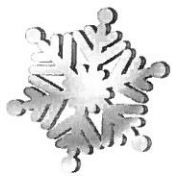


6<sup>TH</sup> GRADE  
BLIZZARD BAGS



MANCHESTER  
ELEMENTARY



# 1



## Use Algebraic Expressions

You can use an algebraic expression to help solve a word problem.  
Use a variable to represent the unknown number.

**Ina wants to serve salad at her party. She will need one head of lettuce for every 6 guests who attend. Write an expression she could use for deciding how much lettuce she needs.**

**Step 1** Decide what operation the problem uses.

Each head of lettuce will serve 6 people.  
Divide the number of guests by 6.

**Step 2** Identify the unknown number.

The problem does not state how many guests will attend. Use the variable  $g$  for the number of guests.

**Step 3** Write a word expression. Then use the word expression to write an algebraic expression.

"the number of guests divided by 6"  
 $g \div 6$  or  $\frac{g}{6}$

**Ina finds out that 18 guests will attend.  
Evaluate the expression for this number of guests.**

**Step 1** Substitute 18 for  $g$ .  $\frac{18}{6}$

**Step 2** Divide.  $\frac{18}{6} = 3$

So, Ina will need 3 heads of lettuce.

**At her last party, Ina decorated with window stickers. For this party, she wants to use 4 times as many stickers.**

1. Write an expression for the number of stickers Ina will use. (Use the variable  $s$  to represent the number of stickers she used at her last party.)

\_\_\_\_\_

2. Use the expression to find the new number of stickers if she used 14 stickers for her last party.

\_\_\_\_\_

3. Ina wants to put an equal number of stickers on each of the windows. Write an expression to show how many stickers will go on each window. (Use the variable  $w$  to represent the number of windows.)

\_\_\_\_\_

4. Use the expression to find the number of stickers for each window if there are 8 windows.

\_\_\_\_\_

Name \_\_\_\_\_

## Evaluate Algebraic Expressions and Formulas

To evaluate an algebraic expression or formula, substitute the value for the variable. Then follow the order of operations.

Evaluate  $5x + x^3$  for  $x = 3, 2, 1$ , and  $0$ .

$5x + x^3$ for $x = 3$	$5x + x^3$ for $x = 2$	$5x + x^3$ for $x = 1$	$5x + x^3$ for $x = 0$
$5 \times 3 + 3^3$	$5 \times 2 + 2^3$	$5 \times 1 + 1^3$	$5 \times 0 + 0^3$
$5 \times 3 + 27$	$5 \times 2 + 8$	$5 \times 1 + 1$	$5 \times 0 + 0$
$15 + 27$	$10 + 8$	$5 + 1$	$0 + 0$
42	18	6	0

To evaluate an expression with more than one variable, substitute each variable's value. Then follow the order of operations.

Evaluate  $4c - 7 + 2d$  for  $c = 2$  and  $d = 5$ .

$$\begin{aligned}
 &4 \times 2 - 7 + 2 \times 5 \\
 &8 - 7 + 10 \\
 &1 + 10 \\
 &11
 \end{aligned}$$

So,  $4c - 7 + 2d = 11$  for  $c = 2$  and  $d = 5$ .

Evaluate the expression for  $x = 3, 2, 1$ , and  $0$ .

1.  $13 + 6x$       2.  $5x + 2$       3.  $2x + 3 + x^2$       4.  $2x + x^2$

\_\_\_\_\_

Evaluate the expression for the given values of the variables.

5.  $7x + y + 16$  for  $x = 2, y = 3$       6.  $8a + 11 - 2b$  for  $a = 4, b = 2$       7.  $12b - 2c + 3$  for  $b = 5, c = 10$

\_\_\_\_\_

Warm-Up

1

Name \_\_\_\_\_

**Wait Until 2061**

A visitor is returning. We haven't seen this one in ages. In 2061, Halley's Comet will streak past Earth. It is named for Edmund Halley. He deduced that comets seen in 1531, 1607, and 1682 were all one in the same. He predicted its appearance in 1758. But he did not live to see it. The most ancient record of Halley's Comet comes from 1057 BCE. A Chinese book mentions it. Astronomers have noted each appearance since 239 BCE.

A comet begins as a small, icy mass far beyond Pluto in a region called the Oort Cloud. There, billions of chunks of ice water,

ice ammonia, ice methane, and dust circle the solar system. Pluto's or Neptune's gravity causes the comet to start falling toward the sun. A trail of solar particles creates a visible tail of glowing gases. The tail can stretch for thirty-five million miles! The comet goes around the sun. Then it slingshots away and races once more toward the outer solar system. Most comets never return to the solar system. However, a few are short-period comets. They return at regular intervals. Halley's Comet appears every seventy-six years. Comet Encke goes by every 3.3 years.

**Check Your Understanding**

1. From the context of the passage, what is the meaning of a short-period comet?
  - a. It returns at regular intervals.
  - b. It is never seen but once.
  - c. It is made of solar particles.
  - d. It lasts less than a year.
2. Where do comets form?
  - a. near the sun
  - b. near Jupiter
  - c. in the Oort Cloud region
  - d. near Earth
3. Which of the following is a topic sentence?
  - a. Then it slingshots away and races once more toward the outer solar system.
  - b. A comet begins as a small, icy mass far beyond Pluto in a region called the Oort Cloud.
  - c. The most ancient record of Halley's Comet comes from 1057 BCE.
  - d. Comet Encke goes by every 3.3 years.
4. Which event occurred after Halley's death and was seen as proof that the comet returned every seventy-six years?
  - a. The appearance in 1984.
  - b. The appearance in 2061.
  - c. The appearance in 1057 BCE.
  - d. The return of the comet in 1758.

/4

Warm-Up

2

Name \_\_\_\_\_

**Around the World in Seventy-Two Days**

When Jules Verne published his popular book, *Around the World in Eighty Days*, travel was still slow. To travel around the world in eighty days seemed impossible in the real world. In 1889, America's first female reporter, Nellie Bly, convinced her editor that she could beat that time and any man who tried to compete with her. On November 14, 1889, Nellie got on board the steamship *Augusta Victoria*, leaving Hoboken, New Jersey. The race against the clock began at 9:40 a.m.

She traveled to France where she met Jules Verne. They mapped out Nellie's **itinerary** to match the route in Jules Verne's book. Nellie went on to Italy. She then sailed through the newly dug Suez Canal. She sailed

from Yemen to Ceylon (now Sri Lanka) to Singapore. There, she bought a monkey who traveled the rest of the route with her. She learned that a young female reporter had been sent by a magazine and was ahead of her. This did not stop Nellie. She continued on to Hong Kong and Japan before crossing the Pacific Ocean to San Francisco.

Nellie then traveled across the southern part of the United States by train to New Jersey. She set foot on the Jersey City train station seventy-two days, six hours, and eleven minutes after starting her journey. Her amazing race made her a national heroine.

**Check Your Understanding**

- From the context of the passage, what is the meaning of **itinerary**?
  - a list of books
  - a list of destinations on a trip
  - a list of steamships
  - a list of people to meet
- What do you think Nellie did on the trip so that people knew where she was and how she was doing?
  - She sent dispatches and articles to her newspaper to be published.
  - She sent letters to the president of the United States.
  - She gave interviews to television reporters.
  - She made telephone calls to her parents.
- What did Nellie and Jules Verne discuss?
  - how he wrote the book
  - the route around the world
  - people to meet on the way
  - how to write a novel
- What can you infer from the passage about the success of Nellie's competitor?
  - She didn't finish the race.
  - She quit and went home.
  - She didn't win the race.
  - She won the race.

/4

**Cells & Organelles**

Name \_\_\_\_\_


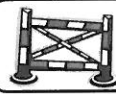










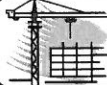
*Directions: Match the function cards and memory items by gluing them into the correct locations in the chart below.*

Organelle	Function/Description	How can I remember it?
Cell Membrane		
Cell Wall		
Cytoplasm		
Mitochondria		
Lysosomes		
Vacuoles		
Golgi Bodies		
Chloroplasts		
Endoplasmic Reticulum		
Ribosomes		
Nucleus		
Nucleolus		
Chromatin		

## Function Cards

Captures energy from the sunlight and uses it to produce food in a plant cells	Receives proteins & materials from the ER, packages them, & distributes them
Controls what comes into and out of a cell; found in plant and animal cells	Produces the energy a cell needs to carry out its functions
Gel-like fluid where the organelles are found	Assembles amino acids to create proteins
Control center of the cell; contains DNA	Stores food, water, wastes, and other materials
Found inside the nucleus and produces ribosomes	Has passageways that carry proteins and other materials from one part of the cell to another
Ridged outer layer of a plant cell	Tiny strands inside the nucleus that contain the instructions for directing the cell's functions
Uses chemicals to break down food and worn out cell parts	

## Memory Items

 Make me something sweet to eat	 Members only can come and go.	 I'm a "GOLden" packer.
 I'm a brick wall.	 I am the little nucleus.	 I'm a transport <u>ER</u> .
 I am a "mighty" power house.	 I clean things up! (Hint: Lysol)	 I'll store anything, (Hint: Vacuum Bags)
 I'm the control center.	 I'm a "tin" of information.	 Sail through my plasma.
 I make "some" nice proteins.		