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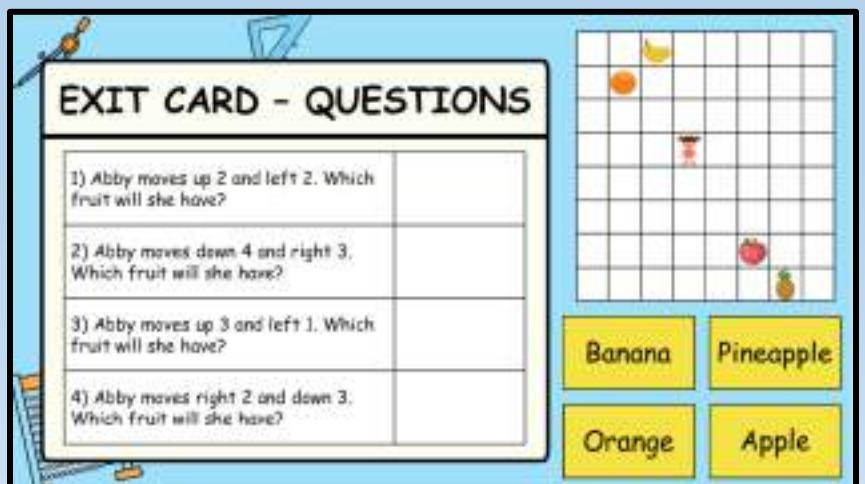
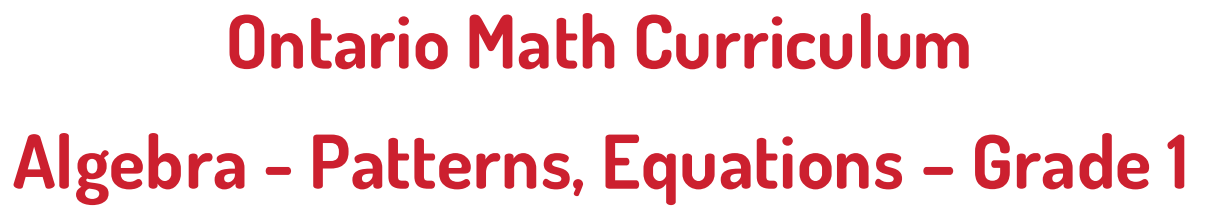
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# Google Slides Lessons Preview









# Ontario Math Curriculum

## Algebra - Patterns, Equations - Grade 1

### Extending Repeating Patterns - Texture

Drag the textures from the texture bank to create your own patterns.

1)									
2)									
3)									
4)									

**TEXTURE BANK**

### Pattern Cores - 4 Elements

Core = Part that repeats - Circle the pattern core in each pattern.

1)	
2)	
3)	
4)	
5)	

### Extending Repeating Patterns - Shape

Drag the shapes from the shape bank to create your own patterns.

1)	
2)	
3)	
4)	
5)	





# Ontario Math Curriculum

## Algebra - Patterns, Equations - Grade 1

**Repeating A/B Patterns**

Drag and label the A/B patterns below and extend the pattern with 4 more objects.

1) 

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

2) 

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

3) 

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

**Increasing Patterns**

Drag the numbers to extend the patterns below.

1) 

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

2) 

2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

3) 

1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39
---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

**Number Patterns**

Drag the numbers to extend the patterns below.

1) 

0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

2) 

4	9	14	19	24	29	34	39	44	49	54	59	64	69	74	79	84	89	94	99
---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

3) 

11	16	21	26	31	36	41	46	51	56	61	66	71	76	81	86	91	96	101	106
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----



# Workbook Preview



# Grade 1

## C1. Patterns and Relationships

































































	Curriculum Expectations	Pages That Cover the Expectations
<b>C1.1</b>	identify and describe the regularities in a variety of patterns, including patterns found in real-life contexts	5 - 36
<b>C1.2</b>	<div style="text-align: center; color: red; font-weight: bold;">           Preview of 130 pages from            this product that contains            348 pages total.         </div>	
<b>C1.3</b>		
<b>C1.3</b>	determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in patterns	10 - 11, 25, 30 - 36, 43 - 54
<b>C1.4</b>	create and describe patterns to illustrate relationships among whole numbers up to 50	55 - 94



# Creating Repeating Patterns – Shape Colour

**Questions**

Colour the shapes below in different colours by creating a pattern

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



Name: \_\_\_\_\_

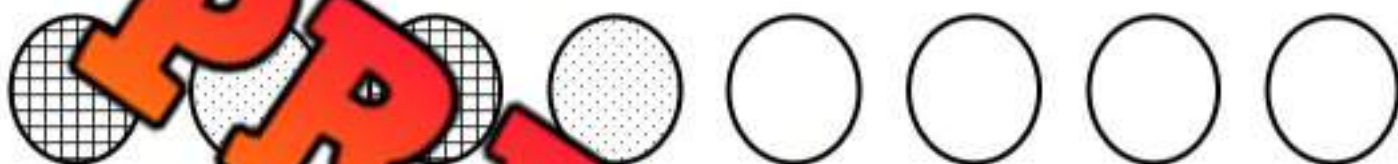
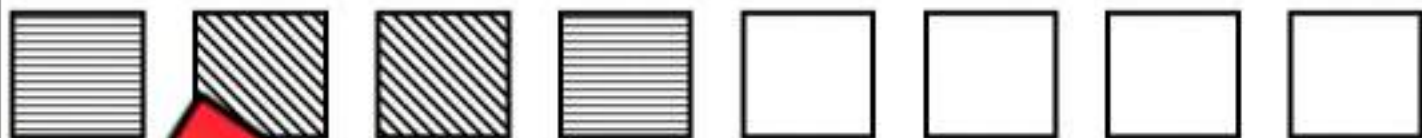
10

Curriculum Connection  
C1.1, C1.3

## Extending Repeating Patterns - Texture

### Questions

Extend the pattern by looking for a pattern in the textures



## Exit Cards

Cut Out

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

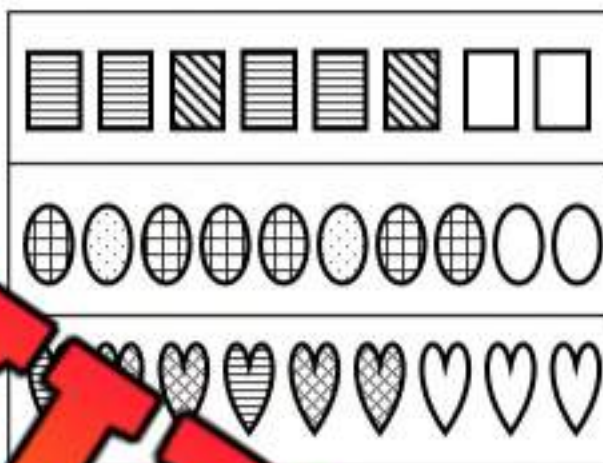
Name: \_\_\_\_\_

Extend the pattern by looking for a pattern in the textures.



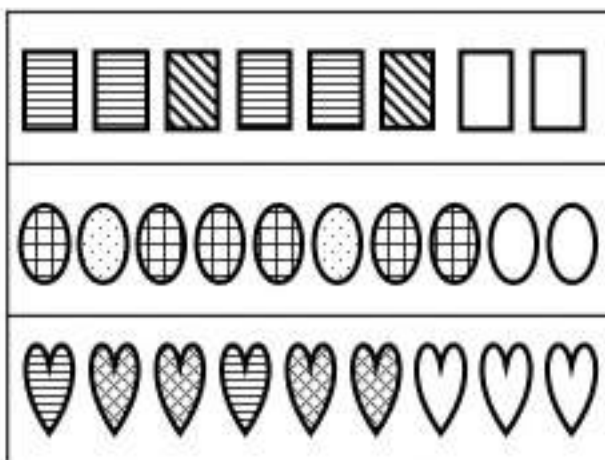
Name: \_\_\_\_\_

Extend the pattern by looking for a pattern in the textures.



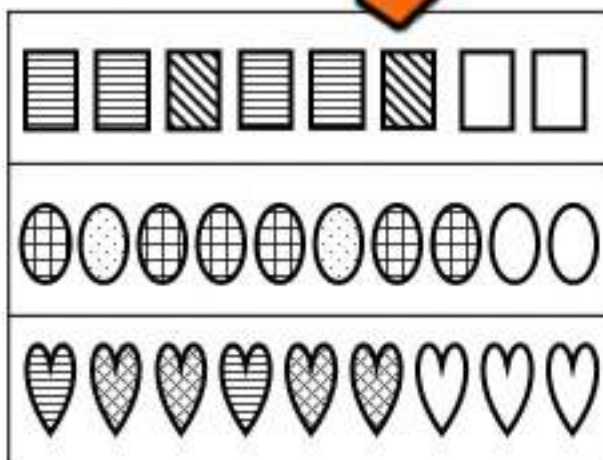
Name: \_\_\_\_\_

Extend the pattern by looking for a pattern in the textures.



Name: \_\_\_\_\_

Extend the pattern by looking for a pattern in the textures.





Name: \_\_\_\_\_

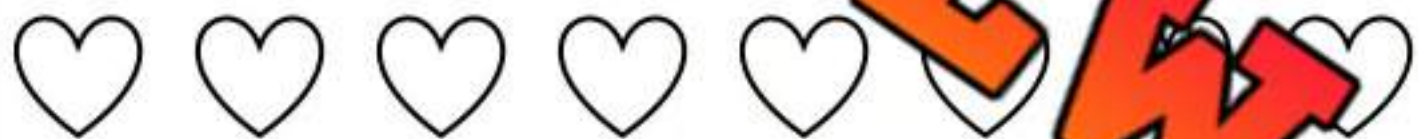
12

Curriculum Connection  
C1.1, C1.2

## Creating Patterns Using Texture

### Questions

Create your own pattern by filling in different textures inside the shapes





# Exit Cards

**Cut Out**

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

Name: \_\_\_\_\_

Create your own pattern by filling in different textures inside the shapes.



Name: \_\_\_\_\_

Create your own pattern by filling in different textures inside the shapes.



Name: \_\_\_\_\_

Create your own pattern by filling in different textures inside the shapes.



Name: \_\_\_\_\_

Create your own pattern by filling in different textures inside the shapes.



# Repeating Patterns – 2 Elements

**Part 1**

Continue the repeating patterns below by drawing more objects

**Part 2**

Repeating A, B patterns – Draw the pattern using A and B





# Repeating Patterns – 4 Elements

**Part 1**

Continue the repeating patterns below by drawing more objects

**Part 2**

Label the patterns below A, B, C, and D





# Repeating Pattern Cores – 3 Elements

**Part 1**

Circle the pattern core in the patterns below

**Part 2**

Create A, B, C patterns below using 3 elements

1)									
2)									
3)									
4)									

# Repeating Pattern Cores – 4 Elements

**Part 1**

Circle the pattern core in the patterns below

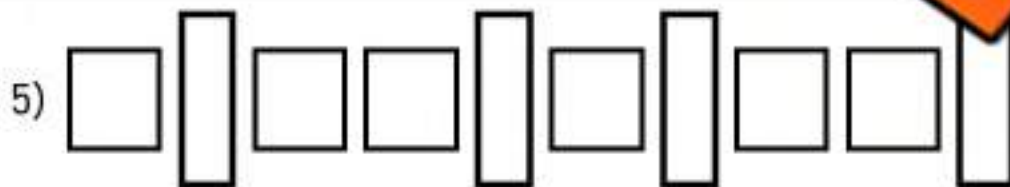
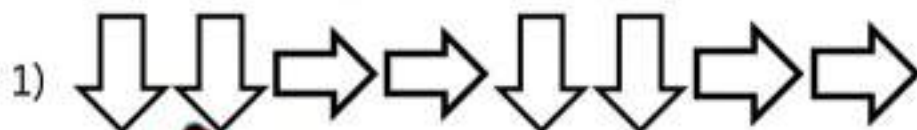
**Part 2**

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

1)									
2)									
3)									
4)									

**Extending Repeating Patterns – Changing Directions****Questions**

Continue the repeating patterns below with three more shapes





## Patterns Using Numbers

**Questions**

Continue the patterns below by filling in the blanks

1) 3 5 \_\_\_\_\_

2) 1 2 \_\_\_\_\_

3) 4 8 4 8 \_\_\_\_\_

4) 2 4 8 2 4 8 \_\_\_\_\_

5) 1 5 10 1 5 10 \_\_\_\_\_

6) 3 8 11 3 8 11 \_\_\_\_\_

7) 5 5 10 5 5 10 \_\_\_\_\_

## Patterns Using Letters

**Questions**

Continue the patterns below by filling in the blanks

1)	A	B	A	B	A	B			
2)				C	F	H			
3)	T	U		T		V			
4)	X	X	Z	X					
5)	P	T	G	P	T	G			
6)	T	S	S	T	S	S			
7)	Q	B	B	Q	B	B			

## Extending Repeating Patterns - Letters

**Questions**

Continue the patterns below by filling in the blanks

1)	A	B	B	A	B	B								
2)	T		P		T	S								
3)	O	N	R		M		R	N						
4)	Q	Y	E	X	Q		E							
5)	L	M	Z	G	Z	L	M	Z						
6)	S	J	U	Y	S	J	U	Y						
7)	W	C	A	C	W	C	A	C						
8)	R	P	V	R	V	R	P	V	R	V				



## Activity Title: Pattern Pass Along

### Objective

What are we learning about?

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

Materials: \_\_\_\_\_ will need for the activity.

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



### Instructions

How you will complete the activity

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

**Reflection**

Answer the questions below.

1) Describe the pattern you made.

---

---

---

2) Did anyone change the pattern so that it didn't work any more? Explain.

---

---

---

3) Did you find it challenging to understand someone else's pattern? Why or why not?

---

---

---

4) What was the coolest pattern you saw while you were around the class?

---

---

---

5) Draw your favourite pattern below.

---

---

---

---

---

---

---

---

---

---






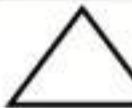


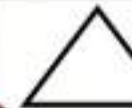

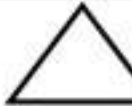
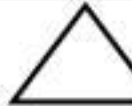
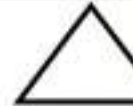


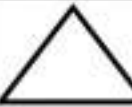
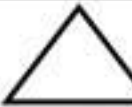
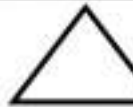
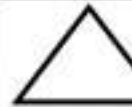
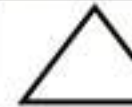
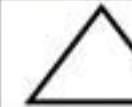
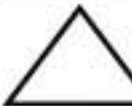
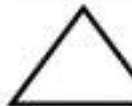
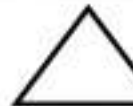

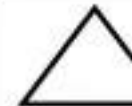
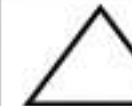
# Translating Patterns – AB Patterns

## Translating Patterns

The pattern red, blue, red, blue can be translated to clap, stomp, clap, stomp. These are both A/B patterns.

### Questions

Translate the first pattern into a new pattern using different colours

1)	B	A	B	A	B	
Translated						
2)	A	A	A	B	B	
Translated						
3)	A	B	C		C	
Translated						
4)	A	A	B	A	A	B
Translated						
5)	A	B	A	A	B	A
Translated						



## Translating Patterns – AB Patterns

**Questions**

Draw your own A/B patterns using shapes, numbers, or letters

1)	A	B	A	B	A	B
Translated						

	A	B	A	A	B
Translated					

3)	A		A	B	C
Translated					

4)	A	B	B		B
Translated					



































5)	A	B	A	B	A	B
Translated						

6)	A	B	A	A	B	A
Translated						

# Translating Patterns – AB Patterns

**Questions**

Create a new pattern that is a translation of the other pattern

1)						
Translated						
						
Translated						
3)						
Translated						
4)						
Translated						
5)						
Translated						
6)						
Translated						

## Exit Cards

Cut Out

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

Name: \_\_\_\_\_

Circle the pattern core

1) X, Y, Y, Z, X, Y, Y, Z

2) 🍓, 🌟, 🌟, 🌟, 🌟, 🍓, 🌟, 🌟, 🌟

3) M, N, O, M, N, O

4) 1, 2, 3, 3, 1, 2, 3, 3

Name: \_\_\_\_\_

Circle the pattern core

1) X, Y, Y, Z, X, Y, Y, Z

2) 🍓, 🌟, 🌟, 🌟, 🌟, 🍓, 🌟, 🌟, 🌟

3) M, N, O, M, N, O

4) 1, 2, 3, 3, 1, 2, 3, 3

Name: \_\_\_\_\_

Circle the pattern core

1) X, Y, Y, Z, X, Y, Y, Z

2) 🍓, 🌟, 🌟, 🌟, 🌟, 🍓, 🌟, 🌟, 🌟

3) M, N, O, M, N, O

4) 1, 2, 3, 3, 1, 2, 3, 3

Name: \_\_\_\_\_

Circle the pattern core

1) X, Y, Y, Z, X, Y, Y, Z

2) 🍓, 🌟, 🌟, 🌟, 🌟, 🍓, 🌟, 🌟, 🌟

3) M, N, O, M, N, O

4) 1, 2, 3, 3, 1, 2, 3, 3



## Repeating A/B Patterns

**Questions**

Label the A/B patterns below and extend the pattern with 3 more objects



\_\_\_\_\_ A \_\_\_\_\_ A B \_\_\_\_\_ A B \_\_\_\_\_



## Repeating A/B Patterns

**Part 1**

Label the A/B patterns below and extend the pattern with 3 more objects

**Part 2**

Create patterns with the objects above and label them A/B/C/D below

1)

A	B	B	C	A	B	B	C	A
---	---	---	---	---	---	---	---	---

2)

A	A	B	C	D	A	A	B	C
---	---	---	---	---	---	---	---	---

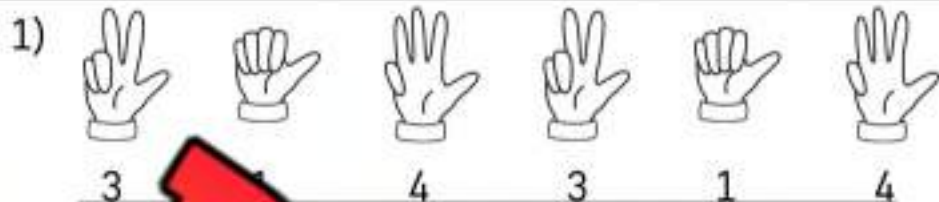
3)

A	B	C	A	A	B	C	A	A
---	---	---	---	---	---	---	---	---

## Repeating Patterns – Fingers

**Questions**


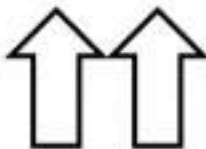
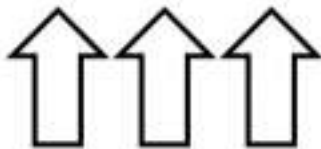

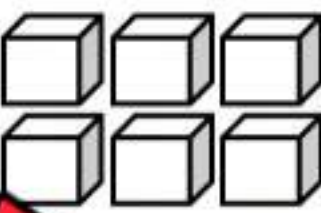


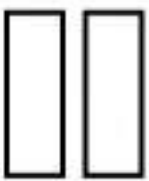
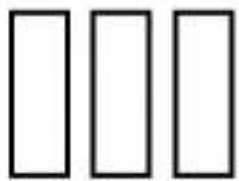



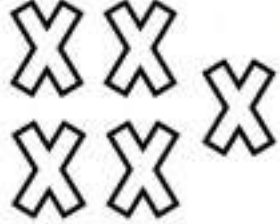



Continue the repeating patterns below with three more hands





**Increasing Patterns - Shapes****Questions**

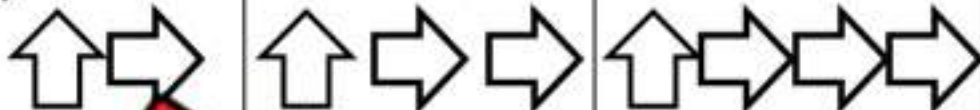
Draw the shapes in the last column

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

**Increasing Patterns - Shapes****Questions**

Draw the last part of the pattern

1)



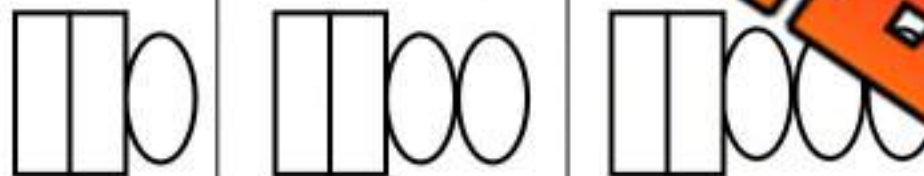
2)



3)



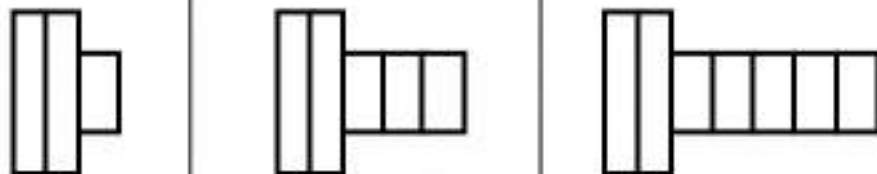
4)



5)



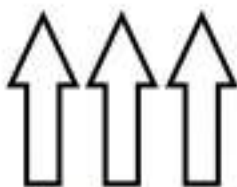
6)



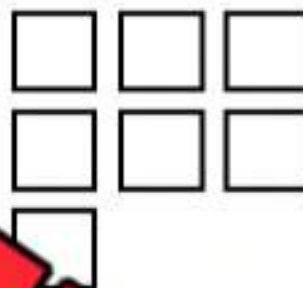
**Decreasing Patterns - Shapes****Questions**

Draw the last part of the pattern

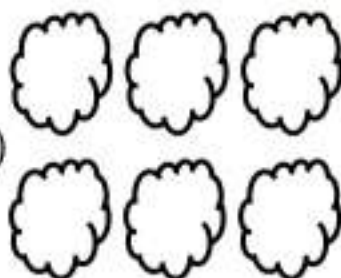
1)



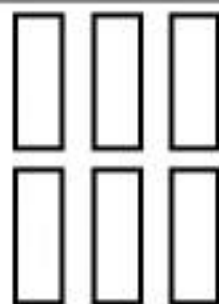
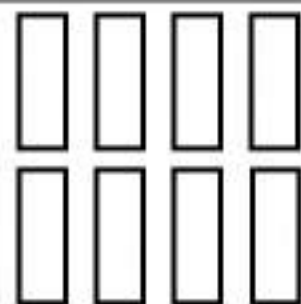
2)



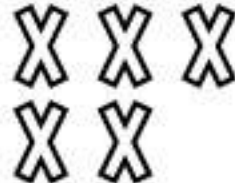
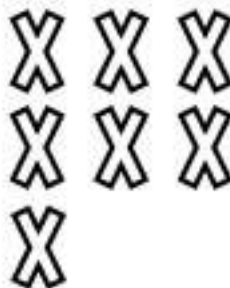
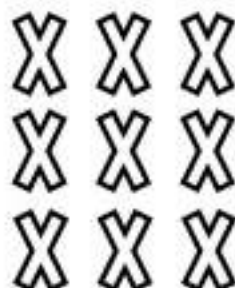
3)



4)



5)





Name: \_\_\_\_\_

55

Curriculum Connection  
C1.4

## Number Patterns 1 - 20

Questions

Fill in the blanks below

1. 

2. 

3. 

4. 

5. 

Name: \_\_\_\_\_

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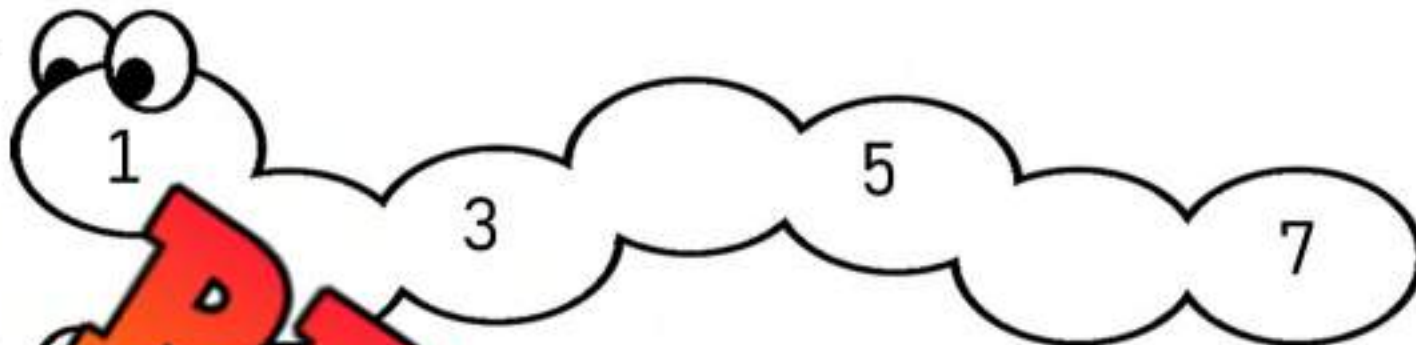
Curriculum Connection  
C1.4

## Number Patterns 1 - 20

Questions

Fill in the blanks below

1.



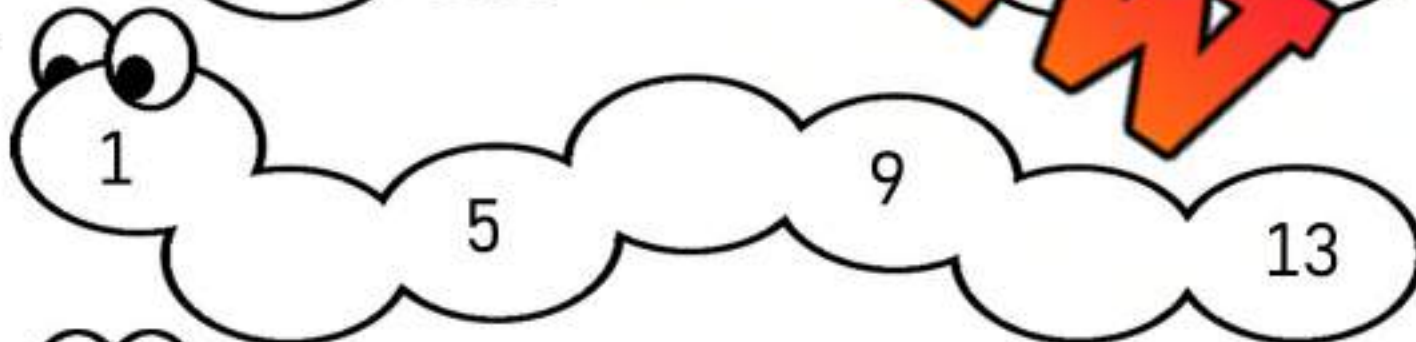
2.



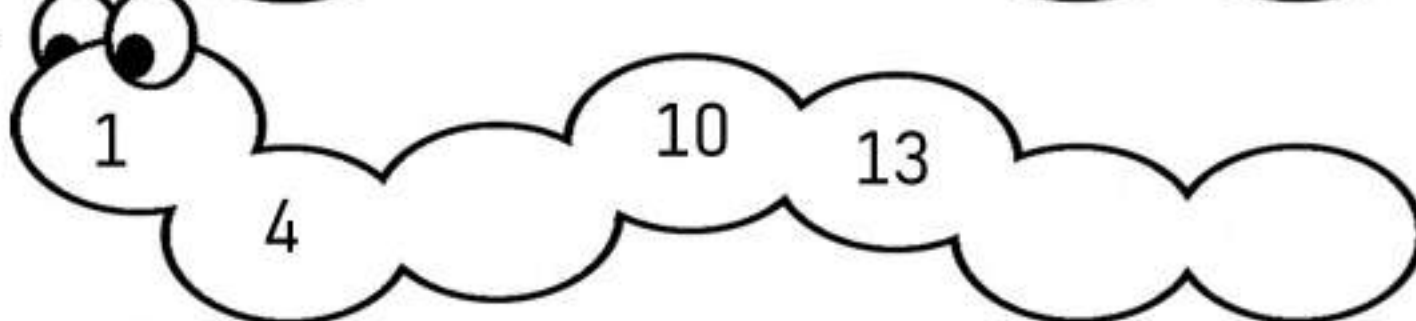
3.



4.








5.





**Number Patterns – 2s, 5s, 10s****Questions**

Fill in the blanks below

1.  2 4 6 8
2.   1  20
3.  10 20 30 40
4.  15 20 25 20
5.  20 22 24 26



Name: \_\_\_\_\_

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C1.4

## Number Patterns – 10s

Questions

Fill in the blanks below

1.



2.



3.



4.



5.



**Increasing Patterns - Rules****Questions**

Fill in the blanks by figuring out the pattern rules

2, 4, 6, 8, 10, 12, 14, 16

Start at \_\_\_\_\_, then add \_\_\_\_\_ each time

15, 20, 25, 30, 35, 40

Start at \_\_\_\_\_, then add \_\_\_\_\_ each time

10, 20, 30, 40, 50, 60, 70

Start at \_\_\_\_\_, then add \_\_\_\_\_ each time

5, 8, 11, 14, 17, 20, 23, 26

Start at \_\_\_\_\_, then add \_\_\_\_\_ each time

12, 22, 32, 42, 52, 62, 72

Start at \_\_\_\_\_, then add \_\_\_\_\_ each time

4, 8, 12, 16, 20, 24, 28, 32

Start at \_\_\_\_\_, then add \_\_\_\_\_ each time

## Creating Rules

**Questions**

Write your own patterns using the pattern rule



1) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Pattern Rule: Start at 2, add 2 each time

2) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Pattern Rule: Start at \_\_\_\_\_, add 10 each time

3) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Pattern Rule: Start at 5, add \_\_\_\_\_ each time

4) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Pattern Rule: Start at 3, add 3 each time

5) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Pattern Rule: Start at 4, add 4 each time



## Creating Rules

**Questions**

Write your own patterns using the pattern rule

**1 2**  
**3 4**

1) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Pattern Rule: Start at 5, add 2 each time

2) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Pattern Rule: Start at \_\_\_\_\_, add 4 each time

3) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Pattern Rule: Start at 2, add \_\_\_\_\_ each time

4) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Pattern Rule: Start at 5, add 10 each time

5) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Pattern Rule: Start at 10, add 3 each time

# Exit Cards

**Cut Out**

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

Name: \_\_\_\_\_

Write your own patterns using the pattern rule

1) \_\_\_\_\_

Pattern Rule: Start at 8, add 3 each time.

2) \_\_\_\_\_

Pattern Rule: Start at 0, add 5 each time.

3) \_\_\_\_\_

Pattern Rule: Start at 6, add 2 each time.

Name: \_\_\_\_\_

Write your own patterns using the pattern rule

1) \_\_\_\_\_

Pattern Rule: Start at 8, add 3 each time.

2) \_\_\_\_\_

Pattern Rule: Start at 0, add 5 each time.

3) \_\_\_\_\_

Pattern Rule: Start at 6, add 2 each time.

Name: \_\_\_\_\_

Write your own patterns using the pattern rule

1) \_\_\_\_\_

Pattern Rule: Start at 8, add 3 each time.

2) \_\_\_\_\_

Pattern Rule: Start at 0, add 5 each time.

3) \_\_\_\_\_

Pattern Rule: Start at 6, add 2 each time.

Name: \_\_\_\_\_

Write your own patterns using the pattern rule

1) \_\_\_\_\_

Pattern Rule: Start at 8, add 3 each time.

2) \_\_\_\_\_

Pattern Rule: Start at 0, add 5 each time.

3) \_\_\_\_\_

Pattern Rule: Start at 6, add 2 each time.

# Input/Output Table – Pattern Rules



Rule: add 5	
In	Out
5	10
10	15
15	20
20	25

Question: Complete the input/output tables below

In	Out
3	
5	
10	
15	

Rule: add 4	
In	Out
2	
10	
15	
21	

Rule: add 5	
In	Out
0	
5	
15	
25	

Rule: add 2	
In	Out
3	
7	
13	
20	

Rule: add 3	
In	Out
5	
10	
17	
22	

Rule: add 10	
In	Out
0	
10	
30	
40	



**Input/Output Table – Pattern Rules**

Rule: add 5	
In	Out
3	8
16	21
23	28
42	47



Question: Complete the input/output tables below

In	Out
15	
20	
27	
32	

Rule: add 4	
In	Out
7	
18	
32	
41	

Rule: add 5	
In	Out
15	
25	
35	
45	

Rule: add 2	
In	Out
5	
14	
27	
3	

Rule: add 2	
In	Out
12	
23	
35	
46	

Rule: add 10	
In	Out
10	
20	
30	
40	

Name: \_\_\_\_\_



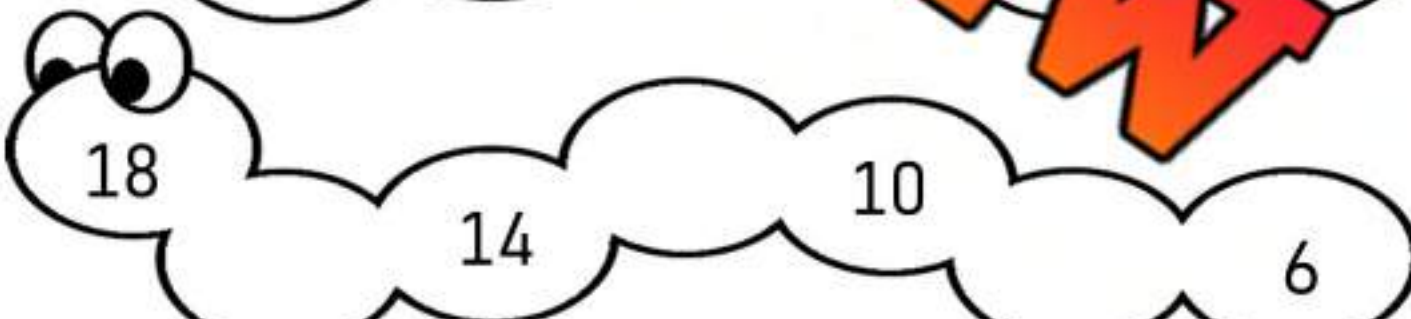
70

Curriculum Connection  
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## Decreasing Number Patterns 1 - 20

Questions

Fill in the blanks below

1.  16 14 12  10
2.  17  9  5
3.  19 18 17 16 15
4.  18  14 10  6
5.  20 17  11 8  4



**Decreasing Number Patterns – 2s, 5s, 10s****Questions**

Fill in the blanks below

1.



20

18

16

12

2.



60

50

40

3.



80

70

50

4.



55

50

40

30

5.



29

27

23

19



**Decreasing Number Patterns – 2s****Questions**

Fill in the blanks below

1.



2.



3.



4.



5.



**Decreasing Number Patterns – 10s****Questions**

Fill in the blanks below

1.



2.



3.



4.



5.





**Decreasing Patterns - Rules****Questions**

Fill in the blanks by figuring out the pattern rules

18, 16, 14, 12, 10, 8, 6, 4, 2

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

45, 40, 35, 30, 25, 20

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

60, 50, 40, 30, 20, 10, 0

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

26, 23, 20, 17, 14, 11, 8, 5

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

71, 61, 51, 41, 31, 21, 11, 1

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

36, 32, 28, 24, 20, 16, 12, 8

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time



# Exit Cards

**Cut Out**

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

Name: \_\_\_\_\_

Fill in the blanks by figuring out the pattern rules.

A)  $27, 23, 19, 15, 11, 7, 3$ 

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

B)  $64, 56, 48, 40, 32, 24, 16$ 

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

Name: \_\_\_\_\_

Fill in the blanks by figuring out the pattern rules.

A)  $27, 23, 19, 15, 11, 7, 3$ 

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

B)  $64, 56, 48, 40, 32, 24, 16$ 

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

Name: \_\_\_\_\_

Fill in the blanks by figuring out the pattern rules.

A)  $27, 23, 19, 15, 11, 7, 3$ 

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

B)  $64, 56, 48, 40, 32, 24, 16$ 

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

Name: \_\_\_\_\_

Fill in the blanks by figuring out the pattern rules.

A)  $27, 23, 19, 15, 11, 7, 3$ 

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

B)  $64, 56, 48, 40, 32, 24, 16$ 

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

**Decreasing Patterns - Rules****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

25, 23, 21, 19, 17, 15

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

43, 38, 33, 28, 23, 18, 13

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

72, 62, 52, 42, 32, 22, 12

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

35, 31, 27, 23, 19, 15, 11, 7

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

44, 42, 40, 38, 36, 34, 32, 30

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

# Input/Output Table – Decreasing Pattern Rules

Rule: subtract 2	
In	Out
10	8
16	14
20	18
24	22



Questions 1-4 Complete the input/output tables below

Rule: subtract 5	
In	Out
5	
15	
25	
30	

Rule: subtract 2	
In	Out
4	
8	
12	
15	

Rule: subtract 10	
In	Out
20	
30	
40	
50	

Rule: subtract 1	
In	Out
5	
9	
13	
17	

Rule: subtract 3	
In	Out
5	
8	
12	
16	

Rule: subtract 4	
In	Out
7	
10	
15	
20	



## The Egg Challenge

**Questions**

Follow the problem-solving steps below

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Read the problem carefully | <input type="checkbox"/> Underline important information | <input type="checkbox"/> Draw pictures     |
| <input type="checkbox"/> Write a number sentence    | <input type="checkbox"/> Solve the problem               | <input type="checkbox"/> Check your answer |

If a hen lays 1 egg on Monday, 2 eggs on Tuesday, 3 eggs on Wednesday and 4 eggs on Thursday, how many eggs would it lay on the Sunday?



How many days would the hen need to lay 10 eggs?



## Patterning Word Problems - Halloween

**Questions**

Follow the problem-solving steps below

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Read the problem carefully | <input type="checkbox"/> Underline important information | <input type="checkbox"/> Draw pictures     |
| <input type="checkbox"/> Write a number sentence    | <input type="checkbox"/> Solve the problem               | <input type="checkbox"/> Check your answer |

Bill is trick-or-treating for Halloween. He leaves his house with 5 candies to start. He gets 3 candies for each house he visits. He visits 10 houses.

a) Draw the pattern below.



b) How many total candies does he get?



## Patterning Word Problems – Growing Hair

**Questions**

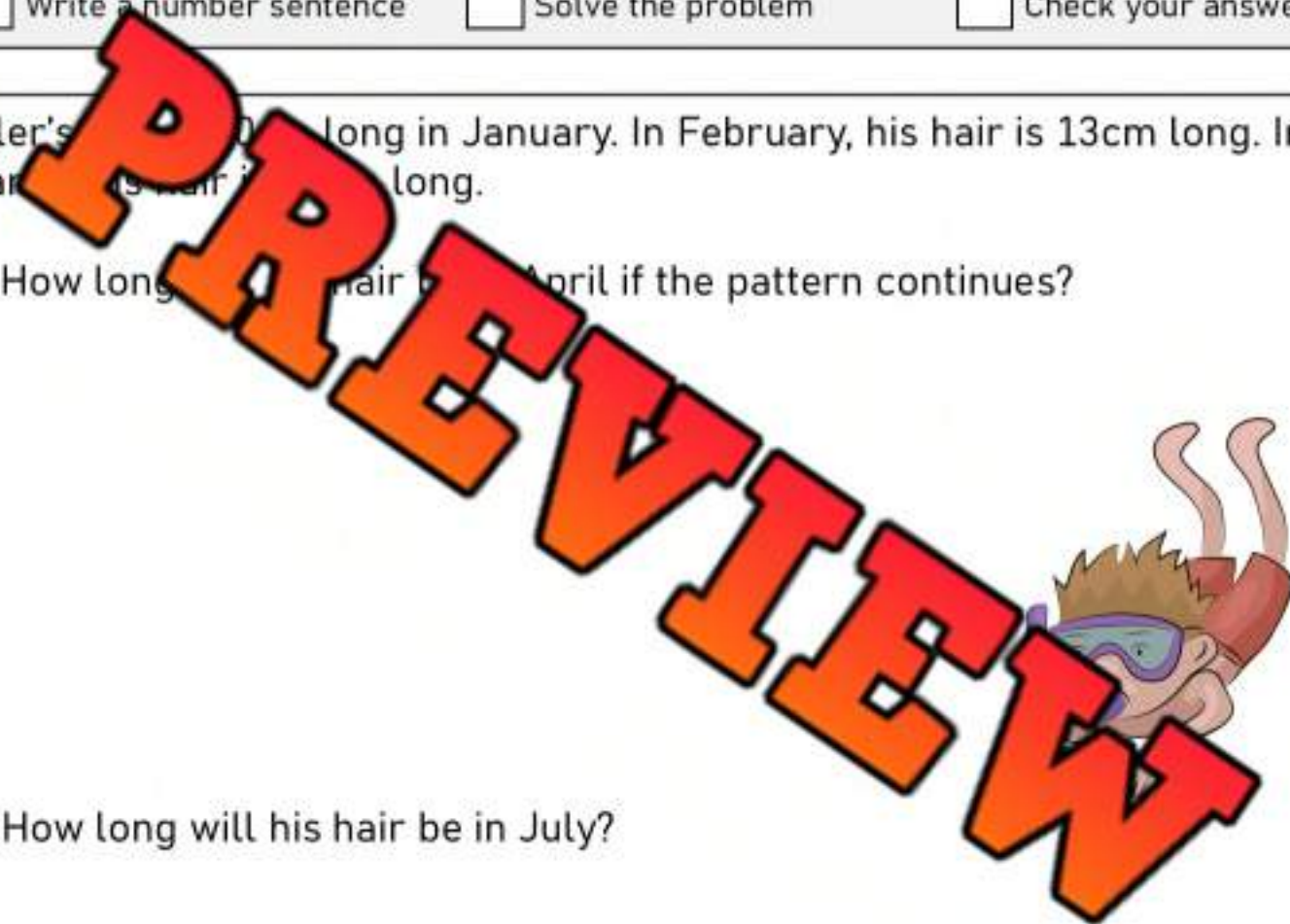
Follow the problem-solving steps below

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Read the problem carefully | <input type="checkbox"/> Underline important information | <input type="checkbox"/> Draw pictures     |
| <input type="checkbox"/> Write a number sentence    | <input type="checkbox"/> Solve the problem               | <input type="checkbox"/> Check your answer |

Tyler's hair is 10cm long in January. In February, his hair is 13cm long. In March, his hair is 16cm long.

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

b) How long will his hair be in July?





## Patterning Word Problems - Snowfall

**Questions**

Follow the problem-solving steps below

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Read the problem carefully | <input type="checkbox"/> Underline important information | <input type="checkbox"/> Draw pictures     |
| <input type="checkbox"/> Write a number sentence    | <input type="checkbox"/> Solve the problem               | <input type="checkbox"/> Check your answer |

The snow is falling outside Rayna's house. She records the height of the snow each hour. After the 1st hour, it is 20cm. After the 2nd hour it is 25cm. After the 3rd hour it is 30cm.

- a) What will the height of the snow be after the 4<sup>th</sup> hour?



- b) What will the height of the snow be after the 7<sup>th</sup> hour?

# Exit Cards

**Cut Out**

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

Name: \_\_\_\_\_

The snow is falling outside Ellen's house. She records the height of the snow each hour. After the 1st hour, it is 20cm. After the 2nd hour, it is 25cm. After the 3rd hour it is 30cm. How many hours did it take for the snow to reach 45 cm?

Name: \_\_\_\_\_

The snow is falling outside Ellen's house. She records the height of the snow each hour. After the 1st hour, it is 20cm. After the 2nd hour, it is 25cm. After the 3rd hour it is 30cm. How many hours did it take for the snow to reach 45 cm?

Name: \_\_\_\_\_

The snow is falling outside Ellen's house. She records the height of the snow each hour. After the 1st hour, it is 20cm. After the 2nd hour, it is 25cm. After the 3rd hour it is 30cm. How many hours did it take for the snow to reach 45 cm?

Name: \_\_\_\_\_

The snow is falling outside Ellen's house. She records the height of the snow each hour. After the 1st hour, it is 20cm. After the 2nd hour, it is 25cm. After the 3rd hour it is 30cm. How many hours did it take for the snow to reach 45 cm?



## 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

What you will need for the activity.

- Stopwatch or timer (or use a smartphone)
- Index cards
- Markers
- Small prizes or treats (optional)
- Tape



### Instructions

How you will complete the activity.

- 1) Cut out the index cards provided. These will contain the treasure hunt challenge questions.
- 2) Hide these cards around the classroom or in a designated safe outdoor area, taping them under chairs, desks, or tucked into non-obvious places.
- 3) Divide the class into small teams and give each team a stopwatch.
- 4) Explain the game: each team will hunt for a card, solve the problem as 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: \_\_\_\_\_

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Instructions

Cut out the cards below

1) 2, 4, 6

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

2) 5, 10, 15

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

3) (Add 1) 1, 3

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

4) (Add 5) 20, 25, 30

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

5) 30, 25, 20

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

6) 15, 10, 5

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

7) Start at 4, add 4 each time.

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

8) Start at 40, subtract 5 each  
time: 35, 30

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**Instructions**

Cut out the cards below

17) Kelly read 5 pages today. She plans to read 5 more pages each day. What day will she read 50 pages?

18) Add \$2 each week starting from \$3. What is the total after 4 weeks?

19) 10, 80

20) 15, 25, 35

21) Tom buys 2 candies and gets 2 more each day. How many candies will he have on the 4th day?

22) Subtract 1 each day: 15, 14, 13

23) (Add 15) 5, 20, 35

24) (Subtract 10) 50, 40, 30

**Instructions**

Cut out the cards below

25) Start with \$5, earn \$2 more each day. What is the total after 5 days?

26) Subtract 3 starting from 15.

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

27) You play video games every day starting with 10. You lose 2 games each day. How many games will there be after 5 days?

28) (Add 7) 14, 21, 28

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

29) Katie has 20 candies, and she ate 2 each day. How many candies will be left after 5 days?

30) In a game, you score 5 points in a game and lose 2 points each round. What is the score after the 4th round?

31) Cam starts the match with 10 golf balls. He loses 2 golf balls each hole. On which hole will he run out of golf balls?

32) A garden starts with 10 flowers. Each day, 4 new flowers bloom. How many total flowers are there after 6 days?



Name: \_\_\_\_\_

## Algebra Quiz - Patterning

### Part 1

Continue the repeating patterns below by drawing 3 more pictures



### Part 2

Sam says a number is in each of the patterns below. Was Sam right?

A B C A B C A B C A B C	YES	NO
1 3 1 3 1 3 1 3 1 3 1 3 1 3	YES	NO
9 5 5 9 5 5 9 5 5 9 5 5 9		NO

### Part 3

Follow the rule by adding or subtracting to make the pattern

1) (Add 1) 4, 5, 6, _____, _____, _____	2) (Add 2) 2, 4, 6, _____, _____, _____
3) (Add 5) 15, 20, 25, _____, _____, _____	4) (subtract 1) 18, 17, 16, _____, _____, _____
5) (subtract 10) 60, 50, 40, _____, _____, _____	6) (subtract 2) 28, 26, 24, _____, _____, _____

**Part 4**

Fill in the blanks by figuring out the pattern rules

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

Start at \_\_\_\_\_, then add \_\_\_\_\_ each time

7, 10, 13, 16, 19, 22, 25, 28

Start at \_\_\_\_\_, then add \_\_\_\_\_ each time

50, 40, 30, 20, 10, 0

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

18, 16, 14, 12, 10, 8, 6, 4, 2

Start at \_\_\_\_\_, then subtract \_\_\_\_\_ each time

**Part 5**

Solve the word problem below.

You're in a reading contest. You read 1 book on day 1, 2 books on day 2, and 3 books on day 3.

- a) How many books would you read on the 4<sup>th</sup> day?
- b) How many books would you read on the 10<sup>th</sup> day?

# Grade 1

## C2. Equations and Inequalities

	Curriculum Expectations	Pages That Cover the Expectations
C2.1	identify quantities that can change and quantities that always remain the same in real-world contexts	96 – 100, 109 – 129, 146 – 160
C2.2	determine whether given pairs of addition and subtraction expressions are equivalent or not	101 – 105, 130 – 142
C2.3	identify and use equivalent relationships for whole numbers up to 50, in various contexts	106 – 126, 143 – 164



## Making Tens – Changing Variables

When we make tens, we are using a variable. The ten is the constant and the number we use to add to 10 is the variable.

**Questions**

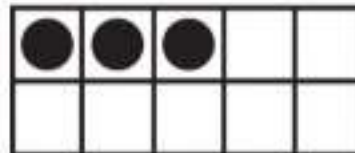
How many more dots do you need to add to make 10?

1)



$8 + \underline{\quad} = 10$

2)



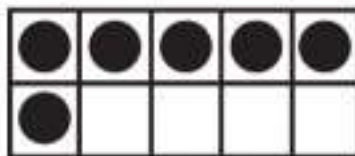
$3 + \underline{\quad} = 10$

3)



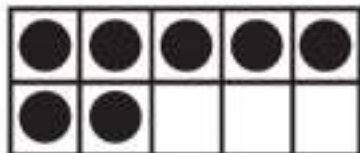
$2 + \underline{\quad} = 10$

4)



$5 + \underline{\quad} = 10$

5)



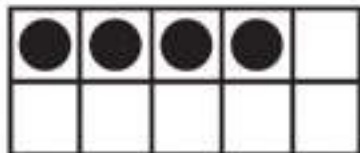
$7 + \underline{\quad} = 10$

6)



$9 + \underline{\quad} = 10$

7)



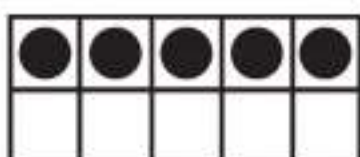
$4 + \underline{\quad} = 10$

8)



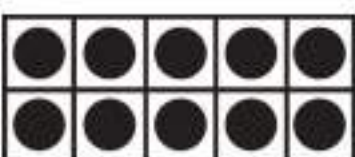
$1 + \underline{\quad} = 10$

9)



$5 + \underline{\quad} = 10$

10)

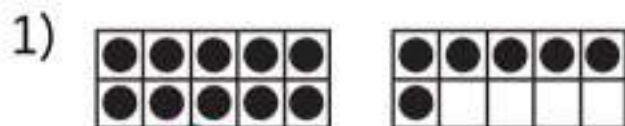


$10 + \underline{\quad} = 10$

# Making 20 – Changing Variables

**Questions**

How many more dots do you need to add to make 20?



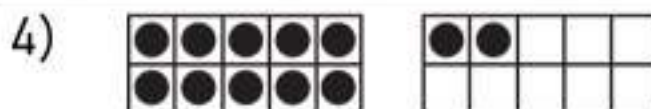
$$= 20$$



$$15 + \underline{\hspace{2cm}} = 20$$



$$10 + \underline{\hspace{2cm}} = 20$$



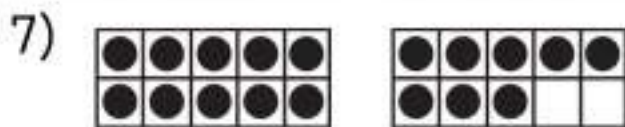
$$12 + \underline{\hspace{2cm}} = 20$$



$$13 + \underline{\hspace{2cm}} = 20$$



$$20$$



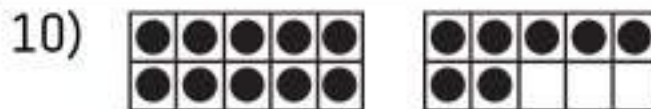
$$18 + \underline{\hspace{2cm}} = 20$$



$$11 + \underline{\hspace{2cm}} = 20$$



$$14 + \underline{\hspace{2cm}} = 20$$



$$17 + \underline{\hspace{2cm}} = 20$$

# Pre-Algebra – Balancing Addition Equations

Balance the scales by putting the same number 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?



$$6 + \square = 10$$



$$5 + \square = 10$$



$$7 + \square = 11$$



$$5 + \square = 8$$



$$6 + \square = 11$$



$$2 + \square = 10$$



$$4 + \square = 11$$



$$3 + \square = 13$$



$$1 + \square = 10$$



## Are They Equal? Addition to 10

**Questions**Circle true if the equation is equal and false if it is not

1)	$1 + 2 = 3$	True	False
2)	$2 + 4 = 5$	True	False
3)	$3 + 2 = 5$	True	False
4)	$4 + 6 = 10$	True	False
5)	$6 + 2 = 8$	True	False
6)	$3 + 5 = 8$	True	False
7)	$5 + 5 = 10$	True	False
8)	$6 + 3 = 10$	True	False
9)	$4 + 7 = 10$	True	False
10)	$2 + 8 = 10$	True	False

## Are They Equal? Addition to 20

**Questions**Circle true if the equation is equal and false if it is not.

1)	$8 + 3 = 12$	True	False
2)	$8 + 5 = 14$	True	False
3)	$8 + 5 = 13$	True	False
4)	$8 + 4 = 12$	True	False
5)	$10 + 4 = 14$	True	False
6)	$14 + 5 = 18$	True	False
7)	$17 + 2 = 19$	True	False
8)	$13 + 5 = 18$	True	False
9)	$16 + 3 = 20$	True	False
10)	$18 + 2 = 20$	True	False

## Addition to 20 – Are They Equal?

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

$5 + 3 = 8$

$8 + 4 \neq 13$

$14 + 6 = 20$



### Questions

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

1) $5 + 3 = 8$	2) $4 + 4 = 8$	3) $3 + 3 = 5$
4) $4 + 6 = 11$	5) $7 + 3 = 10$	6) $3 + 5 = 8$
7) $9 + 3 = 13$	8) $7 + 5 = 12$	9) $9 + 7 = 16$
10) $8 + 4 = 13$	11) $11 + 5 = 16$	12) $8 + 7 = 15$
13) $10 + 10 = 19$	14) $8 + 10 = 18$	15) $13 + 6 = 19$
16) $13 + 3 = 17$	17) $11 + 6 = 18$	18) $14 + 6 = 20$



## Are They Equal – True or False

**Questions**Circle true if the expressions are equal and false if they are not

1)	$2 + 4 = 1 + 5$	True	False
2)	$5 + 4 = 3 + 6$	True	False
3)	$4 + 2 = 2 + 4$	True	False
4)	$4 + 4 = 4 + 4$	True	False
5)	$6 + 4 = 7 + 2$	True	False
6)	$8 + 3 = 9 + 1$	True	False
7)	$8 + 5 = 5 + 8$	True	False
8)	$4 + 9 = 10 + 5$	True	False
9)	$16 + 3 = 19 + 0$	True	False
10)	$18 + 2 = 15 + 5$	True	False

## Addition to 50 – Are They Equal?

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

$15 + 7 = 22$

$28 + 4 \neq 33$

$44 + 6 = 50$

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

1)  $15 + 5 = 20$

2)  $17 + 4 = 21$

3)  $23 + 7 = 29$

4)  $21 + 6 = 27$

5)  $25 + 4 = 29$

6)  $23 + 10 = 33$

7)  $19 + 6 = 26$

8)  $26 + 5 = 31$

9)  $29 + 7 = 36$

10)  $28 + 6 = 35$

11)  $31 + 5 = 36$

12)  $30 + 10 = 40$

13)  $30 + 10 = 41$

14)  $33 + 0 = 30$

15)  $39 + 1 = 40$

16)  $43 + 3 = 46$

17)  $41 + 6 = 48$

18)  $44 + 6 = 50$

# Exit Cards

**Cut Out**

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

Name: \_\_\_\_\_

Put a slash ( $\neq$ ) through the equal sign if the equations are not balanced.

a)  $12 + 3 = 15$

b)  $20 + 6 = 25 + 10$

c)  $25 + 10 = 30 + 5$

d)  $30 + 2 = 29 + 4$

Name: \_\_\_\_\_

Put a slash ( $\neq$ ) through the equal sign if the equations are not balanced.

a)  $12 + 3 = 15 + 0$

b)  $20 + 6 = 25 + 10$

c)  $25 + 10 = 30 + 5$

d)  $30 + 2 = 29 + 4$

Name: \_\_\_\_\_

Put a slash ( $\neq$ ) through the equal sign if the equations are not balanced.

a)  $12 + 3 = 15 + 0$

b)  $20 + 6 = 25 + 10$

c)  $25 + 10 = 30 + 5$

d)  $30 + 2 = 29 + 4$

Name: \_\_\_\_\_

Put a slash ( $\neq$ ) through the equal sign if the equations are not balanced.

a)  $12 + 3 = 15 + 0$

b)  $20 + 6 = 25 + 10$

c)  $25 + 10 = 30 + 5$

d)  $30 + 2 = 29 + 4$



# Pre-Algebra – Balancing Addition Equations

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

Examples:

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

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

Questions

Fill in the missing number to balance the equation

1)  $4 + \boxed{\phantom{00}} = \boxed{\phantom{00}}$

$\begin{array}{c} \circ \circ \\ \circ \circ \end{array}$

2)  $3 + 6 = \boxed{\phantom{00}}$

$\begin{array}{c} \circ \circ \circ \\ \circ \circ \circ \end{array}$

3)  $4 + 5 = \boxed{\phantom{00}}$

$\begin{array}{c} \circ \circ \\ \circ \circ \end{array} \quad \begin{array}{c} \circ \circ \circ \\ \circ \circ \circ \\ \circ \end{array}$

4)  $1 + \boxed{\phantom{00}} = 8$

$\begin{array}{c} \circ \\ \circ \circ \circ \circ \circ \circ \end{array}$

5)  $6 + \boxed{\phantom{00}} = 10$

$\begin{array}{c} \circ \circ \circ \circ \circ \circ \\ \circ \circ \circ \end{array}$

6)  $4 + \boxed{\phantom{00}} = 12$

$\begin{array}{c} \circ \circ \\ \circ \circ \end{array} \quad \begin{array}{c} \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \end{array}$

7)  $\boxed{\phantom{00}} + 6 = 10$

$\begin{array}{c} \circ \circ \circ \circ \circ \circ \end{array}$

8)  $\boxed{\phantom{00}} + 7 = 11$

$\begin{array}{c} \circ \circ \circ \circ \circ \circ \circ \end{array}$

9)  $5 + \boxed{\phantom{00}} = 11$

$\begin{array}{c} \circ \circ \circ \circ \circ \circ \circ \circ \circ \end{array}$

10)  $\boxed{\phantom{00}} + 2 = 9$

$\begin{array}{c} \circ \circ \circ \circ \circ \circ \circ \end{array}$

11)  $3 + \boxed{\phantom{00}} = 8$

$\begin{array}{c} \circ \circ \circ \circ \circ \circ \circ \end{array}$

12)  $6 + 7 = \boxed{\phantom{00}}$

$\begin{array}{c} \circ \circ \circ \circ \circ \circ \end{array} \quad \begin{array}{c} \circ \circ \circ \circ \circ \circ \end{array}$

13)  $\boxed{\phantom{00}} + 6 = 16$

$\begin{array}{c} \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \end{array}$

14)  $7 + \boxed{\phantom{00}} = 9$

$\begin{array}{c} \circ \circ \circ \circ \circ \circ \circ \end{array}$

15)  $3 + 12 = \boxed{\phantom{00}}$

$\begin{array}{c} \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \end{array}$

**Pre-Algebra – Balancing Addition Equations to 20**

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

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

Examples:

$$\begin{array}{c} 20 \\ \swarrow \searrow \\ 14 + \boxed{6} = 20 \end{array}$$

**Questions**

Fill in the missing number to balance the equation

1)  $6 + \boxed{\phantom{00}} = \boxed{\phantom{00}}$

2)  $2 + 6 = \boxed{\phantom{00}}$

3)  $4 + 6 = \boxed{\phantom{00}}$

4)  $3 + \boxed{\phantom{00}} = 4$

5)  $1 + \boxed{\phantom{00}} = 5$

6)  $4 + \boxed{\phantom{00}} = 7$

7)  $\boxed{\phantom{00}} + 4 = 8$

8)  $\boxed{\phantom{00}} + 10 = \boxed{\phantom{00}} + 3 = 9$

10)  $5 + 4 = \boxed{\phantom{00}}$

11)  $10 + \boxed{\phantom{00}} = 15$

12)  $\boxed{\phantom{00}} + 7 = 14$

13)  $12 + \boxed{\phantom{00}} = 15$

14)  $11 + 6 = \boxed{\phantom{00}}$

15)  $14 + \boxed{\phantom{00}} = 16$

16)  $15 + \boxed{\phantom{00}} = 20$

17)  $13 + 6 = \boxed{\phantom{00}}$

18)  $18 + \boxed{\phantom{00}} = 20$

**Pre-Algebra – Balancing Addition Equations to 50**

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

$$\begin{array}{c} 15 \\ \swarrow \searrow \\ 8 + 7 = \boxed{15} \end{array}$$

Examples:

$$\begin{array}{c} 32 \\ \swarrow \searrow \\ 26 + \boxed{6} = 32 \end{array}$$

**Questions**

Fill in the missing number to balance the equation

1)  $12 + \boxed{\phantom{00}} = \boxed{\phantom{00}}$

2)  $2 + 13 = \boxed{\phantom{00}}$

3)  $14 + 4 = \boxed{\phantom{00}}$

4)  $13 + \boxed{\phantom{00}} = 18$

5)  $11 + \boxed{\phantom{00}} = 15$

6)  $14 + \boxed{\phantom{00}} = 17$

7)  $\boxed{\phantom{00}} + 15 = 19$

8)  $\boxed{\phantom{00}} + 15 = 9$

9)  $\boxed{\phantom{00}} + 3 = 19$

10)  $22 + 4 = \boxed{\phantom{00}}$

11)  $20 + \boxed{\phantom{00}} = 25$

12)  $\boxed{\phantom{00}} + 10 = 30$

13)  $24 + \boxed{\phantom{00}} = 28$

14)  $27 + 6 = \boxed{\phantom{00}}$

15)  $34 + \boxed{\phantom{00}} = 39$

16)  $40 + \boxed{\phantom{00}} = 44$

17)  $41 + 6 = \boxed{\phantom{00}}$

18)  $45 + \boxed{\phantom{00}} = 50$



## Addition to 20 – Using Variables

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:  $4 + n = 6$

We can figure out the unknown number by balancing the equation. In this equation,  $n = 2$ .

Questions: Find the value of the variable

$2 + n = 5$ $n =$	$3 = 4$ $=$	$4 + n = 7$ $n =$
$4 + 6 = p$ $p =$	$5 + p = 9$ $p =$	$p + 4 = 8$ $=$
$7 + y = 10$ $y =$	$y + 2 = 9$ $y =$	$=$
$5 + t = 10$ $t =$	$10 + t = 15$ $t =$	$12 + t = 15$ $t =$
$13 + a = 18$ $a =$	$14 + a = 19$ $a =$	$17 + 3 = a$ $a =$

## Addition to 50 – Using Variables

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:  $24 + n = 30$

We can figure out the unknown number by balancing the equation. In this equation,  $n = 6$ .

Questions: Find the value of the variable

$12 + n = 21$ $n =$	$15 = 18$ $n =$	$13 + n = 17$ $n =$
$14 + 6 = p$ $p =$	$15 + p = 28$ $p =$	$p + 17 = 22$ $p =$
$19 + y = 24$ $y =$	$y + 5 = 25$ $y =$	
$35 + t = 40$ $t =$	$30 + t = 40$ $t =$	$32 + t = 36$ $t =$
$41 + a = 44$ $a =$	$45 + a = 49$ $a =$	$46 + 4 = a$ $a =$

## Addition Equations to 20 - Using Variables

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

$$a + b = c$$

$$5 + 3 = 8$$

$$a = 5 \quad b = 3$$

$$\text{therefore } c = 8$$

**Question** Use the variables to answer the questions

$$a + b = c \quad b = 2$$

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

$$c =$$

$$e + n = f \quad e = 3 \quad n = 5$$

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

$$f =$$

$$r + y = k \quad r = 5 \quad y = 3 \quad t = 3 \quad g = 8$$

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

$$k =$$

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

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

$$h =$$

$$a + b = c \quad a = 7 \quad b = 5$$

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

$$c =$$

$$e + n = f \quad e = 3 \quad n = 6$$

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

$$f =$$

$$r + y = k \quad r = 6 \quad y = 4$$

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

$$k =$$

$$t + g = h \quad t = 7 \quad g = 2$$

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

$$h =$$

$$a + b = c \quad a = 13 \quad b = 4$$

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

$$c =$$

$$e + n = f \quad e = 15 \quad n = 5$$

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

$$f =$$

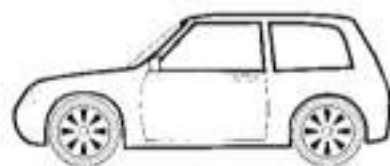


## Word Problems – Solving Addition Equations

**Questions**

Answer the questions below

1) Ron drove 10km to get to work. Then he drove to the store. When he got to the store, he had driven 16 km in total. How many km did he drive from work to the store?



2) Ellie got 15 points for beating level 1 in a video game. She got 10 more points for beating level 2. How many points did she have after level 2?



**Bonus** – She had 40 total points after beating level 3. How many points did she get in level 3?

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



## Exit Cards

Cut Out

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

Name: \_\_\_\_\_

1) Use the variables to answer the question

$$e + n = f \quad e = 22 \quad n = 6$$

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

$$f = \underline{\quad}$$

2) Lily has 5 balloons. Her friend gave her some more balloons and she now has 12 total. How many balloons did her friend give her?

Name: \_\_\_\_\_

1) Use the variables to answer the questions

$$e + n = f \quad e = 22 \quad n = 6$$

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

$$f = \underline{\quad}$$

2) Lily has 5 balloons. Her friend gave her some more balloons and she now has 12 total. How many balloons did her friend give her?

Name: \_\_\_\_\_

1) Use the variables to answer the questions

$$e + n = f \quad e = 22 \quad n = 6$$

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

$$f = \underline{\quad}$$

2) Lily has 5 balloons. Her friend gave her some more balloons and she now has 12 total. How many balloons did her friend give her?

Name: \_\_\_\_\_

1) Use the variables to answer the questions

$$e + n = f \quad e = 22 \quad n = 6$$

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

$$f = \underline{\quad}$$

2) Lily has 5 balloons. Her friend gave her some more balloons and she now has 12 total. How many balloons did her friend give her?

## Algebra Jeopardy

### Objective

What are we learning about?

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

### Materials

What will need for the activity.

- Jeopardy board and questions
- Buzzer or bell



### Instructions

How you will complete the activity

1. Print the Jeopardy board on the next page.
2. Divide the class into two teams.
3. Ask one team to go first by selecting a 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.



## Jeopardy Questions

Ask students the questions below

\$100	\$200	\$300	\$400	\$500
$\_\_ + 2 = 7$	$\_\_ + 3 = 6$	$10 + \_\_ = 20$	$3 + \_\_ = 12$	$4 + \_\_ + 3 = 10$
$\_\_ + 15 = 25$	$\_\_ + 12 = 32$	$20 + \_\_ = 50$	$\_\_ + 15 = 40$	$40 + 5 + \_\_ = 49$
Balance the equation: $1 + 1 = 1 + \_\_$	Balance the equation: $2 + 2 = 1 + \_\_$	Balance the equation: $5 + 2 = \_\_ + 4$	Balance the equation: $6 + 4 = \_\_ + 7$	Balance the equation: $8 + 6 = \_\_ + 10$
Balance the equation: $2 + 2 = 1 + \_\_$	Balance the equation: $3 + 4 = 5 + \_\_$	Balance the equation: $4 + 7 + 3 = \_\_ + 14$	Balance the equation: $9 + 2 + \_\_ = 8 + 11$	Balance the equation: $\_\_ + 10 = 12 + \_\_$
Emily had 5 books. She received some more and now has 12 books. How many books did she receive?	David had 10 Legos. He received some more and now has 22 Legos. How many Legos did he receive?	Ethan had 15 rocks. He found some more and now has 28 rocks. How many rocks did he find?	Carol has some seeds. She then buys 7 seeds from one store and 14 from another. She now has 25 seeds. How many seeds did she start with?	Emma has some seeds. She then buys 7 seeds from one store and 14 from another. She now has 25 seeds. How many seeds did she start with?
John had 3 apples. He bought some more and now has 10 apples. How many apples did he buy?	Emma had 9 pencils. She bought some more and now has 16 pencils. How many pencils did she buy?	Sarah has some apples. She buys 6 more and now has 15 apples. How many apples did she start with?	Kevin has some stickers. He then gets 8 stickers, then 3 more, and now has 18 stickers. How many stickers did he start with?	Sophia has some coins. She then finds 5 coins, then 6 more, and now has 28 coins. How many coins did she start with?

## Addition – Which Equation Matches?

Two of the expressions equal the same number. Which one matches the shaded in expression

Example

$4 + 7$

$9 + 2$

$5 + 5$



Questions Circle the expression that matches the shaded in expression

1)

$4 + 3$

$2 + 5$

$2 + 6$

2)

$5 + 4$

$3 + 3$

$2 + 7$

3)

$7 + 3$

$5 + 5$

$6 + 3$

4)

$6 + 5$

$4 + 7$

5)

$9 + 3$

$7 + 4$

$6 + 6$

6)

$8 + 6$

$10 + 4$

$7 + 8$

7)

$10 + 7$

$12 + 4$

$9 + 8$

# The Answer Is... What Is The Question?

How many number sentences can you write that equals the numbers below? Use only **addition** for these answers.



Questions

The answer is \_\_\_\_\_, what is the question?

Answer	10
_____ + _____ =	10
_____ + _____ =	10
_____ + _____ =	10
_____ + _____ =	10
_____ + _____ =	10
_____ + _____ =	10

Answer	8
_____ + _____ =	8
_____ + _____ =	8
_____ + _____ =	8
_____ + _____ =	8
_____ + _____ =	8
_____ + _____ =	8

Answer	15
_____ + _____ =	15
_____ + _____ =	15
_____ + _____ =	15
_____ + _____ =	15
_____ + _____ =	15
_____ + _____ =	15

Answer	13
_____ + _____ =	13
_____ + _____ =	13
_____ + _____ =	13
_____ + _____ =	13
_____ + _____ =	13
_____ + _____ =	13



## The Answer Is... What Is The Question?

How many number sentences can you write that equals the numbers below? Use only **addition** for these answers.

**Questions**

How many number sentences can you write?

Answer

7

Answer

11

Answer

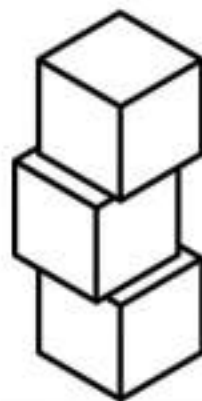
17

Answer

**Addition Word Problems – Finding Unknown Number****Questions**

Answer the questions below

1) Barry had 4 blocks. His teacher gave him more blocks. Now he has 9 blocks. How many blocks was he given?



2) Tim drank 4 glasses of water this morning. He's had 9 glasses of water in total today. How many glasses did he drink in the afternoon?



3) Ted brought 5 crackers to school. His friend gave him some more crackers. He now has 12 crackers. How many crackers did his friend give him?



**Addition Word Problems – Finding Unknown Number****Questions**

Answer the questions below

1)

In a fish tank, there are 6 red fish. There are 16 fish in the fish tank altogether. How many blue fish are in the fish tank?



Number Sentence

2)

Ben found 13 seashells. His sister also found some seashells. Together, they found 19 seashells. How many seashells did his sister find?



Number Sentence

3)

Emma has 3 pencils in her pencil case. Her mom buys her more pencils. Now Emma has 15 pencils in her pencil case. How many pencils did her mom buy for her?



Number Sentence



# Exit Cards

**Cut Out**

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

Name: \_\_\_\_\_

Answer the question below

Sam collected 9 shells at the beach.  
His brother collected some more  
shells. Together, they have 20 shells.  
How many shells did his brother  
collect?

Answer: \_\_\_\_\_

Name: \_\_\_\_\_

Answer the question below

Sam collected 9 shells at the beach.  
His brother collected some more  
shells. Together, they have 20 shells.  
How many shells did his brother  
collect?

Answer: \_\_\_\_\_

Name: \_\_\_\_\_

Answer the question below

Sam collected 9 shells at the beach.  
His brother collected some more  
shells. Together, they have 20 shells.  
How many shells did his brother  
collect?

Answer: \_\_\_\_\_

Name: \_\_\_\_\_

Answer the question below

Sam collected 9 shells at the beach.  
His brother collected some more  
shells. Together, they have 20 shells.  
How many shells did his brother  
collect?

Answer: \_\_\_\_\_

## Finding the Missing Information – To 20

Find out how many coins are in the bag using the information given to you.

Example

There are 9 coins in total and 5 outside of the bag.

Therefore, there are 4 in the bag

$$5 + 4 = 9$$



Instructions How many coins are in the bags below?

1)

7



Answer: \_\_\_\_\_

2)

10



Answer: \_\_\_\_\_

3)

12



Answer: \_\_\_\_\_

15



Answer: \_\_\_\_\_

5)

17



Answer: \_\_\_\_\_

6)

20



Answer: \_\_\_\_\_



# Finding the Missing Information – To 30

**Instructions**

How many coins are in the bags below?

1)

15

Answer: \_\_\_\_\_

2)

17

Answer: \_\_\_\_\_

2)

22

Answer: \_\_\_\_\_

4)

24

Answer: \_\_\_\_\_

5)

25

Answer: \_\_\_\_\_

27

Answer: \_\_\_\_\_

7)

20

Answer: \_\_\_\_\_

8)

30

Answer: \_\_\_\_\_



# 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.



$$7 - 4 = 3$$

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



$$10 - \square = 8$$



$$8 - \square = 3$$



$$8 - \square = 4$$



$$6 - \square = 2$$



$$10 - \square = 3$$



$$13 - \square = 6$$



$$10 - \square = 4$$



$$14 - \square = 4$$



$$4 - \square = 0$$

**Are They Equal? Subtraction to 10****Questions**

Circle true if the equation is equal and false if it is not

1)	$5 - 2 = 3$	True	False
2)	$2 - 1 = 1$	True	False
3)	$2 - 2 = 0$	True	False
4)	$6 - 2 = 4$	True	False
5)	$7 - 2 = 5$	True	False
6)	$6 - 2 = 4$	True	False
7)	$8 - 5 = 3$	True	False
8)	$9 - 4 = 4$	True	False
9)	$10 - 6 = 3$	True	False
10)	$10 - 3 = 7$	True	False

## Subtraction to 20 – Are They Equal?

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

$7 - 2 = 5$

$12 - 3 \neq 8$

$15 - 3 = 12$



Questions Put a slash  $\neq$  through the equal sign if it is not balanced

$1) 8 - 2 = 5$

$2) 4 - 2 = 3$

$3) 5 - 2 = 3$

$4) 6 - 3 = 3$

5)

$6) 8 - 3 = 4$

$7) 7 - 2 = 5$

$8) 9 - 3 = 5$

$9) 10 - 4 = 6$

$10) 12 - 4 = 9$

$11) 11 - 3 = 8$

$12) 10 - 4 = 10$

$13) 15 - 5 = 11$

$14) 16 - 3 = 13$

$15) 17 - 4 = 12$

$16) 18 - 0 = 0$

$17) 16 - 3 = 13$

$18) 20 - 5 = 14$



## Subtraction Expressions – Equal?

**Questions**

Circle true if the equation is equal and false if it is not

1)	$2 - 1 = 3 - 2$	True	False
2)	$4 - 2 = 3 - 2$	True	False
3)	$5 - 2 = 6 - 3$	True	False
4)	$7 - 2 = 6 - 1$	True	False
5)	$8 - 3 = 9 - 2$	True	False
6)	$10 - 2 = 11 - 3$	True	False
7)	$12 - 5 = 10 - 2$	True	False
8)	$16 - 4 = 14 - 3$	True	False
9)	$18 - 6 = 15 - 3$	True	False
10)	$20 - 5 = 19 - 5$	True	False

## Subtraction Expressions - Equal?

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

**Examples:**      $8 - 5 = 9 - 6$       $10 - 5 \neq 7 - 1$



**Questions** Put a slash  $\neq$  through the equal sign if it is not balanced

1) $10 - 5 = 9 - 7$	7) $5 - 3 = 6 - 3$
2) $7 - 3 = 8 - 6$	$7 - 5 = 8 - 6$
3) $10 - 5 = 5 - 0$	9) $5 - 8 = 14 - 2$
4) $10 - 7 = 8 - 5$	10) $9 - 3 = 4$
5) $15 - 7 = 12 - 5$	11) $16 - 3 = 14 - 1$
6) $23 - 4 = 20 - 2$	12) $28 - 5 = 30 - 4$

## Subtraction – Which Equation Matches?

Two of the expressions equal the same number. Which one matches the shaded in expression?

**Example**

$9 - 4$

$8 - 3$

$10 - 6$



**Question** Circle the expression that matches the shaded in expression

1)

$7 - 3$

$8 - 5$

2)

$7 - 1$

$10 - 3$

3)

$9 - 2$

8

$10 - 3$

4)

$12 - 3$

$11 - 1$

5)

$15 - 5$

$13 - 3$

$14 - 3$

6)

$18 - 6$

$13 - 2$

$14 - 2$

7)

$20 - 7$

$16 - 3$

$17 - 5$



# Matching Game: Do The Equations Match?

## Objective

What are we learning about?

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

Materials: What will need for the activity.

- Pre-prepared pre-cut matching cards.
- Small bags or envelopes to hold the cards for each group.

## Instructions

How you will complete the

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



## Cards

## Matching Game Cards

$10 + 15$

$20 + 5$

$30 - 0$

$10 + 40$

$20 + 25$

$40 - 30$

$10 - 0$

$5 + 25$

$15 + 15$

**PREVIEW**

Name: \_\_\_\_\_

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Curriculum Connection  
C2.2

Cards

Matching Game Cards

$$11 + 33$$

$$40 + 4$$

$$20 - 5$$

$$22 + 20$$

$$3 + 12$$

$$10 - 7$$

$$20 - 1$$

$$9 + 9$$

$$15 + 3$$

**PREVIEW**



## Cards

## Matching Game Cards

$50 - 30$

$30 - 10 - 0$

$40$

$40 + 20$

$50 - 50 + 10$

$50 - 40$

$50 - 23 - 10$

$15 + 1$

$45 - 30$

$20 + 20$

# Pre-Algebra – Balancing Subtraction Equations

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

Examples:

$$\begin{array}{c} 3 \\ \swarrow \searrow \\ 7 - 4 = \boxed{3} \end{array}$$

$$\begin{array}{c} 8 \\ \swarrow \searrow \\ 14 - 6 = \boxed{8} \end{array}$$

Questions

Fill in the missing numbers to balance the equations

1) 4



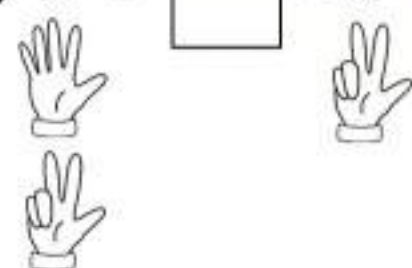
2) 3 - 2 =



3) 5 - 5 =



4) 8 -  = 3



5) 2 -  = 2



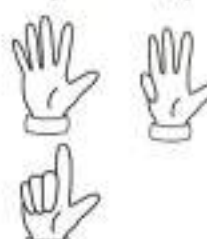
6) 10 -  = 6



7)  - 6 = 2



8)  - 7 = 4



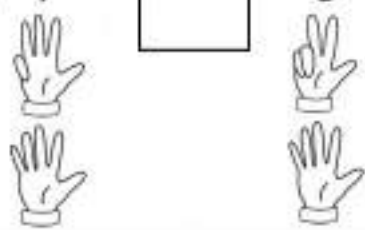
9)  - 10 = 10



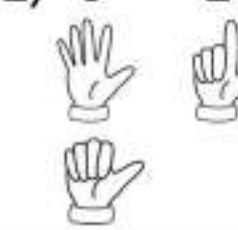
10)  - 2 = 9



11) 9 -  = 8



12) 6 - 2 =



**Pre-Algebra – Balancing Subtraction Equations to 20**

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

**Examples:**

$$\begin{array}{c} 5 \\ \swarrow \searrow \\ 7 - 2 = \boxed{5} \end{array}$$

$$\begin{array}{c} 10 \\ \swarrow \searrow \\ 14 - \boxed{4} = 8 \end{array}$$

**Questions**

Fill in the missing numbers to balance the equations

1) 6 - 2) 7 - 2 = 3) 4 - 1 = 4) 3 -  = 25) 5 -  = 36) 7 -  = 57)  - 4 = 58)  - 3 = 510) 10 - 4 = 11) 10 -  = 512)  - 6 = 1013) 15 -  = 1014) 17 - 4 = 15) 14 -  = 1116) 18 -  = 1317) 19 - 6 = 18) 20 -  = 10



## Subtraction to 50 – Using Variables

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:  $24 - n = 21$

We can figure out the unknown number by balancing the equation. In this equation,  $n = 3$ .



Question Find out the value of the variable

$14 - n = 9$ $n =$	$n - 3 = 11$ $n =$	$13 - n = 10$ $n =$
$18 - 4 = p$ $p =$	$1 - 15 = p$ $p =$	$p - 4 = 13$ $p =$
$20 - y = 15$ $y =$	$y - 4 = 20$ $y =$	
$34 - t = 30$ $t =$	$38 - t = 32$ $t =$	$40 - t = 35$ $t =$
$43 - a = 40$ $a =$	$47 - a = 41$ $a =$	$50 - a = 44$ $a =$

# Subtraction Equations to 20 – Using Variables

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

**For Example:**

$$a - b = c$$

$$a = 7$$

$$b = 4$$

$$7 - 4 = c$$

$$c = 3$$

**Question** Find out the value of the variable

$$a - b = c \quad a = 5 \quad b = 2$$

$$\underline{\quad} - \underline{\quad} = c$$

$$c =$$

$$e - n = f \quad e = 10 \quad n = 5$$

$$\underline{\quad} - \underline{\quad} = f$$

$$f =$$

$$r - y = k \quad r = 8 \quad y = 2 \quad g = h \quad t = 9 \quad g = 6$$

$$\underline{\quad} - \underline{\quad} = k$$

$$k =$$

$$\underline{\quad} - \underline{\quad} = h$$

$$h =$$

$$a - b = c \quad a = 6 \quad b = 4$$

$$\underline{\quad} - \underline{\quad} = c$$

$$c =$$

$$e - n = f \quad e = 10 \quad n = 6$$

$$\underline{\quad} - \underline{\quad} = f$$

$$f =$$

$$r - y = k \quad r = 9 \quad y = 4$$

$$\underline{\quad} - \underline{\quad} = k$$

$$k =$$

$$t - g = h \quad t = 10 \quad g = 6$$

$$\underline{\quad} - \underline{\quad} = h$$

$$h =$$

$$a - b = c \quad a = 14 \quad b = 3$$

$$\underline{\quad} - \underline{\quad} = c$$

$$c =$$

$$e - n = f \quad e = 18 \quad n = 5$$

$$\underline{\quad} - \underline{\quad} = f$$

$$f =$$

$$r - y = k \quad r = 19 \quad y = 4$$

$$\underline{\quad} - \underline{\quad} = k$$

$$k =$$

$$t - g = h \quad t = 20 \quad g = 4$$

$$\underline{\quad} - \underline{\quad} = h$$

$$h =$$

## Word Problems – Solving Subtraction Equations

**Questions**

Answer the questions below

1) Mrs. Wilson had 15 pencils at the start of the school year. She gave all the kids in her class 1 pencil. She now has 3 pencils. How many students are in Mrs. Wilson's class?



2) Hudson saved 20 dollars and bought a new toy for 15 dollars. How many dollars does he have left?



**Bonus:** He saved 15 more dollars. Can he buy a video game for 30 dollars?

3) The grade 1 class planted 35 tomato seeds but only 31 tomato plants grew. How many plants did not grow?





**Subtraction Word Problems – Finding Unknown Number****Questions**

Answer the questions below

1)

Jack has 12 marbles. He gives some marbles to his friend. Now he has 7 marbles left. How many marbles did he give to his friend?



Number

$12 - \underline{\quad} = 7$

2)

Sarah has 15 cookies. She eats some of them. After eating, she has 10 cookies left. How many cookies did she eat?



Number Sentence

$15 - \underline{\quad} = 10$

3)

There are 18 ducks in the pond. Some ducks swim away. Now there are 12 ducks left in the pond. How many ducks swam away?



Number Sentence

$18 - \underline{\quad} = 12$

**Subtraction Word Problems – Finding Unknown Number****Questions**

Answer the questions below

1)

Liam has 9 toy airplanes. He loses some of them. Now he has 4 toy airplanes left. How many toy airplanes did Liam lose?



Number Sentence

2)

Emily has 20 crayons. She gives some to her friend. Now she has 14 crayons left. How many crayons did she give to her friend?



Number Sentence

3)

There are 11 balls in the playground. Some of the balls are taken inside by the children. Now there are 6 balls left in the playground. How many balls were taken inside?



Number Sentence



## 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 sets of task cards
- Separate sheet for answers
- Pencils



### Instructions

How to complete the activity

1. Introduce the concepts covered in the task cards.
2. Organize the students into pairs and provide each pair with their sets of task cards.
3. Give each pair an answer recording sheet to document their answers.
4. Encourage teamwork by having students collaborate on finding solutions.
5. Allow students to select any task card to begin with, emphasizing that they can complete the cards in any order they prefer.
6. Instruct students to record the letter of their chosen answer (A, B, or C) on their answer sheet beside the task card's number.
7. Consider using a timer to create a dynamic challenge, adjusting the duration to fit the lesson's objectives and complexity.
8. After the activity, review the answers collectively, discussing any challenging questions and strategies used to solve them.
9. Have students reflect on the activity, sharing the methods they applied and obstacles they overcame.



## Task Cards

Cut out the task cards below

**Card 9:**

A plant was 5 cm tall. It grew \_\_\_\_ centimeters and is now 27 cm tall. How much did it grow?

- a) 22 cm      b) 20 cm      c) 18 cm

**Card 10:**

Lucy baked 48 cupcakes. She gave some away and now has 30. How many did she give away?

- a) 16      b) 18      c) 20

**Card 12:**

$$17 + k = 29$$

solve for k

- a) 12      b) 15      c) 12

**Card 13:**

$$30 - a = 10$$

solve for a

- a) 20      b) 18      c) 15

**Card 14:**

$$17 + k = 29$$

solve for k

- a) 20      b) 15      c) 25

**Card 15:**

$$22 + c = 40$$

solve for c

- a) 18      b) 20      c) 25

**Card 16:**

$$35 - d = 15$$

solve for d

- a) 18      b) 20      c) 25

## Task Cards

Cut out the task cards below

**Card 17:**

$$25 + e = 55$$

solve for e

- a) 30    b) 32    c) 28

**Card 18:**

$$50 - f = 40$$

solve for f

- a) 10    b) 28    c) 30

**Card 20:**

Emma had 20 candies. She lost some candies and now has 38. How many did she lose?

- a) 25    b) 18    c) 22

**Card 21:**

A balloon was 10 inches. It expanded by \_\_\_\_ inches and is now 40 inches. How much did it expand?

- a) 30    b) 28    c) 32

**Card 22:**

Anna had 25 cookies. She ate 10 cookies and now has 15. How many did she eat?

- a) 25    b) 30    c) 7

**Card 23:**

$$41 - k = 16$$

solve for k

- a) 40    b) 25    c) 50

**Card 24:**

$$19 + l = 40$$

solve for l

- a) 21    b) 22    c) 20

Name: \_\_\_\_\_

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Curriculum Connection  
C2.1, C2.3**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	
18	
19	
20	
21	
22	
23	
24	



Name: \_\_\_\_\_

## Algebra Quiz - Equations

### Part 1

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

1)  $2 + 4 = 6$

2)  $3 + 4 = 8$

3)  $1 + 7 = 9$

4)  $9$

5)  $8 - 3 = 5$

6)  $15 - 5 = 11$

### Part 2

Put the missing number to balance the equation

1)  $3 + 2 =$

3)  $14 +$    $= 16$

4)  $20 + 5 =$

5)   $+ 4 = 25$

6)   $= 37$

7)  $5 - 3 =$

8)   $- 4 = 6$

9)  $15 - 5 =$

10)  $23 - 3 =$

11)   $- 4 = 30$

12)  $37 - 2 =$

## Part 3

Find out the value of the variable

$3 + n = 7$

$n =$

$n + 4 = 5$

$n =$

$22 + n = 25$

$n =$

$n + 5 = 36$

$n =$

$8 - n = 5$

$n =$

$n - 1 = 6$

$n =$

$16 - 4 = n$

$n =$

$24 - n = 21$

$n =$

## Part 4

Find the value of the variable

$a + b = c$

$a = 1$

$b = 8$

$n - y = t$

$n = 10$

$y = 3$

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

$c = \underline{\quad}$

$\underline{\quad} - \underline{\quad} = \underline{\quad}$

## Part 5

How many coins are in the bags below

1)



9

2)



12

Answer: \_\_\_\_\_

Answer: \_\_\_\_\_

2)



15

4)



20

Answer: \_\_\_\_\_

Answer: \_\_\_\_\_

# Grade 1

## C3. Coding

	Curriculum Expectations	Pages
C3.1	olve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential events	166 – 182, 191 – 196
C3.2	read and alter existing code, including code that involves sequential events, and describe how changes to the code affect the outcomes	183 – 190



## 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.

- A worksheet for students to write a sequence of commands (or a piece of paper)
- Open classroom for the teacher to move around
- A designated "target spot" in the classroom (e.g., a chair, a marked spot on the floor)



### Instructions

How you will complete the activity.

1. Tell students they'll be "coders" and the teacher will be the "robot" following their commands exactly.
2. Show the class the target spot (e.g., a chair) where the robot needs to go.
3. Give each student a worksheet (or put students in pairs) to write a sequence of commands (e.g., "step forward 2, turn right, step forward 1") using the words "step forward [number]," "turn right," or "turn left."
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.

**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**

**PREVIEW**

## 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.

**PREVIEW**



## Writing Code – Down and Right



### Writing Code – Code Bank

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



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 gym and then home.

Line 1: \_\_\_\_\_

Line 2: \_\_\_\_\_

Line 3: \_\_\_\_\_

Line 4: \_\_\_\_\_

Line 5: \_\_\_\_\_



Robot moved \_\_\_\_\_ squares

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

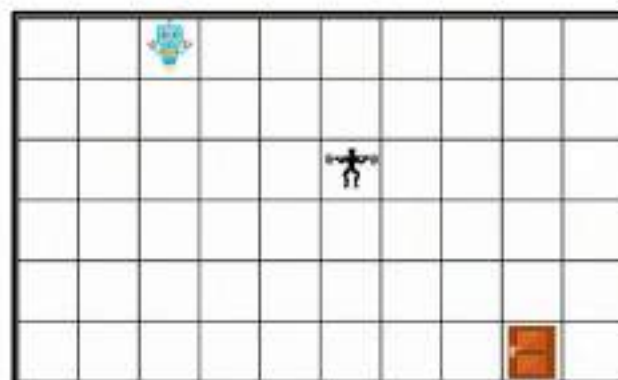
Line 1: \_\_\_\_\_

Line 2: \_\_\_\_\_

Line 3: \_\_\_\_\_

Line 4: \_\_\_\_\_

Line 5: \_\_\_\_\_



Robot moved \_\_\_\_\_ squares

## Writing Code – Up and Left



### Writing Code – Code Bank

go left (# of spaces)

go up (# of spaces)

open door



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 gym and then home.

Line 1: \_\_\_\_\_

Line 2: \_\_\_\_\_

Line 3: \_\_\_\_\_

Line 4: \_\_\_\_\_

Line 5: \_\_\_\_\_



Robot moved \_\_\_\_\_ squares

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

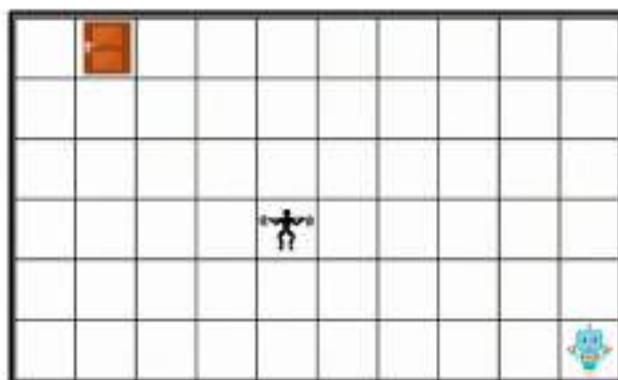
Line 1: \_\_\_\_\_

Line 2: \_\_\_\_\_

Line 3: \_\_\_\_\_

Line 4: \_\_\_\_\_

Line 5: \_\_\_\_\_



Robot moved \_\_\_\_\_ squares

Name: \_\_\_\_\_

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Curriculum Connection  
C3.1

## Writing Code



Robot moved \_\_\_\_\_ squares

### 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: \_\_\_\_\_

2. 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

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



## Activity: Dance Party Code

### Objective

What are we learning about?

Students will write a sequence of dance moves to create a short dance routine, practicing sequential events, and then alter the sequence to observe how changes affect the performance.

### Materials

What you will need for the activity.

- Worksheet for writing dance moves (one per student)
- Pencil or crayon for writing
- Open space in the classroom for dancing
- Optional: Music for a fun atmosphere



### Instructions

How you will complete the activity.

1. Tell students they'll be "coders" creating a dance routine by writing a sequence of dance moves.
2. Show them a few simple dance moves (e.g., jump, clap, twirl, stomp) they can use.
3. Give each student a worksheet (or put them in pairs/small groups) to write a short sequence of 3 or 4 dance moves (e.g., "jump, clap, twirl").
4. Have one student/pair/group read their sequence aloud and perform their dance for the class.
5. Repeat with 1-2 more students/groups, having them share and perform.
6. Wrap up by explaining how the order of moves affect the dance, connecting it to coding sequences.

**Example Moves**

Choose from the example moves below or make up your own.

Dance Move	Description
Jump	Hop off the ground with both feet.
Clap	Clap hands together once or twice.
Twirl	Spin around in a circle on the spot.
Stamp	Stamp one foot on the ground.
Lump	Lump on one foot.
Wiggle	Shake your whole body side to side.
Wave	Wave one hand in the air.
Step Forward	Take one step forward.
Step Backward	Take one step backward.
Spin	Turn around quickly in a circle.
Sway	Rock side to side with your feet.
Tap	Tap one foot lightly on the ground.
Bounce	Bend knees and bounce up and down.
March	Lift knees high and march in place.
Shake	Shake arms or hips side to side.
Point	Point one finger up or to the side.
Kick	Kick one leg forward gently.
Nod	Nod your head up and down.
Twist	Twist your hips side to side.
Reach	Stretch both arms up high.

Name: \_\_\_\_\_

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Curriculum Connection  
C3.1

## Dance Party Code – My Code

### Instructions

Program your own dance by writing your dance sequence.  
(Ex. kick, twirl, step forward, step backward, kick, twirl, step forward, step backward)

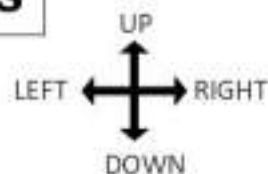
### My Dance Party Code

**PREVIEW**



**Reading Code – Creating Programs****Question**

Read the code and create the program

**Example****Code**

go right 6  
go down 2  
open door



Robot moved \_\_\_\_\_ squares

1.

**Code**

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

Robot moved \_\_\_\_\_ squares

2.

**Code**

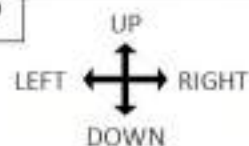
go right 2  
go down 3  
go left 2  
go down 1  
go right 6  
open door



Robot moved \_\_\_\_\_ squares

**Reading Code – Creating Programs****Question**

Read the code and create the program



3.

**Code**

go down 2 squares  
go left 2 square  
go down 1 square  
go left 1 square  
open door



Robot moved \_\_\_\_\_ squares

4.

**Code**

go left 2 squares  
enter school  
go down 3 squares  
go left 3 squares  
open door



Robot moved \_\_\_\_\_ squares

5.

**Code**

go down 3 squares  
go left 2 squares  
enter ice cream shop  
go up 3 squares  
go left 2 squares  
open door



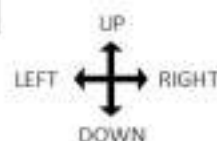
Robot moved \_\_\_\_\_ squares



# Reading Code – Creating Programs

**Question**

Read the code and draw the path the robot will take



1.

**Code**

go left 4

go down 2

open door

Robot moved \_\_\_\_\_ squares



2.

**Code**

go down 2

go right 2

go down 2

go right 3

open door

Robot moved \_\_\_\_\_ squares



3.

**Code**

go down 3

go left 5

go down 1

open door

Robot moved \_\_\_\_\_ squares





# Reading Code – Creating Programs

## Question

Read the code and draw the path the robot will take

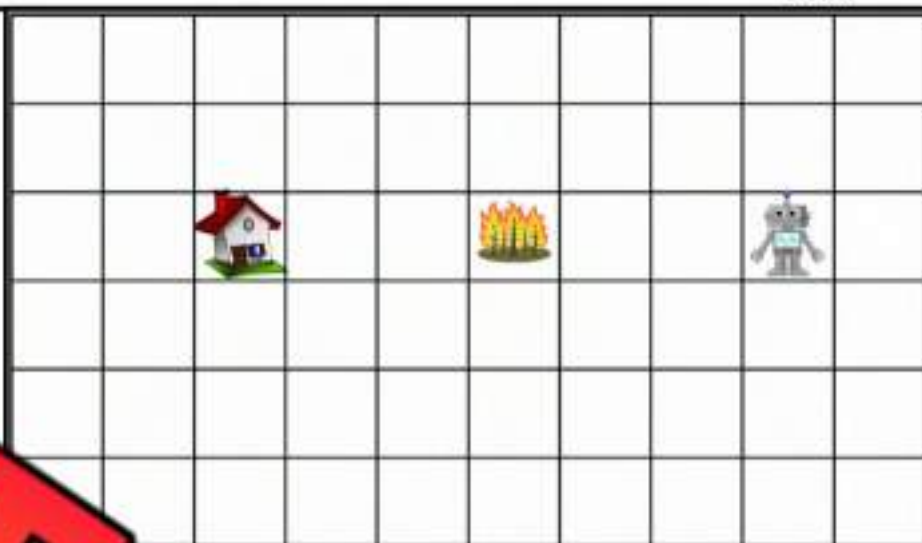


4.

### Code

go left 2  
go down 1  
go left 1  
go down 1  
open door

Robot moved \_\_\_\_\_ squares



5.

### Code

go down 1  
go right 3  
go down 1  
go right 3  
go up 1  
open door

Robot moved \_\_\_\_\_ squares

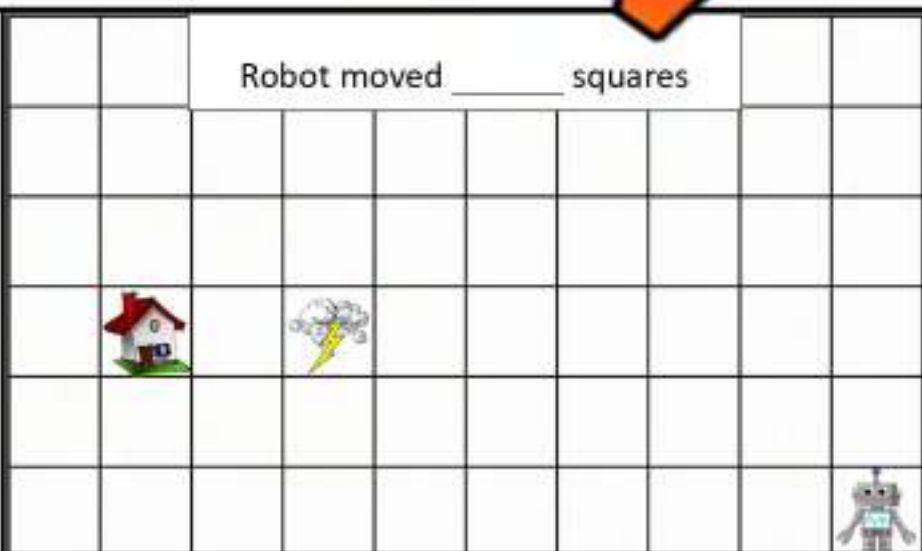


6.

### Code

go up 2  
go left 5  
go up 1  
go left 3  
go down 1  
open door

Robot moved \_\_\_\_\_ squares



**Fixing Code****Question**

Put the scrambled code in the correct order by labelling the steps 1-3

1. Move the boy home

**Code**

\_\_\_\_\_ - home

\_\_\_\_\_ - go down



2. Move the boy home

**Code**

\_\_\_\_\_ - go down 2

\_\_\_\_\_ - enter home

\_\_\_\_\_ - go right 2



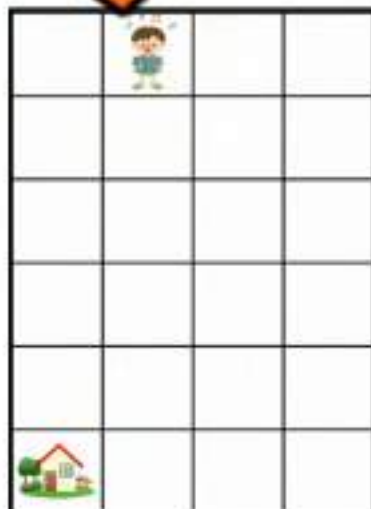
3. Move the boy home

**Code**

\_\_\_\_\_ - enter home

\_\_\_\_\_ - go down 5

\_\_\_\_\_ - go left 1



**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 down 3

\_\_\_\_\_ - go right 1

\_\_\_\_\_ - go left 2

\_\_\_\_\_ - enter ice cream shop

\_\_\_\_\_ - enter home

\_\_\_\_\_ - go left 1



2. Go to the ice cream shop and then home

**Code**

\_\_\_\_\_ - go up 1

\_\_\_\_\_ - go left 2

\_\_\_\_\_ - enter home

\_\_\_\_\_ - enter ice cream shop

\_\_\_\_\_ - go up 4

\_\_\_\_\_ - go right 2



3. Go to the ice cream shop and then home

**Code**

\_\_\_\_\_ - go up 3

\_\_\_\_\_ - go down 2

\_\_\_\_\_ - go right 1

\_\_\_\_\_ - enter ice cream shop

\_\_\_\_\_ - go left 3

\_\_\_\_\_ - enter home





# Interpreting Code

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



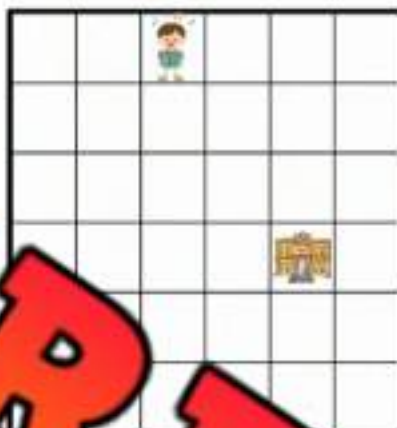
1.

**Code**

go down

go left 2

enter library



YES NO

Line 1: \_\_\_\_\_

Line 2: \_\_\_\_\_

Line 3: \_\_\_\_\_

2.

**Code**

go up 3

go right 4

enter library



YES NO

Line 1: \_\_\_\_\_

Line 2: \_\_\_\_\_

Line 3: \_\_\_\_\_

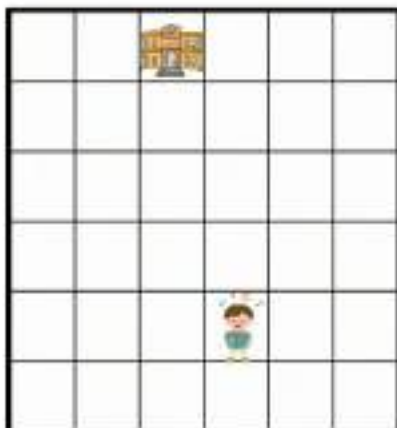
3.

**Code**

go up 4

go left 1

enter library



YES NO

Line 1: \_\_\_\_\_

Line 2: \_\_\_\_\_

Line 3: \_\_\_\_\_

# Interpreting Code

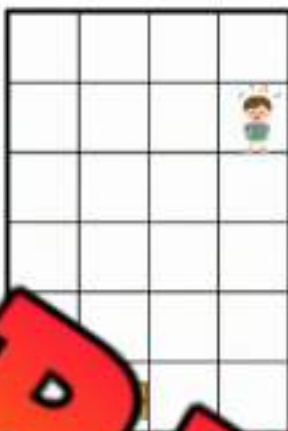
**Question** Will the code work? Circle yes or no. Re-write any code that won't work.



4.

**Code**

go down  
go left 2  
enter



YES NO

Line 1: \_\_\_\_\_

Line 2: \_\_\_\_\_

Line 3: \_\_\_\_\_

5.

**Code**

go down 1  
go left 2  
go down 3  
enter library



YES NO

Line 1: \_\_\_\_\_

Line 2: \_\_\_\_\_

Line 3: \_\_\_\_\_

Line 4: \_\_\_\_\_

Line 5: \_\_\_\_\_

YES NO

6.

**Code**

go right 3  
go down 2  
enter library  
go down 3  
go left 2  
enter home



Line 1: \_\_\_\_\_

Line 2: \_\_\_\_\_

Line 3: \_\_\_\_\_

Line 4: \_\_\_\_\_

Line 5: \_\_\_\_\_

Line 6: \_\_\_\_\_

**Printing Code****Question**

Print the code from the code box

1. **Code Box**

print (draw a rectangle)  
print (draw a circle  
inside rectangle)

The Computer Program2. **Code Box**

Cookies = 5  
print ("Ross has",  
Cookies, "cookies on his  
plate.")

The Computer Program:3. **Code Box**

Points = 7 + 4  
print ("Evan scored",  
Points, "points in the  
game yesterday.")

The Computer Program:

## 4.

**Code Box**

Toys = 12 + 5  
print ("Nicole has", Toys,  
"toys in her room.")

The Computer Program:



## Coding with Addition

**Part 1**

Write what the computer would reply based on the code written

Code Written	The Computer Replied
<code>print (5 + 3)</code>	8
<code>print (3 + 7)</code>	_____
<code>print (5 + 5)</code>	_____
<code>print (4 + 4)</code>	_____
<code>print (21 + 1)</code>	_____
<code>print (26 + 4)</code>	_____
<code>print (30 + 5)</code>	_____

**Part 2**

Write what the computer would reply with based on

Code Written	The Computer Replied
<code>tens = 2 ones = 5 print (tens,ones)</code>	_____
<code>tens = 3 ones = 2 print (tens,ones)</code>	_____
<code>tens = 4 ones = 7 print (tens,ones)</code>	_____

## Coding with Place Value

**Questions**

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

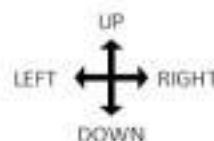
Code Written	The Computer Replied
tens = 2 ones = 1 print ("the secret number is",tens,ones)	_____ _____
tens = 3 ones = 6 print ("the secret number is",tens,ones)	_____ _____
tens = 2 ones = 8 print ("the secret number is",tens,ones)	_____ _____
tens = 4 ones = 5 print ("the secret number is",tens,ones)	_____ _____
tens = 5 ones = 0 print ("the secret number is",tens,ones)	_____ _____
tens = 1 ones = 8 print ("the secret number is",tens,ones)	_____ _____





Name: \_\_\_\_\_

## 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 \_\_\_\_\_

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

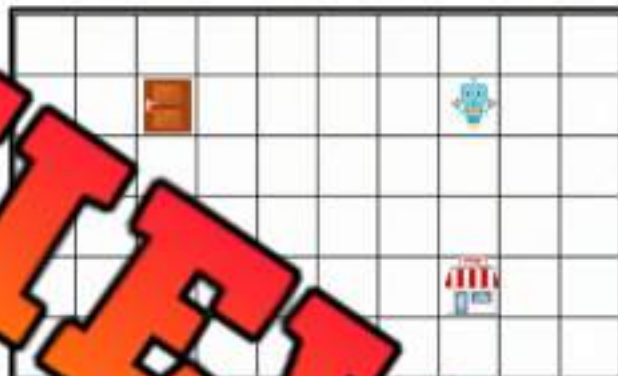
Line 1: \_\_\_\_\_

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 2

go down 1

go right 4

open door



Robot moved \_\_\_\_\_ squares



**Part 3**

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

4. Go to school and then home.

**Code**

- \_\_\_\_\_ - go up 4
- \_\_\_\_\_ - enter school
- \_\_\_\_\_ - go right 3
- \_\_\_\_\_ - go up 2
- \_\_\_\_\_ - go left 2

**Part 4**

Write the code so that it works. Re-write the code so that it works.

5.

**Code**

- go up 2
- go left 2
- enter library
- go up 1
- go left 4
- open door



YES NO

Line 1:

Line 2:

Line 4:

Line 5:

Line 6:

**Part 5**

Write the message that the code has programmed

6.

**Code**

```
tens = 4
ones = 9
print ("the secret number
is",tens,ones)
```

The Computer Program: