6th Grade

Packet 8

All Content Area Answer Keys

1. What does Frank like to do?

A. Frank likes to study.

B. Frank likes going to seafood restaurants.

C. Frank likes to surf.

D. Frank likes taking the SAT.

2. What is the conflict that Frank has to deal with in college?

A. going surfing versus going to class

B. studying chemistry versus studying history

C. hanging out with his roommate versus hanging out with his friends

D. talking to his advisor versus talking to his parents

3. Frank enjoys surfing.

What evidence from the passage supports this statement?

A. Frank's parents own a popular seafood restaurant in New York.

B. Frank has an uncle named Jim who lives in a town north of L.A.

C. Frank is worried that he might flunk out of college in his first semester.

D. In his first month of college, Frank goes surfing every morning.

4. Why does the marine biology textbook seem full of possibility to Frank at the end of the story?

A. He realizes that a career in marine biology may allow him to spend his life around the ocean.

B. He is easily distracted from the hard, lonely work of studying the history of the Civil War.

C. He is a social, handsome guy who becomes popular in Malibu's surfing community.

D. When applying to college, Frank looks only at schools bordering the ocean on the West Coast.

5. What is this story mostly about?

A. what growing up in Montauk, New York is like

B. a trip a young man takes to California when he is 13

C. a young man who is obsessed with surfing

D. the steps involved in applying to college

6. Read the following sentence: "Needless to say, his **obsession** with surfing didn't help his grades."

What does the word **obsession** mean?

A. homework

B. weakness

C. a very strong interest in something

D. a very strong dislike of something

7. Choose the answer that best completes the sentence below.

Frank keeps skipping class; _____, Professor Blankfein gives him a call.

A. for example

B. as a result

C. namely

D. even though

8. What does Professor Blankfein tell Frank he should start thinking about?

Professor Blankfein tells Frank he should start thinking about a career in marine biology.

9. Why does Professor Blankfein tell Frank he should start thinking about a career in marine biology?

Professor Blankfein tells Frank he should start thinking about a career in marine biology because it would allow him to be in the ocean as much as he wants.

10. Should Frank drop out of college to become a full-time surfer or stay in college to study marine biology? Explain your answer with evidence from the passage.

Students may argue for either option, as long as their answers are supported by evidence from the story. Those arguing that Frank should become a full-time surfer may point out that Frank considers surfing more important to him than anything else. "'This is all I ever wanted out of life,'" he says. Conversely, students may argue that staying in college to study marine biology will serve Frank better in the long run. As his advisor indicates, such a career would allow Frank to be in the water as much as he wants.

Understanding the Four-Quadrant Coordinate Plane

➤ **For problems 1–6, plot and label each point in the coordinate plane. Name the quadrant or axis where the point is located.**

1. $A(-3, -2)$
   Quadrant III

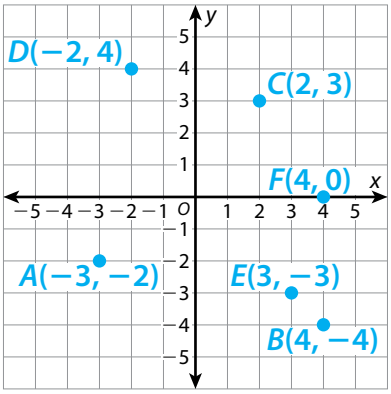
2. $B(4, -4)$
   Quadrant IV

3. $C(2, 3)$
   Quadrant I

4. $D(-2, 4)$
   Quadrant II

5. $E(3, -3)$
   Quadrant IV

6. $F(4, 0)$
   ***x*-axis**



7. If point *E* above is reflected across the *x*-axis, what would be the coordinates of the reflection? Explain.

   (3, 3); Possible explanation: Point *E* is 3 units to the right of the *y*-axis and 3 units below the *x*-axis. Its reflection is also 3 units to the right of the *y*-axis and is 3 units above the *x*-axis. That is the location of (3, 3).

8. Imagine that one of the points given in problems 1–6 has been reflected. The reflection is in Quadrant II. What are the possible coordinates of the reflected point? Explain.

   (−2, 3) or (−3, 2); Possible explanation: For the point to be in Quadrant II, it must either be a reflection of point *A* across the *x*-axis or a reflection of point *C* across the *y*-axis. If it is a reflection of point *A* across the *x*-axis, then the *x*-coordinate is the same as and the *y*-coordinate is the opposite of point *A*. If it is a reflection of point *C* across the *y*-axis, then the *x*-coordinate is the opposite of and the *y*-coordinate is the same as point *C*.

9. Bradley says that if point *B* is reflected across the *y*-axis and its reflection is then reflected across the *x*-axis, the result is point *D*. Is Bradley correct? Explain.

   Bradley is not correct. Possible explanation: When point *B* is reflected across the *y*-axis, the coordinates of the reflection are (−4, −4). When (−4, −4) is reflected across the *x*-axis, the coordinates of the reflection are (−4, 4). The coordinates of point *D* are (−2, 4).

Writing and Interpreting Algebraic Expressions

Write an algebraic expression for each word phrase or situation.

1. 12 more than 8.2 times a number n

$8.2n + 12$

2. 3 less than the quotient of 18 and a number m

$\frac{18}{m} - 3$

3. 5.6 times the sum of 4 and a number p

$5.6(4 + p)$

4. the quotient of 2 and a number x, times 3

$\frac{2}{x} \times 3$

5. Five friends split the cost of parking at an amusement park. Each of them also buys a $30 ticket. Write an algebraic expression that represents the amount of money each friend spends. Identify any variables.

p = total cost of parking;

$\frac{1}{5}p + 30$ or $\frac{p}{5} + 30$

6. A movie theater is open x hours Monday through Thursday and y hours Friday through Sunday. Write an algebraic expression that represents the number of hours per week the theater is open.

$4x + 3y$

Interpret the meaning of the algebraic expression in each problem.

7. Andrew writes the algebraic expression $2s + 2.79$ to represent the cost of his lunch. He bought 2 sandwiches and a large drink. Identify any variables, coefficients, and terms in the expression. Tell what each represents.

Variable: s represents the price of each sandwich

Coefficient: 2 represents the number of sandwiches

Terms: $2s$ represents the total cost of sandwiches; 2.79 represents the cost of the large drink

Writing and Interpreting Algebraic Expressions *continued*

8 A teacher writes the algebraic expression $24c + 5m + 19.99$ to represent the cost of supplies she purchased for her classroom. She bought 24 packages of colored pencils, 5 packages of markers, and a beanbag chair. Identify any variables, coefficients, and terms in the expression. Tell what each represents.

Variables: *c* represents the price of each package of colored pencils; *m* represents the price of each package of markers

Coefficients: 24 represents the number of packages of colored pencils; 5 represents the number of packages of markers

Terms: $24c$ represents the total cost of colored pencils; $5m$ represents the total cost of markers; 19.99 represents the cost of the beanbag chair

9 Write a situation that could be represented by the algebraic expression $3s + 2.15$.

Possible answer: Logan buys 3 sandwiches for *s* dollars each and a bottled water for $2.15.

Teacher Packet

Evaluating Algebraic Expressions

Check each answer to see whether the student evaluated the expression correctly. If the answer is incorrect, cross out the answer and write the correct answer.

Algebraic Expressions	Student Answers	
1 $5m + 26$ when $m = 3$	$5(3) + 26 = 15 + 26$ $= 31$	Possible answer: $5(3) + 26 = 15 + 26$ $= 41$
2 $8(x + 2)$ when $x = 6$	$8(6 + 2) = 48 + 2$ $= 50$	Possible answer: $8(6 + 2) = 8(8)$ $= 64$
3 $7p + 5$ when $p = 12$	$7(12) + 5 = 7(17)$ $= 119$	Possible answer: $7(12) + 5 = 84 + 5$ $= 89$
4 $q + 9p$ when $q = 18$ and $p = 4$	$18 + 9(4) = 18 + 36$ $= 54$	
5 $6w - 19 + k$ when $w = 8$ and $k = 2$	$6(2) - 19 + 8 = 12 - 19 + 8$ $= 1$	Possible answer: $6(8) - 19 + 2 = 48 - 19 + 2$ $= 31$
6 $12x + y$ when $x = 3$ and $y = 52$	$12(3) + 52 = 36 + 52$ $= 88$	

7 Check your answer to problem 2 by using a different strategy.

Possible work: $8(6 + 2) = 8(6) + 8(2) = 48 + 16 = 64$

World Regions Map Analysis – *Sample Answers*

Map #	How many regions?	What are the regions?
1	9	Anglo America Latin America Africa South of the Sahara Western Europe North Africa and SW Asia Eastern Asia Eastern Europe, Balkans and Former Soviet Union Southern Asia South Pacific
2	10	Africa Arctic Region Asia Central America Europe Middle East North America Oceania/Australia South America Southeast Asia
3	5	America Europe Africa Asia Oceania
4	6	African Region South-East Asia Region Eastern Mediterranean Region Region of the Americas European Region Western Pacific Region

Map Comparisons

Map # __***3***___ and Map # __***4***___ are similar because
they both label North and South America as one region.

Map # __***2***___ and Map # ___***3***___ are similar because
they both label Europe as a separate region.

Map # __***2***___ and Map # ___***3***____ are different because
Map 2 has 10 regions of the world and Map 3 has only half as many.

Map # __***1***___ and Map # __***2***___ are different because
Map 1 divides Asia into 3 different regions and Map 2 keeps Asia as just one region.

Neptune Reading Comprehension Worksheet Answer Key
Item 3017

Neptune

Neptune, named after the Roman god of the sea, is a large gas planet and is the eighth, and farthest, planet from the Sun. Scientists believe the atmosphere of Neptune is made up of hydrogen, helium, silicates, and water. Neptune is surrounded by clouds moving up to 700 mph. Some of the clouds are composed mostly of frozen methane, giving Neptune its blue color.

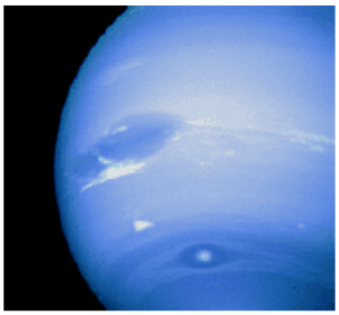


Image courtesy of http://solarsystem.nasa.gov

Neptune rotates on its axis in 16.11 hours and takes 164.69 Earth years to orbit the Sun.

Neptune has thirteen natural satellites (moons) and six rings. The rings of Neptune consist mostly of dust. Triton is Neptune's largest moon and orbits the planet in a direction opposite to Neptune's other moons. Triton orbits Neptune once every six days. Triton was the last solid object visited by NASA's Voyager 2 spacecraft as it made its way toward the edge of our solar system.

After reading the information above, fold your paper on the line and try to answer the questions below without referring back to the data. (Check the box with the correct answer.)

1. The rings of Neptune consist mostly of _____?

   ☐ water ☐ ice ☑ dust

2. How many moons does Neptune have?

   ☑ thirteen ☐ thirty ☐ thirty-six

3. How frequently does Triton orbit Neptune?

   ☐ every 16 hours ☑ every 6 days ☐ every 164 years

4. Which gas do scientist believe contributes to Neptune's blue color?

   ☑ methane ☐ hydrogen ☐ helium

5. Neptune is surrounded by fast moving _____.

   ☐ spacecraft ☐ debris ☑ clouds

1. A community of different organisms interacting between themselves and their physical environment is referred to as _____ .

   a. community
   b. a biome
   c. an ecosystem
   d. a mixture

2. Identify some nonliving parts of an ecosystem below.

   a. soil
   b. fungus
   c. rocks
   d. worms

3. What is the relationship between grasshoppers and birds in an ecosystem ?

   a. grasshoppers eat birds as food
   b. birds eat them as food
   c. there is no relationship between the two
   d. birds incubate the eggs of grasshoppers

4. What is the main source of energy in an ecosystem ?

   a. rocks
   b. grass
   c. the soil
   d. the sun

5. Identify a primary producer in an ecosystem from below.

   a. goat
   b. grass
   c. cow
   d. cricket

6. Organisms that break down dead animals and plants and convert them into nutrients are called _____ .

   a. decomposer
   b. omnivores
   c. carnivores
   d. scavenger

6th Grade Science: Motion

Answer Key

Directions: Use this Answer Key to solve Motion printables.

Crossword:

1. work
2. friction
3. simple machine
4. compound machine
5. mechanical advantage
6. speed
7. efficiency
8. velocity
9. motion
10. acceleration