Preview - Information

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Google Slides Lessons Preview

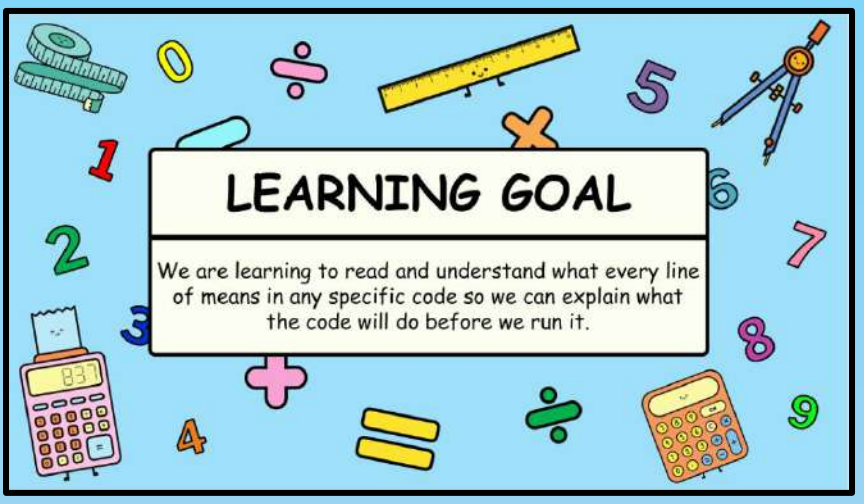
Ontario Math Curriculum

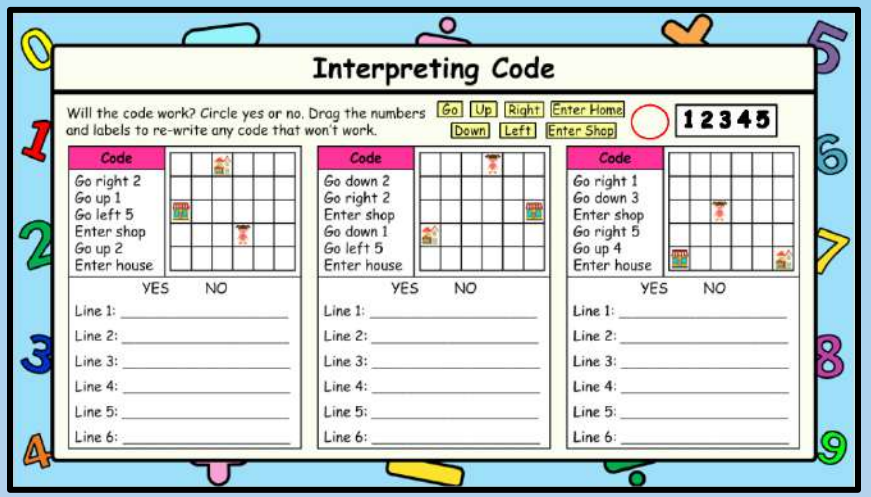
Algebra – Patterns, Equations – Grade 3

3-Part Lesson Format

Part 1 – Minds On!

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



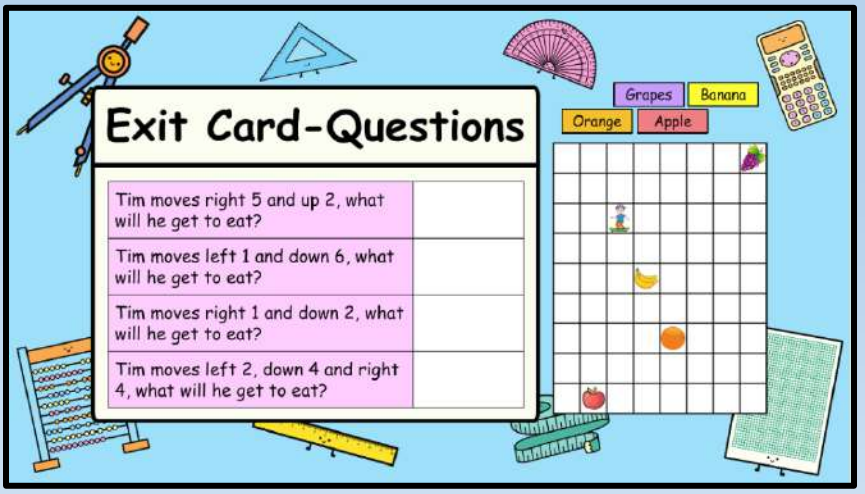


Part 2 – Action!

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

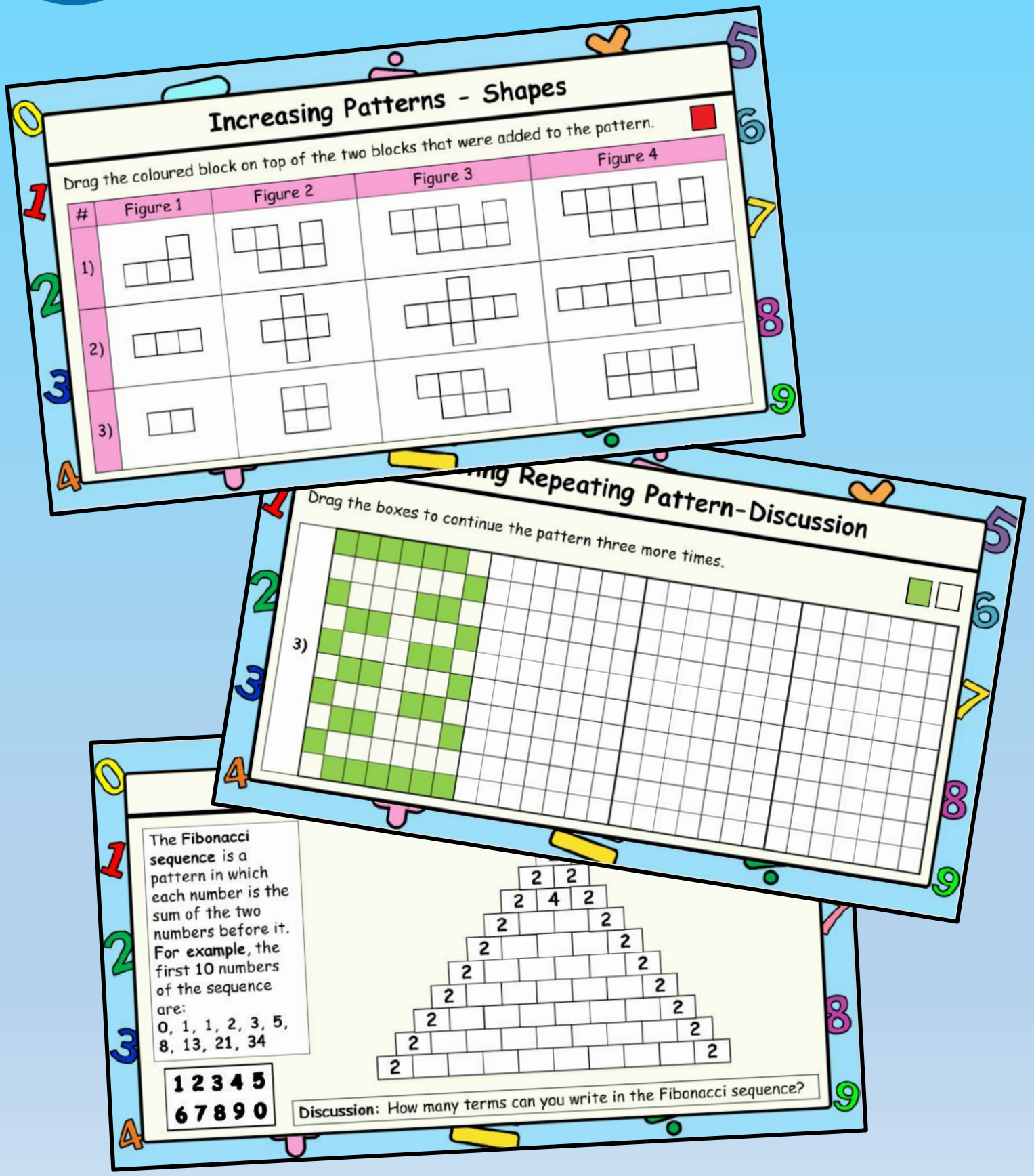
Part 3 – Consolidation!

- Exit Cards
- Quizzes
- Reflection
- And More!



Ontario Math Curriculum

Algebra – Patterns, Equations – Grade 3



Ontario Math Curriculum

Algebra – Patterns, Equations – Grade 3

Workbook Preview

Grade 3
C1. Patterns and Relationships

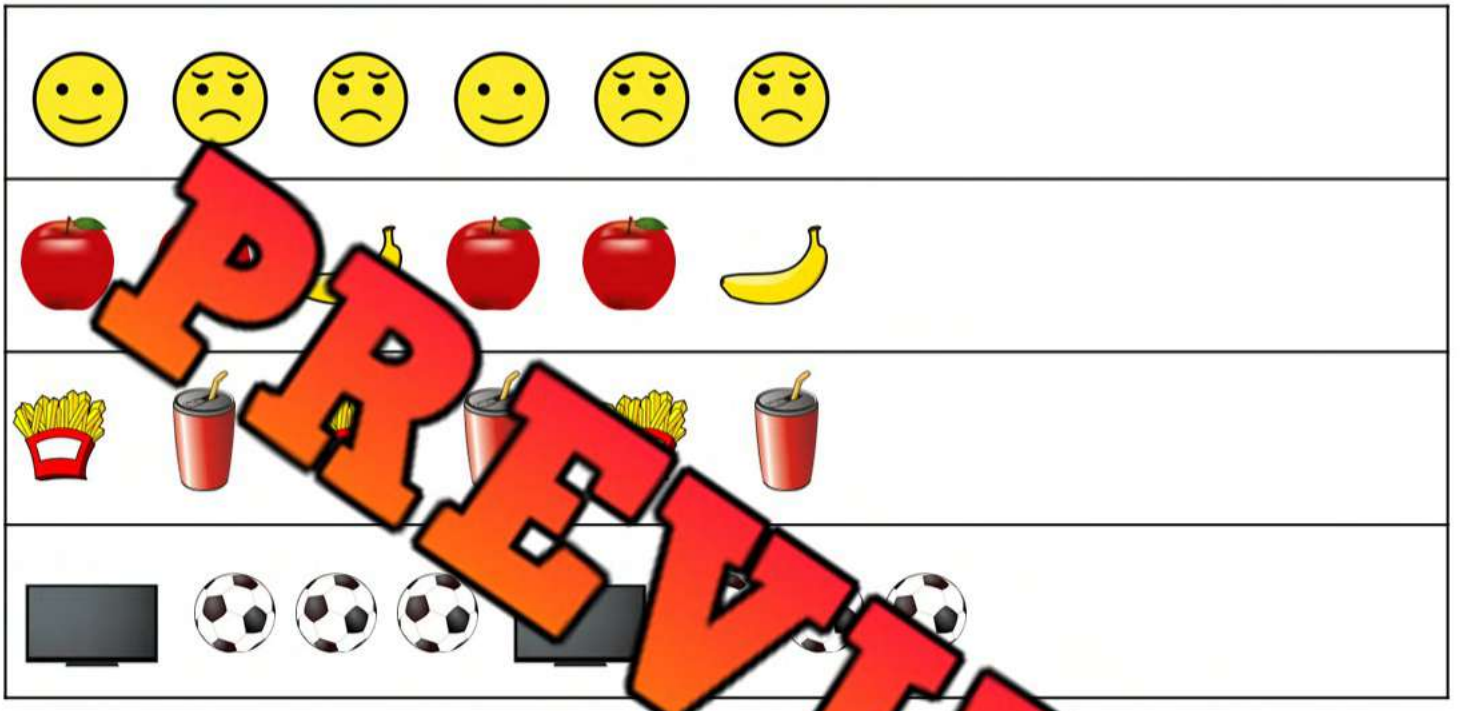
	Curriculum Expectations	Pages That Cover the Expectations
C1.1	identify and describe repeating elements and operations in a variety of patterns, including patterns found in real-life contexts	5 – 32, 85 – 86
C1.2		78,
C1.3	determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in patterns that have repeating elements, movements, or operations	33 – 51, 65 – 78, 82 - 91
C1.4	create and describe patterns to illustrate relationships among whole numbers up to 1000	6, 9 – 14, 52 – 64, 79 - 81

Name: _____ 5

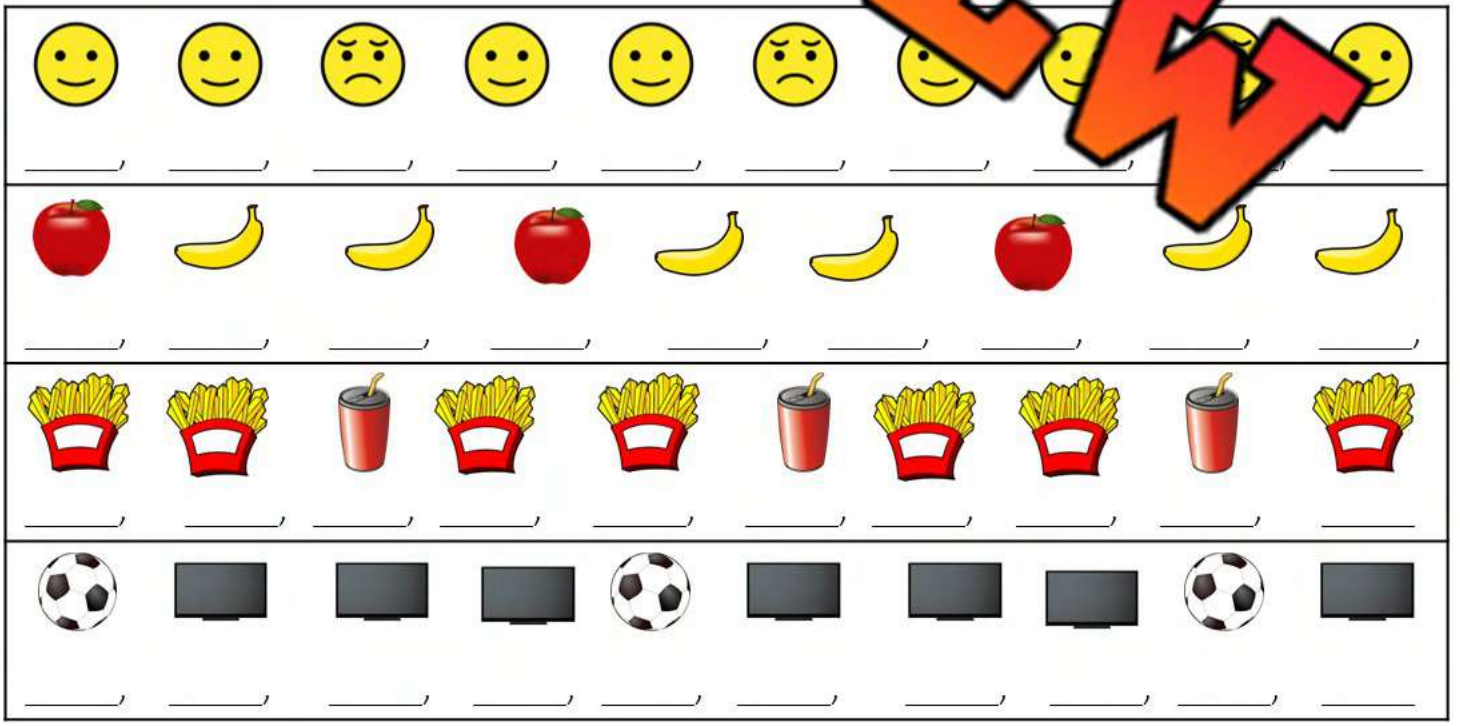
Curriculum Connection
C1.1, C1.2

Repeating Patterns

Part 1 Continue the repeating patterns below by drawing more objects



Part 2 Check out the repeating AB patt[illegible] abe[illegible] o[illegible] below A and B

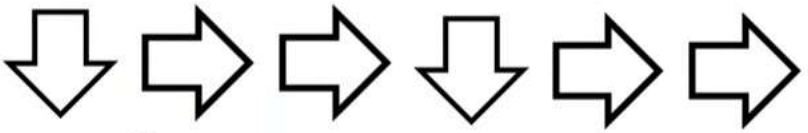


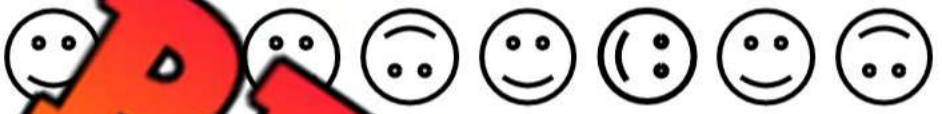
Name: _____ 10

Curriculum Connection
C1.1, C1.2, C1.4

Repeating Patterns – Changing Orientation

Part 1 Continue the repeating patterns below with three more shapes

1) 

2) 

3) 

4) 

Part 2 Draw repeating patterns using t[illegible]e sh[illegible]different position

1)

2)

3)

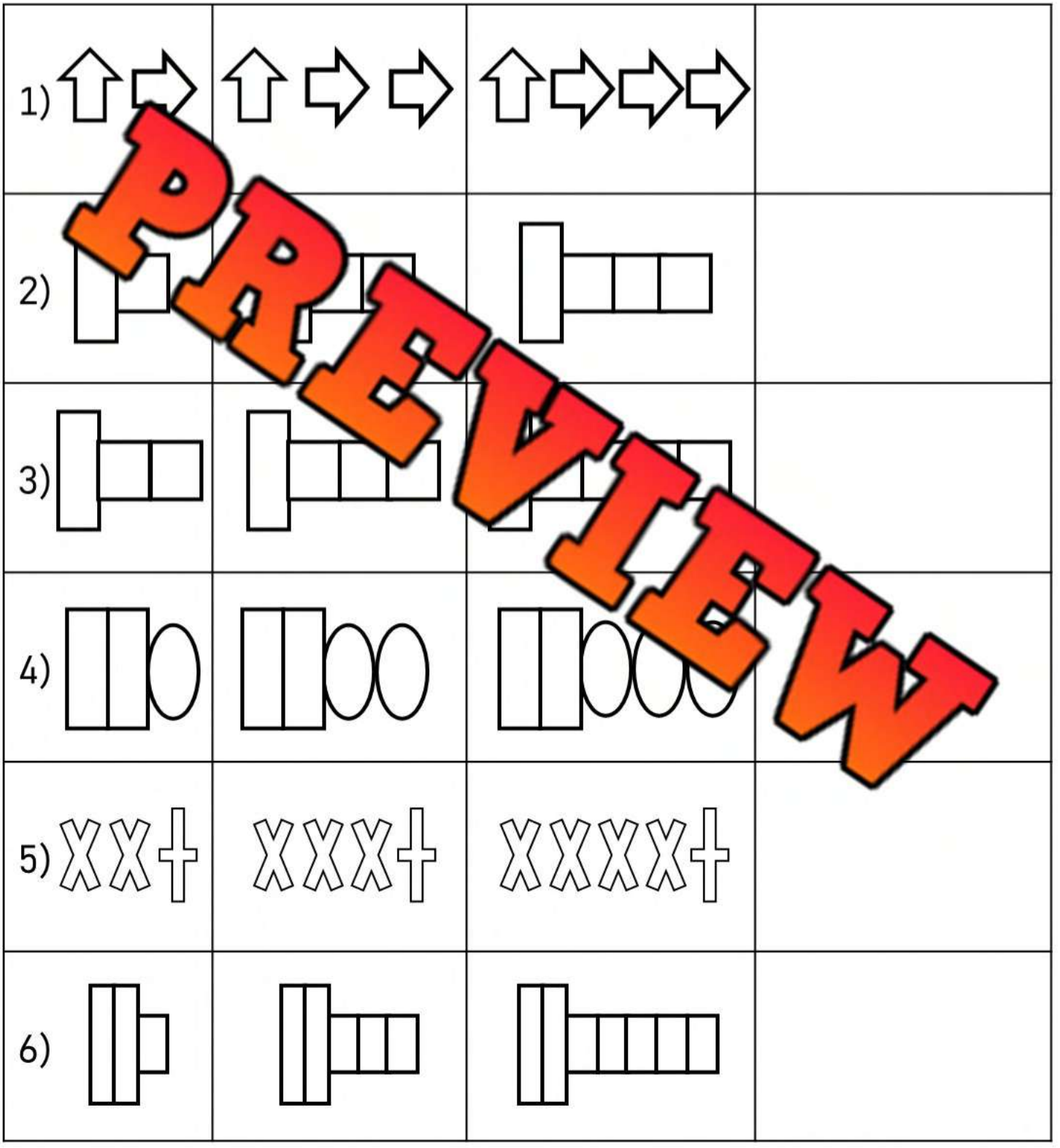
4)

Name: _____ 12

Curriculum Connection
C1.1, C1.2, C1.4

Increasing Patterns – Shapes

Questions | Draw the last part of the pattern



Name: _____ 13

Curriculum Connection
C1.1, C1.2, C1.4

Increasing Patterns – Shapes

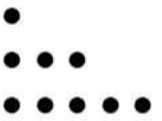
Questions Draw the next line of the increasing pattern

1) Draw the next line in the pattern.

Answer

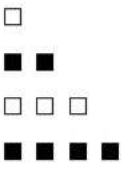
2) Draw the next line in the pattern.

Answer



3) Draw the next line in the pattern.

Answer

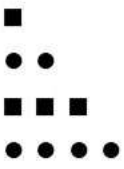


4) Draw the next line in the pattern.

Answer

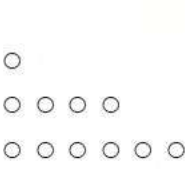
5) Draw the next line in the pattern.

Answer



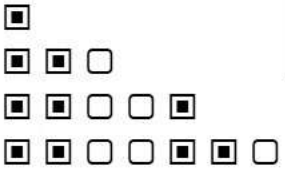
6) Draw the next line in the pattern.

Answer



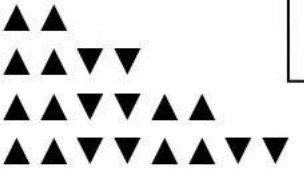
7) Draw the next line in the pattern.

Answer



8) Draw the next line in the pattern.

Answer



Curriculum Connection
C1.1, C1.2, C1.4

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: _____

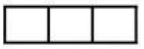
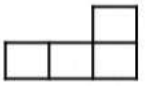
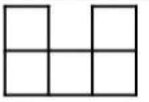
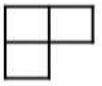
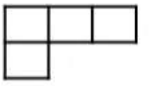
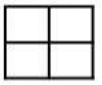
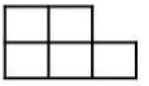
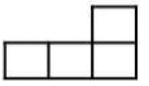
Draw the next 2 lines in the pattern.

Name: _____ 15

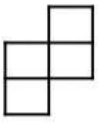
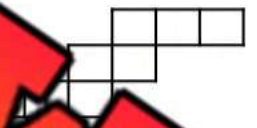
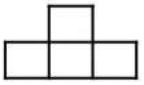
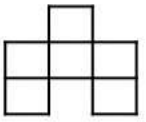
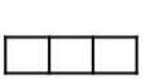
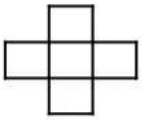
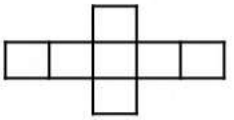
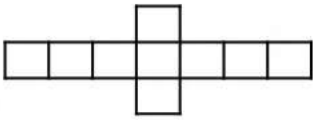
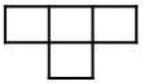
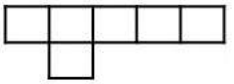
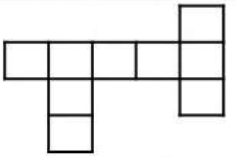
Curriculum Connection
C1.1, C1.2

Increasing Patterns – Shapes

Part 1 Shade in the block that was added to the pattern

1)	Figure 1 	Figure 2 	Figure 3 	Figure 4 
2)	Fi 	Figure 2 	Figure 3 	Figure 4 
3)	Figure 1 	Fig 	Figure 3 	Figure 4 
4)	Figure 1 	F  re 3		Figure 4 

Part 2 Shade in the two blocks tere adtattern

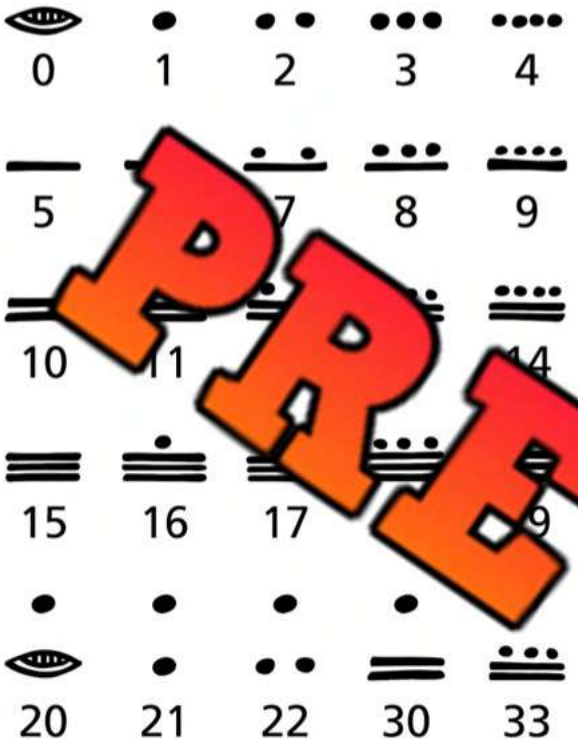
1)	Figure 1 	Figure 2 	Figure 3 	
2)	Figure 1 	Figure 2 	Figure 3 	Figure 4 
3)	Figure 1 	Figure 2 	Figure 3 	Figure 4 
4)	Figure 1 	Figure 2 	Figure 3 	Figure 4 

Name: _____ 19

Curriculum Connection
C1.1, C1.2

Mayan Number System Patterns

Analyze Check out the Mayan Number System below. Write what you notice about the patterns found in the number system.



1) What do you think the dots mean?

2) What do you think the shells mean?

t do you think the lines mean?

4) How are some dots different? Do they have v plain.

5) Write the symbols for the numbers below.

Number	Symbol	Number	Symbol
1) 0		5) 45	
2) 5		6) 52	
3) 12		7) 67	
4) 27		8) 91	

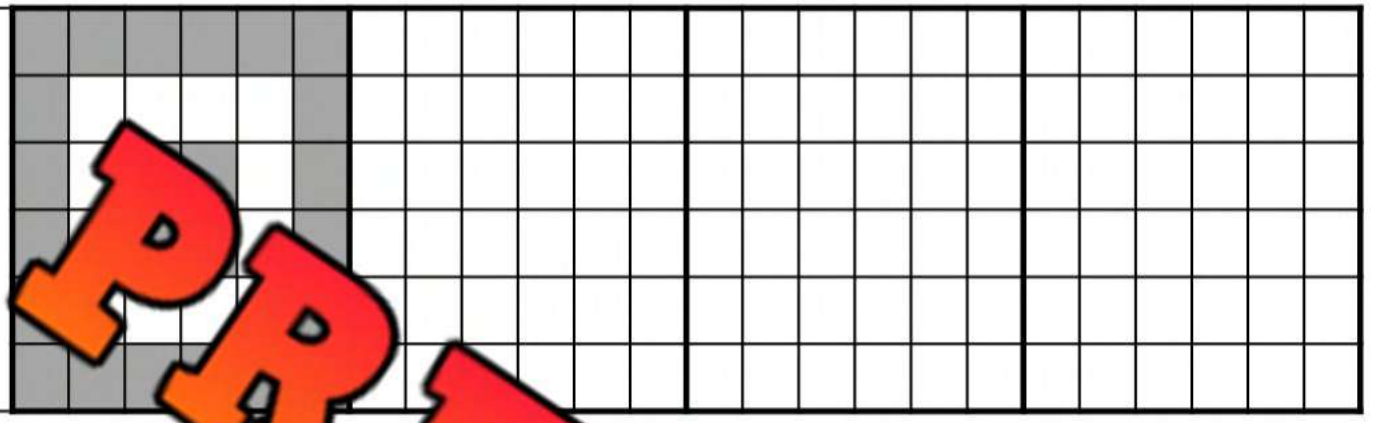
Name: _____ 20

Curriculum Connection
C1.1, C1.2

Quilting Repeating Pattern

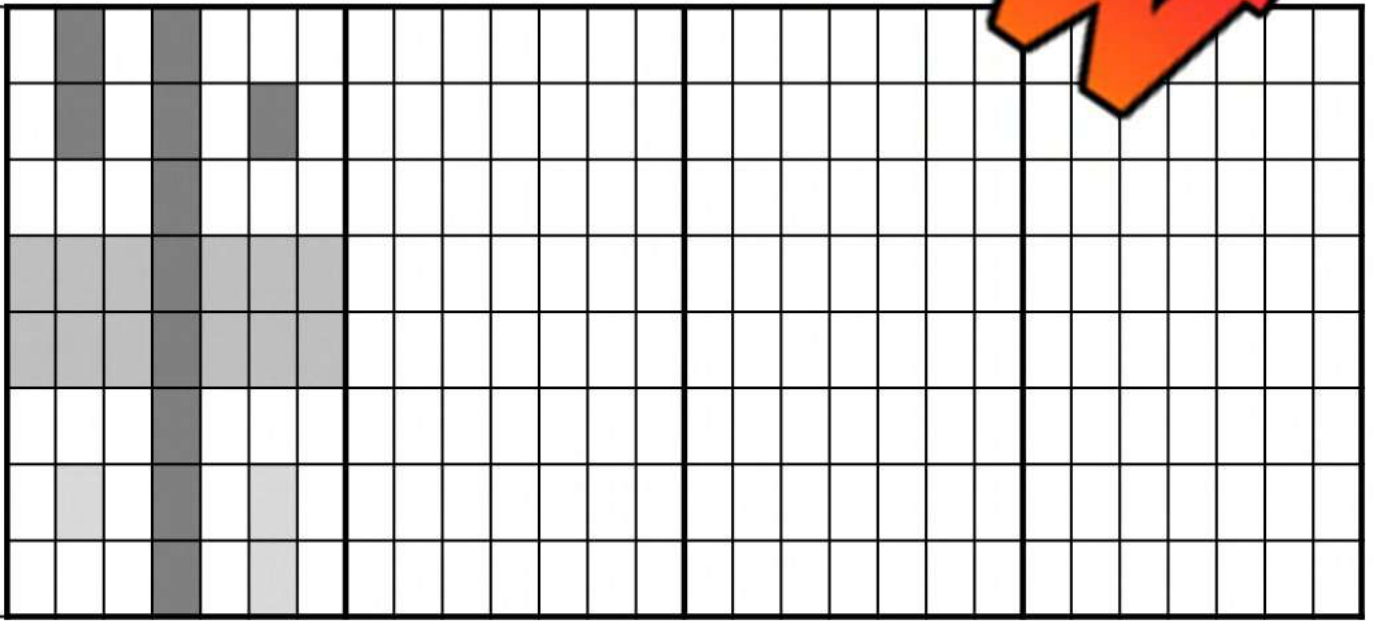
Draw Continue the pattern by drawing the replica of what you see multiple times

1)



2)

3)



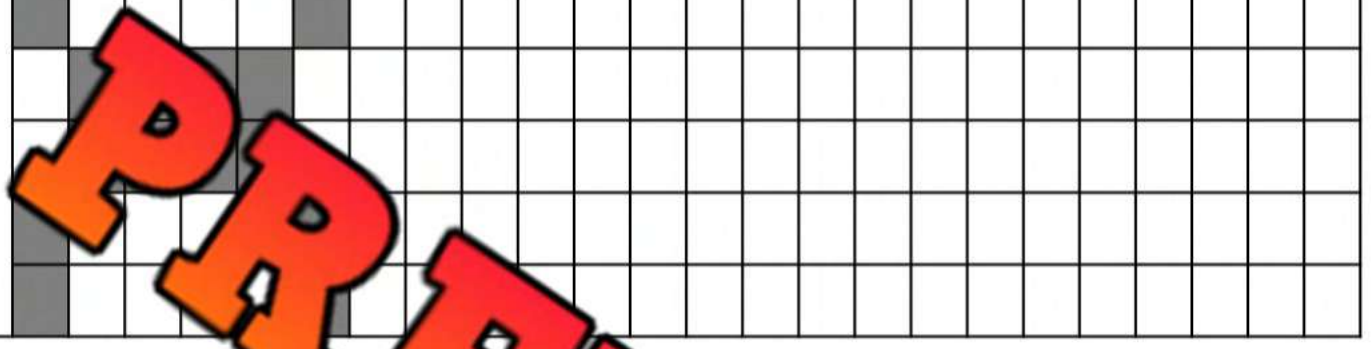
Name: _____ 22

Curriculum Connection
C1.1, C1.2

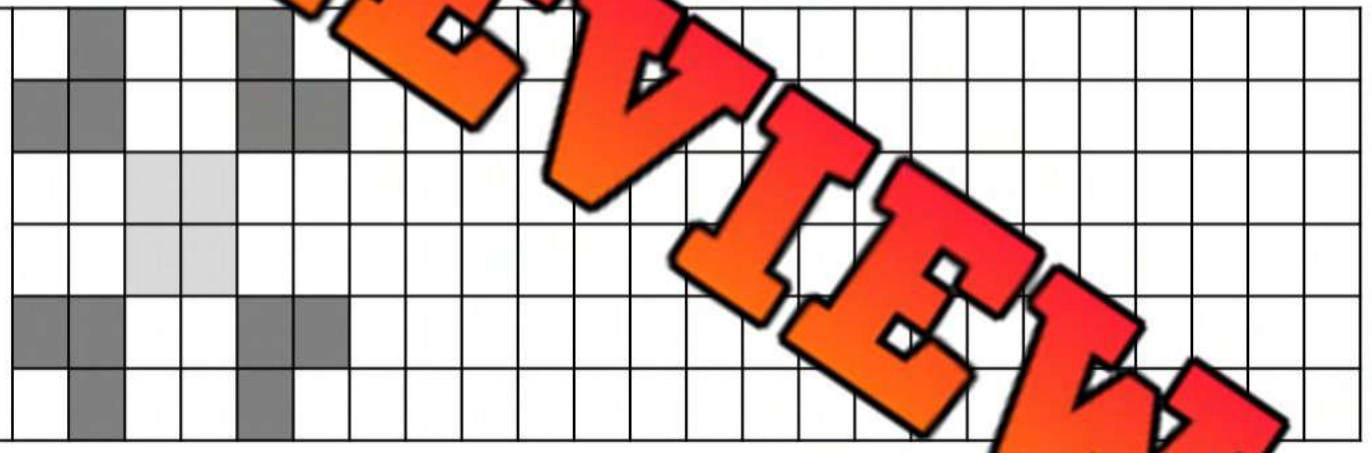
Quilting Repeating Pattern

Draw Continue the pattern by drawing the replica of what you see multiple times

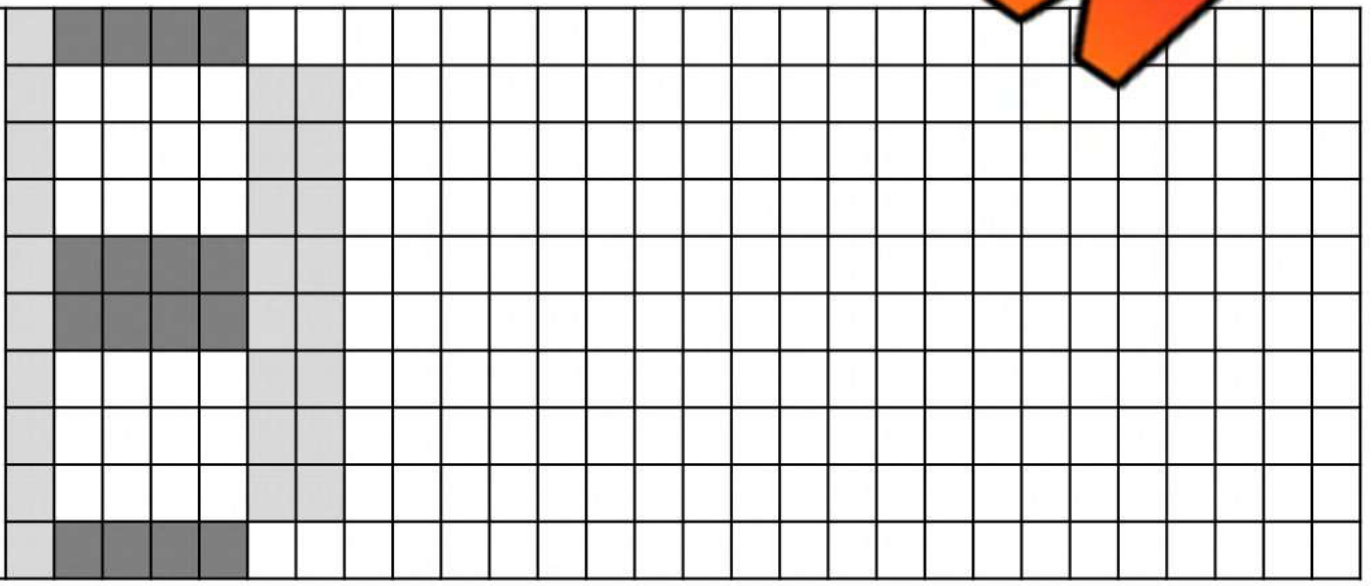
1)



2)



3)



Name: _____ 25

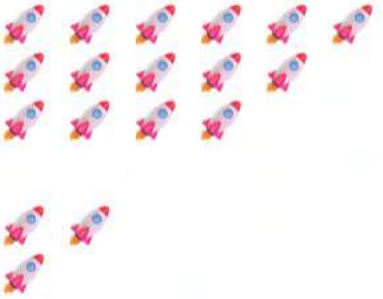
Curriculum Connection
C1.1, C1.2

Decreasing Patterns – Emojis

Questions | Draw the missing line of the decreasing pattern

1) Draw the missing line in the pattern.

2) Draw the missing line in the pattern.

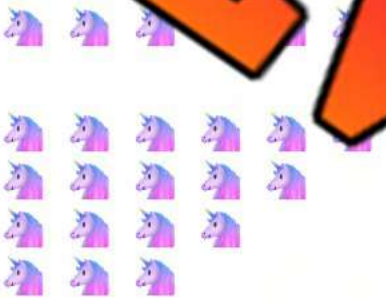


3) Draw the missing line in the pattern.

4) Draw the missing line in the pattern.

5) Draw the missing line in the pattern.

6) Draw the missing line in the pattern.



7) Draw the missing line in the pattern.

8) Draw the missing line in the pattern.

Name: _____ 26

Curriculum Connection
C1.1, C1.2

Decreasing Patterns

Questions | Fill in the numerical sequences for the patterns below

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

Numerical Sequence

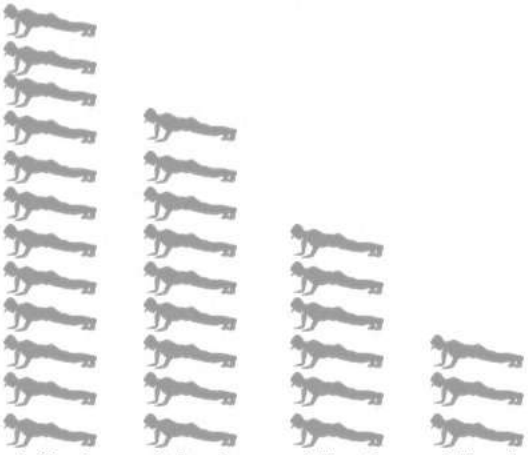
_____, _____, _____, _____, _____

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

Numerical Sequence

_____, _____, _____, _____, _____

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



Numerical Sequence

_____, _____, _____, _____, _____

Name: _____ 28

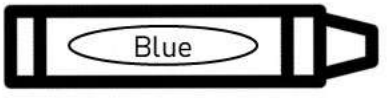
Curriculum Connection
C1.1, C1.2

Hundreds Chart Patterns

Questions Fill in the missing numbers

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

Directions Follow the instructions below

1) Colour the odd numbers 

2) Colour the even numbers 

Name: _____ 30

Curriculum Connection
C1.1, C1.2

Hundreds Chart Patterns

Directions Follow the instructions below

Colour the pattern rule: start at 3, add 3 each time									
1	2	3	4	5	6	7	8	9	10
11		13	14	15	16	17	18	19	20
21			24	25	26	27	28	29	30
31			34	35	36	37	38	39	40
41	42		44	45	46	47	48	49	50
51	52				56	57	58	59	60
61	62				66	67	68	69	70
71	72	73				77	78	79	80
81	82	83	84		86		88	89	90
91	92	93	94	95		97		99	100

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

Name: _____ 32

Curriculum Connection
C1.1, C1.2

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

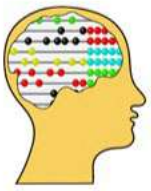
Part 1 Fill in the numbers below each pair of numbers

Part 2 How many terms can you write in the Fibonacci sequence?

Name: _____ 33

Curriculum Connection
C1.3

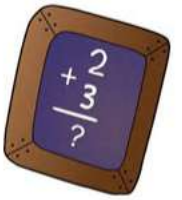
Growing Patterns - Addition



Growing/Increasing Patterns

+10 +10 +10 +10 +10
10, 20, 30, 40, 50, 60

+5 +5 +5 +5 +5
3, 8, 13, 18, 23, 28



Part 1 Growing Patterns - Addition

1) 2, 4, 6, _____	2) 6, 12, 18, _____, _____, _____
3) 10, 15, 20, _____, _____, _____	58, _____, _____, _____
5) 8, 16, 24, _____, _____, _____	6) _____

Part 2 Follow the rule by adding the next number in the

1) (Add 5) 7, 12, 17, _____, _____, _____	2) (Add 3) 72, 75, 78, _____, _____, _____
3) (Add 6) 2, 8, 14, _____, _____, _____	4) (Add 8) 8, 16, 24, _____, _____, _____
5) (Add 10) 4, 14, 24, _____, _____, _____	6) (Add 4) 42, 46, 50, _____, _____, _____

Name: _____ 36

Curriculum Connection
C1.3

Increasing Patterns Rules – Adding To 100

Questions Fill in the blanks by figuring out the pattern rules

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

t at _____, then add _____ each time

8, 53, 58, 63, 68, 73

Sta add _____ each time

21, 31, 41 71, 81

Start at _____, then ad time

37, 43, 49, 55, 61, 73

Start at _____, then add _____ eac

54, 61, 68, 75, 82, 89, 96

Start at _____, then add _____ each time

40, 49, 58, 67, 76, 85, 94

Start at _____, then add _____ each time

Name: _____ 38

Curriculum Connection
C1.3

Using Pattern Rules – Adding To 100

Questions	Write your own patterns using the pattern rule

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

Pattern Rule: Start at 7, add 3 each time

2) _____, _____, _____, _____, _____, _____

Pattern Rule: Start at 10, add 10 each time

3) _____, _____, _____, _____, _____, _____

Pattern Rule: Start at 18, add [illegible] ti[illegible]

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

Pattern Rule: Start at 36, add 8 each time

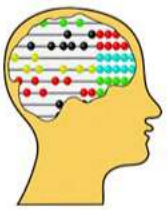
5) _____, _____, _____, _____, _____, _____

Pattern Rule: Start at 54, add 6 each time

Name: _____ 40

Curriculum Connection
C1.3

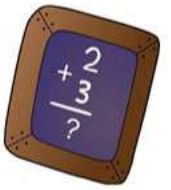
Growing Patterns



Growing/Increasing Patterns

Addition
+2 +2 +2 +2
2, 4, 6, 8, 10

Multiplication
x2 x2 x2 x2
2, 4, 8, 16, 32



Part 1 Growing Patterns - Addition

1) 5, 10, 15, _____, _____, _____	4) 10, 20, 30, _____, _____, _____
2) 3, 6, 9, _____, _____, _____	5) 100, 200, 300, _____, _____, _____
3) 2, 4, 6, _____, _____, _____	6) _____, _____, _____

Part 2 Growing Patterns - Multiplication

1) 5, 10, 20, _____, _____, _____	4) 10, 20, 40, _____, _____, _____
2) 2, 4, 8, _____, _____, _____	5) 100, 200, 400, _____, _____, _____
3) 1, 3, 9, _____, _____	6) 1, 5, 25, _____, _____, _____

Curriculum Connection
C1.3

Exit Cards

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

Name: _____

Growing Multiplication Patterns

1) (Multiply by 3)

1, 3, _____, _____

2) 5, 25, 125, 3125, 15625

Start at ____, multiply by ____ each time

3) ____, ____, ____, ____

Pattern Rule: Start at 2, multiply by 4 each time.

Name: _____

Growing Multiplication Patterns

1) (Multiply by 3)

1, 3, _____, _____

2) 5, 25, 125, 3125, 15625

Start at ____, multiply by ____ each time

3) ____, ____, ____, ____

Pattern Rule: Start at 2, multiply by 4 each time.

Name: _____

Growing Multiplication Patterns

1) (Multiply by 3)

1, 3, _____, _____

2) 5, 25, 125, 3125, 15625

Start at ____, multiply by ____ each time

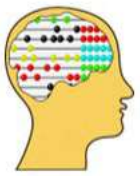
3) ____, ____, ____, ____

Pattern Rule: Start at 2, multiply by 4 each time.

Name: _____ 42

Curriculum Connection
C1.3

Shrinking Patterns - Subtraction



Shrinking/Decreasing Patterns

−10 −10 −10 −10 −10

60, 50, 40, 30, 20, 10

-5 -5 -5 -5 -5

45, 40, 35, 30, 25, 20

Part 1 Fill in the missing numbers in the pattern

1) 12, 10, 8, _____, _____, _____	2) 23, 19, 15, _____, _____, _____
3) 32, 26, 20, _____, _____, _____	[illegible], _____, _____, _____
5) 56, 48, 40, _____, _____, _____	6) [illegible]

Part 2 Follow the rule by adding the next number in the

1) (Subtract 2) 18, 16, 14, _____, _____, _____	2) (Subtract 3) 30, 27, 24, _____, _____, _____
3) (Subtract 5) 38, 33, 28, _____, _____, _____	4) (Subtract 10) 60, 50, 40, _____, _____, _____
5) (Subtract 6) 62, 56, 50, _____, _____, _____	6) (Subtract 4) 78, 74, 70, _____, _____, _____

Name: _____ 43

Curriculum Connection
C1.3

Decreasing Patterns Rules – Subtracting (1)

Questions Fill in the blanks by figuring out the pattern rules

21, 18, 15, 12, 9, 6, 3, 0

Start at _____, then subtract _____ each time

9, 34, 29, 24, 19, 14

Start at _____, then subtract _____ each time

58, 54, 50, 46, 42, 38, 34

Start at _____, then subtract _____ each time

71, 65, 59, 53, 47, 41, 35

Start at _____, then subtract _____ each time

88, 80, 72, 64, 56, 48, 40

Start at _____, then subtract _____ each time

99, 92, 85, 78, 71, 64, 57

Start at _____, then subtract _____ each time

Name: _____ 45

Curriculum Connection
C1.3

Using Pattern Rules – Subtraction (1)

Questions | Write your own patterns using the pattern rule

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

Pattern Rule: Start at 47, subtract 3 each time

2) _____, _____, _____, _____, _____, _____

Pattern Rule: Start at [illegible], subtract 10 each time

3) _____, _____, _____, _____, _____, _____

Pattern Rule: Start at 36, subtract [illegible] each time

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

Pattern Rule: Start at 68, subtract 8 each time

5) _____, _____, _____, _____, _____, _____

Pattern Rule: Start at 91, subtract 6 each time

Name: _____ 47

Curriculum Connection
C1.3

Shrinking / Decreasing Patterns

Shrinking/Decreasing Patterns

Subtraction

-3 -3 -3 -3

20, 17, 14, 11, 8

Division

÷2 ÷2 ÷2

80, 40, 20, 10

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

Part 1 Shrinking Patterns - Subtraction

1) 10, 8, 6, _____, _____

2) 20, 17, 14, _____, _____, _____

3) 30, 25, 20, _____, _____, _____

4) 174, 170, 166, _____, _____, _____

5) 100, 90, 80, _____, _____, _____

145, 140, _____, _____, _____

129, _____, _____

8) 158, 152, 146, _____, _____

Part 2 Shrinking Patterns - Division

÷2 ÷2 ÷2

1) 120, 60, 30, _____

÷2 ÷2 ÷2

2) 800, 400, 200, _____, _____

÷3 ÷3 ÷3

3) 162, 54, 18, _____, _____

÷2 ÷2 ÷2

4) 160, 80, 40, _____, _____

Name: _____ 48

Curriculum Connection
C1.3

Pattern Rule – Addition

Part 1 Continue the growing/increasing patterns below

1) 10, 20, 30, _____, _____, _____
Pattern Rule: Start at 10, add _____ each time

2) 2, 5, 8, _____, _____
Pattern Rule: Start at _____, add _____ each time

3) 35, 40, 45, _____, _____, _____
Pattern Rule: Start at _____, add _____ each time

4) 50, 60, 70 , _____, _____, _____
Pattern Rule: Start at _____, add _____ each time

5) 143, 147, 151, _____, _____, _____
Pattern Rule: Start at _____, add _____ 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

Part 2 Write your own patterns using the pattern rule

1) _____, _____, _____, _____, _____, _____
Pattern Rule: Start at 20, add 5 each time

2) _____, _____, _____, _____, _____, _____
Pattern Rule: Start at 10, add 0 each time

3) _____, _____, _____, _____, _____, _____
Pattern Rule: Start at 127, add 5 each time

4) _____, _____, _____, _____, _____, _____
Pattern Rule: Start at 116, add 4 each time

Name: _____ 49

Curriculum Connection
C1.3

Pattern Rule - Multiplication

Part 1 — Continue the growing/increasing patterns below

1) 5, 10, 20, _____, _____, _____
Pattern Rule: Start at 5, multiply by _____ each time

2) 1, 3, 9, _____, _____
Pattern Rule: Start at _____, multiply by _____ each time

3) 1, 4, _____, _____
Pattern Rule: Start at _____, multiply by _____ each time

4) 10, 20, 40, _____, _____
Pattern Rule: Start at _____, multiply by _____ each time

5) 2, 6, 18, _____, _____, _____
Pattern Rule: Start at _____, multiply by _____ each time

Part 2 — Write your own patterns using the pattern rule

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

2) _____, _____, _____, _____, _____, _____
Pattern Rule: Start at 3, multiply by 1 each time

3) _____, _____, _____, _____, _____, _____
Pattern Rule: Start at 5, multiply by 4 each time

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

Name: _____ 50

Curriculum Connection
C1.3

Pattern Rule - Subtraction

Part 1 Continue the shrinking/decreasing patterns below

1) 12, 10, 8, _____, _____, _____

Pattern Rule: Start at 12, subtract _____ each time

2) 22, 1_____, _____, _____

Patter_____at _____ subtract _____ each time

3) 1_____40, 13_____, _____, _____

Pattern Ru_____ _____ subtract _____ each time

4) 74, 68, 62, _____, _____, _____

Pattern Rule: Start at _____ _____ each time

5) 133, 123, 113, _____, _____, _____

Pattern Rule: Start at _____ subtract _____ ch time

Part 2 Write your own patterns using the p_____le

1) _____, _____, _____, _____, _____

Pattern Rule: Start at 50, subtract 0 each time

2) _____, _____, _____, _____, _____

Pattern Rule: Start at 236, subtract 6 each time

3) _____, _____, _____, _____, _____

Pattern Rule: Start at 794, subtract 5 each time

4) _____, _____, _____, _____, _____

Pattern Rule: Start at 142, subtract 4 each time

Name: _____ 51

Curriculum Connection
C1.3

Pattern Rule - Division

Part 1 Continue the growing/increasing patterns below

1) 120, 60, 30, _____
Pattern Rule: Start at 120, divide by 2 each time

2) 10, _____, _____, _____
Pattern Rule: Start at 10, divide by _____, each time

3) 243, 81, 27, _____, _____
Pattern Rule: Start at _____, divide by _____, each time

4) 256, 64, 16, _____, _____
Pattern Rule: Start at _____, divide by _____ time

Part 2 Write your own patterns using the pattern rule

1) _____, _____, _____, _____, _____
Pattern Rule: Start at 64, divide by 2 each time

2) _____, _____, _____, _____, _____
Pattern Rule: Start at 150, divide by 1 each time

3) _____, _____, _____, _____, _____
Pattern Rule: Start at 375, divide by 5 each time

4) _____, _____, _____, _____, _____
Pattern Rule: Start at 1024, divide by 4 each time

Name: _____ 56

Curriculum Connection
C1.4

Number Strings – Addition and Subtraction

Fill in the Blanks — Fill in the blanks to investigate the patterns between addition and subtraction

Addition	Subtraction
+ 5 = _____	67 – 5 = _____
= _____	67 – 4 = _____
64 + = _____	67 – 3 = _____
65 + = _____	67 – 2 = _____
66 + 1 = _____	67 – 1 = _____
67 + 0 = _____	– 0 = _____

Addition	tion
50 + _____ = 57	=
_____ + 6 = 57	57 – _____
52 + _____ = 57	_____ – 5 52
53 + 4 = _____	57 – _____ = 53
54 + _____ = 57	57 – 3 = _____
_____ + 2 = 57	57 – _____ = 55
56 + _____ = 57	_____ – 1 = 56
57 + 0 = _____	57 – 0 = _____

Name: _____ 57

Curriculum Connection
C1.4

Number Strings – Addition and Subtraction

Fill in the Blanks — Fill in the blanks to investigate the patterns between addition and subtraction

Addition	Subtraction
900 + 5 = _____	905 – _____ = 900
_____ = 905	905 – 4 = _____
_____ + 905	905 – _____ = 902
903 + _____ =	_____ – 2 = 903
904 + 1 = _____	905 – _____ = 904
905 + _____ = 905	905 – 0 = _____

Addition	Subtraction
400 + _____ = 407	_____ = 400
401 + 6 = _____	407 – 6 =
_____ + 5 = 407	_____ – 5 = 402
403 + _____ = 407	407 – _____ = 403
404 + 3 = _____	407 – 3 = _____
405 + _____ = 407	407 – _____ = 405
_____ + 1 = 407	_____ – 1 = 406
407 + _____ = 407	407 – _____ = 407

Name: _____ 58

Curriculum Connection
C1.4

Patterning Subtraction Word Problems – Spending

Questions | Follow the problem-solving steps below

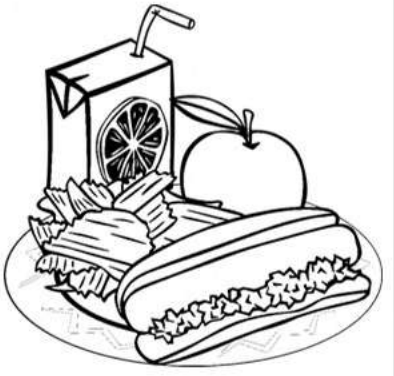
- ☐ Read the problem carefully
- ☐ Underline important information
- ☐ Draw pictures
- ☐ Write a number sentence
- ☐ Solve the problem
- ☐ Check your answer

Henry [illegible] lunch every day for one week. After his first lun[illegible] has $[illegible] after his second lunch, he has $172. After his third lunch, h[illegible]61.

a) How much money [illegible] Henry [illegible] left after his fourth lunch?

b) How much money will Henry have after his 7th lunch?

c) How much does each lunch cost?



Name: _____ 59

Curriculum Connection
C1.4

Patterning Subtraction Word Problems – Running

Questions | Follow the problem-solving steps below

- ☐ Read the problem carefully
- ☐ Underline important information
- ☐ Draw pictures
- ☐ Write a number sentence
- ☐ Solve the problem
- ☐ Check your answer

Riley [illegible] marathon each day for 9 days. After her first day, [illegible] had 1[illegible] that she needed to run. After the second day, she ha[illegible] left. After the third day, she had 147km left.

a) How many k[illegible] di[illegible] [illegible]ft after the fourth day?

b) How many km did she have left after the 7th day?

c) How many km is a half marathon?

Name: ______________________ 60

Curriculum Connection
C1.4

Activity Title: Pattern Treasure Hunt

Objective — What are we learning about?

To reinforce students' understanding of growing addition and shrinking subtraction patterns through a dynamic and engaging treasure hunt game. This activity aims to improve problem-solving speed and accuracy while promoting teamwork and active learning.

Materials — [illegible]t you will need for the activity.

- Stop[illegible]tch or [illegible]d use a smartphone)
- Index card[illegible]
- Markers
- Small prizes or [illegible] (fo[illegible]
- Tape

Instructions — How you will comp[illegible] activ[illegible]

1) Cut out the index cards provided. These wi[illegible] trea[illegible]challenge questions.

2) Hide these cards around the classroom or in a de[illegible]afe ou[illegible]rea, taping them under chairs, desks, or tucked into non-obvio[illegible]

3) Divide the class into small teams and give each team a stopwat[illegible]

4) Explain the game: each team will hunt for a card, solve the problem [illegible]s quickly as they can, and return to you for verification.

5) Start the timer when you say "Go!" Each team rushes to find their first card.

6) When a team thinks they have the correct answer, they come back to you for verification. If they get it right, the teacher keeps the card. If the answer is wrong, they can try again or hide the card back in its original spot and find a new card.

7) The game continues until all cards are found or you call time. The team with the most correct answers wins.

8) Discuss the game, focusing on the concepts taught on the cards.

Name: _____ 61

Curriculum Connection
C1.4

Instructions Cut out the cards below

1) Start at 100, add 50 each time.

100, _____, _____, _____

2) Start at 200, subtract 20 each time.

200, _____, _____, _____

3) Start [illegible] each time.

_____, _____, _____

4) Start at 800, subtract 100 each time.

_____, _____, _____

5) 250, 275, 300,

_____, _____, _____

[illegible] subtract 50 each [illegible]

_____, _____

7) Start at 600, add 100 each time.

_____, _____, _____, _____

8) Pattern Rule: Start at 900, subtract 150 each time.
900, 750, 600,

_____, _____, _____, _____

Name: _____ 64

Curriculum Connection
C1.4

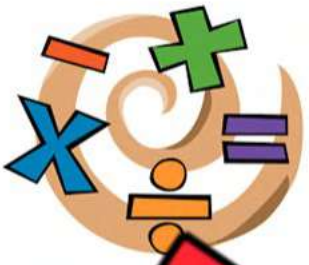
Instructions	Cut out the cards below

25) A stadium had 1000 fans. 150 leave each hour. How many are left after 4 hours?	26) Pattern Rule: Subtract 250 starting from 950 . _____, _____, _____
27) A movie [illegible] starts with 750 tickets [illegible] 1[illegible] day. How many [illegible]	28) (Subtract 250) 1000, 750, 500, _____, _____, _____
29) A warehouse had 900 boxes and removed 120 weekly. How many after 4 weeks?	3[illegible] sto[illegible]e [illegible]50 items a day a[illegible] [illegible]eases[illegible]es by 40 each day. [illegible] m[illegible]ft[illegible]5 days?
31) A bike rental has 600 bikes. Each month, they add 130. How many after 3 months?	32) A zoo had 750 animals and added 95 each year. How many after 4 years?

Name: _____ 65

Curriculum Connection
C1.2, C1.3

Input/Output Table – Addition



Rule: add 5	
In	Out
25	30
55	60
140	145
180	185

Ques… …he input/output tables below

In	Out
20	
30	
50	
120	

Rule: add 4	
In	Out
5	
11	
…2	
8…	

Rule: add 2	
In	Out
2	
18	
49	
92	

…5	
	Out
20	
28	
108	
257	

Rule: add 6	
In	Out
20	
50	
100	
140	

Rule: add 8	
In	Out
2	
5	
10	
20	

Name: _____ 67

Curriculum Connection
C1.2, C1.3

Patterning Word Problem - Earnings

Questions | Follow the problem-solving steps below

- ☐ Read the problem carefully
- ☐ Underline important information
- ☐ Draw pictures
- ☐ Write a number sentence
- ☐ Solve the problem
- ☐ Check your answer

Luna [illegible] week for 6 days. The first day she made $25 and [illegible] day, she had $50. After the third day she had $75.

a) How much [illegible] the 6 days of work?

b) How much did she make each day?

Name: _____ 69

Curriculum Connection
C1.2, C1.3

Patterning Word Problem - Snowfall

Questions | Follow the problem-solving steps below

- ☐ Read the problem carefully
- ☐ Underline important information
- ☐ Draw pictures
- ☐ Write a number sentence
- ☐ Solve the problem
- ☐ Check your answer

The sn[illegible] outside Aidan's house. He records the height of the [illegible] After the 1st hour, it was 200mm. After the 2nd hour, it was [illegible] the 3rd hour it was 320mm.

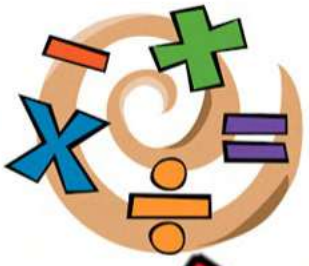
a) What will th[illegible]ow be after the 4th hour?

b) What will the height of the snow be after the 7th hou[illegible]

Name: _____ 71

Curriculum Connection
C1.2, C1.3

Input/Output Table – Subtraction



Rule: subtract 5	
In	Out
35	30
65	60
130	125
160	155

Ques he input/output tables below

R 5	
In	O
10	
35	
55	
110	

Rule: subtract 4	
In	Out
5	
25	
57	

Rule: subtract 2	
In	Out
4	
28	
45	
77	

t 5	
	Out
9	
18	
122	
157	

Rule: subtract 6	
In	Out
6	
14	
47	
138	

Rule: subtract 8	
In	Out
23	
66	
109	
120	

Name: _____ 74

Curriculum Connection
C1.2, C1.3

Patterning Multiplication Word Problems – Reading

Questions | Follow the problem-solving steps below

- ☐ Read the problem carefully
- ☐ Underline important information
- ☐ Draw pictures
- ☐ Write a number sentence
- ☐ Solve the problem
- ☐ Check your answer

Dani[illegible]e from his book on day one, 2 pages of his boo[illegible] day t[illegible]ages of his book on day three, and 8 pages of his book[illegible]ur[illegible]

a) How many p[illegible]es[illegible]e[illegible]on day 5?

b) How many pages did he read on day 7?

c) What is the pattern rule?

Name: _____ 75

Curriculum Connection
C1.2, C1.3

Activity: Finger Signals Quiz - Doubling Patterns

Objective What are we learning about?

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

Materi ...u will need for the activity.

- A list of q...

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

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

Name: _____ 76

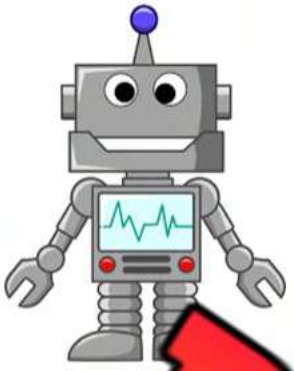
Curriculum Connection
C1.2, C1.3

Question	A	B	C	D
Start with 6. What is the third number in the doubling pattern?	12	18	24	30
Which number comes next in the pattern: 2, 4, 8, ___?	10	12	14	16
Which pattern starts with 5 and follows a doubling sequence?	5, 10, 15	5, 10, 20	5, 15, 20	5, 10, 25
Start with 3. What is the fifth number in the doubling pattern?	12	24	36	48
If the pattern starts at 2, what will the third number be when doubling?	4	6	8	12
If the pattern starts at 7, what will the fourth number be if it doubles each time?	21	28	35	42
What is the easiest way to find the next number in a doubling pattern?	Add	Subtract	Multiply	Divide
Which number comes next in the pattern: 1, 2, 4, ___?	6	8	10	12
What is the second number in the doubling pattern starting with 5?	10	15	20	25
Which sequence is a doubling pattern starting with 3?	3, 6, 9	3, 6, 12	3, 9, 15	3, 9, 18
Start with 6. What is the third number in the doubling pattern?	12	18	24	30
Which number comes next in the pattern: 2, 4, 8, ___?	10	12	14	16
Start with 3. What is the fifth number in the doubling pattern?	12	24	36	48
If the pattern starts at 2, what will the third number be when doubling?	4	6	8	12

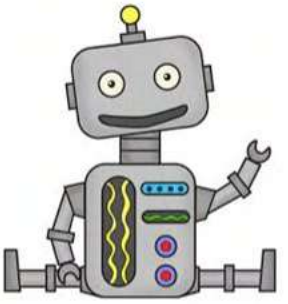
Name: _____ 77

Curriculum Connection
C1.2, C1.3

Input/Output Table – Division



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



Ques… …he input/output tables below

Ru… …1	
In	O…
1	
5	
10	
20	

Rule: divide by 2	
In	Out
6	
10	
…4	
2	

Rule: divide by 3	
In	Out
6	
9	
12	
15	

…e: …by 4	
	Ou…
4	
8	
16	
32	

Rule: divide by 5	
In	Out
10	
20	
40	
50	

Rule: divide by 10	
In	Out
10	
20	
50	
100	

Name: _____ 78

Curriculum Connection
C1.2, C1.3

Patterning Division Word Problems – Melting

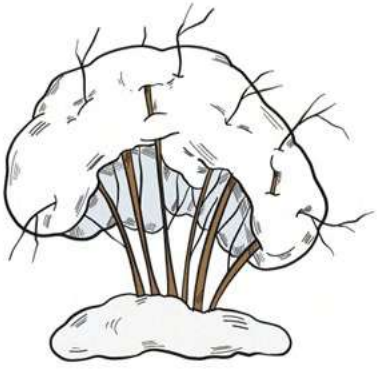
Questions | Follow the problem-solving steps below

- ☐ Read the problem carefully
- ☐ Underline important information
- ☐ Draw pictures
- ☐ Write a number sentence
- ☐ Solve the problem
- ☐ Check your answer

Lincol[illegible] the amount of snow in his backyard. After a heavy sno[illegible] 0mm of snow. On day 2, there was 320mm of snow. [illegible] day [illegible] as 160mm of snow. On day 4, there was 80mm of snow.

a) If the pattern cont[illegible], how m[illegible]ow will be left on day 5?

b) How much snow will be left on day 6?



c) What is the pattern rule?

Name: _____ 79

Curriculum Connection
C1.4

Number Strings – Multiplication and Division

Fill in the Blanks Fill in the blanks to investigate the patterns between multiplication and division

Multiplication	Division
× 1 = _____	5 ÷ _____ = 5
= 10	_____ ÷ 2 = 5
15	_____ ÷ 3 = 5
5 × 4	20 ÷ _____ = 5
5 × 5 = _____	25 ÷ 5 = _____
5 × _____ = 30	_____ = 5
5 × _____ = 35	= 5
_____ × 8 = 40	
5 × _____ = 45	45 ÷
5 × 10 = _____	50 ÷ 10 = _____

Write What patterns did you notice when filling out the table?

_____

_____

_____

Name: _____ 80

Curriculum Connection
C1.4

Number Strings – Multiplication and Division

Fill in the Blanks Fill in the blanks to investigate the patterns between multiplication and division

Multiplication	Division
× 1 = _____	10 ÷ _____ = 10
2 × _____	20 ÷ 2 = _____
10 × 3	30 ÷ 3 = _____
10 × _____ =	40 ÷ _____ = 10
10 × 5 = _____	50 ÷ 5 = _____
10 × _____ = 60	6 = _____
_____ × 7 = 70	= 10
10 × _____ = 80	÷
10 × 9 = _____	90 ÷ _____
10 × 10 = _____	100 ÷ 10 = _____

Write What patterns did you notice when filling out the table?

_____

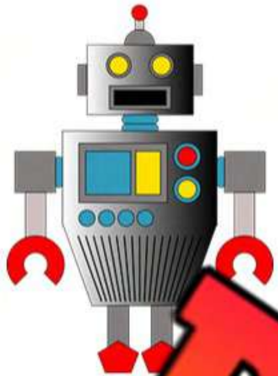
_____

_____

Name: ______________________ 81

Curriculum Connection
C1.4

Pattern Rule – Input/Output Tables



Add 10	
In	**Out**
20	30
50	60
170	180
225	235

Inst[illegible]ons [illegible]n the input/output tables below

R[illegible]	
In	**O**[illegible]
10	
60	
90	
155	

Rule: add 3	
In	**Out**
3	
12	
[illegible]	
[illegible]	

Rule: subtract 6	
In	**Out**
26	20
38	
59	
72	

Rule: s[illegible] 4	
[illegible]	[illegible]
20	
28	
108	
257	

Rule: Divide by 2	
In	**Out**
20	10
50	
100	
140	

Rule: Multiply by 3	
In	**Out**
2	
5	
10	
20	

Curriculum Connection
C1.2, C1.3

Exit Cards

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

Name: _____

Fill in the input/output tables below

Rule:	
In	Out
2	
	15
10	

Rule: divide by 4	
In	Out
20	
	10

Name: _____

Fill in the input/output tables below

Rule: multiply by 3	
In	Out
	3
2	
	15

Rule: divide by 4	
In	Out
8	
20	
	6
	10

Name: _____

Fill in the input/output tables below

Rule: multiply by 3	
In	Out
	3
2	
	15
10	

Rule: divide by 4	
In	Out
8	
20	
	6
	10

Name: _____

Fill in the input/output tables below

Rule: multiply by 3	
In	Out
	3
2	
	15
10	

Rule: divide by 4	
In	Out
8	
20	
	6
	10

Name: _____ 84

Curriculum Connection
C1.2, C1.3

Pattern Rule – Input/Output Tables

Part 1 — Fill in the input/output tables below

Rule: Subtract 8	
In	Out
14	
2	
	58

Rule: Add 13	
In	Out
15	
20	
	62
	138

Rule:	
In	Out
41	
87	
	12
	177

Rule: Multiply by 2	
In	Out
10	
20	
	80
	140

Rule: Divide by 2	
In	Out
20	
48	
	31
	42

de by 5	
	Out
20	
	7

Part 2 — Write the input/output rules below

In	Out
2	6
5	9
8	12
15	19
Rule: _____	

In	Out
2	8
3	12
4	16
5	20
Rule: _____	

In	Out
10	7
15	12
25	22
38	35
Rule: _____	

Name: _____ 85

Curriculum Connection
C1.1, C1.2, C1.3

T-Tables – Finding Patterns

Questions | Fill in the T-Tables by counting the blocks

1) 
Figure 1 Figure 2 Figure 3

Figure	Term Value
1	
2	
3	
4	

2) 
Figure 1 Figure 2 Figure 3

Figure	Term Value
1	
2	
3	
4	

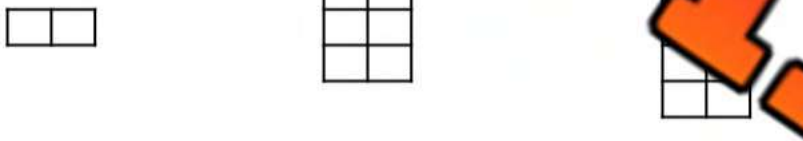
3) 
Figure 1 Figure 2 Figure 3

Figure	Term Value
1	
2	
3	
4	

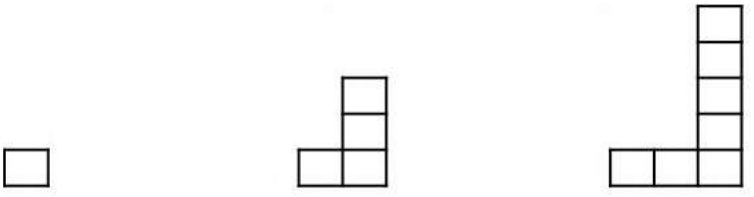
4) 
Figure 1 Figure 2 Figure 3

Figure	Term Value
1	
2	
3	
4	

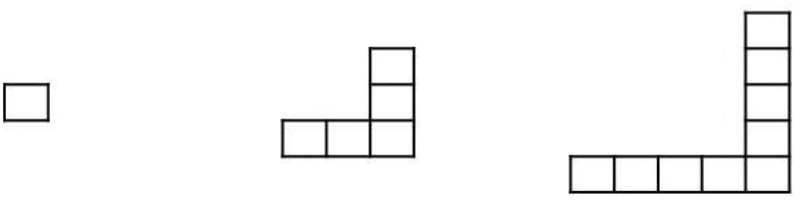
5) 
Figure 1 Figure 2 Figure 3

Figure	Term Value
1	
2	
3	
4	

Name: _____ 87

Curriculum Connection
C1.2, C1.3

Table of Values – Term Numbers/Values

Questions Fill in the table of values below

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

+ + + + +

Term Number	Term Value
1	10
2	16
3	22
4	
5	
6	

+ + + + +

Term Number	Term
1	75
2	71
3	67
4	
5	
6	

- - - - -

Term Number	Term Value
	89
	79
3	
5	
6	

- - - - -

Term Number	Term Value
1	242
2	250
3	
4	266
5	
6	
10	

+ + + + +

Term Number	Term Value
1	545
2	540
3	
4	
5	525
6	
10	

- - - - -

Name: _____ 89

Curriculum Connection
C1.2, C1.3

Table of Values

Questions | Answer the questions below by using the table of values

When you work an hour, you get paid 10 dollars. Therefore, the input is the hours you work and the output is how much money you made.
Fill in the input/output table.

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

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

Hours Worked	Money Made
1	
2	
3	
4	
5	
10	

Kids	Slices of Pizza
1	
2	
3	
4	
5	
10	

You are having a birthday party for your family. There will be 5 kids coming to the party. Each kid is going to eat 2 slices of pizza.

1) How many slices of pizza does your family need to order?

2) What if 10 kids show up to the party? How many slices of pizza will you order?

You scored 5 points in each basketball game this season. Fill in the table of values showing your game scores.

1) After your third game, how many points had you scored?

2) There were 8 games this season. How many points did you score in the season?

Games	Total Points Scored
1	
2	
3	
4	
5	
8	

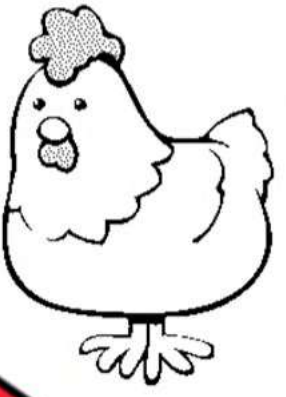
Name: _____ 90

Curriculum Connection
C1.3

The Egg Challenge

Challenge	Answer the word problem below

If a hen laid 1 egg on Monday, 2 eggs on Tuesday, 3 eggs on Wednesday and the pattern continued, how many eggs would it lay on the Sunday?

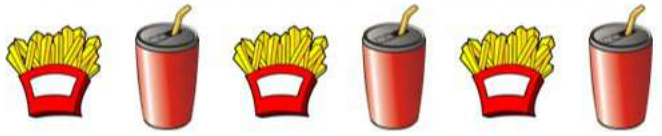


How many days would the hen need to lay 5

Name: _____

Algebra Quiz - Patterning

Part 1 Continue the repeating patterns below by drawing 3 more pictures



Part 2 Circle the pattern unit and continue the pattern

A B C C A B C _____, _____, _____

A B B C D A B B C D _____, _____, _____

A B C B A B C B _____, _____, _____

Part 3 Follow the rule by adding or subtracting to find the

1) (Add 5) 3, 8, 13, _____, _____, _____	2) (Add 3) 23, 26, 29, _____, _____, _____
3) (Add 6) 2, 8, 14, _____, _____, _____	4) (subtract 2) 18, 16, 14, _____, _____, _____
5) (subtract 10) 60, 50, 40, _____, _____, _____	6) (subtract 4) 46, 42, 38, _____, _____, _____

Part 4 — 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	

- - - - -

3) Figure 1 Figure 2 Figure 3 Fig 4

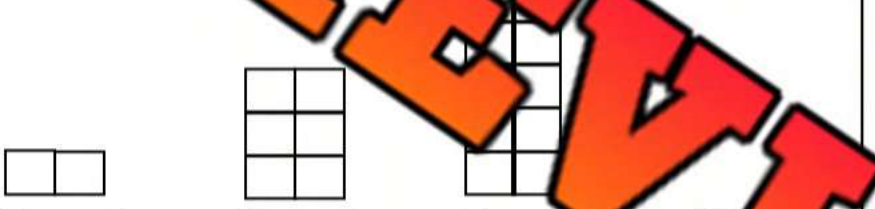


Figure	Term Value
1	
2	
3	
4	

Part 5 — Solve the word problem below. Show your work!

If you read 1 book on Monday, 2 books on Tuesday, 3 books on W... many books would you read on Sunday if the pattern continue...

How many days would it take you to read 45 books?

Grade 3
C2. Equations and Inequalities

	Curriculum Expectations	Pages That Cover the Expectations
C2.1	describe how variables are used, and use them in various contexts as appropriate	110 – 114, 137 – 145, 151 – 155, 161 - 162
C2.2	determine whether given sets of addition, subtraction, multiplication, and division expressions are equivalent or not	95 - 162
C2.3	identify and use equivalent relationships for whole numbers up to 1000, in various contexts	163 - 164

Name: _____ 95

Curriculum Connection
C2.2

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.

3	+	6	=	9

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

8	+		=	11

6	+		=	

8	+		=	14

5	+		=	9

7	+		=	12

2	+		=	13

6	+		=	10

3	+		=	14

1	+		=	12

Name: _____ 96

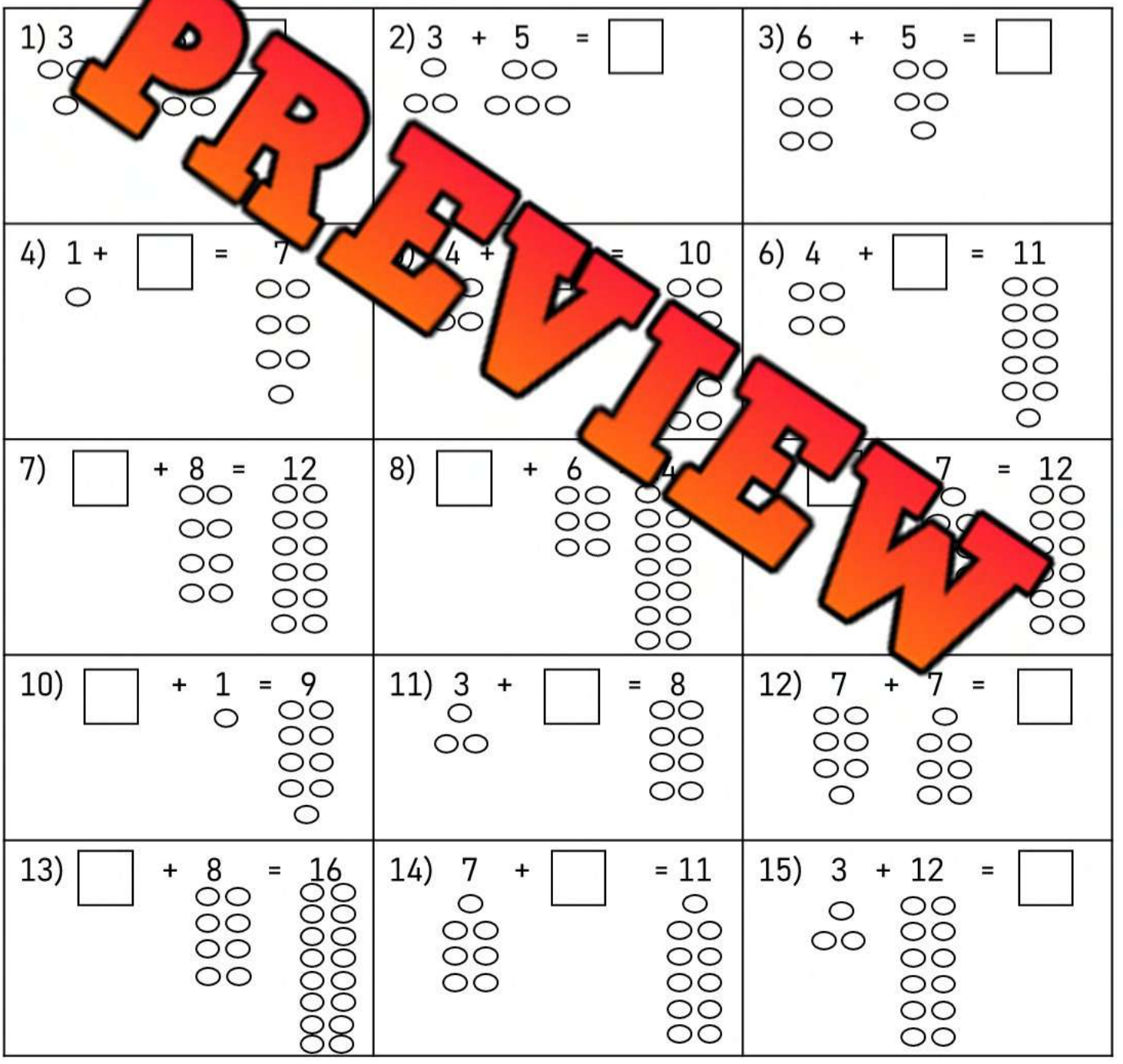
Curriculum Connection
C2.2

Pre-Algebra – Balancing Addition Equations

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

Examples: $3 + 7 = \boxed{10}$ (10) $\quad 24 + 6 = \boxed{30}$ (30)

Questions Fill in the missing number to balance the equation



Name: _____ 97

Curriculum Connection
C2.2

Addition to 100 – Are They Equal?

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

15 + 7 = 22 28 + 4 ≠ 33 44 + 6 = 50

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

1) 15 + 5	2) 17 + 4 = 21	3) 23 + 7 = 29
4) 21 + 6 = 27	5)	6) 23 + 10 = 33
7) 19 + 6 = 26	8) 26 + 5 =	9) + 7 = 46
10) 58 + 6 = 66	11) 61 + 5 = 66	12) 7 = 90
13) 60 + 10 = 70	14) 81 + 0 = 81	15) 84 + 3 = 88
16) 90 + 7 = 96	17) 94 + 5 = 99	18) 87 + 10 = 97

Name: _____ 99

Curriculum Connection
C2.2

Pre-Algebra – Balancing Addition Equations

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

Examples: $3 + 7 = \boxed{10}$ (10) $\quad 24 + 6 = \boxed{30}$ (30)

Questions Fill in the missing number to balance the equation

1) 15	2) 23 + 6 = ☐	3) 54 + 5 = ☐
4) 1 + ☐ = 8	☐ = 15	6) 26 + ☐ = 32
7) ☐ + 6 = 10	8) ☐ 17 = 31	☐ + 33 = 50
10) 35 + 13 = ☐	11) 52 + ☐ = 61	☐ 78 81
13) 124 + ☐ = 131	14) 96 + 5 = ☐	15) 184 + ☐ = 197
16) 152 + ☐ = 162	17) 135 + 15 = ☐	18) 113 + ☐ = 125
19) 144 + ☐ = 152	20) 118 + 12 = ☐	21) 151 + ☐ = 165

Name: _____ 101

Curriculum Connection
C2.2

Addition Word Problems

Questions | Answer the questions below

1) Tom and his friend collected 35 seashells together. If Tom collected 18 seashells, how many did his friend collect?

2) There were [illegible] a t[illegible]me more birds arrived, and now there are 56 birds. How many [illegible]arriv[illegible]

3) A water tank had 75 liters of water. Some m[illegible]s [illegible]nd now it has 98 liters. How much water was added?

4) A bus started with 25 passengers. More people got on, and now there are 39 passengers. How many people got on?

Name: _____ 102

Curriculum Connection
C2.2

Pre-Algebra – Change Unknown

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

Examples:

$3 + \underline{\mathbf{7}} = 10$ (10 = 3 + 7)

$22 + \underline{\mathbf{8}} = 30$ (30 = 22 + 8)

Questions Fill in the missing number to balance the equation

1) 5 + _____ =	2) 3 + _____ = 7
3) 7 + _____ =	_____ = 14
5) 12 + _____ = 17	6) + _____ = 22
7) 18 + _____ = 25	8) 15 + _____
9) 13 + _____ = 18	10) 17 + _____ = 24
11) 25 + _____ = 32	12) 31 + _____ = 38
13) 44 + _____ = 51	14) 53 + _____ = 62

Name: ______________________ 103

Pre-Algebra – Start Unknown

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

Examples:

17 / 10 + 7 = 17 — **10** + 7 = 17

30 / 7 + 23 = 30 — **7** + 23 = 30

Questions Fill in the missing number to balance the equation

1) ________ +	2) ________ + 2 = 8
3) ________ + 6 =	+ 5 = 7
5) ________ + 9 = 13	= 13
7) ________ + 7 = 15	8) ________ +
9) ________ + 6 = 24	10) ________ + 5 = 28
11) ________ + 5 = 25	12) ________ + 7 = 32
13) ________ + 11 = 43	14) ________ + 13 = 48

Name: _____ 105

Curriculum Connection
C2.2

Algebra Jeopardy

Objective What are we learning about?

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

Mat will need for the activity.

- Jeopardy b the n
- Buzzer or bell

Instructions How you will comp activ

1. Print the Jeopardy board on the next pa
2. Divide the class into two teams.
3. Ask one team to go first by selecting a dollar value.
4. Read the question aloud from the dollar 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: _____ 106

Curriculum Connection
C2.2

Jeopardy Questions | Ask students the questions below

$100	$200	$300	$400	$500
__ + 3 = 5	__ + 7 = 20	10 + __ = 45	20 + __ + 15 = 68	3 + __ = 7 + 5
__ + 15 =	__ + 12 = 29	18 + __ = 53	25 + 18 + __ = 100	__ + 18 = 50 + 13
7 + __ = 10	=	+ __ = 65	32 + 25 + __ = 95	4 + __ = 11 + 9
__ + 6 = 9	__ + 20 = 4	+ 6	+ 22 + __ = 58	29 + __ = 12 + 47
Sam has 6 marbles and finds 11 more. How many does he have now?	Lisa had $21 and earned $10 more. Total money?	Max had 30 pencils, he bought 26 more. How many total pencils does he have now?	bird more join many now t on the tree?	farmer had 62 and bought mo How ws ve?
If Alex has 12 apples and buys 12 more, how many does he have?	Jane had 24 candies and found 13 more. How many does she now have in total?	Tom read 33 pages, then read 22 more. How many total pages did he read?	Lily collected 41 seashells, then 23 more. How many total does she have now?	If a baker baked 68 pies and then baked 24 more, how many pies are there?

Name: _____ 108

Curriculum Connection
C2.2

Addition – Which Equation Matches?

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

Example:

4 + 7	(9 + 2)	5 + 5

Questions: Circle the equation that matches the shaded in equation

1)	25 +	16 + 12	24 + 5
2)	46 + 6	40	44 + 3
3)	52 + 14	57 + 18	61 + 5
4)	63 + 12	45 + 35	
5)	82 + 12	70 + 24	55 + 40
6)	68 + 13	75 + 7	61 + 20
7)	53 + 22	40 + 35	55 + 21

Name: _____ 109

Curriculum Connection
C2.2

Addition – Using Symbols

When we do not know the value of an addend in a question, we can use any symbol to replace the unknown.

Part 1

Find out the value of the symbol

1) 35 + [illegible] = [illegible] =	2) 17 + ● = 24 ● =	3) ● + 42 = 55 ● =
4) 27 + ◆ = [illegible] ◆ =	[illegible] = 16 [illegible] =	6) 65 + ● = 75 ● =
7) ◆ + 88 = 98 =	8) 51 [illegible] = 62 ◆ =	[illegible] + 72 = 81 [illegible] =

Part 2

Write your own questions using any symbol you want [illegible] and to answer.

1)	2)

Name: _____ 112

Curriculum Connection
C2.1, C2.2

Using Variables to Solve Addition Equations

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

a + b + c = ? a = 5 b = 3 c = 7

5 + 3 + 7 = 15

Questions: Find out the value of the variable

a + b + c = 8 c = 2 _____ + _____ + _____	n + y + t = n = 5 y = 10 t = 5 _____ + _____ + _____ = _____
c + r + p = c = 4 r = 12 _____ + _____ + _____ = _____	g + h + k = g = 8 h = 4 k = 8 _____ + _____ + _____ = _____
e + c + g = e = 13 c = 7 g = 10 _____ + _____ + _____ = _____	a + c = b = 8 c = 3 _____ + _____
a + b + c = a = 5 b = 12 c = 12 _____ + _____ + _____ = _____	n + y + t = n = 5 _____ + _____ + _____ = _____
c + r + p = c = 4 r = 8 p = 21 _____ + _____ + _____ = _____	g + h + k = g = 8 h = 10 k = 10 _____ + _____ + _____ = _____
e + c + g = e = 13 c = 15 g = 10 _____ + _____ + _____ = _____	a + b + c = a = 5 b =15 c = 20 _____ + _____ + _____ = _____

Name: _____ 113

Curriculum Connection
C2.1, C2.2

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) Je[illegible] Rebec[illegible]king cookies. Rebecca made 20 cookies. They made 50 total co[illegible]ies. W[illegible]on[illegible]ill tell us how many cookies Jen made?

[illegible]	50 + c = 20
20 [illegible]	c – 20 = 50

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

c + 25 = 50	[illegible]
25 + c = 50	25 [illegible]0

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

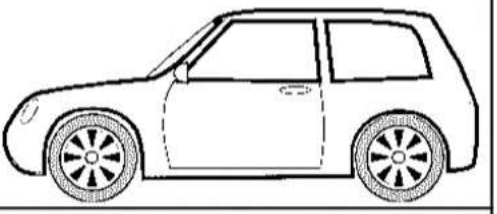
Name: _____ 114

Curriculum Connection
C2.1, C2.2

Word Problems – Solving Addition Equations

Questions	Answer the questions below

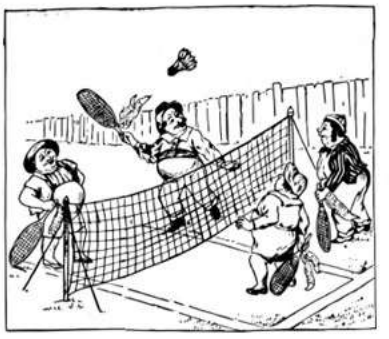
1) Tim drove 31km to get to work. Then he drove to the store. When he got to the store, he had driven 58 km in total. How many km did he drive to the store?



2) Steve got 25 points fo[r] leve[l] [v]ideo game. He got 33 more points for beating level 2. How ma[ny] [t]al p[oints] [h]ave after level 2?

Bonus – He had 78 total points after beating level [3]. [H]ow many p[oints] did he get in level 3?

3. In badminton, Jessica and Erin won their game. They scored 21 points and their opponents only scored 16. Jessica scored 13 of the 21 points. How many points did Erin score?



Name: _____ 115

Curriculum Connection
C2.2

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

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

11	-		=	8

8			=	

10	-		=	4

8	-		=	1

11	-		=	3

13	-		=	2

10	-		=	4

14	-		=	1

4	-		=	0

Name: _____ 116

Curriculum Connection
C2.2

Activity Title: Balancing Act

Objective

What are we learning about?

This activity is designed to help students understand the concept of equality and balance in addition and subtraction equations using a physical balance scale. Students will explore how different weights can represent numbers and discover combinati that balance the scale.

Mate

u will need for the activity.

- Small bal
- A set of we jects ame weights. A minimum of 25 gro
- Paper
- Pencils
- Set of pre-written addition nd s problems

Instructions

How you will complete the ty

1. Give a balance scale and weights to small groups den
2. Provide the students with the set of equations on the next ge
3. Students must use the weights to represent the numbers in each equation and place them on the balance scale to see how they balance. For the subtraction questions, students will put on the first quantity, and then remove the quantities in the equations. For addition, they can put the addends in separate areas on the same side of the balance scale.
4. As an extension, students could create their own equations that represent a sum or difference that you provide them with.
5. Review each group's findings with the class, discussing why the particular combinations resulted in a balanced scale.

Name: _____ 117

Curriculum Connection
C2.2

Equations | Pre-written addition and subtraction problems

3 + 2 = 5	11 – 4 = 7
7 – 5 = 2	4 + 2 = 3 + 3
5 + 4 = 7 + 2	19 – 15 = 4
8 – 4 – 2 = 2	19 – 7 – 8 = 8 – 2 – 2
7 + 2 + 1 = 9 + 1	6 + 1 + 3 = 4 + 2 + 4

Name: _____ 118

Curriculum Connection
C2.2

Subtraction to 50 – Are They Equal?

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

14 - 3 = 11 22 - 3 ≠ 18 36 - 5 = 31

Questions Put a slash ≠ through the equal sign if it is not balanced

1) 13 - [illegible]	2) 24 - 4 = 20	3) 15 - 4 = 10
4) 16 - 3 = 12	5) [illegible]	6) 18 - 3 = 14
7) 22 - 5 = 17	8) 26 - 6 = [illegible]	9) [illegible] 3 = 20
10) 28 - 5 = 23	11) 31 - 3 = 27	12) 3[illegible] = 30
13) 36 - 5 = 31	14) 39 - 4 = 34	15) 37 - 4 = 33
16) 44 - 0 = 44	17) 46 - 6 = 41	18) 50 - 5 = 45

Name: _____ 121

Curriculum Connection
C2.2

Pre-Algebra – Balancing Subtraction Equations

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

Examples:

$15 - 6 = \boxed{9}$ (9 is the difference)

$27 - 6 = \boxed{21}$ (21 is the difference)

Questions Fill in the missing number to balance the equation

1) 15 – ☐ = 9	2) 11 – 6 = ☐	3) 10 – 5 = ☐
4) 10 – ☐ = 5	5) ☐ – ☐ = 6	6) 14 – ☐ = 10
7) ☐ – 6 = 10	8) ☐ – 5 = 12	9) ☐ – 8 = 12
10) 55 – 10 = ☐	11) 72 – ☐ = 65	12) ☐ – ☐ = 50
13) 74 – ☐ = 67	14) 112 – 6 = ☐	15) 180 – ☐ = 160
16) 143 – ☐ = 135	17) 115 – 15 = ☐	18) 125 – ☐ = 110
19) 106 – ☐ = 99	20) 125 – 21 = ☐	21) 145 – ☐ = 100

Name: ______________________

Curriculum Connection
C2.2

Pre-Algebra – Result Unknown

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

Examples:

3
10 – 7 = **3**

6
24 – 18 = **6**

Questions: Find the missing number to balance the equation

1) 15 - 5 = ________	2) 25 - 7 = ________
3) 10 - 4 = ________	4) 13 ________
5) 21 - 7 = ________	6) 24 - ________
7) 32 - 12 = ________	8) 42 – 7 = ________
9) 63 - 13 = ________	10) 79 - 15 = ________
11) 91 - 11 = ________	12) 122 - 9 = ________
13) 142 - 13 = ________	14) 166 – 15 = ________

Name: _____ 124

Curriculum Connection
C2.2

Pre-Algebra – Start Unknown

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

Examples:

$\overset{10}{\wedge}$
$17 - 7 = 10$

$\overset{7}{\wedge}$
$30 - 23 = 7$

Question: Find the missing number to balance the equation

1) _____ - =	2) _____ - 4 = 7
3) _____ - 5 = 10	4) _____ - 3 = 8
5) _____ - 7 = 13	6) _____ - 6 = 2
7) _____ - 4 = 15	8) _____ - =
9) _____ - 6 = 24	10) _____ - 5 = 25
11) _____ - 8 = 25	12) _____ - 9 = 40
13) _____ - 12 = 43	14) _____ - 13 = 62

Name: _____ 131

Curriculum Connection
C2.2

Subtraction – Which Equation Matches?

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

Example:

9 - 4	(8 - 3)	10 – 6

Question: Circle the equation that matches the shaded in equation

1)		24 - 13	27 – 15
2)	28 - 14		27 – 13
3)	30 - 12	39	39 - 21
4)	47 - 12	46 - 11	
5)	62 – 13	61 - 12	63 - 15
6)	85 - 15	90 - 15	90 – 20
7)	99 - 15	98 - 13	90 - 6

Name: _____ 132

Curriculum Connection
C2.2

Matching Game: Do The Equations Match

Objective What are we learning about?

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

Mate will need for the activity.

- Pre-prepared re- cards.
- Small bags or envel ld t ts for each group

Instructions How you will complete the a

1. Before the class, the teacher will cut out the p red m ng game cards.
2. Divide the students into small groups and give each group ba elope containing a set of the matching cards.
3. In their groups, students will spread out the cards face down on their table.
4. Each person takes a turn to try to match two cards. They will need to solve both equations to see if they match (equal the same).
5. If they find a correct match, they keep the cards out and continue with their next turn. If the cards don't match, they turn them back over in the same place, and the next player takes a turn.
6. The activity continues until all pairs are correctly matched within each group.

Name: _____ 135

Curriculum Connection
C2.2

Cards | Matching Game Cards

19 + 18	30 + 7
9[illegible]5	68 - 3
42 + 18	[illegible] + 5
90 - 45	75 - 3[illegible]
64 + 18	73 + 9

Name: _____ 136

Curriculum Connection
C2.2

Subtraction – Using Symbols

Part 1 Find out the value of the symbol

1) ● – 10 = 18 ● =	2) 42 – ▲ = 30 ▲ =	3) 80 – ● = 65 ● =
4) [illegible] 12 ▲ =	5) ◆ – 11 = 29 ◆ =	6) 90 – 70 = ◆ ◆ =
7) 54 – ▲ = 50 ▲ =	8) ● – [illegible] ● =	9) 78 – ● = 64 ● =

Part 2 Write your own questions using any sym[illegible]vant. T[illegible]et a friend to answer.

1)	2)
3)	4)

Name: _____ 137

Curriculum Connection
C2.1, C2.2

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.

Question: Find out the value of the variable

27 – n = 14 n =	n – 5 = 5 n =	22 – n = 10 n =
25 – 10 = p p =	1[illegible] p =	p – 8 = 15 p =
31 – y = 30 y =	y – 14 = [illegible] y =	[illegible]35 = y y =
65 – t = 51 t =	88 – t = 58 t =	[illegible]74 [illegible]56 t =
124 – a = 117 a =	150 – a = 135 a =	163 – a = 151 a =
176 – 165 = s s =	185 – s = 171 s =	124 – s = 99 s =

Name: _____ 140

Curriculum Connection
C2.1, C2.2

Word Problems – Solving Subtraction Equations

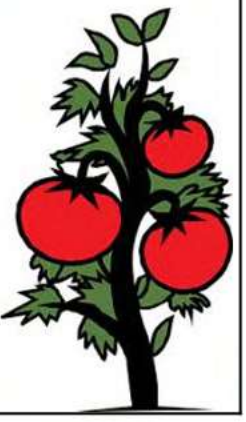
Questions | Answer the questions below

1) Mrs. Wilson had 48 pencils at the start of the school year. She gave all the kids in her class 1 pencil. She now has 28 pencils. How many students are in Mrs. Wilson's class?

2) Hudson saved 86 dollars and bought a toy for 35 dollars. How many dollars does he have left?

Bonus: He saved 15 more dollars. Can he buy a new game for 70 dollars?

3) The grade 3 class planted 79 tomato seeds but only 57 tomato plants grew. How many plants did not grow?



Name: _____ 141

Curriculum Connection
C2.1, C2.2

Task Cards: Mystery Number Detectives

Objective

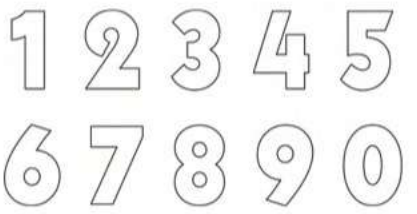
What are we learning about?

To help students understand and solve one-step algebraic equations by finding the value of a missing number.

Materials

What you will need for the activity.

- 2
- Se e shee for answers
- Pencils



Instructions

How o activity

1. Introduce the concepts cov d in
2. Organize the students into pairs and ovide e air eir sets of task cards.
3. Give each pair an answer recording sheet t do ses.
4. Encourage teamwork by having students collabora ir p on finding solutions.
5. Allow students to select any task card to begin with, emphasizi tha an complete the cards in any order they prefer.
6. Instruct students to record the letter of their chosen answer (A, B, or C) on their answer sheet beside the task card's number.
7. Consider using a timer to create a dynamic challenge, adjusting the duration to fit the lesson's objectives and complexity.
8. After the activity, review the answers collectively, discussing any challenging questions and strategies used to solve them.
9. Have students reflect on the activity, sharing the methods they applied and obstacles they overcame.

Name: _____ 142

Curriculum Connection
C2.1, C2.2

Task Cards | Cut out the task cards below

Card 1:
14 – p = 10

solve for p
a) [illegible] b) 4 c) 5

Card 2:
80 – ● = 65

solve for ●
a) 15 b) 25 c) 35

Card 3:
11 – [illegible]

a) 4 b) 2 [illegible]

Card 4:
x + 45 = 76

solve for x
[illegible] b) 31 c) 41

Card 5:
31 + y = 58

solve for y
a) 17 b) 27 c) 37

Card 6:
[illegible] z

solve [illegible]
a) 33 b) 23 c) 43

Card 7:
18 – a = 9

solve for a
a) 9 b) 7 c) 11

Card 8:
b + 16 = 24

solve for b.
a) 8 b) 18 c) 28

Name: _____ 145

Curriculum Connection
C2.1, C2.2

Task Cards: Mystery Number Detectives

Answers | Record your answers below

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

13	
14	
15	
16	
17	
19	
20	
21	
22	
23	
24	

Name: _____ 148

Curriculum Connection
C2.2

Multiplication – Which Equation Matches?

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

Example

2 x 3 | 1 x 6 | 4 x 2

Questio | Circle the equation that matches the shaded in equation

1)		10 x 1	6 x 2
2)	6 x 3		2 x 9
3)	5 x 4	1	6 x 3
4)	8 x 2	4 x 4	
5)	9 x 4	7 x 5	6 x 6
6)	10 x 3	7 x 5	6 x 5
7)	8 x 3	6 x 4	7 x 3

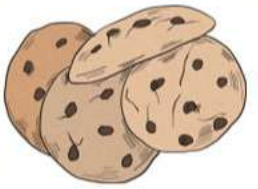
Name: _____ 149

Curriculum Connection
C2.2

Multiplication Word Problems

Questions | Answer the questions below

1) Claire has 7 boxes of cookies. She has 56 cookies in total. How many cookies are in each box?



2) Sam is a tr[illegible] he d[illegible]00 km per hour. In total, he drove 800 km yesterday. How [illegible]ours[illegible]e?

3) Courtney scored 3 goals in each game she p[illegible]ed[illegible]as[illegible]. [illegible]scored 27 goals in total. How many games did she play?

4) Steven earned $8 every hour he worked. He made $48 today. How many hours did he work?

Name: _____ 150

Curriculum Connection
C2.2

Multiplication – Using Symbols

Part 1 Find out the value of the symbol

1) ● x 3 = 12	2) 5 x ▲ = 45 ▲ =	3) 4 x ● = 32 ● =
4) x 9 = ▲ =	5) ◆ x 4 = 40 ◆ =	6) 7 x 10 = ◆ ◆ =
7) 2 x ▲ = 40 ▲ =	8) ● ● =	9) 10 x ● = 110 ● =

Part 2 Write your own questions using any symbol you w... n g... ...nd ...answer.

1)	2)
3)	4)

Name: _____ 151

Curriculum Connection
C2.1, C2.2

Multiplication – Find the Variable

When we multiply a number by a variable, we do not need to use the multiplication sign. It is known that any variable next to a number means the operation we are using is multiplication.

Example: 5n = 15 means 5 x n = 15

We can figure out the unknown number by balancing the equation: n = 3.

Questi | Find out the value of the variable

	n x 5 = 20 n =
10 x 1 = p p =	5p = 30 p =
10n = 30 n =	n =
2n = 16 n =	8 x t t =
5n = 45 n =	10n = 100 n =
10s = 50 s =	5 x 7 = s s =

Name: _____ 154

Curriculum Connection
C2.1, C2.2

Activity – Equation Explorers

Objective What are we learning about?

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

Materia you will need for the activity.

- Small whi she f paper
- Dry erase r or per
- A set of equati rds tep equations like 3n = 6)
- Tokens or small rew

Instructions How you will comp activ

1. Begin the activity by explaining what a o ep e o and demonstrate a few examples on the board. Explain that the y e x) s 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 questio y but 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.

Name: _____ 155

Curriculum Connection
C2.1, C2.2

Multiplication Equations | Cut out the questions below and distribute to each student.

12a = 36	11b = 44	15c = 45
13d = 52	14e = 56	16f = 64
[illegible]	17h = 68	19i = 76
12j = [illegible]	[illegible]k = 39	11l = 33
15m = 60	2[illegible]80	21o = 63
22p = 66	25q = [illegible]	[illegible] = 72
23s = 46	19t = 57	[illegible]
16v = 64	17w = 51	14x = 42
13y = 39	21z = 84	22a = 44
20b = 100	12c = 36	15d = 75

Name: _____ 156

Curriculum Connection
C2.2

Division – Are They Equal?

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

$4 \div 2 \neq 1$ $6 \div 2 = 3$ $10 \div 2 \neq 8$

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

1)	2) $10 \div 10 = 10$
3) $5 \div$	4) $8 \div 2 = 4$
5) $10 \div 5 = 2$	$\div 1 = 2$
7) $10 \div 5 = 50$	$\div$
9) $20 \div 5 = 4$	10) $25 \div 5 = 6$
11) $50 \div 10 = 5$	12) $16 \div 2 = 7$
13) $20 \div 10 = 2$	14) $15 \div 5 = 5$

Name: _____ 157

Curriculum Connection
C2.2

Pre-Algebra – Balancing Division Equations

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

Examples:

$15 \div 3 = \boxed{5}$ (5)

$\boxed{10} \div 2 = 5$ (5)

Questions Fill in the missing number to balance the equation

1) 8	2) $6 \div 3 =$ ☐
3) $10 \div$ ☐ $= 5$	4) $6 \div$ ☐ $= 2$
5) ☐ $\div 5 = 5$	6) ☐ $\div$ ☐ $= 2$
7) $5 \div 1 =$ ☐	8) $20 \div$ ☐
9) $15 \div$ ☐ $= 3$	10) $10 \div 10 =$ ☐
11) $25 \div$ ☐ $= 5$	12) $30 \div 6 =$ ☐
13) $10 \div$ ☐ $= 2$	14) $18 \div 2 =$ ☐

Name: _____ 158

Curriculum Connection
C2.2

Division – Which Equation Matches?

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

Example

12 ÷ 4	(9 ÷ 3)	16 ÷ 4

Question	Circle the equation that matches the shaded in equation		
1)	20 ÷	10 ÷ 5	15 ÷ 3
2)	18 ÷ 6		6 ÷ 3
3)	16 ÷ 4	14 ÷ 7	28 ÷ 7
4)	25 ÷ 5	10 ÷ 2	
5)	28 ÷ 7	21 ÷ 3	8 ÷ 2
6)	18 ÷ 3	30 ÷ 5	25 ÷ 5
7)	24 ÷ 3	16 ÷ 2	12 ÷ 6

Name: _____ 160

Curriculum Connection
C2.2

Division – Using Symbols

Part 1 Find out the value of the symbol

1) ● ÷ 3 = 5	2) 25 ÷ ▲ = 5 ▲ =	3) 40 ÷ ● = 8 ● =
4) ÷ 2 = ▲ =	5) ◆ ÷ 6 = 4 ◆ =	6) 50 ÷ 10 = ◆ ◆ =
7) 42 ÷ ▲ = 6 ▲ =	[illegible] ● =	9) 90 ÷ ● = 9 ● =

Part 2 Write your own questions using any symbol you [illegible] answer.

1)	2)
3)	4)

Name: _____ 161

Curriculum Connection
C2.1, C2.2

Division – Find the Variable

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

Example: 15 ÷ n = 3

We can figure out the unknown number by balancing the equation: n = 5.

Questi | Find out the value of the variable

[illegible]	n ÷ 5 = 3 n =
10 ÷ 1 = p p =	20 ÷ p = 2 p =
10 ÷ n = 2 n =	[illegible] n =
30 ÷ n = 10 n =	8 ÷ [illegible] t t =
50 ÷ n = 5 n =	10 ÷ n = 10 n =
10 ÷ s = 2 s =	20 ÷ 4 = s s =

Name: _____

Algebra Quiz - Equations

Part 1 Put an x through the equal sign if it is not balanced

1) 15 + 10 = 25	2) 20 + 10 = 30	3) 56 + 5 = 71
4) [illegible] 10	5) 10 – 4 = 6	6) 16 – 5 = 12

Part 2 [illegible] missing number to balance the equation

1) 15 + 8 = ☐	[illegible] = 21	3) 9 + ☐ = 15
4) 25 + 5 = ☐	5) ☐ + 12 = [illegible]	[illegible] + ☐ = 28
7) 15 – 8 = ☐	8) ☐ – 8 = 12	[illegible] 10
10) 21 – 5 = ☐	11) ☐ – 4 = 16	12) 32 – 15 = ☐
13) 5 x 2 = ☐	14) 10 x ☐ = 30	
15) 25 ÷ ☐ = 5	16) 30 ÷ 6 = ☐	

Part 3 Find out the value of the variable

7 + n = 10 n =	n - 5 = 5 n =	2 x n = 10 n =	20 ÷ n = 10 n =
n + 16 = 22 n =	n - 3 = 6 n =	n x 5 = 15 n =	12 ÷ 4 = n n =

Part 4 he value of the variable

a + b + c = b = c = 2 ____ + ____ + ____	n + y + t = n = 5 y = 10 t = 5 ____ + ____ + ____ = ____
a - b = c a = 13 b = ____ + ____ = ____ c =	e = 26 n = 6 ____ ____ ____ f
a x b = c a = 5 b = 5 ____ x ____ = c c =	r ÷ y = r = 6 2 ____ ÷ ____ k k =

Part 5 Solve the word problem below. Make sure to write the equation

Alexa saved 52 dollars from her allowance. She was given some money from her grandmother for her birthday. She now has 78 dollars. How much did her grandmother give her?

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, and repeating events	168 – 181, 190 - 191
C3.2	read and alter existing code, including code that involves sequential, concurrent, and repeating events, and describe how changes to the code affect the outcomes	182 – 189, 191 - 199

Name: _____ 168

Curriculum Connection
C3.1

Writing Code

Writing Code – Code Bank
go right (# of spaces)
go left (# of spaces)
go down (# of spaces)
go up (# of spaces)
open door

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

Line 1: _____

Line 2: _____

3: _____

Robot moved _____ squ

2. Write the code that gets the r to th n 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.

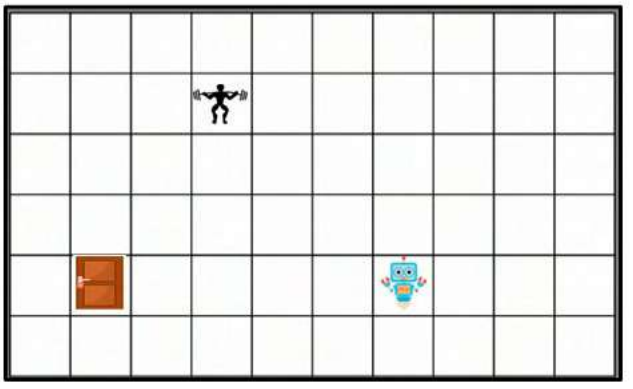
Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

Line 5: _____



Robot moved _____ squares

Name: _____ 170

Curriculum Connection
C3.1

Reading Code – Creating Programs

Question Read the code and create the program

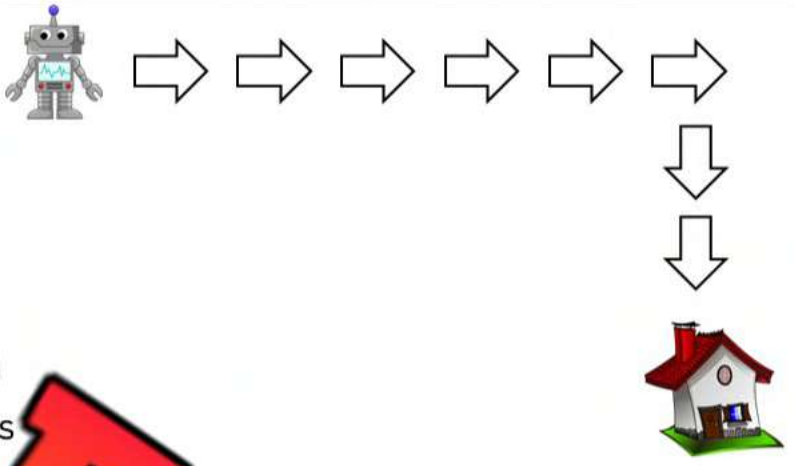
Example

Code

go right 6

go down 3

open door



Robot moved 6 squares

1.

Code

go down 2

go right 1

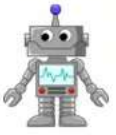
go down 2

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

Name: _____ 172

Curriculum Connection
C3.1

Reading Code – Creating Programs

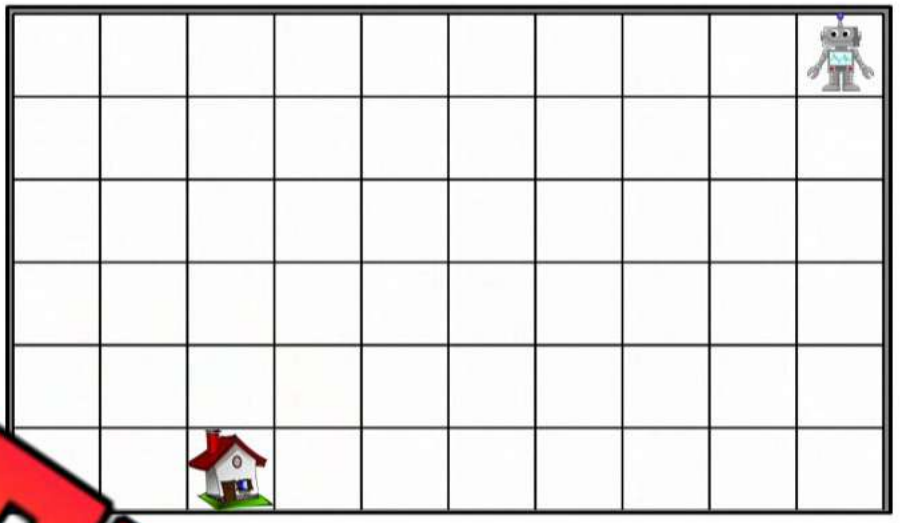
Question Read the code and draw the path the robot will take

1.

Code

go left 3
go [illegible]
go [illegible]
[illegible]

Robot moved _____ squares



2.

Code

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

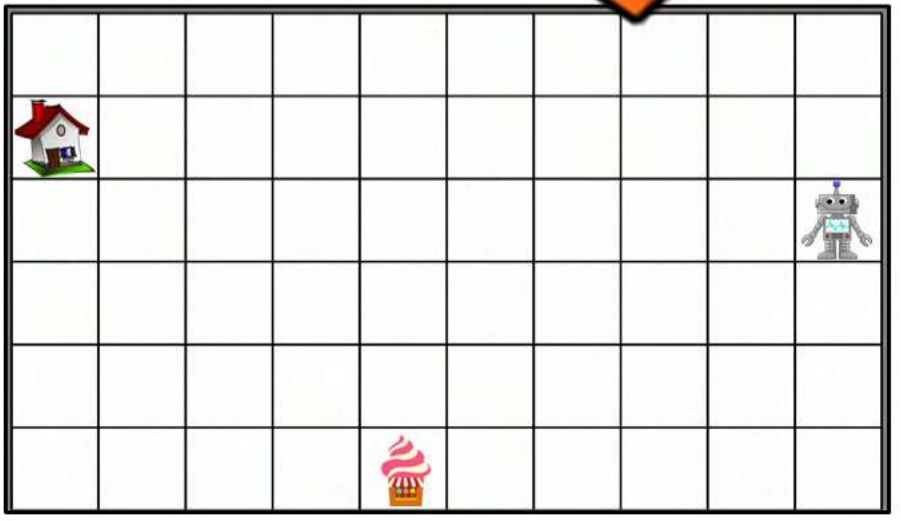
Robot moved _____ squares

3.

Code

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

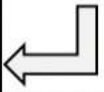
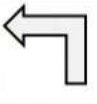
Robot moved _____ squares



Name: _____ 177

Curriculum Connection
C3.1

Coding – Robot Lawn Mower

This is a self-driving lawn mower	Right makes it turn right	Left makes it turn right	Forward makes the car move forward by the number shown
	 	 	
It under… co…	**Right**	**Left**	**Forward 2**

Directions …de t… t the lawn mower to cut the field of grass

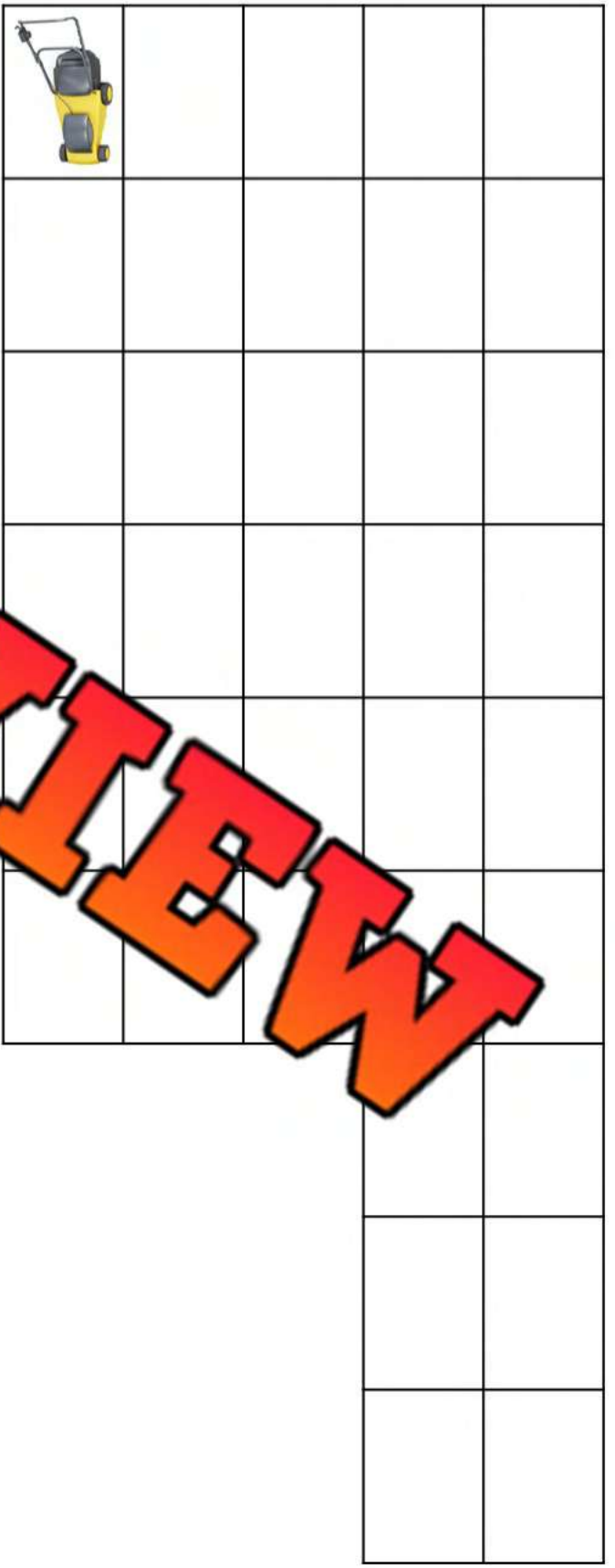
Codes – Forwar… T…t, Ri…ht	
Line 1	
Line 2	
Line 3	
Line 4	
Line 5	
Line 6	
Line 7	
Line 8	
Line 9	

Name: _____ 178

Curriculum Connection
C3.1

Directions Write code to get the lawn mower to cut the field of grass

Codes – Forward, Turn Left, Turn Right	
Line 1	
Line 2	
Line 3	
Line 4	
Line 5	
Line 6	
Line 7	
Line 8	
Line 9	
Line 10	
Line 11	
Line 12	
Line 13	
Line 14	
Line 15	
Line 16	
Line 17	
Line 18	
Line 19	
Line 20	
Line 21	



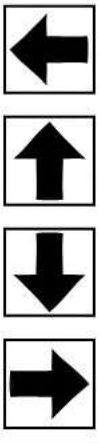
Name: _____ 179

Curriculum Connection
C3.1

Writing Code – Robotic Bees

Honeybees pollinate about 80% of plants worldwide. The problem is that since 1947, we have lost 60% of our honeybees. Robotic scientists are working to solve this problem by designing robotic bees that can pollinate plants.

Direction Use the arrows to move the bee to each of the flower so it can pollinate them. Use as few moves as you can.



1	2	3	4	5	6	7	8	9	10

11	12	13	14	15	16	17	18	19	20

Name: _____ 182

Curriculum Connection
C3.2

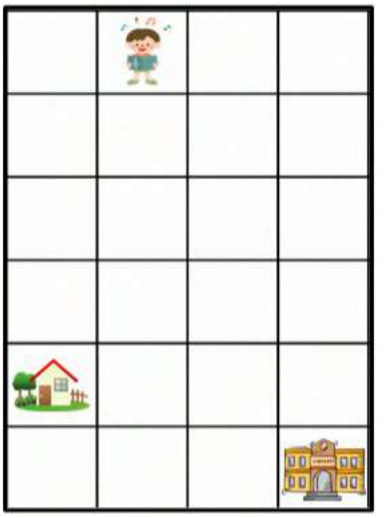
Fixing Code

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

1. Go to school and then home

Code

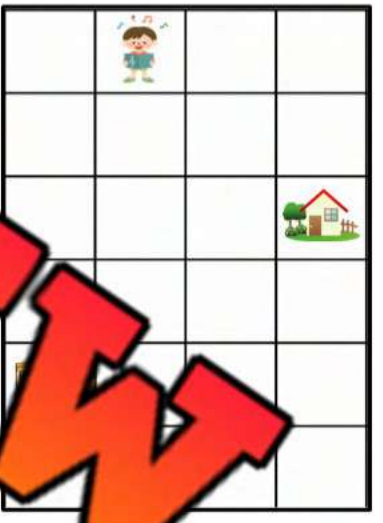
_____ - go up 1
_____ - [illegible]n 5
_____ - [illegible]2
_____ - [illegible]sch
_____ - go left
_____ - enter



2. Go to school and the[illegible]

Code

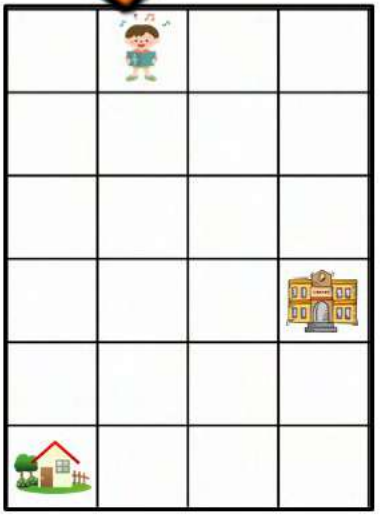
_____ - go up 2
_____ - go down 4
_____ - go right 3
_____ - enter school
_____ - go left 1
_____ - enter home



3. Go to school and then home

Code

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



Name: _____ 183

Curriculum Connection
C3.2

Fixing Code

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

1. Go to the ice cream shop and then home

Code

_____ - go up 1

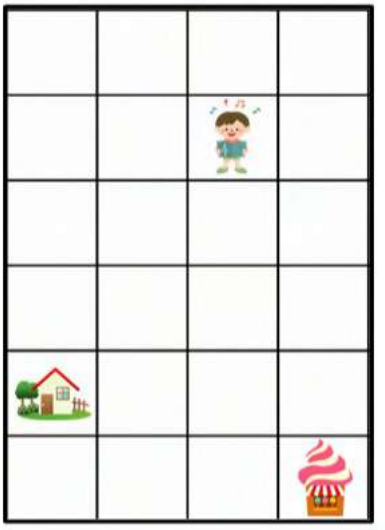
_____ - go right 1

_____ - go up 4

_____ - enter ice cream shop

_____ - enter home

_____ - go left 1



2. Go to the ice cream shop and then home

Code

_____ - go up 2

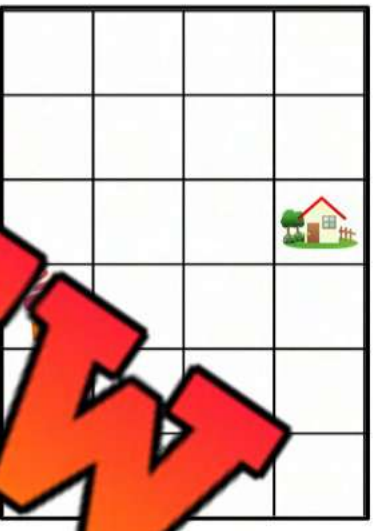
_____ - go left 1

_____ - enter home

_____ - enter ice cream shop

_____ - go up 1

_____ - go right 3



3. Go to the ice cream shop and then home

Code

_____ - go up 2

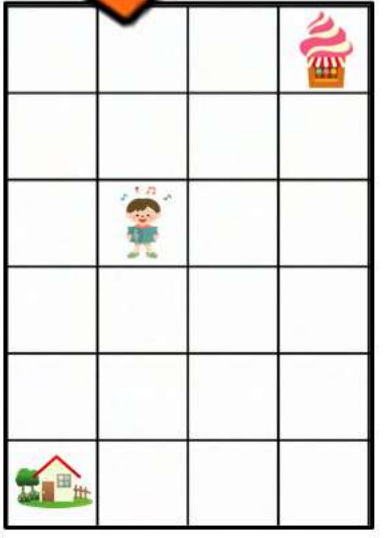
_____ - go down 5

_____ - go right 2

_____ - enter ice cream shop

_____ - go left 3

_____ - enter home



Name: _____ 187

Curriculum Connection
C3.2

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"

3 = "ER"

Code5

print ("I", Code2, 5,C 4)

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)

mputer Program:

3.

Code

Code1 = "A"

Code2 = "PRO"

Code3 = "MER"

Code4= "GRAM"

Code5= "ING"

print ("I am", Code1, Code2,Code4,Code3)

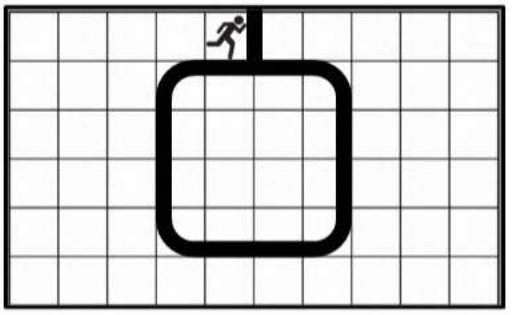
The Computer Program:

Name: _____ 190

Curriculum Connection
C3.1

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

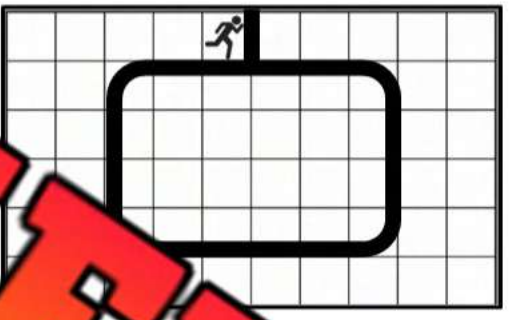


Example
go right 3
go down 5
go left 5
go up 5
go right 2
loop 5 times
go right 1

Question Write code that sends the runner around the track

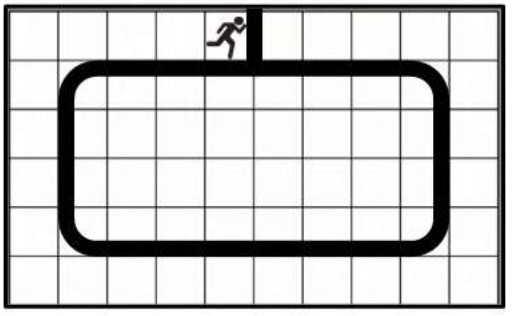
1. Use a loop to send the runner around the track 5 times. (Don't forget to cross the finish line!)

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: _____



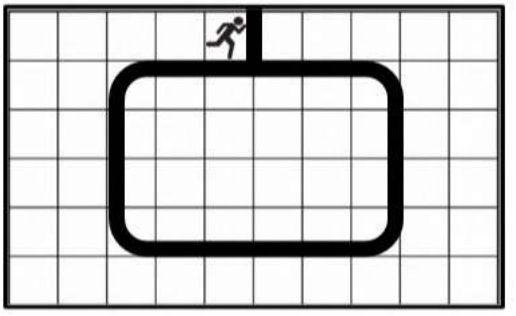
Name: _____ 191

Curriculum Connection
C3.1, C3.2

Writing Code - Loops

1. Use a loop to send the runner 600 metres.

Line 1: _____
Line 2: _____
Line 3: _____
Line 4: _____
Line 5: _____
Lin_____
Line 7: _____

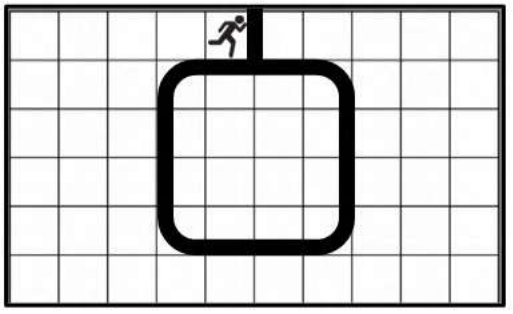


1 lap = 100 metres

2. Use a loop to send t_____00 m_____

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

1 lap = 20_____tres



1 lap = 10 metres

3. Read the code and figure out how far the runner went.

Code

loop 12 times
    go right 3 spaces
    go down 5 spaces
    go left 5 spaces
    go up 5 spaces
    go right 2 spaces
go right 1 space
run program

My Answer

Name: _____ 192

Curriculum Connection
C3.2

Interpreting Code

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

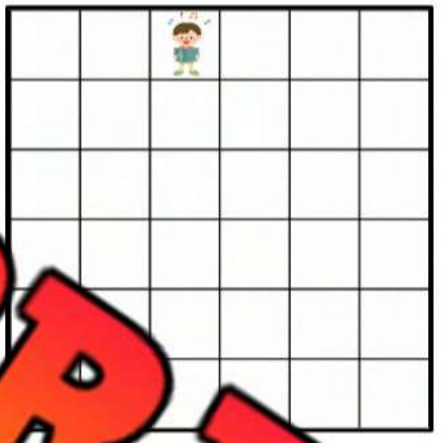
1.

Code

go down 5

go right 2

enter li



YES NO

Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

2.

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

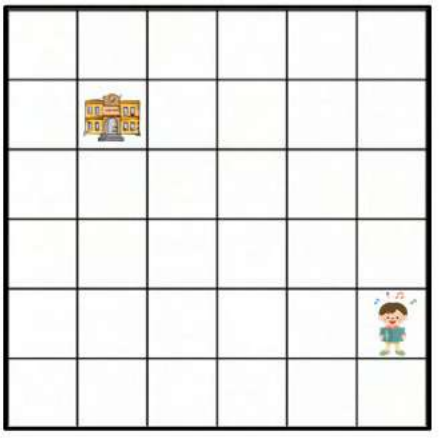
go up 1

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: _____

Name: _____ 194

Curriculum Connection
C3.2

Activity: Robot Teacher

Objective

What are we learning about?

Students will create a sequence of commands to guide a "robot" (the teacher) to a specific spot in the classroom, learning how to write and execute sequential events, and then alter the sequence to observe how changes affect the outcome.

Materials

What you will need for the activity.

- W[illegible]heet with [illegible]to write a sequence of com[illegible]nds (o[illegible]ent)
- Open class[illegible]or t[illegible]cher to move around
- A designated "ta[illegible]spot[illegible]om (e.g., a chair, a marked spot [illegible]or)

Instructions

How you will compl[illegible]activ[illegible]

1. Tell students they'll be "coders" and the te[illegible]will be[illegible]following their commands exactly.
2. Show the class the target spot (e.g., a chair) wher[illegible]ot nee[illegible]go.
3. Give each student a worksheet (or put students in pairs) [illegible]writ[illegible] commands (e.g., "step forward 2, turn right, step forward 1") us[illegible]like "step forward [number]," "turn right," or "turn left." Students sh[illegible]ast 1 loop in their code.
4. Have one student read their sequence aloud while the teacher follows the commands, moving through the classroom.
5. Check if the robot reaches the target spot and discuss what went wrong if it doesn't.
6. Ask the student to change one command (e.g., "turn right" to "turn left"), write the new sequence, and have the teacher follow it.
7. Discuss how the change affected the robot's path and if it reached the target spot.
8. Repeat with 1-2 more students, testing and altering their sequences.
9. Wrap up by explaining how the order of steps and changes affect outcomes, linking it to coding.

Name: _____ 195

Curriculum Connection
C3.2

Robot Teacher – My Code

Instructions	Think about where your teacher is and where the target spot is. Write a code that will program them to move to the target spot. **(Ex. Step forwards/backwards 2, turn right/left).**

My Program – Coding Instructions

Name: _____ 196

Curriculum Connection
C3.2

Robot Teacher – Coding Map

Instructions	Once your code is written, draw a map of your classroom. 1) Draw a stick figure for the teacher. 2) Draw the target spot using an X. 3) Draw arrows to show where the teacher moves using your code.

Name: _____ 197

Curriculum Connection
C3.2

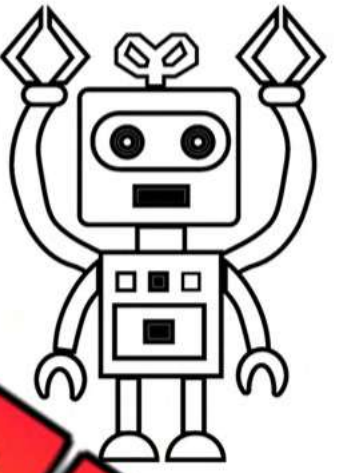
Activity: Human Robot - Concurrent Events

Objective What are we learning about?

Students will create and follow sequential and concurrent movement instructions by taking steps in an open space, demonstrating computational representations. They will write instructions like "Move 5 steps forward, then turn 90 degrees" and execute c urrent actions like "Move 3 steps forward while clapping." By the end, they'll co ese actions to writing and executing code in a mathematical context

Materia will need for the activity.

- Instruction car re- k)
- Pencils
- Example card: "Move 5 rw t rn 90 degrees



Instructions How you will complete the

1. Explain that students will act as robots follow t ction a computer follows code, taking steps in an open space (5 min)
2. Demonstrate by following a pre-made card: "Move 2 steps w n turn 90 degrees," then "Move 3 steps forward while clapping" (5 min)
3. Divide into groups of 2-4; each group writes two cards: one sequential (e.g., "Move 4 steps forward, then turn 90 degrees") and one concurrent (e.g., "Move 2 steps forward while jumping") (10 min).
4. Groups take turns: one student as the "robot" follows their group's cards, staying in the open space, while others ensure they don't bump into anyone (15 min).
5. Discuss what they learned about clear instructions, the difference between sequential and concurrent actions, and how this relates to coding (5 min).

Name: _____ 198

Curriculum Connection
C3.2

Examples Read the example coding instructions below

Instruction Type	Instruction Text
Sequential	1) Move 4 steps forward 2) Turn 90 degrees.

Instruction Type	Instruction Text
Sequential	1) Move 3 steps forward 2) Turn 180 degrees 3) Clap hands 4) Move 2 steps backwards 5) Stop

Ideas Below are ideas for commands you could use

Marching	Nodding head	Jumping
Stomping feet	Clapping	Clapping
Snapping fingers	Spinning	Tapping head
Waving	Jumping	Tiptoeing
Shaking hands	Blinking eyes	Patting knees
Swaying side to side	Whistling	Pointing
Twirling arms	Laughing	Shrugging shoulders

Name: _____ 199

Curriculum Connection
C3.2

Template Cut out the card below for students to write their code on

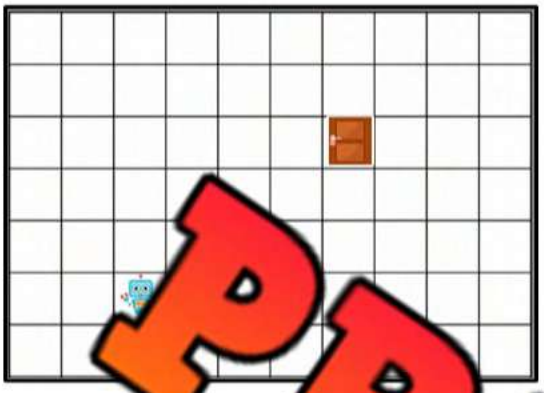
My Program – Coding Instructions

Instruction Type	Sequential	Concurrent
Action		
Act		
Action ____		
Action ____		
Action ____		
Action ____		
Action ____		
Action ____		
Action ____		
Action ____		

Name: _____ 200

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 1-6

4. Go to school and then home

Code

_____ - go up 2

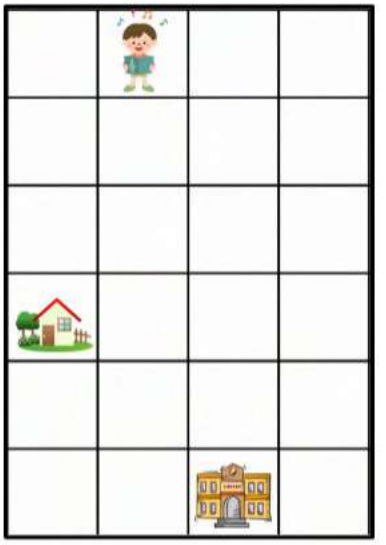
_____ - go down 5

_____ - go right 1

_____ enter school

_____ ft 2

_____



Part 4 Wi[illegible]ork[illegible]le yes or no. Re-write any code that won't work

5. Use a loop to send t[illegible]nner[illegible]ck 5 times. (Don't forget to cross the finish line!)

Line 1: _____

Line 2: _____

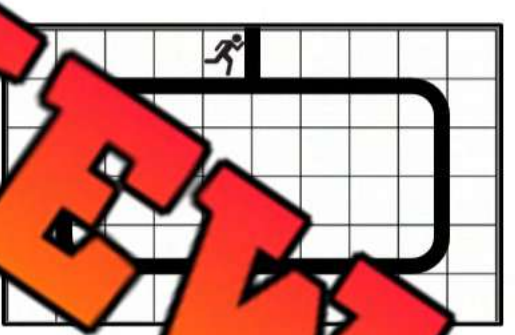
Line 3: _____

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 = "!"

Code4= "CO"

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

The Computer Program:

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____