATA

Learning Goal

We are learning to identify and describe qualitative and quantitative data using real-life examples and surveys, so we can choose the best way to collect and explain information.

QUALITATIVE VS QUANTITATIVE DATA

Read the data descriptions and decide if they are quantitative or qualitative. ✨

Description of data	Quantitative	Qualitative
1) Number of books read by students this month		
2) Favorite sport of students in Grade 4		
3) Types of pets students have at home		
4) Colors of backpacks in the classroom		
5) Temperature outside during recess		
6) Time spent doing homework each night		
7) Type of lunch students bring to school		
8) Number of goals scored in a hockey game		
9) Brand of running shoes students wear		
10) Height of plants grown in the school garden		

Part 2 – Action!

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

Part 3 – Consolidation!

- Exit Cards
- Quizzes
- Reflection
- And More!

STEM AND LEAF PLOT

Read the stem and leaf plots and fill in the tables below. 1 2 3 4 5 6 7 8 9 0

Stem	Leaf	Data Set	Stem	Leaf	Data Set
3	7	Mean	2	4 6	Mean
4	2 9	Median	3	1 5 8	Median
6	1 1	Mode	4	4	Mode
9	9	Mean	5	0 2	Mean
10	2 4	Median	6	3 3 7	Median
11	0 0	Mode	7	1	Mode



Ontario Math Curriculum

Data - Graphing & Probability - Grade 4

DOUBLE BAR GRAPHS

Selected kids and adults chose their favourite movie genre. The results were displayed in the bar graph below.

Questions:

- I Which movie genre is liked the most by both groups?
- II Which movie genre is liked the least by both groups?
- III What should be the title of the X-axis?
- IV What should be the title of the Y-axis?
- V What is the mode for Adults and Kids?
- VI Did more Kids or Adults participate in the survey?

Genre	Kids	Adults
Adventure	85	75
Sci-Fi	65	55
Movie Genre	85	95
Action	45	45
Family	25	35
Comedy	15	25
Animated	10	15
# of votes	300	300

MULTIPLE BAR GRAPHS

The students in Grade 4, Grade 5, and Grade 6 were asked to vote for their favourite school subject. The results are shown in a multiple bar graph below.

Questions:

- I How many subjects were surveyed in Grade 4?
- II Which subject was the most popular overall?
- III What is the least popular subject in Grade 5?
- IV Which subject was most popular in Grade 6?

Subject	Grade 4	Grade 5	Grade 6
Math	15	25	35
Language	25	35	45
Science	35	45	55
Art	45	55	65
Music	55	65	75

PUSH-UPS COMPLETED IN ONE MINUTE

Results are shown below.

1 2 3 4 5 6 7 8 9 0

Push-Ups Completed in One Minute

Push-Up Count	# of Students
10 - 14	1
15 - 19	3
20 - 24	5
25 - 29	2

10 - 14 15 - 19 20 - 24 25 - 29

36 of the students did 15-19 Push-Ups



Workbook Preview





Grade 4 D1. – Data Literacy



	Curriculum Expectations	Pages That Cover the Expectations
D1.1	describe the difference between qualitative and quantitative data, and describe situations where each would be used	5 - 11
D1.2	collect data from different primary and secondary sources to answer questions of interest that involve	12 - 14, 28 - 36, 86
D1.3	graphs	42 - 91
D1.4	create an infographic about a data set, representing the data in appropriate ways, including in frequency tables, stem-and-leaf plots, and multiple-bar graphs, and incorporating any other relevant information that helps to tell a story about the data	92 - 93
D1.5	determine the mean and the median and identify the mode(s), if any, for various data sets involving whole numbers, and explain what each of these measures indicates about the data	15 - 25, 55 - 59
D1.6	analyse different sets of data presented in various ways, including in stem-and-leaf plots and multiple-bar graphs, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions	37, 39 - 43, 45 - 70, 96 - 97

**Preview of 80 pages from
this product that contains
234 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 from the sale last month	Quantitative Qualitative
2) Heights of girls in grade 4	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 4 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 quantitative 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 ask your classmates what their favourite pizza topping is	Primary	Secondary
2) You ask the principal how many teachers work in your school	Primary	Secondary
3) You record how many calories are in different types of drinks	Primary	Secondary
4) You look up the number of snow days in your city	Primary	Secondary
5) You research how many goals a player scored per game in his first 10 seasons	Primary	Secondary
6) You record how many sit-ups your classmates can do in one minute	Primary	Secondary
7) You weigh 5 different cookies you buy from a bakery	Primary	Secondary
8) You research how many kids in Canada do gymnastics	Primary	Secondary
9) You look up the speeds of 5 different computers for sale	Primary	Secondary
10) You measure the heights of the kids in your class	Primary	Secondary

Part 2 Write your own primary and secondary data descriptions below

1) Primary	
2) Secondary	
3) Primary	
4) Secondary	

MEAN

When we calculate the mean, we are finding the average of a set of numbers.

Example:

Three brothers named Josh, Cameron, and Morgan went on an easter egg hunt. Josh found 6 eggs, Cameron found 4, and Morgan found 5. At the end of the hunt, their mother told them to share the eggs equally. So, they decided to put all the eggs in the middle and then divide them equally to themselves. They had $6 + 4 + 5 = 15$ eggs and $15 \div 3 \text{ kids} = 5$ eggs each.

**Questions**

It's Halloween - I got the candy and then fair share it



Mean = _____



Mean = _____

MEAN

Mean = the average in a set of data.

Step 1: Add up the numbers in the data set.

Step 2: Divide the sum by the amount of numbers in the set.

Example:

Data set: 5, 6, 8, 5

Step 1: $5 + 6 + 8 + 5 = 24$

Step 2: $24 \div 4 = 6$



Questions: Find the mean for each data set below

1) 1, 2, 3, 4	2) 8, 4, 12, 4
3) 12, 6, 10, 8	4) 20, 10, 30, 20
5) 23, 35, 24, 30	6) 46, 28, 30, 20
7) 12, 19, 12, 26, 31	8) 15, 8, 20, 16, 11
9) 13, 18, 17, 22, 30	10) 42, 36, 55, 23, 14

MODE

Mode: The mode is the category with the highest frequency. In a data set, the mode is the number that occurs the most.

For example: Twelve grade 5s were asked their age. The results are listed in the data set below:

10, 10, 9, 10, 9, 10, 10, 10, 9, 9, 10, 10

As you can see from the frequency table, there were 8 votes for 10 year olds and only 4 for 9 years old. Therefore, the mode is 10. In a tie, both or all numbers are the mode. You may also notice that the frequency does not tell us which category is the mode. The frequency does tell us which category is the mode.

Age	9	10
Frequency	4	8

Questions

Grade 5 students were asked their age. They are listed in the data sets below. Put the data in the frequency table and write the mode(s).

Data Set	Ordered List	Mode								
1) 13, 11, 11, 15, 13, 16, 11	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;">13</td> <td style="width: 15%; text-align: center;">15</td> <td style="width: 15%; text-align: center;">16</td> </tr> <tr> <td style="text-align: center;">Frequency</td> <td></td> <td></td> <td></td> </tr> </table>		13	15	16	Frequency				
	13	15	16							
Frequency										
2) 28, 22, 23, 22, 25, 25, 28	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">#</td> <td style="width: 15%; text-align: center;">22</td> <td style="width: 15%; text-align: center;">25</td> </tr> <tr> <td style="text-align: center;">Frequency</td> <td></td> <td></td> </tr> </table>	#	22	25	Frequency					
#	22	25								
Frequency										
3) 35, 37, 49, 35, 35, 37, 49, 35	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">#</td> <td style="width: 15%; text-align: center;">35</td> <td style="width: 15%; text-align: center;">37</td> <td style="width: 15%; text-align: center;">49</td> </tr> <tr> <td style="text-align: center;">Frequency</td> <td></td> <td></td> <td></td> </tr> </table>	#	35	37	49	Frequency				
#	35	37	49							
Frequency										
4) 54, 58, 58, 54, 54, 54, 65, 58	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">#</td> <td style="width: 15%; text-align: center;">54</td> <td style="width: 15%; text-align: center;">58</td> <td style="width: 15%; text-align: center;">65</td> </tr> <tr> <td style="text-align: center;">Frequency</td> <td></td> <td></td> <td></td> </tr> </table>	#	54	58	65	Frequency				
#	54	58	65							
Frequency										

Mode and Frequency Tables

Questions

Answer the questions below

1) Tracy ran 7 races. Her times in seconds are listed in the data set below:

28, 29, 22, 26, 23, 25, 24



a) Fill in the frequency table

b) What is the mode?

c) When is it possible to have more than one mode in a data set?

2) Bella recorded her grades on math tests this year. Her grades are listed below:

B, B, A, C, A, A, B, D, A, A, A, B, A, A, B, C, A, A, A, C, B, A, A, B, D, A, A, B

a) Fill in the frequency table

Grades						
Frequency						

b) What is the mode?

3) Courtney did 30 sets up pull-ups. She recorded how many reps she did in each set.

8, 7, 8, 6, 7, 6, 7, 5, 6, 6, 5, 4, 5, 5, 4, 3, 4, 5, 3, 3, 4, 5, 3, 2, 3, 3, 2, 2, 4, 2

a) Fill in the frequency table

Pull-Ups	2	3	4	5	6	7	8
Frequency							

b) What is the mode?

Name: _____

Mean and Mode

Hockey Goals



7 8 6 1 2 6

Mean: _____

Mode: _____

Basketball Points



22 29 33 22 19

Mean: _____

Mode: _____



Minutes Read Per Day

17 23 19 17 19 25

Mean: _____

Mode: _____



Test Scores

72 76 85 78 76

Mean: _____

Mode: _____



PREVIEW

MEDIAN

Median: The median is the middle number in a data set.

Step 1: put numbers in order from least to greatest

Step 2: circle the number in the middle.



*** If there is an even amount of numbers in the data set, add the two numbers in the middle together and divide by 2. This is the median.

	Ordered List	Median
8, 12	4, 7, 8, 8, 12, 15	$8 + 8 = 16$ $16 \div 2 = 8$
25, 35, 12, 53, 15,		
18 17, 11, 15, 14, 41		
231, 412, 165, 132, 335, 65		
5.7, 1.3, 1.5, 2.5, 6.8, 1.0, 2.4		
12, 28, 0, 0, 22, 0, 36, 42		
130, 265, 217, 323, 112, 203		
11, 14, 125, 214, 425, 135, 163		

MEDIAN**Part 1**

Answer the questions below

1	At recess, five students timed their jump-rope counts in one minute: 45, 52, 48, 40, 50. What is the median jump count?	
2	Eight students each filled a small cup with grapes; they counted 8, 12, 15, 13, 10, 14 grapes. What is the median number of grapes?	
3	On a cold day, a scientist recorded five temperatures (in °C): -2, 3, 1, 0, 4. What is the median temperature?	
4	On Saturday and Sunday, a trail hiker counted his steps each hour during a ten-hour walk-athon: 1200, 1300, 1400, 1500, 1600, 1700, 1800, 2280, 2200, 3120, 2160, 2140. What is the median number of these hourly step-counts?	

Challenge

Answer the questions below

During a school fundraiser, Grade 4 students sold raffle tickets in five different time slots. In the first hour, they sold 12 tickets. In the second hour, they sold 3 more than in the first hour. In the third hour, they sold 5 fewer than in the second hour. In the fourth hour, they doubled their first-hour sales. In the fifth hour, they sold 2 fewer than in the third hour.

1) How many tickets were sold in total?

2) What is the median number of tickets sold?



Review

Questions

Fill in the table using the different measures of central tendency



Data Set	33, 12, 27, 33, 14, 25, 17
Mean	
Median	
Mode	

Data Set	115, 135, 146, 101, 115, 126
Mean	
Median	
Mode	

Data Set	3.5, 4.0, 4.5, 6.5, 7.0, 4.5
Mean	
Median	
Mode	

Data Set	215, 124, 110, 315, 216, 124
Mean	
Median	
Mode	

Rob got the following marks on his math tests throughout the year. What is his average mark?

87 75 62 98 65 78

Answer: _____

Stem and Leaf Plots

A stem and leaf plot is another way to organize data so it can be better understood. The stem represents the first digit or digits, and the leaf represents the last digit.



How to create a stem and leaf plot

1. Put the numbers in order from smallest to largest.
2. Determine the stems by looking at the first number. Sometimes you will have two-digit stems.
3. Write the corresponding leaf (the last digit) under the leaf part of the table.

Question: Complete the stem and leaf plots below

1) 22, 34, 45, 56, 67, 78, 89

Stem	Leaf

2) 42, 14, 15, 18, 32, 38, 56, 54

Stem	Leaf

3) 76, 84, 34, 55, 64, 22, 25

Stem	Leaf

4) 145, 137, 125, 118, 109, 137, 146

Stem	Leaf

Stem and Leaf Plots

A stem and leaf plot is another way to organize data so it can be better understood. The stem represents the first digit or digits, and the leaf represents the last digit.



Questions

Read the stem and leaf plots and fill in the tables below

1.

Stem	Leaf
5	6
6	

Data Set	
Median	
Mean	
Mode	

2.

Stem	Leaf
2	1, 5, 5
4	4
6	8
7	4, 6, 9
9	4, 4

Data Set	
Median	
Mean	
Mode	

3.

Stem	Leaf
3	3, 3, 5
5	2
7	3, 5
8	8, 8
9	4, 9

Data Set	
Median	
Mean	
Mode	

4.

Stem	Leaf
2	3, 7
4	5, 5
5	3
7	0, 7
9	0, 1, 9

Data Set	
Median	
Mean	
Mode	

Collecting Data – Stem and Leaf Plot

Directions

Find out how many times the students in your class breathe in a minute

Your teacher will start a 1-minute timer. Your job will be to count how many breathes you take in the one minute. Try to breathe normally. Write your result below.

How many _____s did I breathe in one minute?



State _____ of _____ many times do the students in my class breathe in a minute

Data Set

(Write everyone's results or sample 10 students)

Put the results in order from smallest to largest

Stem

Leaf

Collecting Data – Stem and Leaf Plot

Calculate

Calculate the measures of central tendencies below

Mean	
Median	
Mode	

Questions

Answer the questions below

1) Is the data quantitative or qualitative?

2) Is the data primary or secondary data? Explain.

3) Did you have an above average or below average breathe rate? Explain.

4) What did you learn about the data?

Exit Cards

Cut Out

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

Fill in the stem and leaf plot below

22, 12, 15, 16, 34, 53, 56

Stem

Leaf

Fill in the stem and leaf plot below

22, 12, 15, 16, 34, 34, 53, 56

Stem

Leaf

Fill in the stem and leaf plot below

22, 12, 15, 16, 34, 34, 53, 56

Stem

Leaf

Fill in the stem and leaf plot below

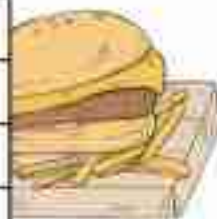
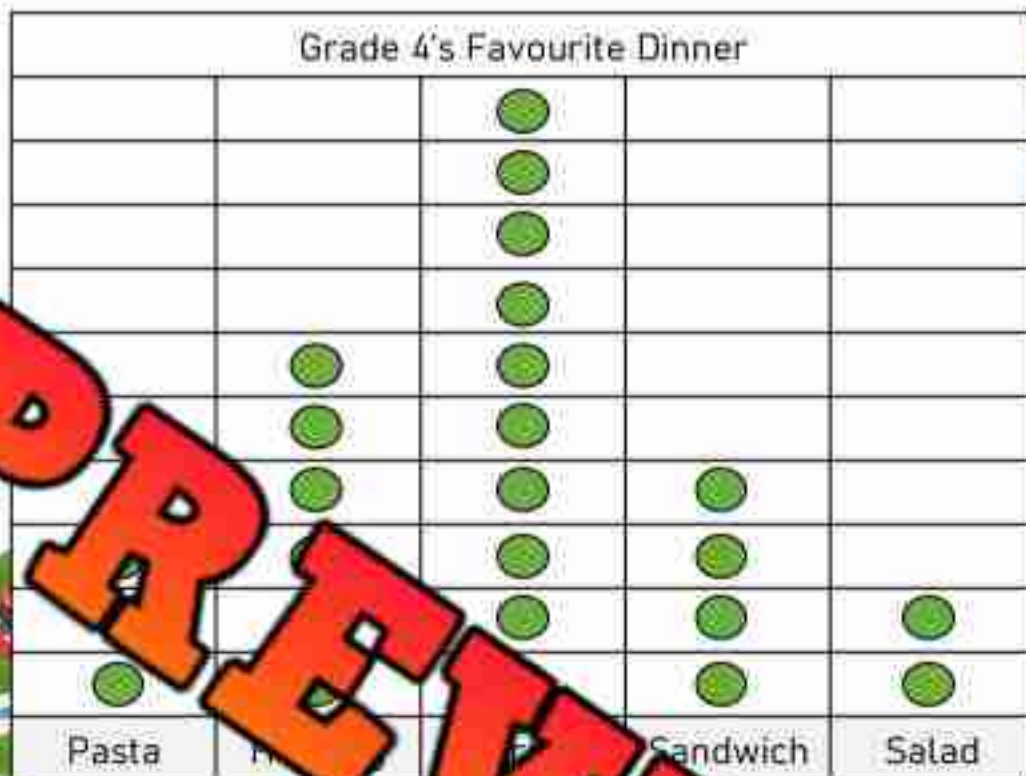
22, 12, 15, 16, 34, 34, 53, 56

Stem

Leaf

Reading a Line Plot – Favourite Dinner

Grade 4's Favourite Dinner



Dinner	Pasta	Hot Dog	Burger	Sandwich	Salad
Frequency					

Questions

Read the line plot and answer the questions.

a) Write the statistical question for the graph.

b) Which dinner was the most popular?

c) Which dinner was the least popular?

d) How many total people were asked the survey question?






e) How many more people like burgers than salad?


f) Would a line plot be a good graph if you had a lot of data – over 100 responses? Explain

Horizontal Pictograph - Candy

A **pictograph** is a graph that displays data using symbols or pictures. They often use many-to-one versus one-to-one correspondence.

Sam and his friends collected candy on Halloween. The amount of candy each friend collected is displayed below in the pictogram.

Friend	Number of Candies Collected	Frequency
Sam		
Steve		
Tony		
Jill		
Stacy		

 = 4 Candies

a) How much is one candy worth?

b) Who collected the most candy?

c) How much more candy did Jill collect than Tony?

d) Did Sam and Steve collect more or less candy than Stacy and Jill?

e) How much total candy was collected?

Exit Cards

Cut Out

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

Name: _____

Write down the number of shoes each student has.

Friend	Number of Shoes Students Have	Total
Liam		
Olivia		
Ethan		
Ava		
 = 4 Shoes		

Name: _____

Write down the number of shoes each student has.

Friend	Number of Shoes Students Have	Total
Liam		
Olivia		
Ethan		
Ava		
 = 4 Shoes		

Name: _____

Write down the number of shoes each student has.

Friend	Number of Shoes Students Have	Total
Liam		
Olivia		
Ethan		
Ava		
 = 4 Shoes		

Name: _____

Write down the number of shoes each student has.

Friend	Number of Shoes Students Have	Total
Liam		
Olivia		
Ethan		
Ava		
 = 4 Shoes		

Creating a Vertical Pictogram

James participated in a reading challenge last week. He read each day and wrote down how many minutes he read for each day of the week.



Sunday	15
Monday	30
Tuesday	20
Wednesday	15
Thursday	35
Friday	40
Saturday	20



PREVIEW

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday



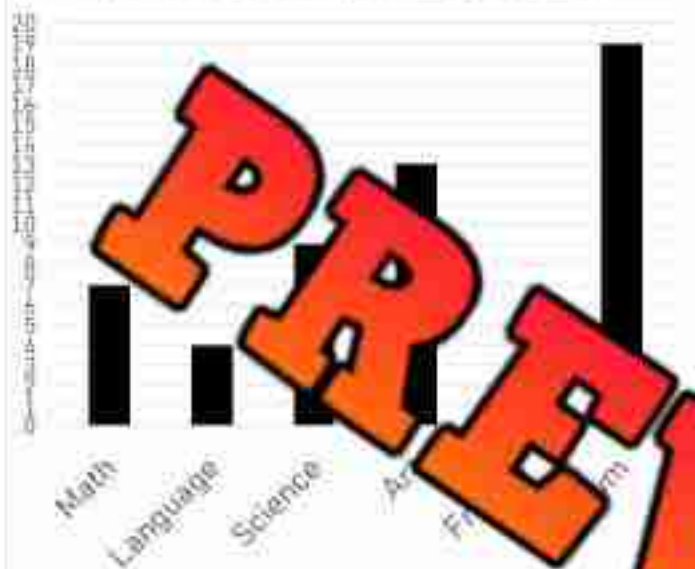
= 10 minutes

- | | |
|--------------------------------------------------------------------------------------------------------|--|
| 1) What day did he read the most? | |
| 2) How many more minutes did he read on Friday than Wednesday? | |
| 3) Did James read <u>more</u> or <u>less</u> on Monday and Tuesday than he did on Friday and Saturday? | |

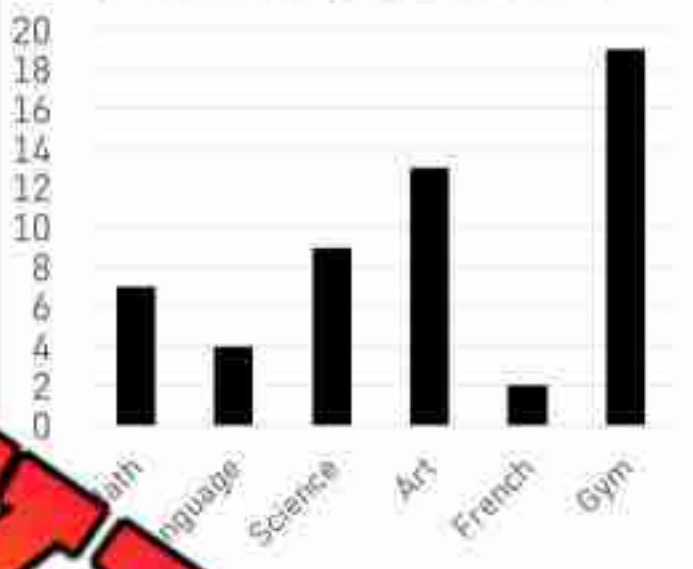
One-to-One vs Many-to-One

The grade 4's from Wellington Elementary School were asked which subject was their favourite. The results have been displayed in two different bar graphs.

Favourite Subject - Scale = 1



Favourite Subject - Scale = 2



a) Which subject was most popular?

b) Which subject was the least popular?

c) How many more students liked gym than French?

d) How many students were surveyed?

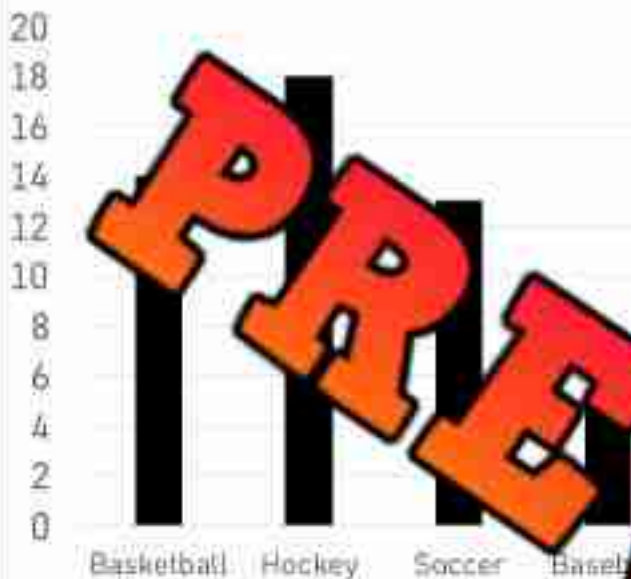
e) What is different about the two graphs? Which graph is easier to read?

f) When is it better to use larger numbers for your scale? When should you use smaller numbers, like one-to-one?

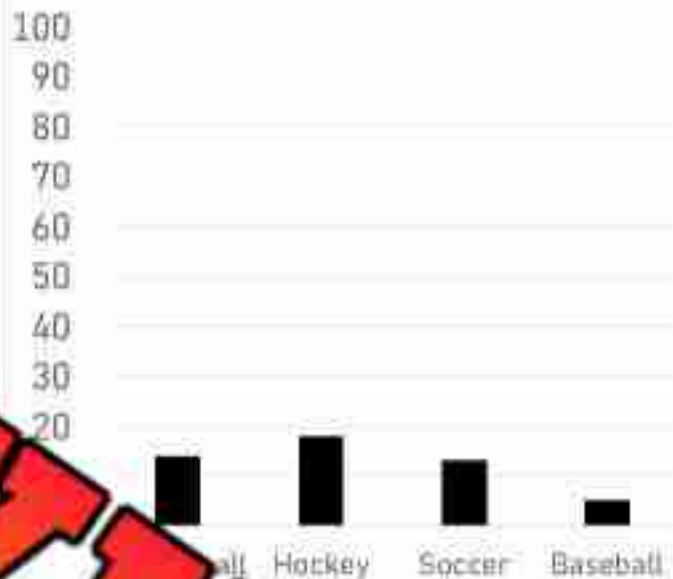
Favourite Sport – Examining Scale

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

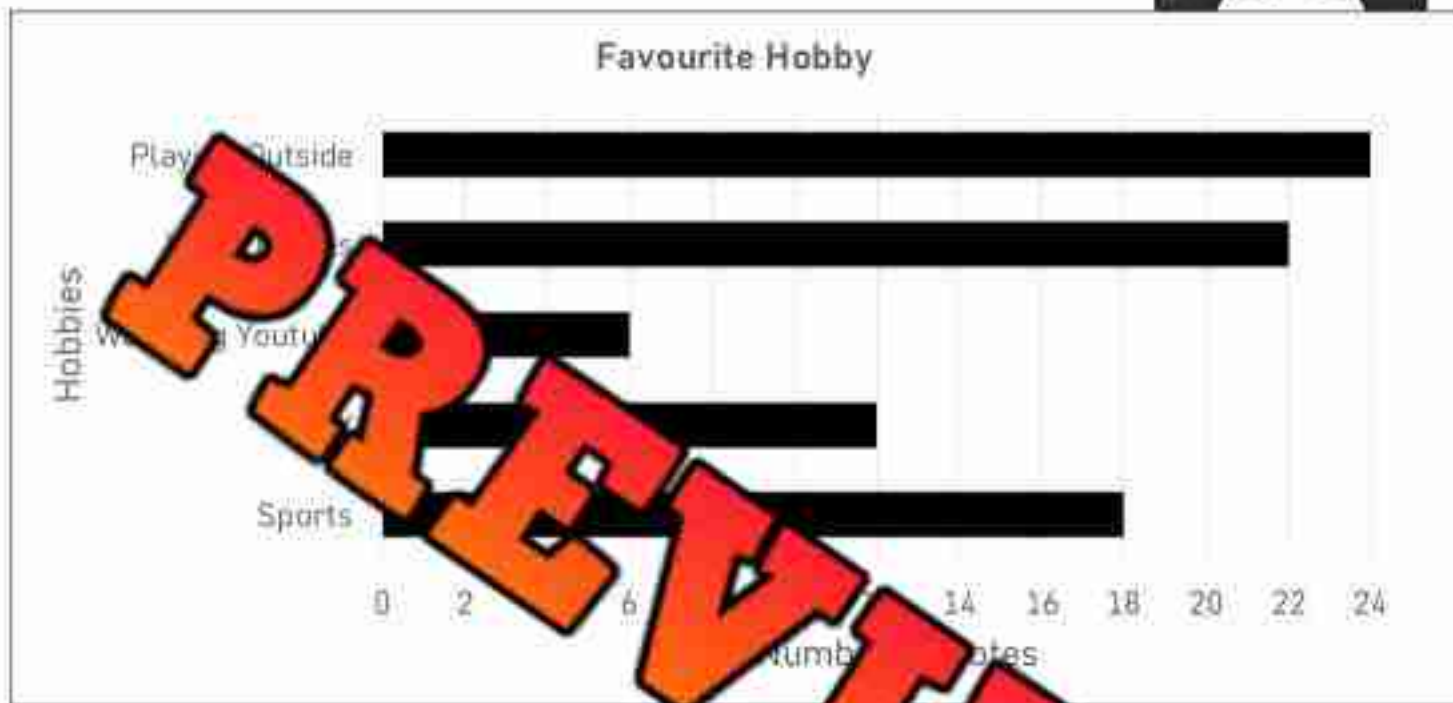
What do you notice about the two graphs?

- What is the scale in Graph A?
- What is the scale in Graph B?
- Which graph uses more of the space?
- Which graph is easier to read and interpret? Why is that graph better?

- Why is it important to choose an appropriate scale?

Horizontal Bar Graph – Favourite Hobby

100 people were surveyed about their favourite hobby.
The results have been displayed in the graph below.



a) Which hobby is the most popular?

b) What are the 2 labels (titles) for the x and y axis?

{y}

c) How many people chose video games as their favourite?

d) How many people liked playing outside and TV the best?

e) How many people liked sports more than watching YouTube?

f) What two hobbies add up to the amount of people who chose playing outside?

g) How many people were surveyed?

Exit Cards

Cut Out

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

Name: _____

Favourite Ice Cream Flavours

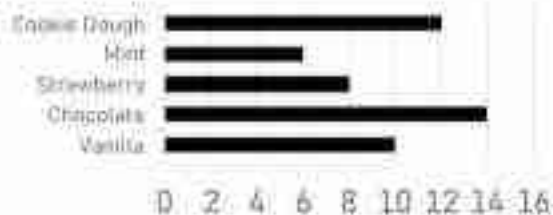


1) Which category of ice cream is most popular?

2) How many people were surveyed?

Name: _____

Favourite Ice Cream Flavours

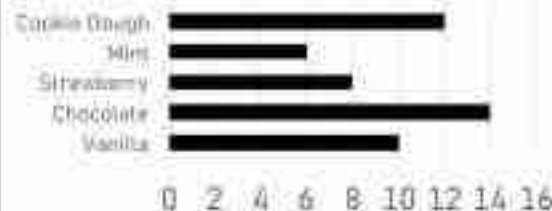


1) Which category of ice cream is most popular?

2) How many people were surveyed?

Name: _____

Favourite Ice Cream Flavours



1) Which category of ice cream is most popular?

2) How many people were surveyed?

Name: _____

Favourite Ice Cream Flavours

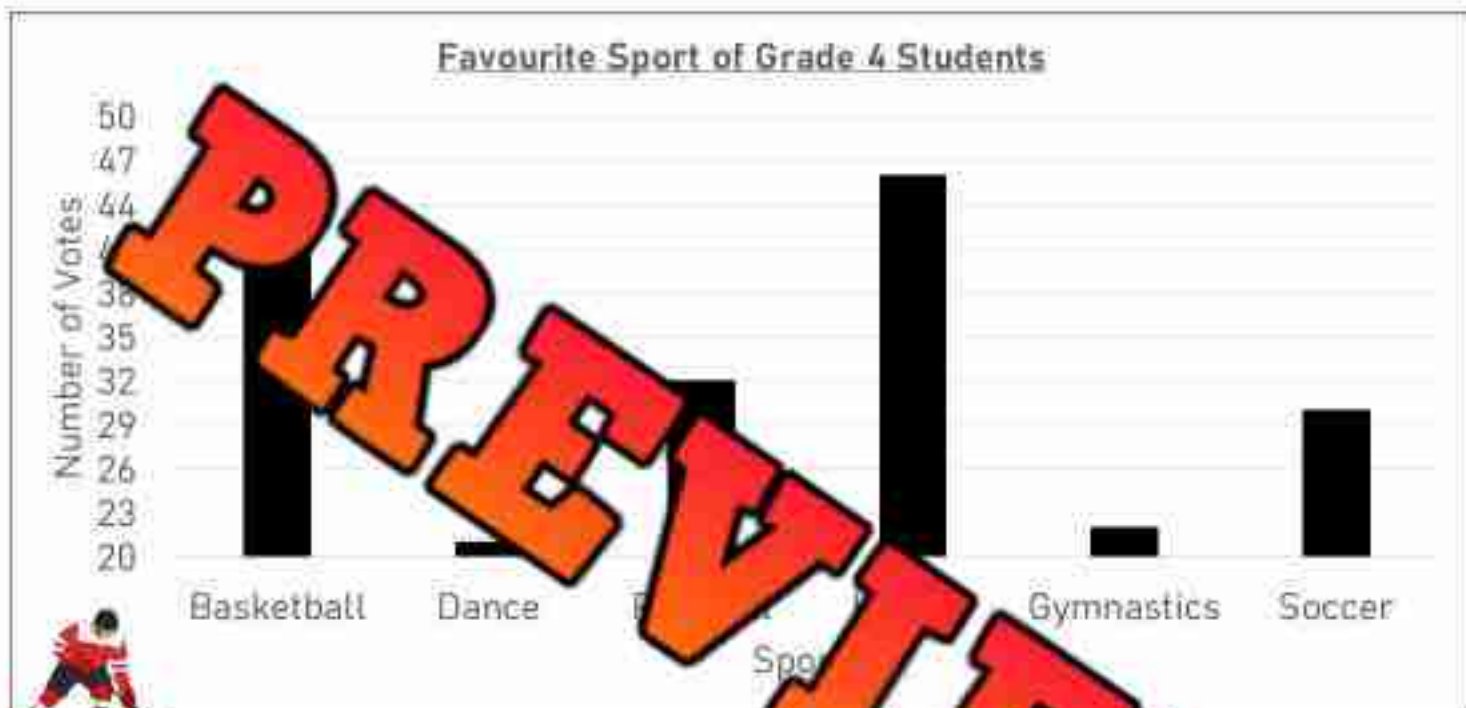


1) Which category of ice cream is most popular?

2) How many people were surveyed?

Reading a Bar Graph – Line Break

The students in grade 4 were asked which sport was their favourite. The results have been displayed in the bar graph below. Notice the scale on the x-axis uses a line break.



a) What number does the scale on the y-axis start with?

b) What is the scale on this graph? What does it go up by?

c) What is the title of the bar graph?

d) What are the 2 labels (titles) for the x and y axis?

(x) _____

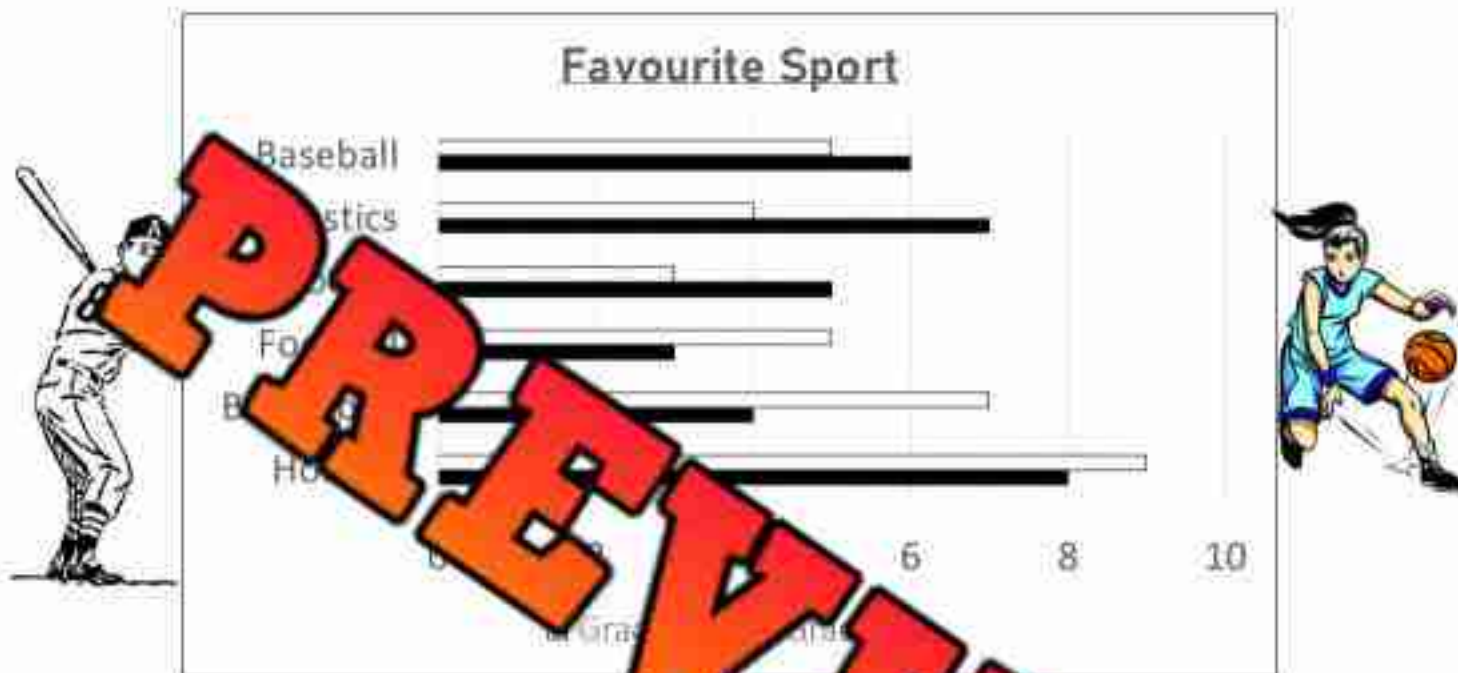
(y) _____

e) How many more votes did hockey get over dance?

f) How many students participated in the survey?

Horizontal Double-Bar Graph

The grade 4s and 5s were asked which sport they liked the best. The results have been displayed below in a horizontal double bar graph.

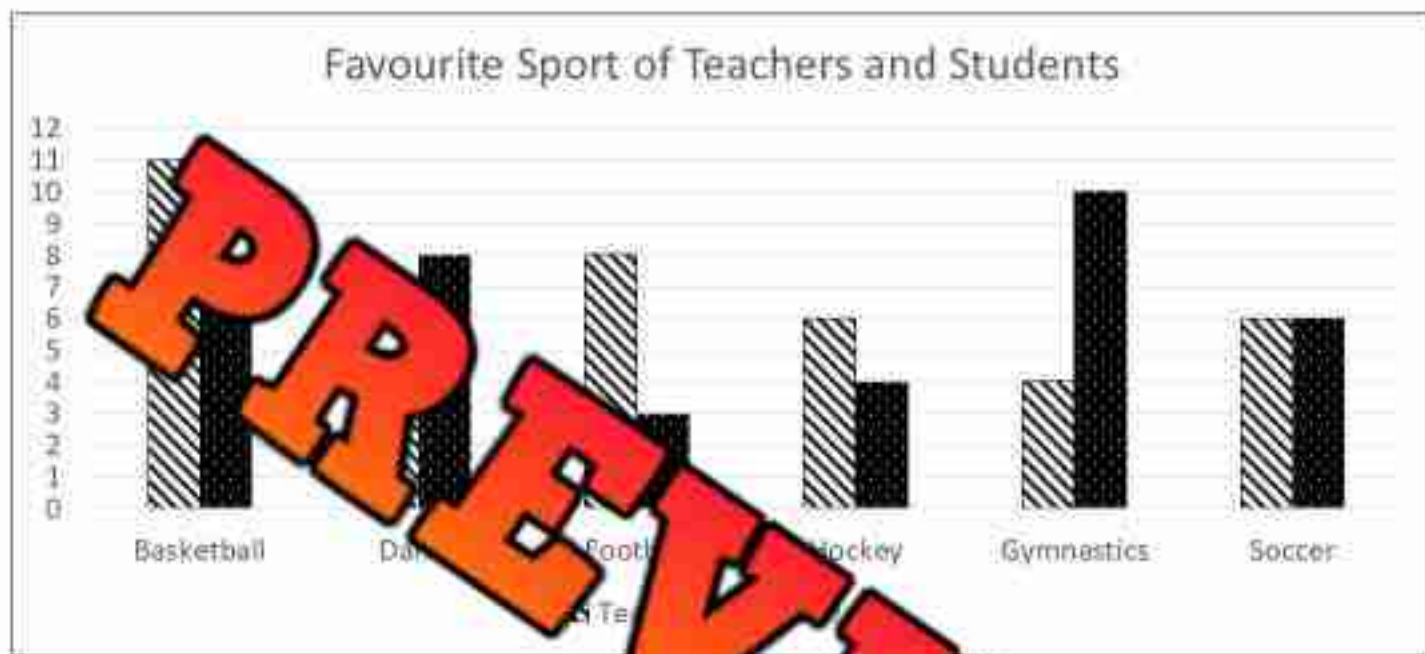


Sport	Baseball	Gymnastics	Soccer	Football	Basketball	Hockey
Grade 4						
Grade 5						

a) Which sport was the most popular for grade 5s?		
b) Which sport was the least popular for grade 4s?		
c) How many grade 4's and 5's chose gymnastics as their favourite?		
d) What is the mode for grade 4s? Grade 5s?	Gr 4s	Gr 5s
e) How many more grade 4s liked gymnastics than grade 5s?		
f) How many grade 5's were surveyed?		
g) How many total kids were surveyed?		

Interpreting a Double Bar Graph

The teachers at Pineview Public School and students in grade 5 were asked which sport is their favourite. The results are displayed in the double bar graph below.



Questions

Fill in the frequency table and answer the questions

	Basketball	Dance	Football	Hockey	Gymnastics	Soccer
Teachers						
Students						

a) Which sport did the teachers like the most?

b) Which sport got the most votes combined?

c) Which sport did the teachers and students like the same?

d) Did more teachers or students participate in the survey?

e) What is the mode for the students? Teachers?

Students

Teachers

f) What could the title be for the x-axis → ?

g) What could the title be for the y-axis ↑ ?

Interpreting a Double Bar Graph – Favourite Beverage

A restaurant wants to know which drinks to keep in stock. They decide to sample two different age groups – adults (18+) and people under 18. They randomly select 30 individuals from each group.



Questions

Fill in the frequency table and answer the questions.

Age Group	Coffee	Juice	Pop	Tea	Milk
Under 18					
Adults (18+)					

a) How many people in each age group were surveyed?	U18	Adults
b) Which drinks would you keep in stock?		
c) What is the mode for people under 18 (U18)? Adults?	U18	Adults
d) How many more adults preferred coffee than people under 18?		
e) How many more people under 18 preferred pop than adults?		

Exit Cards

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

Name: _____

Recess Activities by Gender

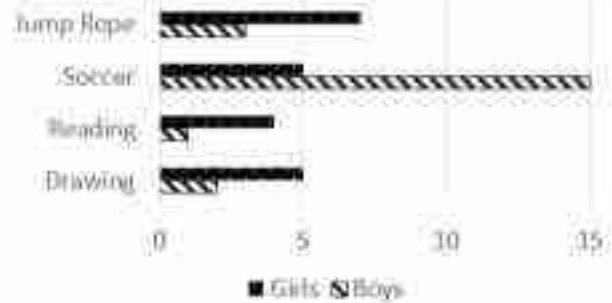


1) How many more boys liked soccer than girls liked drawing?

2) Which activity has the lowest number of students combined?

Name: _____

Recess Activities by Gender



1) How many more boys liked soccer than girls liked drawing?

2) Which activity has the lowest number of students combined?

Name: _____

Recess Activities by Gender



1) How many more boys liked soccer than girls liked drawing?

2) Which activity has the lowest number of students combined?

Name: _____

Activity



1) How many more boys liked soccer than girls liked drawing?

2) Which activity has the lowest number of students combined?

Activity Title: Flip the Data

Objective

What are we learning about?

Students will engage in a fun and active game where they read data from a bar graph and answer questions to earn the opportunity to flip a bottle or cup. This activity combines data interpretation skills with a physical challenge, adding excitement and a competitive element to learning.

Materials

What you will need for the activity:

- Bottle or cups for flipping
- A smartboard or screen to display bar graphs
- Timer (stopwatch or smartboard app)
- Question sheets on the bar graph data
- Scoreboard to keep track of wins



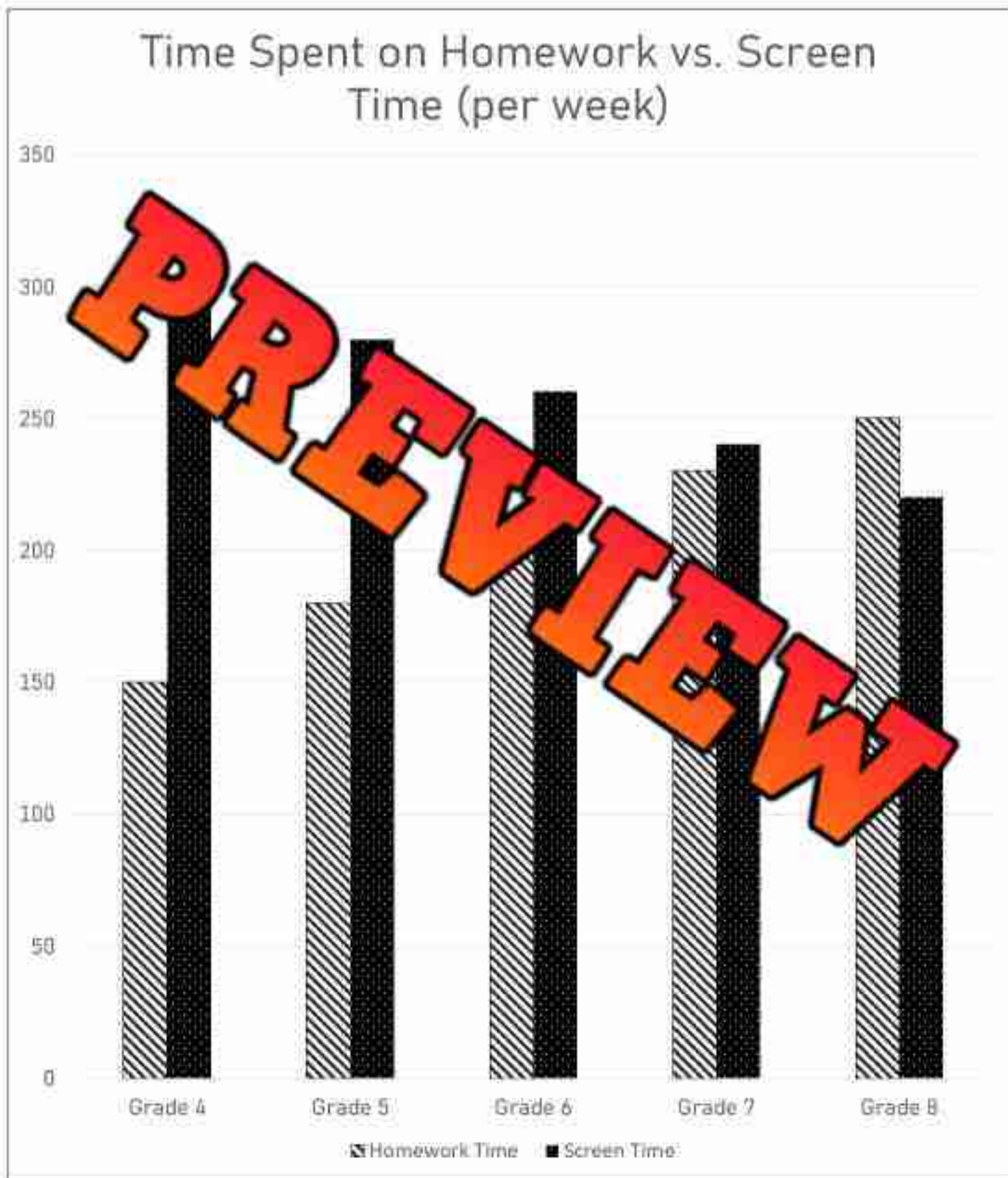
Instructions

How you will complete:

1. Divide the class into small teams, ideally of 5 students each.
2. Prepare a series of bar graphs to display on the smartboard, along with corresponding question cards that ask about the data presented in the graph.
3. One team at a time comes to the front where the graph and question cards are displayed.
4. Display the first bar graph on the smartboard.
5. The first student from the active team reads the graph and selects a question card. Start the timer when the question is first shown.
6. The student answers the question based on the data presented in the graph. The teacher checks the answer.
7. If the student answers correctly, they flip their bottle or cup repeatedly until they land it upright. When they do, the next teammate can take their turn.
8. If the student's answer is incorrect, they must try another question card before they can attempt to flip.
9. The team's turn ends either when all members have successfully flipped their bottle/cup or when the timer reaches a set limit (e.g., 3 minutes).
10. Record the team's time or number of successful flips on the scoreboard.
11. Repeat steps 4-10 for each team. The team with the fastest time wins.

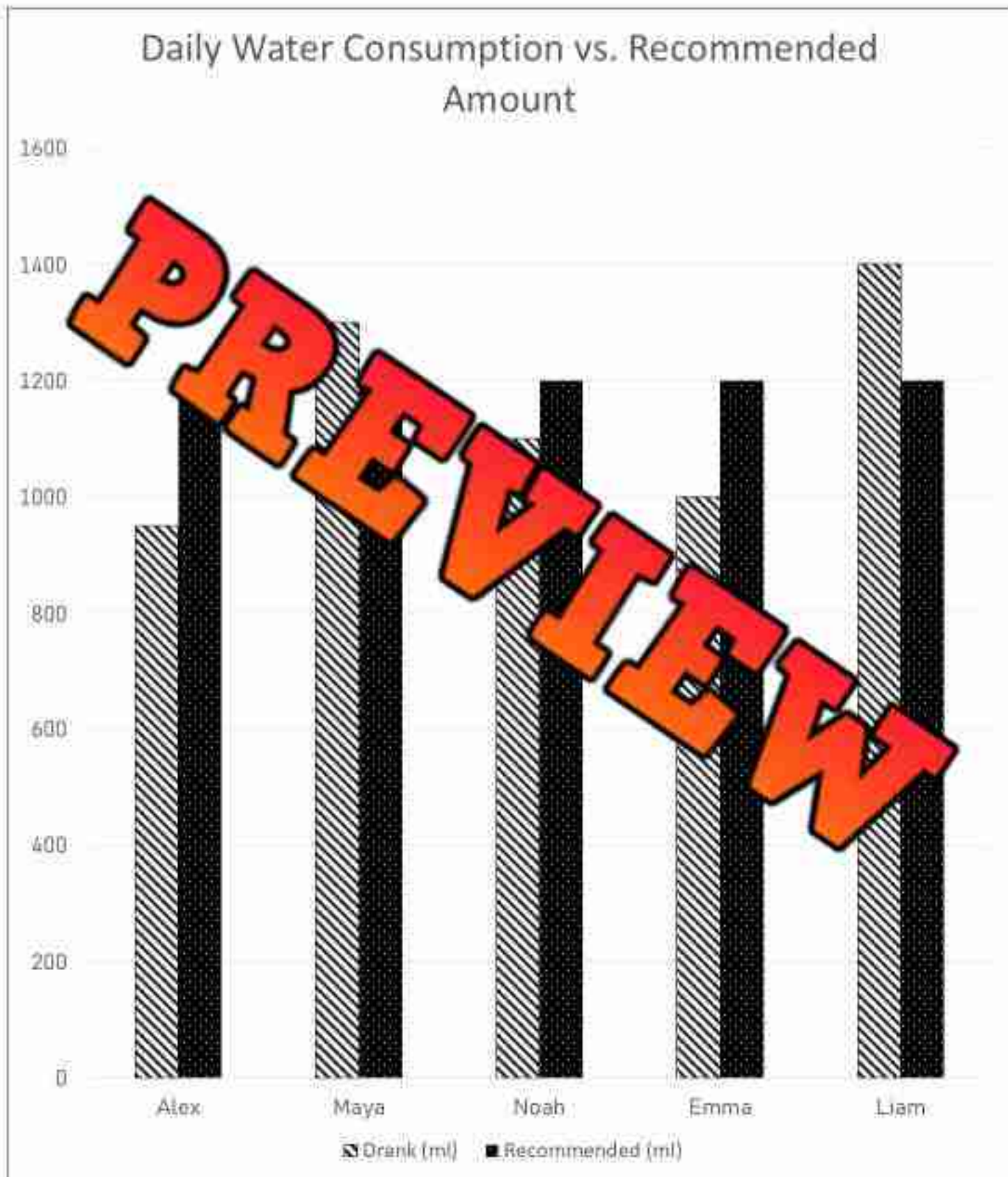
Graph 1

Analyze the graph below



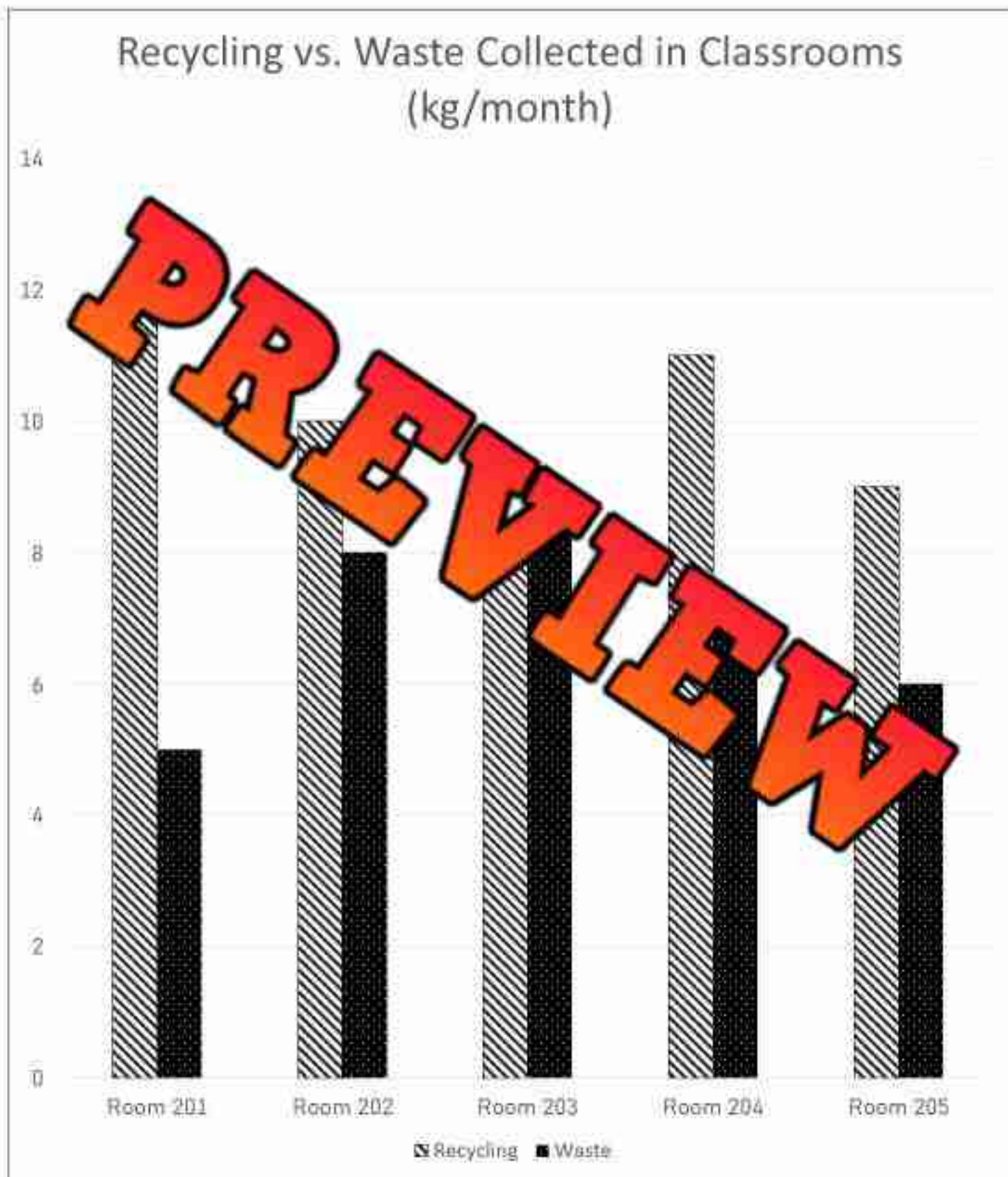
Graph 4

Analyze the graph below



Graph 5

Analyze the graph below



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 country shows the highest values for both bars?

Which country shows the lowest values for both bars?

How many categories are displayed on the graph?

What is the range of values on the Y-axis?

What is the total number of units represented by all bars?

What is the difference in value between the highest and lowest categories for both bars?

Are there any categories that have similar values for both bars?

How does the value of one specific category compare to the other?

What could be a possible reason for the highest value?

What could be a possible reason for the lowest value?

What trends can you observe from the graph?

How might this data be useful?

If you could add another category to this graph, what would it be?

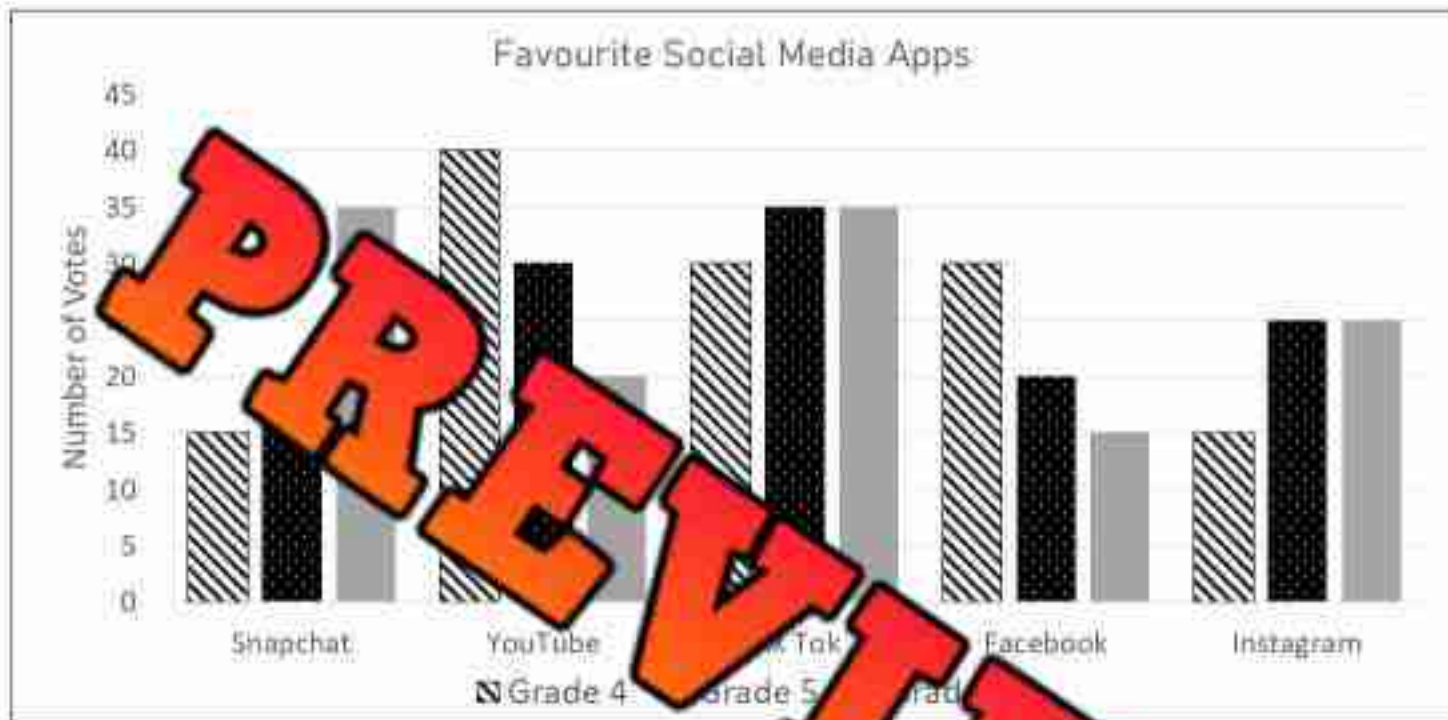
How would you describe the overall distribution of data?

What insights or conclusions can you draw from this graph?

How might the information on the graph impact decisions or opinions?

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 above

	4	5	6
Snapchat	15		
YouTube			
Tik Tok			
Facebook	30		
Instagram			

Part 2

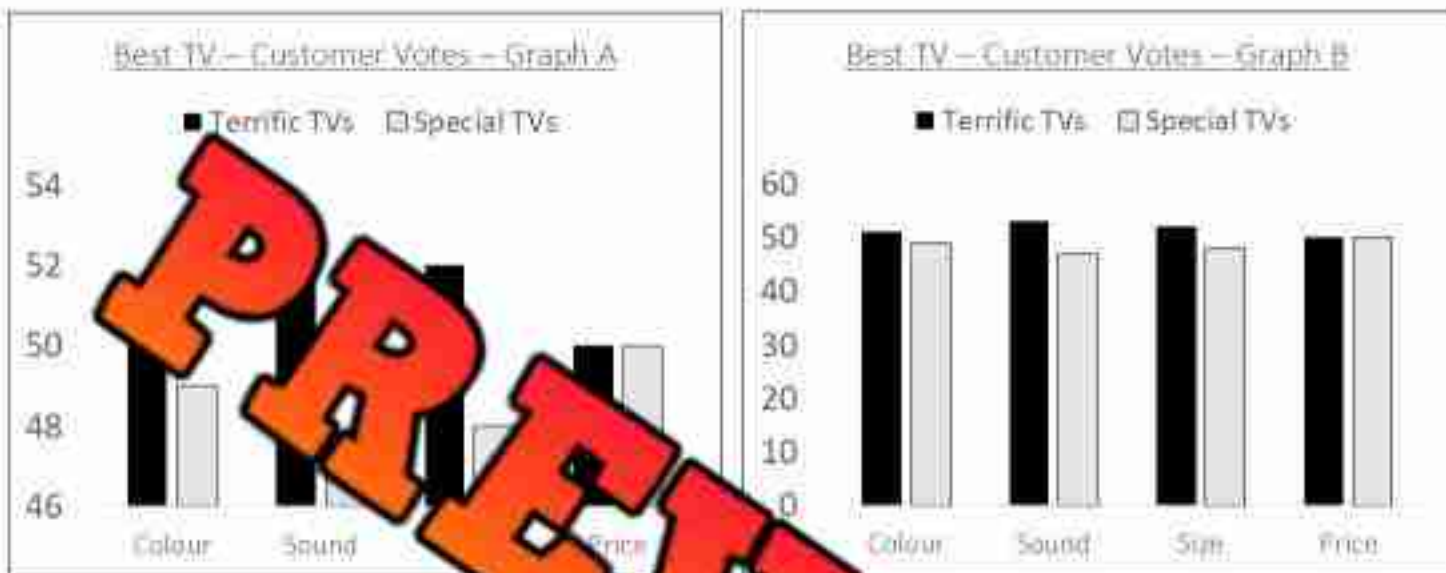
Answer the questions below

a) How many students in each grade were surveyed?

b) Which social media was the most popular? How many votes did it get?

Misleading Graph – Multiple-Bar Graph

Terrific TVs sells televisions. Their biggest competition is a company named, Special TVs. Terrific TVs completed a study that compared the two brands. The results are below.



Questions

What do you notice about the two graphs?

a) Which graph would you use if you were Terrific TVs? Why?

b) How many more votes in total did Terrific TVs get over Special TVs?

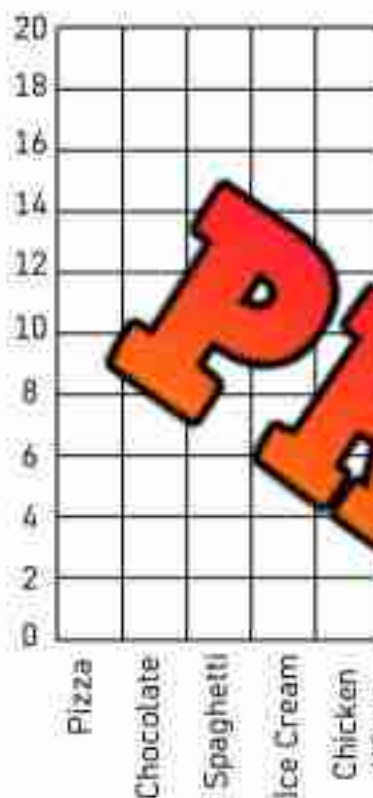
c) Is Terrific TVs a lot better than Special TVs? Explain.

d) Do you think it is fair that businesses create misleading graphs like this one? Explain.

Drawing Bar Graphs

Questions

Draw the bars for each of the bar graphs below



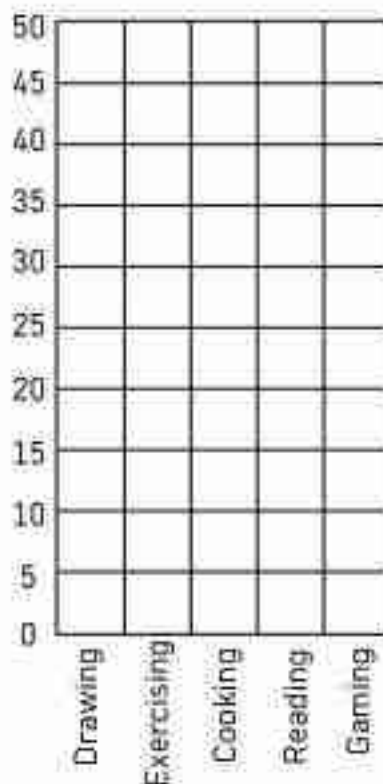
Favourite Food	# of votes
----------------	------------

Pizza	16
Chocolate	14
Spaghetti	9
Ice Cream	7
Chicken Wings	11



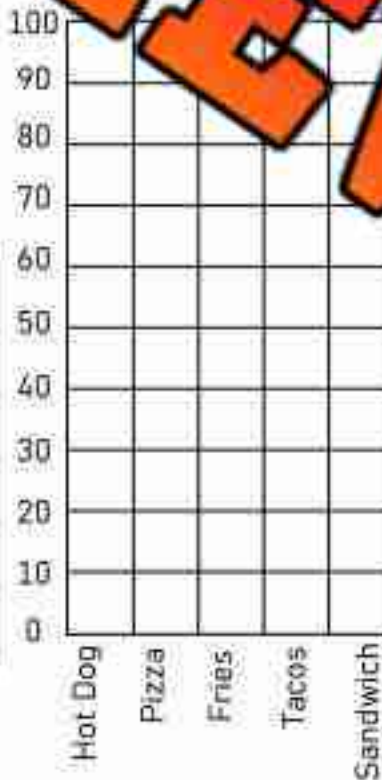
Player	# of points
--------	-------------

Jake	21
Nathan	12
Courtney	18
Ashley	28
Luke	8



Favourite Hobby	# of votes
-----------------	------------

Drawing	30
Exercising	11
Cooking	29
Reading	13
Gaming	45



Favourite Food	# of votes
----------------	------------

Hot Dog	40
Pizza	80
Fries	75
Tacos	35
Sandwich	25

Exit Cards

Cut Out

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

Name: _____

Draw the bars for the bar graphs below.

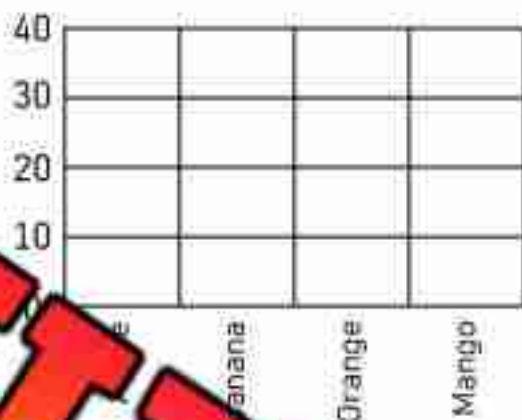
Fruit	Apple	Banana	Orange	Mango
Votes	10	30	35	20



Name: _____

Draw the bars for the bar graphs below.

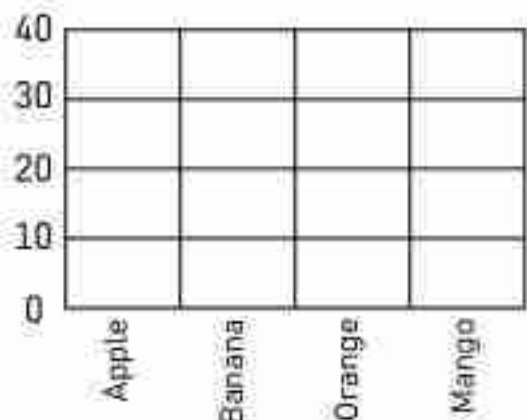
Fruit	Apple	Banana	Orange	Mango
Votes	30	10	35	20



Name: _____

Draw the bars for the bar graphs below.

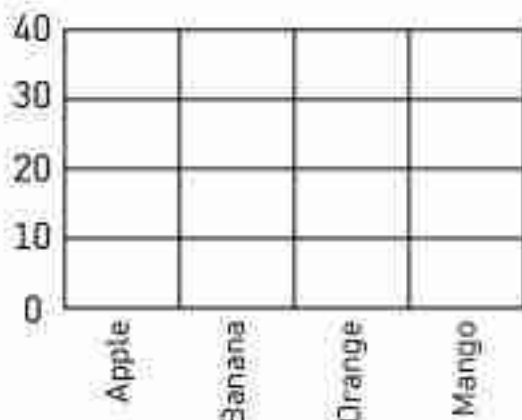
Fruit	Apple	Banana	Orange	Mango
Votes	30	10	35	20



Name: _____

Draw the bars for the bar graphs below.

Fruit	Apple	Banana	Orange	Mango
Votes	30	10	35	20



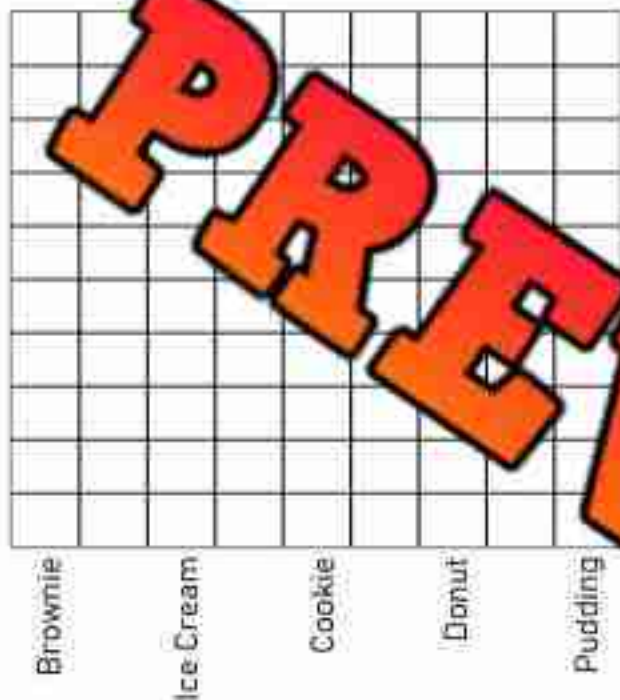
Creating Scale

When you create a scale for your graph, you need to look at the data so you can decide what to go up by. The goal is to create a graph that will fill the graph area.

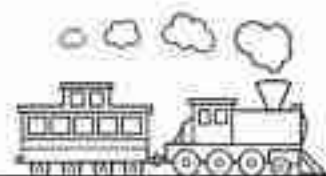
Step 1: Look at the data. Find the lowest and highest numbers.

Step 2: Count how many lines you have to plot your data.

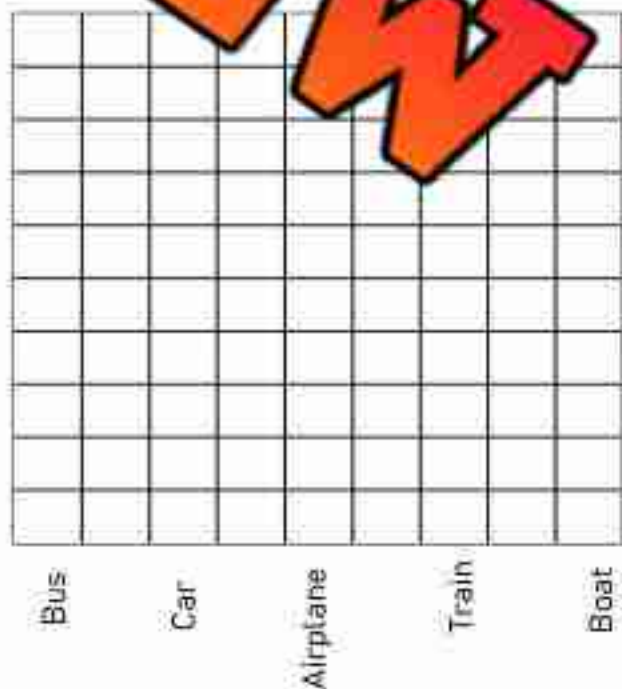
Step 3: Decide what to go up by to ensure you have enough space to plot all the data.



Favourite Dessert	# of votes
Brownie	21
Ice Cream	27
Cookie	15
Donut	12
Pudding	9



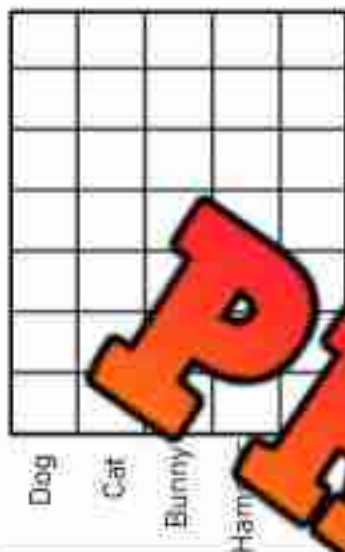
Transportation Method	# of votes
Bus	10
Car	50
Airplane	90
Train	70
Boat	80



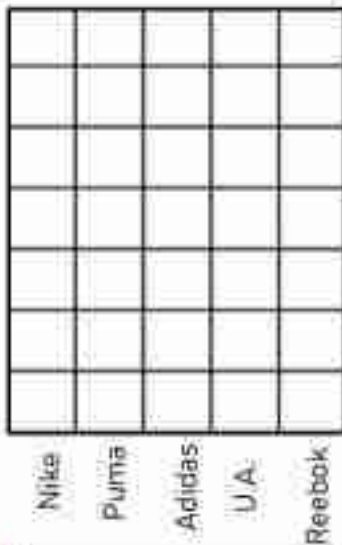
Creating Scale

Questions

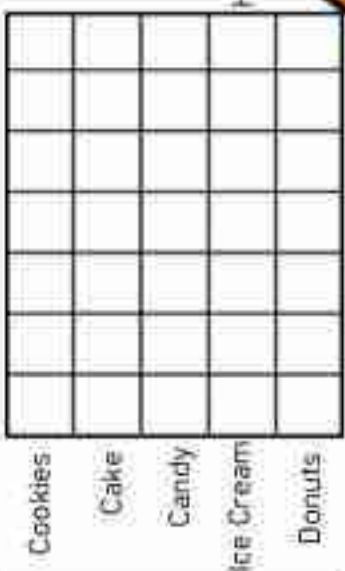
1) Read the numbers and decide which scale to use. 2) Draw your bar graphs



Pets	Votes
Dog	3
Cat	12
Bunny	18
Hamster	15
Guinea Pig	9



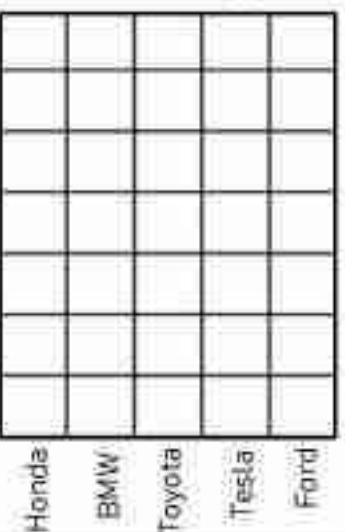
Brand	Votes
Nike	10
Puma	6
Adidas	3
Under Armour	8
Reebok	12



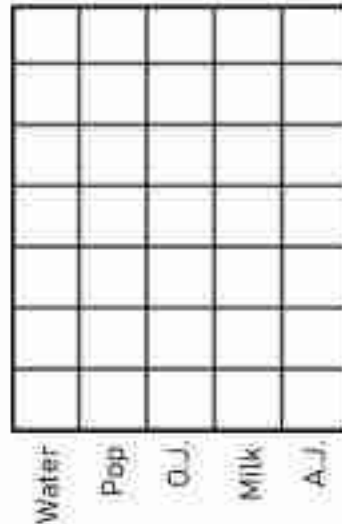
Food	Votes
Cookies	3
Cake	12
Candy	35
Ice Cream	25
Donuts	10



Subject	Votes
Math	8
Science	22
Gym	65
Art	41
Language	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

Survey – Double Bar Graph – Eye Colour

Directions

- 1) Create two groups that you will ask the survey question, "what is your eye colour?"
- 2) Record the results in the table below. Make sure to keep the data from the two groups separate.

Survey Question		What is your eye colour?							
Category	Category	Category		Category		Category		Category	
Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
Tally	Tally	Tally	Tally	Tally	Tally	Tally	Tally	Tally	Tally

Interpreting Your Survey Results

- 1) Did any of the survey results surprise you?

- 2) Was there a big difference between the two groups? Explain why or why not.

- 3) What was the mode for group 1? Group 2?

Group 1:

Group 2:

Name: _____

Creating a Double-Bar Graph – Eye Colour

Use the data you collected to plot your graph. Remember the following labels:

X axis label Y axis label Title Scale Options Legend

PREVIEW



Legend

<input type="checkbox"/>	
<input type="checkbox"/>	

Double Bar Graph – Secondary Data

Directions

- 1) Think of 2 different populations that you can compare (countries, athletes, YouTubers)
- 2) Think of a research question that allows you to compare two different populations
Examples: How many views did two YouTubers have in each of the last 4 years?
- 3) Make sure you have 4 or 5 data points so you can compare the two groups
Examples: year (2015, 2016, etc.), season, athlete's season (first year, second year)

Survey Question		Category		Category		Category	
Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
Frequency	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency

Interpreting Your Survey Results

- 1) What did you learn about the two groups? Write at least 2 things you learned.

- 2) Why do we use second-hand data? What does it allow us to do?

Name: _____

Double Bar Graph – Secondary Data

Use the data you collected to plot your graph. Remember the following labels:

X axis label Y axis label Title Scale Options Legend



Creating an Infographic

An **infographic** shares information about a topic in multiple ways. Infographics are great for displaying data that can teach an audience about a topic.

Directions Display the data set in different ways below. Write in the boxes and draw pictures.

50 grade 3s and 50 grade 4s from across Ontario were surveyed, asking what their favourite subject in school is. The results are in!

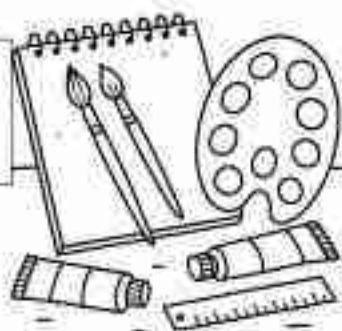
Music			Gym		Art		Drama	
Gr 3	Gr 4	Gr 3	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4
2	2	15	8	30	8	6	8	2

Legend

<input type="checkbox"/>	
<input type="checkbox"/>	



Only 4% of students prefer math as their favourite subject



Stem

Leaf

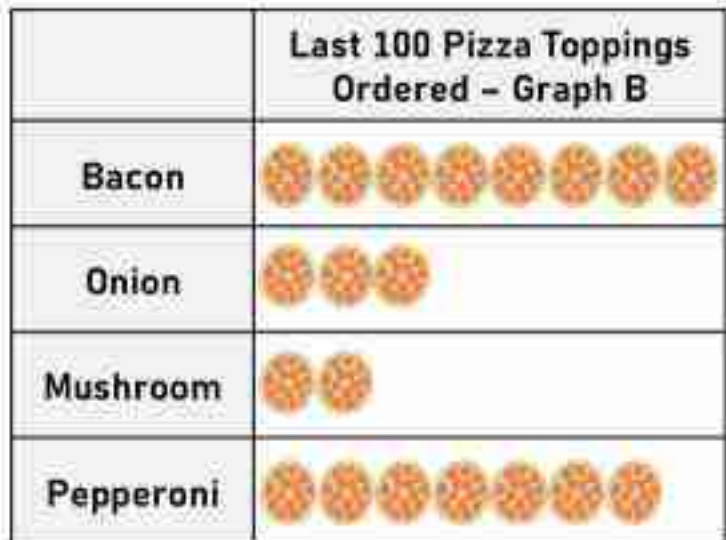
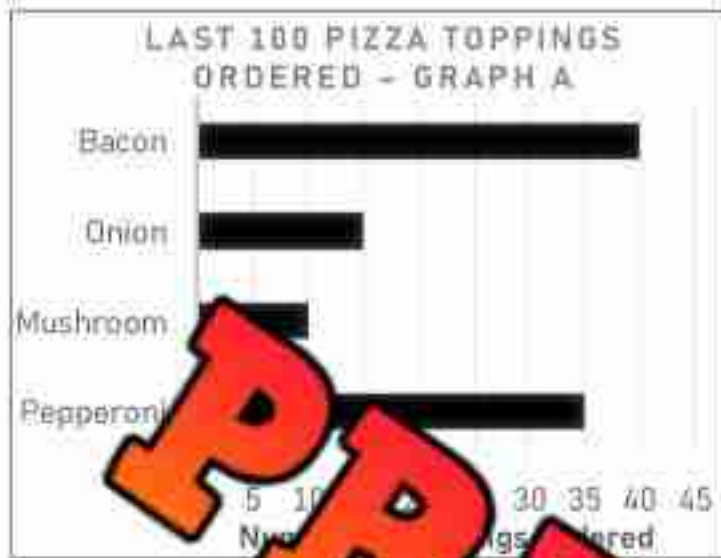
Name: _____

My Infographic

Title: _____


PREVIEW

Displaying Data Using Different Graphs



Questions

Answer the following questions.

 = 5 toppings

a) Which graph displays the data more clearly? Explain your choice.

b) If you were reading this data quickly, which graph would be faster to read? Explain.

c) When do you think a bar graph is better than a pictograph?

d) When do you think a pictograph is better than a bar graph?

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 season is their favourite. The results are listed below.



Summer	Fall	Winter	Spring	Summer
7	4	2	5	7

Which type of graph would you use to represent the data? Explain your choice.

2) You surveyed the grade 4s and 5s asking what their favourite type of chips are. The results are below.



	Sour Cream	Avocado	Hot and Vinegar	Regular
Grade 4	7	8	6	5
Grade 5	5	9	7	10

Which type of graph would you use to represent the data? Explain your choice.

3) You surveyed your classmates asking which cookie is their favourite. The results are below.



Chocolate Chip	Oatmeal	Double Chocolate	Sugar	Peanut Butter
18	8	24	12	35

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) Number of cans collected for the food drive	Quantitative Qualitative
2) Height of the animals in a zoo	Quantitative Qualitative
3) Favorite color of the grade 4 students	Quantitative Qualitative
4) Snowfall in January	Quantitative Qualitative
5) Which hobby do you like the most	Quantitative Qualitative

Part 2 Draw the bars for each of the following graphs and calculate the averages

Pizza
Chocolate
Spaghetti
Ice Cream
Chicken Wings

Favourite Food	# of votes
Pizza	12
Chocolate	6
Spaghetti	8
Ice Cream	16
Chicken Wings	6

Mode = _____

Median = _____

Mean = _____

Jake
Nathan
Courtney
Ashley
Luke

Player	# of points
Nathan	15
Courtney	30
Ashley	15
Luke	21
Jake	9

Mode = _____

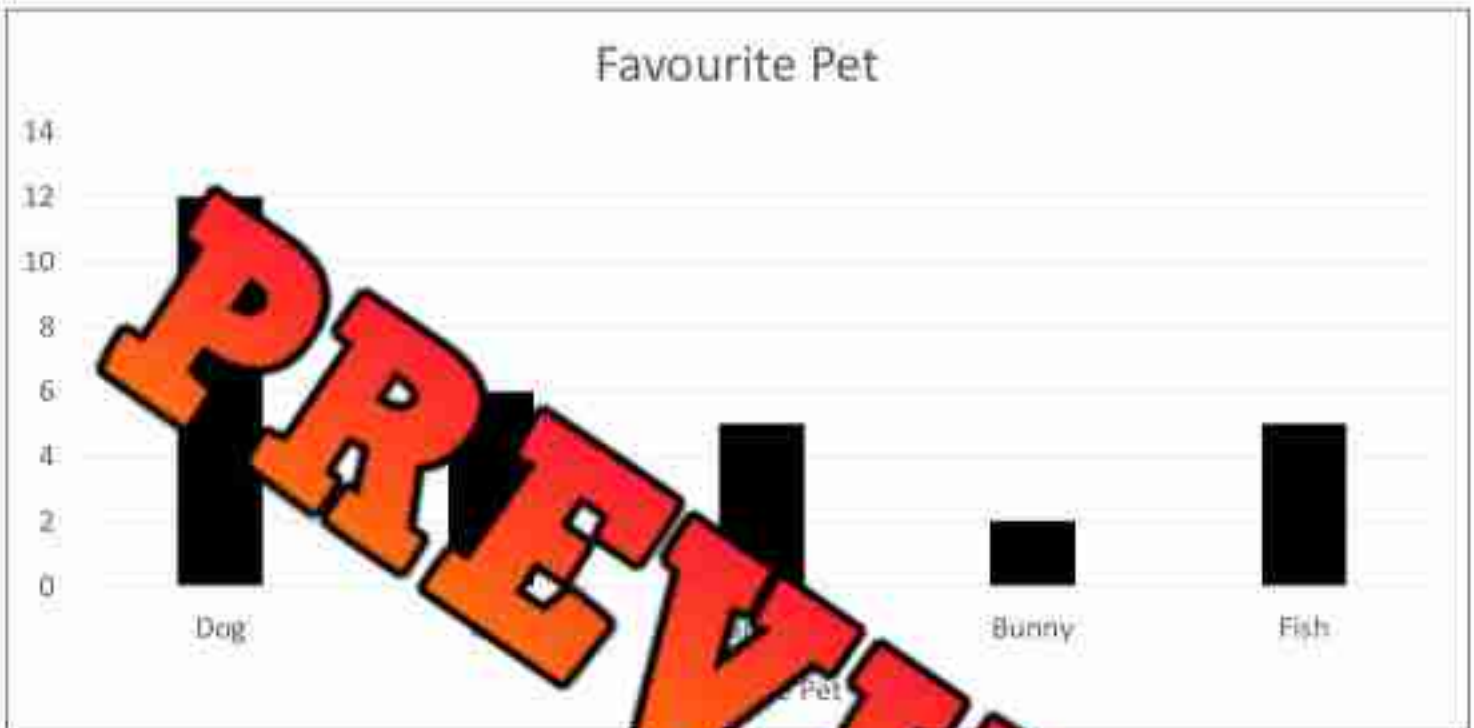
Median = _____

Mean = _____

Part 3

Read the graph and answer the questions below

Mr. Wilson's class was asked what their favourite pet is. The results are graphed below.



Answer the following questions about the graph above.

1. Fill in the frequency table

Pet	Dog	Cat	Hamster	Bunny	Fish
Votes					

2. Fill in the table

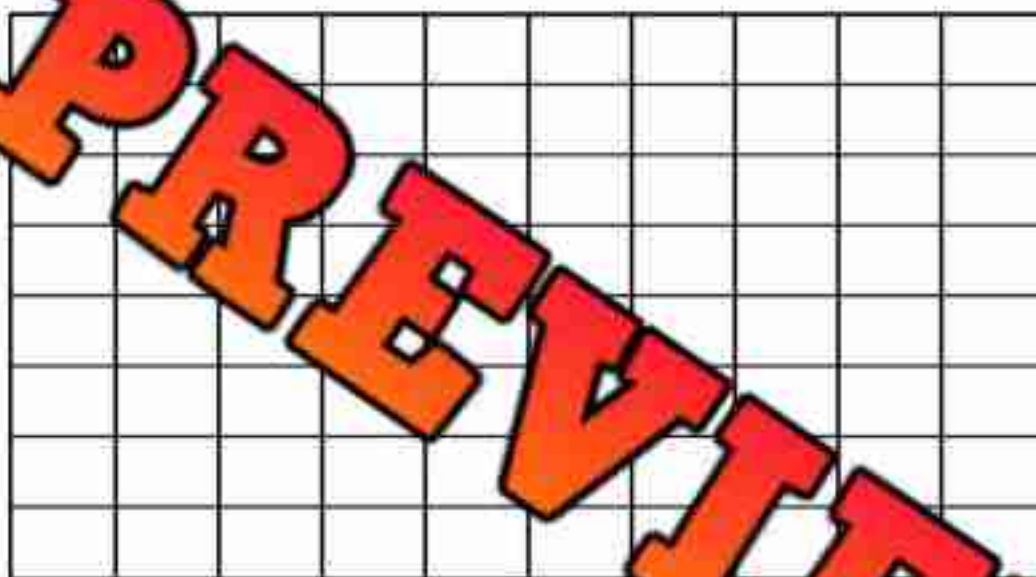
Mean	Mode	Median

3. How many students were surveyed?

Part 4 Graph the data below in a multiple bar graph

The grade 3s and 4s were asked which entertainment they liked the best. The results are below.

Movies		TV Shows		YouTube		Video Games		Music	
Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4
5	10	10	5	25	15	35	20	10	5



Legend


Part 5 Complete stem and leaf plots

1. Plot the data set:
34, 42, 37, 65, 63, 46, 74, 61, 39

Stem	Leaf

2. Read the stem and leaf plot and write the data set on the line.

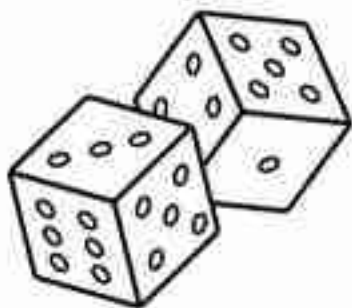
Stem	Leaf
2	1, 5
4	2, 6
5	5, 6
6	6
7	1, 9

Data Set: _____



Grade 4 D2. Probability

	Curriculum Expectations	Pages That Cover the Expectations
D2.1	Use mathematical language, including the terms "impossible", "unlikely", "equally likely", "likely", and "certain", to describe the likelihood of events happening, represent this likelihood on a probability line, and use it to make predictions and informed decisions.	102 - 125
D2.2	Make and test predictions about the likelihood that the mean, median, and mode(s) of a data set will be the same for data collected from different populations.	126 - 136



Describing the likelihood – Equally Likely

Equally likely means that there is an even chance that an outcome will happen. This means during the event, the outcome has the same chance of either happening or not happening.



For example: Flipping a coin and it landing on heads is an even chance.
Explanation: There is an equal chance of the coin landing heads and not landing heads (tails).

Part 1

Shade in half of the shapes to split them equally

1) 2) 3) 4) 5)

Part 2

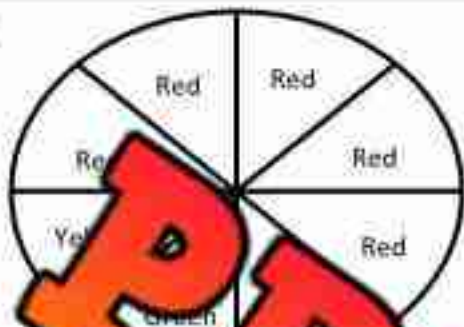
Shade in half of the squares in the shapes below

1)	4)	7)
2)	5)	8)
3)	6)	9)

Describing the Likelihood – Unlikely, Likely

Instruction Read the spinner and describe if the event is unlikely or likely to happen

1)

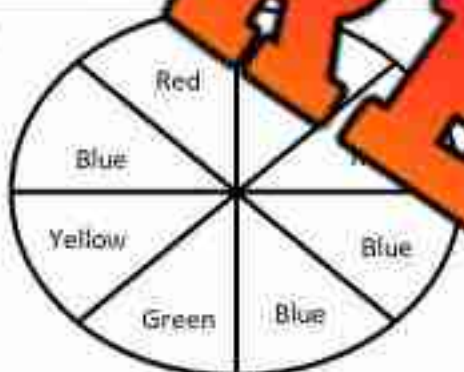


a) Spinning a red is _____

b) Spinning a blue is _____

c) Spinning a blue or red is _____

2)

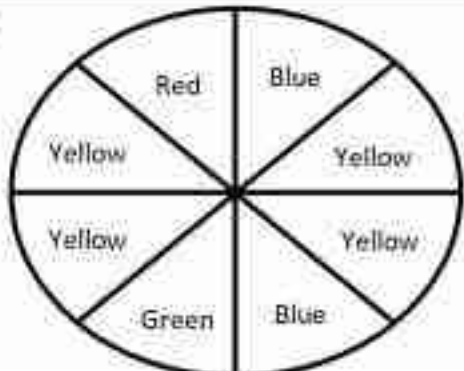


a) Spinning a red is _____

b) Spinning a blue is _____

c) Spinning a yellow is _____

3)

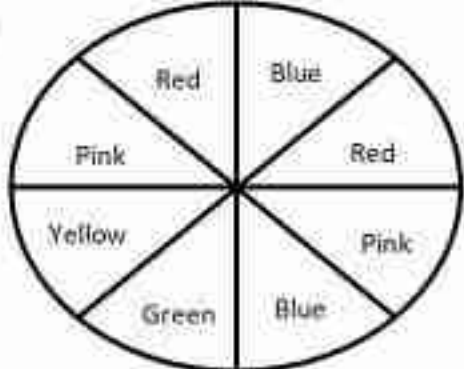


a) Spinning a red is _____

b) Spinning a green is _____

c) Spinning a yellow or red is _____

4)



a) Spinning a red or green is _____

b) Spinning a blue, pink or red is _____

c) Spinning a green or pink is _____

Describing the Likelihood of Events

Instruction

Circle the likelihood of the event happening

1) You will have a substitute teacher tomorrow.



Certain
More Likely
Equally Likely
Less Likely
Impossible

2) You will go to the bathroom today.



Certain
More Likely
Equally Likely
Less Likely
Impossible

3) You will see a bird today.



Certain
More Likely
Equally Likely
Less Likely
Impossible

4) You will eat some chocolate today?



Certain
More Likely
Equally Likely
Less Likely
Impossible

5) It will snow on a warm day.



Certain
More Likely
Equally Likely
Less Likely
Impossible

6) You will get heads when flipping a coin.



Certain
More Likely
Equally Likely
Less Likely
Impossible

7) You will see a motorcycle today.



Certain
More Likely
Equally Likely
Less Likely
Impossible

8) You will slam dunk a basketball today.

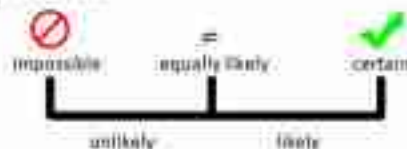


Certain
More Likely
Equally Likely
Less Likely
Impossible

Describing the Likelihood of Events

We can describe the likelihood of events by using the following terms:

impossible, unlikely, equally likely, likely, certain



Impossible = Cannot happen

Unlikely = Will probably not happen

Equally likely = There is an equal chance it could happen and that it won't happen

Likely = Will probably happen

Certain = Will definitely happen

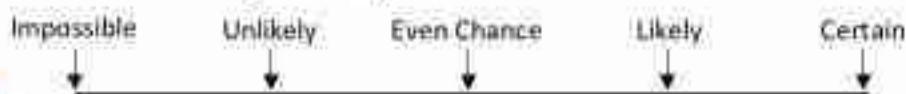
Instructions Use the terms to describe the likelihood of the events below

1) You will have a ham today 	
2) You will drink water today	
3) You will play on an electronic today 	
4) You will win the lottery today	
5) You will see an alien today 	
6) You will ride in a vehicle today	
7) You will sleep tonight 	
8) You will eat chips today	
9) You will go swimming today 	
10) You will play a sport today	

Describing the Likelihood of Events

Instruction Circle the probability of each event happening on the probability line.

1. You will win the lottery today.



2. You will see a dog today.



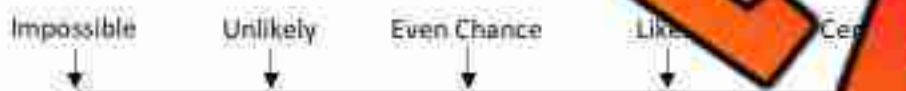
3. You will see a cat today.



4. You will find treasure when you go on an expedition.



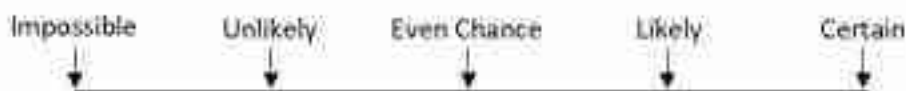
5. You will drive a motorcycle today.



6. You will go on a computer today.



7. You will eat pizza today.



8. You will grow wings and fly away.



Exit Cards

Cut Out

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

Name: _____

Circle the probability of each event happening on the probability line.

1. You will have pizza for dinner tonight.



2. You will get a surprise present today.



3. You will see a bird flying in the sky today.



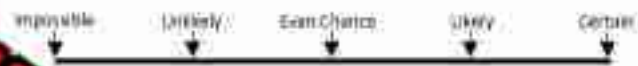
Name: _____

Circle the probability of each event happening on the probability line.

1. You will have pizza for dinner tonight.



2. You will get a surprise present today.



3. You will see a bird flying in the sky today.



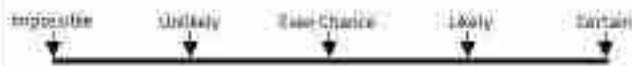
Name: _____

Circle the probability of each event happening on the probability line.

1. You will have pizza for dinner tonight.



2. You will get a surprise present today.



3. You will see a bird flying in the sky today.



Name: _____

Circle the probability of each event happening on the probability line.

1. You will have pizza for dinner tonight.



2. You will get a surprise present today.

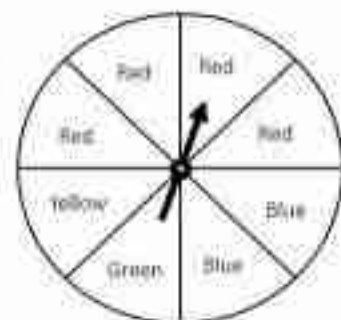
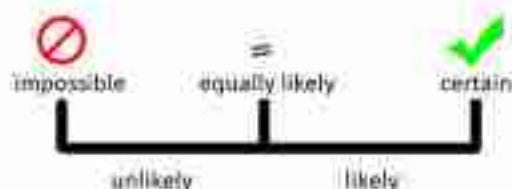


3. You will see a bird flying in the sky today.



Describing the Likelihood of Events

The spinner has different coloured parts on it. When you spin the arrow, it will land on one of the colours. The likelihood of landing on a green part is unlikely.



Instructions Use the likelihoods of the events below using the probability line

1. What is the likelihood of landing on a red part?



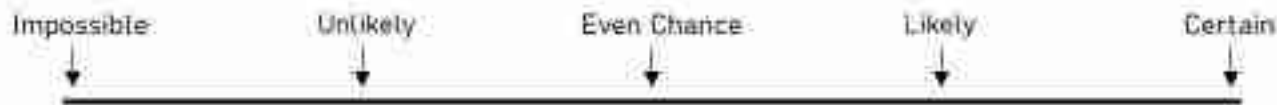
2. What is the likelihood of landing on a blue part?



3. What is the likelihood of landing on a yellow part?



4. What is the likelihood of landing on a red or yellow part?



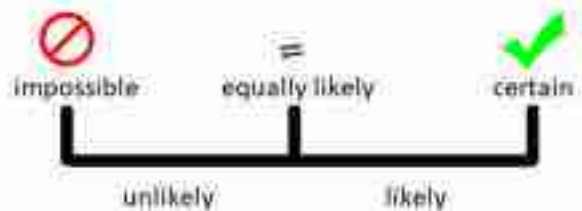
5. What is the likelihood of landing on a red, blue, green, or yellow part?



Likelihood of Events – Rolling a Dice

Rolling a Dice

A dice has 6 sides. Each side has a number of dots between 1 and 6. When you roll a dice, you have an unlikely chance of rolling a certain number.



Part 1

Use the terms to describe the likelihood:
impossible, unlikely, equally likely, likely, certain

- | | |
|---------------------------------------------------------|--|
| 1. What is the likelihood of you rolling a 1? | |
| 2. What is the likelihood of you rolling a 5? | |
| 3. What is the likelihood of you rolling a 3? | |
| 4. What is the likelihood of you rolling a 2, 4, or 6? | |
| 5. What is the likelihood of you rolling an odd number? | |
| 6. What is the likelihood of you rolling a 7? | |

Part 2

Write your own dice rolling events that would represent the likelihood.

1) Impossible

2) Certain

3) Likely

4) Unlikely

5) Equally likely

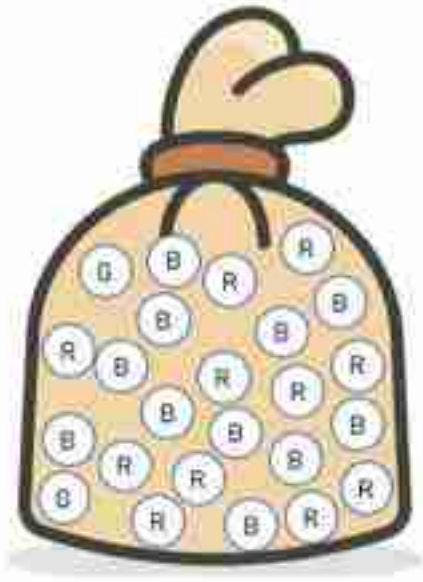
Describing the Likelihood of Events

There are 24 candies in a bag. Describe the likelihood of the events below.

Frequency Table

Fill in the frequency table below

Candy Colour	Frequency
Red	



Part 1

Use these words to describe the likelihood:
Impossible, unlikely, equally likely, likely, certain

1. What is the likelihood of pulling out a red candy?
2. What is the likelihood of pulling out a blue candy?
3. What is the likelihood of pulling out a green candy?
4. What is the likelihood of pulling out a red, blue, or green candy?
5. What is the likelihood of pulling out a red or green candy?
6. What is the likelihood of pulling out a red candy?

Part 2

Write your own events that would represent the probabilities below

1) Impossible	
2) Likely	
3) Unlikely	

Activity Title: 4-Corners Probability Game

Objective What are we learning about?

Students will learn to describe the likelihood of events using the terms impossible, unlikely, equally likely, likely, and certain.

Materials What you will need for the activity.

- A list of events or scenarios prepared by the teacher
- Four signs labeled A, B, C, and D (one for each corner of the room)



Instructions How to complete the activity

1. Begin by explaining the different terms used to describe the likelihood of events: impossible, unlikely, equally likely, likely, and certain. Provide examples to ensure students understand each term.
2. Show the students one of the events or scenarios from the list. You will need to project the question to the class.
3. Present multiple-choice options for the events that could be used for the event. Each corner of the room will represent one of the multiple-choice options.
4. Read out the term options and ask the students to move to the corner that they believe represents the event.
5. Once all students have chosen a corner, discuss the correct answer and explain why it is the best choice.
6. Optionally, You could play this game several different ways. Another option could be to give each student a whiteboard and marker and have them write their answer down. Then countdown 3-2-1 and have everyone show their answer. Another option if you have no whiteboards is to have students use their fingers to show their answer. A = 1 finger, B = 2 fingers, C = 3 fingers, and D = 4 fingers. Complete a countdown and have students show their answer using their fingers.

Event 1 Analyze the event and then move to one of the corners of the room

There are 10 cubes in a bag. All are green.

What is the likelihood of pulling out a green cube?

Event Options:

- A: Impossible
- B: Unlikely
- C: Equally Likely
- D: Certain

PREVIEW

Event 10 Analyze the event and then move to one of the corners of the room

You will drink water sometime today.

What is the likelihood of this happening?

Event Options:

- A: Impossible
- B: Unlikely
- C: Equally Likely
- D: Certain

PREVIEW

Predicting Survey Results – Food - Class



When we do a survey, we can predict what the results will be based on who we ask. The people we survey are called the population. If you ask adults the same question that you ask kids, you will probably be able to predict different survey results. Try it below!

Predict

What do you predict will be the results of the survey

1) Write down what you think the results will be if you asked 10 students in your class about their favourite food. Question: "What is your favourite food?"

Survey Question: What is your favourite food?

Categories

Steak

Fish

Sandwiches

Frequency

2) Complete the survey by asking 10 of your classmates.

Survey Question : What is your favourite food:

Categories

Pizza

Hot Dog

Steak

Fish

Sandwiches

Tally

Frequency

Results

How were your predictions?

Were your predictions accurate or not? What surprised you?

Predicting Survey Results – Drink - Adults

Predict

What do you predict will be the results of the survey

1) Write down what you think the results will be if you asked 10 different adults the survey question, "What is your favourite drink?"



Survey Question : What is your favourite drink?					
Categories	Water	Juice	Tea	Pop	Coffee
Frequency					

2) Complete the survey by asking 10 different adults.



Survey Question : What is your favourite drink?				
Categories	Water	Juice	Pop	Coffee
Tally				
Frequency				

Results

How was your prediction?

1) Were your predictions accurate or not? What surprised you?

2) Why do you think you got different results when you asked adults?

Predicting the Mean, Median, Mode

Data can be predicted based on what the data is about or who was surveyed. For example, we can predict that snowfall will be heavier in the winter months than the other seasons. We can also predict that younger kids will enjoy juice more than adults.

Predict

What do you predict will be the results of the survey

1) The Toronto Raptors have scored the following points in the last 5 games.

105, 101, 105, 100, 104



The Boston Celtics is another NBA team that won 5 more games than the Raptors last year. Predict your average based on what you know about the Raptors.

	Mode	Median
Raptors		
Celtics		

2) Usain Bolt ran 5 races in 2019. His times are listed below in seconds.

9.8, 10, 9.6, 9.8



Predict your averages if you raced the 100m 5 times.

	Mean	Mode	Median
Usain Bolt			
You			

3) The average temperature for the 4 seasons in Toronto are listed below. Find the yearly averages and write them in the table below.

0, 12, 25, 7



Predict the yearly averages in Jamaica

	Mean	Mode	Median
Toronto			
Jamaica			

Predicting the Mean, Median, Mode

Predict

What do you predict will be the results of the survey

1) The grade 4s were surveyed, asking how many minutes they read a night. The mean amount for grade 4s was 20 minutes. What do you think will be the mean for grade 5s if they were surveyed? Explain.

2) Adults at a fast food restaurant were surveyed as to what their favourite drink was. The mode was cola. What do you think would be the mode at a different fast food restaurant if adults were surveyed? Explain.

3) The median for long jumps in a grade 5 class was 145 cm. What do you think the median for long jumps in a grade 4 class would be? Explain.

4) The mean for time spent using social media for a grade 4 class was 15 minutes a day. What do you think the mean for a grade 8 class would be if they were asked the same question? Explain.

5) The median number of steps a student in grade 4 takes is 10 242. What do you think would be the median number of steps for a retired senior? Explain.



Predicting the Population

Predict

Circle what population you think the data belongs to



1.	Mean	4	Basketball Score
	Median	3	Hockey Score
	Mode	5	Football Score

2.	Mean	75	Test Scores
	Median	8	Hockey Score
	Mode	76	Daily Rainfall in mm

3.	Mean		Pencil Prices
	Median	6	Shirt Prices
	Mode	6	Burger Prices

4.	Mean	14	Ages of Truck Drivers
	Median	15	Ages of Physicists
	Mode	17	Ages of Teachers

5.	Mean	243	Country Population
	Median	236	City Population
	Mode	228	School Population

6.	Mean	2	Number of Pets
	Median	1	Number of Books in a Library
	Mode	3	Computers in a Computer Lab

Predicting the Mean, Median, Mode

Ask the survey question to students in your class. If there are two grade 4 classes, ask your entire class. Later, you will ask the same survey question to the other grade 4 class. If your school has only one grade 4 class, ask half of your class the survey question and then ask the other half the same question to compare.

Collect

Collect data from your class

Survey Question How many minutes do you play video games a day?

Data

Interpret

Find the mean, median, and mode

Mean	
Median	
Mode	

Predict

Answer the questions below

1) What do you predict will be the mean, median, and mode of the other class or other part of the class?

Mean	
Median	
Mode	

2) Why do you feel these are good predictions? What helped you decide?

Unit Quiz – Probability

Part 1

Circle the likelihood of the event happening

a) You will drink something today.

Impossible

Certain

b) You will fly home today.

Impossible

Certain

c) You will watch a game today.

Unlikely

d) You will play basketball today.

Even Chance

Likely

Unlikely

Part 2

Use the terms to describe the likelihood of the events below

1. The Toronto Blue Jays will win the World Series next year.

2. You will have a lunch break today.

3. You will have a nap today.

4. You will find a diamond on the ground today.

5. You will read a book today.

6. It will rain or snow today.

7. You will roll an 8 when rolling a single six sided dice.

Marbles

There are 12 marbles in a bag. What is the likelihood of you pulling out a white, grey, or black marble?



Frequency Table Fill in the frequency table below

Marble Colour	Frequency
White	

Part 1

Use these words to describe the likelihood:
Impossible, unlikely, equally likely, likely, certain

1. What is the likelihood of pulling out a grey marble?
2. What is the likelihood of pulling out a grey marble?
3. What is the likelihood of pulling out a white marble?
4. What is the likelihood of pulling out a black, white, or grey marble?
5. What is the likelihood of pulling out a black or white marble?
6. What is the likelihood of pulling out a green marble?

Part 2

Write your own events that would represent the probabilities below

1) Impossible	
2) Likely	
3) Unlikely	