

Grade 4 Mathematics
Week of February 8 – February 12

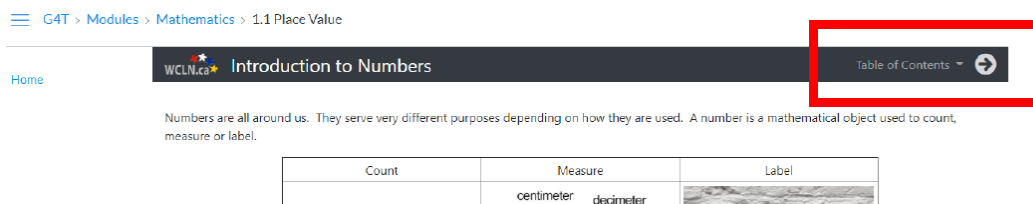
Lesson 5.1: Patterns and Sequences, continued

Lesson 5.2: Equations

Lesson Materials

- Lessons for Section [5.1 Patterns and Sequences](#)
- Lessons for Section [5.2 Equations](#)
- Equations Learning Guide (This PDF)

Use the link above to open the lessons for this section. Remember: on the lesson page, use the arrow next to the “Table of Contents” at the **top of the page** to move through the lessons. You can also click on the Table of Contents to open the menu so you can jump to a specific lesson page.



Work through the online lessons for this section. You can work at your own pace or follow the suggested schedule below. Complete the activities in your Learning Guide as you work through the lessons. You can print the Learning Guide, or, copy out the questions on a separate piece of paper. Be sure to try the games and practice quizzes as you make your way through the online lesson book.

Suggested Lesson Schedule

<p>Monday</p> <ul style="list-style-type: none">• Find the Error• LG 5.1 p. 8, #16-17 <p>Tuesday</p> <ul style="list-style-type: none">• Showing and Extending Patterns Using Tables• LG p. 9-10, #8-9 <p>Wednesday</p> <ul style="list-style-type: none">• Showing and Extending Patterns Using Tables 2• LG p. 10-12, #20-22	<p>Thursday</p> <ul style="list-style-type: none">• What is an Equation?• Equation or Not?• LG 5.2 p. 13, #1 <p>Friday</p> <ul style="list-style-type: none">• Balance Scale Puzzles• Practice• LG p. 13, #2
--	--

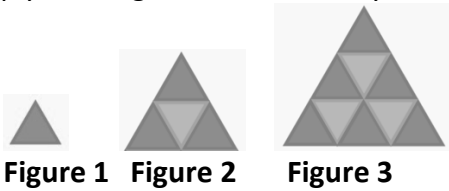
16. Find the mistake in each pattern and correct it.

- a) 3, 6, 8, 12 (rule: add 3)
- b) 8, 13, 18, 22 (rule: add 5)
- c) 5, 7, 13, 17 (rule: add 4)
- d) 29, 27, 26, 23 (rule: subtract 2)
- e) 40, 34, 30, 22 (rule: subtract 6)

17. Find the missing number in each pattern.

- a) 2, 4, _____, 8
- b) 9, 7, _____, 3
- c) 7, 10, _____, 16
- d) 16, _____, 8, 4
- e) 3, _____, 11, 15
- f) 15, 18, _____, 24, _____, 30
- g) 14, _____, _____, 20
- h) 57, _____, _____, 45

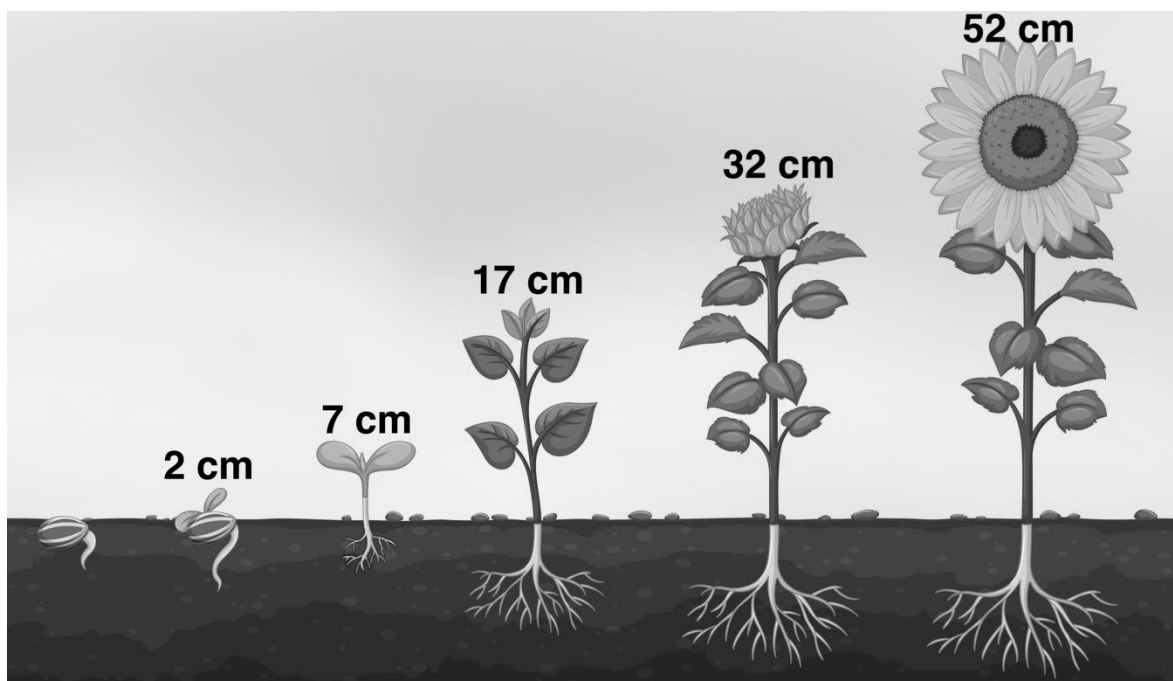
18. Imagine you are making a mosaic design with triangle tiles. Using pictures to find a pattern can help you to figure out how many tiles you need.



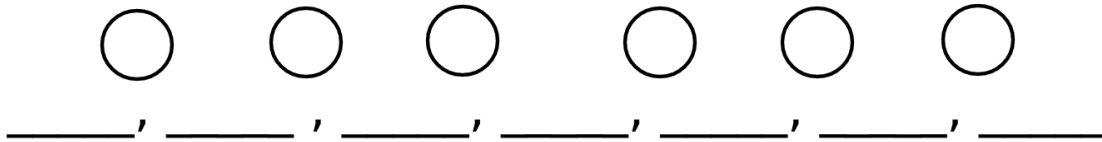
- a) How many tiles are in figure 1? _____
- b) How many tiles are added to make figure 2? _____
- c) How many tiles in figure 2 altogether? _____
- d) How many tiles are added to make figure 3? _____
- e) How many tiles in figure 3 altogether? _____
- f) Look at the sequence shown by the triangle tiles. Even though the gap isn't always the same, it will follow a pattern. Continue the pattern to find out how many tiles would be needed if there were 5 rows of triangles.

$\textcircled{+3}$ $\textcircled{+5}$ $\textcircled{\quad}$ $\textcircled{\quad}$
 1, 4, 9, _____, _____

19. Sue kept track of her sunflower growth over 5 weeks.



- a) Write down the numbers in a sequence.
- b) Find the gap between each pair of numbers.
- c) If the pattern continues, how tall would the sunflower be in two more weeks?



20. a) Look at the following alphabet letter design. The design is for the letter “U”. Complete a T-table for up to 6 figures that shows how many blocks are needed for each figure.

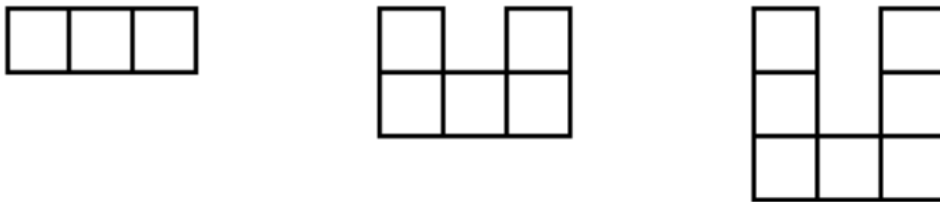
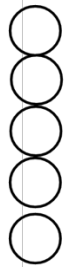


Figure	Number of Blocks
1	3
2	5
3	
4	
5	
6	



b) Here is a challenge for you. For the letter “U”, each block cost 3 cents. If you have 40 cents, will you have enough to build the figure 6? Show your work.

21. Prices at Pizza Place follow a pattern.

Pizza	Size	Cheese	3-Toppings
1	Individual (4 slices)	\$5	\$8
2	Small (8 slices)	\$10	\$13
3	Medium (12 slices)	\$15	\$18
4	Large (16 slices)	\$20	
5	X-Large (20 slices)		

a) Write a pattern rule for the price with cheese:

Start at _____. Add _____.

b) Write a pattern rule for the price with 3-toppings:

Start at _____. Add _____.

c) Use the pattern rules to complete the table.

d) Suppose the patterns on the table continued and there was an XX-Large pizza. What is the price of an XXL pizza with 3-toppings?

e) How much more is medium three topping pizza than a medium pizza with cheese?
Write down your equation and answer:

22. A normal heartbeat rate is about 70 times in a minute. Let's use a T-table to find out how many times a heart will beat in five minutes. You will be able to practise your adding skills, too.

Minutes	Total Number of Beats
1	70
2	
3	
4	
5	
6	

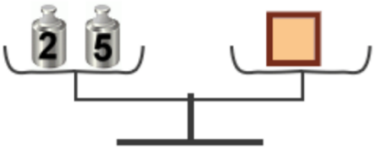
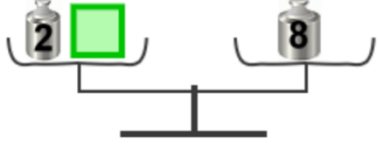
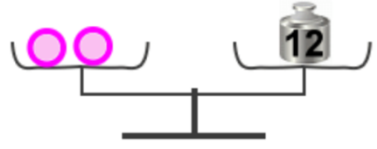
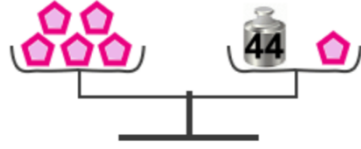
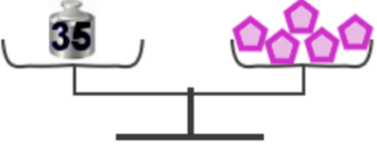
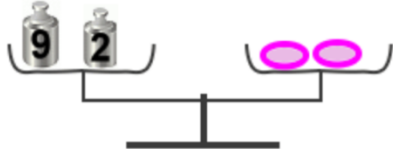
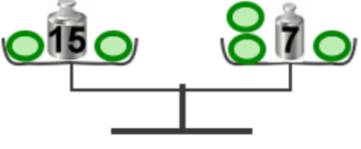
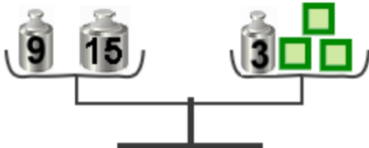
+70
+70
+70
+70
+70

5.2 EQUATIONS

1. Identify each of the following as an expression(ex) or an equation (eq)

- a) $7 + f$ _____ b) $12(7 - 3)$ _____ c) $(6 \times 4) = (3 \times 8)$ _____
 d) $(5 \times 5 \times 5)$ _____ e) $9 \times 4 = 6 \times 3$ _____ f) $6x - 6y - 6z$ _____
 g) $(40 - 5) = 5 \times 7$ _____ h) 8 _____
 i) $0.1 + 0.5 = 0.3 + 0.3 (2 \times 2) - (1 \times 1)$ _____

2. Solve how much each shape "weighs"

 <p>The shape weighs _____</p>	 <p>The shape weighs _____</p>
 <p>The shape weighs _____</p>	 <p>The shape weighs _____</p>
 <p>The shape weighs _____</p>	 <p>The shape weighs _____</p>
 <p>The shape weighs _____</p>	 <p>The shape weighs _____</p>

Images used from www.mathmammoth.com

5.3 VARIABLES

1. Fill in the missing number in each equation

a) $40 + \underline{\hspace{2cm}} = 52$

b) $\underline{\hspace{2cm}} \times 10 = 110$

c) $32 = \underline{\hspace{2cm}} \times 4$

d) $\underline{\hspace{2cm}} \div 6 = 7$

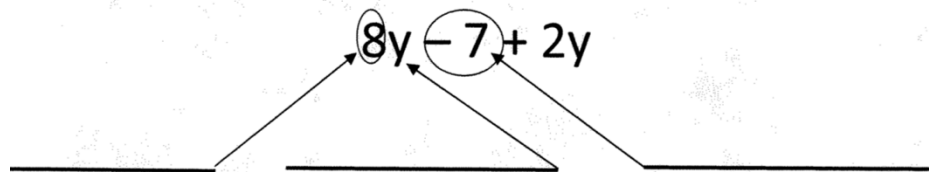
e) $40 = \underline{\hspace{2cm}} - 8$

f) $4 + \underline{\hspace{2cm}} = 90$

2. Label the variable, coefficient and constant in each expression below:

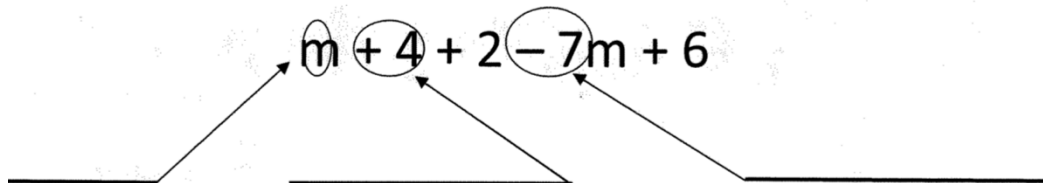
a)

$8y - 7 + 2y$



b)

$m + 4 + 2 - 7m + 6$



3. Write an equation for each situation.

EXAMPLE: There are 8 oranges altogether. Six are outside of the basket. How many are in the basket? Answer: $8 = 6 + x$

a) There are 10 oranges altogether. 4 are outside of the basket. How many are in the basket?

b) There are 9 tennis balls. 5 are in containers. How many are not in containers?

c) 5 children are at a park. 3 are on the swings. How many are not on swings?

d) There are 7 children in the yard. 5 are in the pool. How many are not in the pool?

e) Jordan has 10 stamps altogether. 4 are Canadian. How many are from other countries?

f) 12 kids are in art class. 7 are girls. How many are not girls?

g) A hockey line has 5 players. 3 play forward. How many play defense?

h) There are 7 children in the yard. 4 are in the sandbox. How many are not in the sandbox?

4. Translate each of the following into an equation, and then solve the equation.

Example: The sum of number and 12 is 30. $x + 12 = 30$
 $x = 18$

a) The sum of a number and 2 is 12.

b) The difference of a number and 12 is 30.

c) If 2 is subtracted from a number, the result is 4.

d) If three times a number is increased by 4, the result is 10.

e) The sum of 8 and 5 is equal to the difference of number and 7.

5.4 SUBSTITUTION

1. Evaluate the following expressions for the variable amounts given. Show substitution and calculations.

a) $5z - d$, when $d = 4$ and $z = 3$	b) $x - r - 6$, when $x = 10$ and $r = 2$	c) $a - 8$, when $a = 17$
d) $u - v$, when $u = 7$ and $v = 2$	e) $7r v$, when $r = 5$ and $v = 2$	f) $z - 2$, when $z = 9$
g) $9z + r$, when $z = 3$ and $r = 2$	h) $p + x$, when $p = 7$ and $x = 5$	i) $10 - z$, when $z = 8$

2. John withdraws (takes out) \$20 from his bank account.
a. Write an expression for this situation.

_____ - _____

- b. Solve the expression if John started with \$150 in the bank.

3. Some soccer players divide 40 cookies into smaller groups for a bake sale.
a. Write an expression for this situation.

_____ ÷ _____

- b. Solve the expression if the soccer players divide the cookies into 8 groups.

4. One ink cartridge costs 13 dollars. Write an equation that shows total cost (t) in terms of number of cartridges(n). Once you have written the equation, determine how much 8 ink cartridges would cost?

5. Fred found 73 seashells on the beach, he gave Joan some of his seashells. He has 43 seashell left. Write an equation that shows number of shells he has left (l) in terms of the number given to Joan (n). Once you have written the equations How many seashells did he give to Joan ?