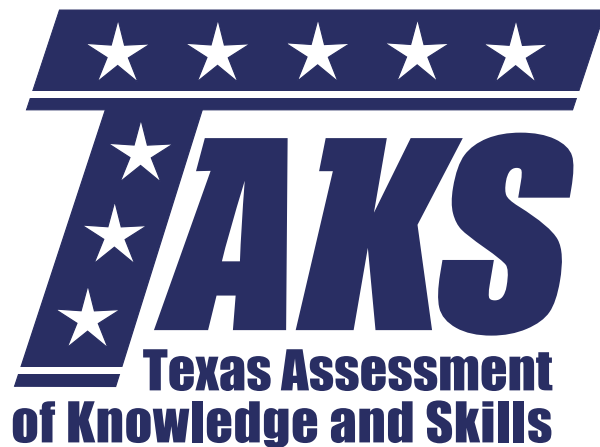


STUDENT NAME _____



**GRADE 5
MATHEMATICS
READING
SCIENCE**

Administered Spring 2004

MATHEMATICS

Mathematics Chart

LENGTH

Metric

1 kilometer = 1000 meters

1 meter = 100 centimeters

1 centimeter = 10 millimeters

Customary

1 mile = 1760 yards

1 mile = 5280 feet

1 yard = 3 feet

1 foot = 12 inches

CAPACITY AND VOLUME

Metric

1 liter = 1000 milliliters

Customary

1 gallon = 4 quarts

1 gallon = 128 ounces

1 quart = 2 pints

1 pint = 2 cups

1 cup = 8 ounces

MASS AND WEIGHT

Metric

1 kilogram = 1000 grams

1 gram = 1000 milligrams

Customary

1 ton = 2000 pounds

1 pound = 16 ounces

TIME

1 year = 365 days

1 year = 12 months

1 year = 52 weeks

1 week = 7 days

1 day = 24 hours

1 hour = 60 minutes

1 minute = 60 seconds

Metric and customary rulers can be found on the separate Mathematics Chart.

Continued on the next page

Mathematics Chart

Perimeter	square	$P = 4s$
	rectangle	$P = 2l + 2w$ or $P = 2(l + w)$
Area	square	$A = s^2$
	rectangle	$A = lw$ or $A = bh$
	triangle	$A = \frac{1}{2}bh$ or $A = \frac{bh}{2}$

DIRECTIONS

Read each question. Then fill in the correct answer on your answer document. If a correct answer is not here, mark the letter for “Not here.”

SAMPLE A

Which digit is in the thousands place in the number 4,861,392?

- A 6
- B 4
- C 1
- D Not here

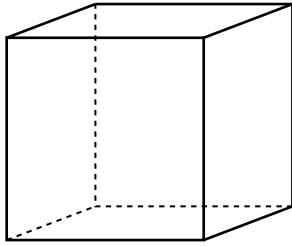
SAMPLE B

Joey has 8 books. Roberto has twice as many books as Joey has. How many books does Roberto have?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.



- 1 Look at the figure below.



Which statement about this figure is true?

- A The figure has exactly 6 faces.
- B The figure has exactly 6 edges.
- C The figure has exactly 7 vertices.
- D The figure has no parallel lines.

- 2 A restaurant has 38 tables. Each table can seat 4 people. If every table is full, how many people are seated in the restaurant at the same time?

- F 34
- G 42
- H 122
- J 152

- 3 Jon is 8 years old. His brother Tom is 2 years older than Jon, and their brother Henry is twice as old as Tom. Which number sentence could be used to find h , Henry's age?

- A $8 \times 2 = h$
- B $(8 + 2) \times 2 = h$
- C $(8 + 2) \div 2 = h$
- D $8 \times 2 \div 2 = h$

- 4 Lisa has \$5.50 to buy supplies to make a birthday dessert for her mother. She can choose among the supplies listed in the table below. All prices include tax.

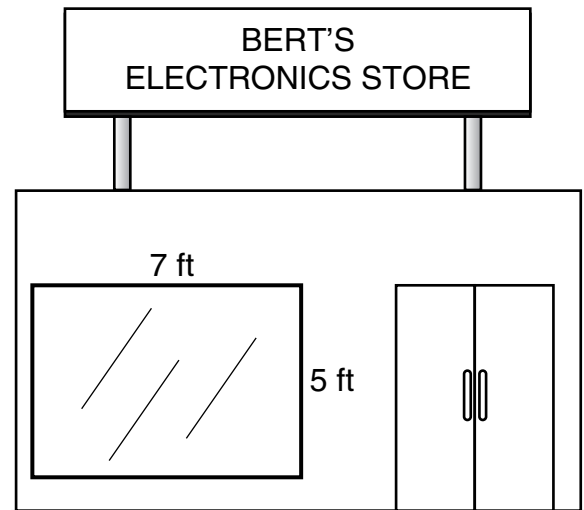
Birthday Dessert

Supplies	Price
Cake mix	\$1.89
Frosting	\$2.29
Candles	\$0.99
Brownie mix	\$2.49
Cookie dough	\$1.99
Chocolate chips	\$1.99

Which of the following combinations of supplies does she **NOT** have enough money to buy?

- F Brownie mix, chocolate chips, and candles
- G Cookie dough, frosting, and candles
- H Brownie mix, frosting, and candles
- J Cake mix, frosting, and candles

- 5 Bert's Electronics Store is having a sale. To advertise the sale, the store manager wants to outline the store window with colorful ribbon.



How many feet of ribbon will be needed to outline the 4 sides of the window?

- A 35 ft
- B 24 ft
- C 19 ft
- D 17 ft

- 6 Mr. Moore's students raised \$109.57 the first week and \$35.62 the second week of a school project. To determine whether they are halfway to their goal of \$450.00, what should the students do?
- F Add \$109.57 and \$35.62 and compare the sum to \$450.00 divided by 2
 - G Subtract \$35.62 from \$109.57 and compare the difference to \$450.00 divided by 2
 - H Multiply \$109.57 by \$35.62 and compare the product to \$450.00 divided by 2
 - J Divide \$109.57 by \$35.62 and compare the quotient to \$450.00 divided by 2

7 Which relationship between units of time is correct?

- A One hour is $\frac{1}{365}$ of one year.
- B One year is $\frac{1}{365}$ of one hour.
- C One second is $\frac{1}{60}$ of one minute.
- D One minute is $\frac{1}{60}$ of one second.

8 Each week Leanne spends the same amount of money to buy her lunch at school. She keeps a list in her notebook of how much money she has spent on lunches since the school year began. The table shows part of her list.

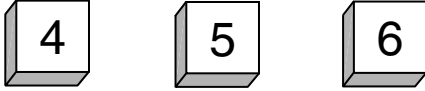
Leanne's Lunches

Week of School	Total Amount Spent
6	\$60
7	\$70
8	\$80
9	\$90

Which is **NOT** a way to find how much money Leanne spends on lunches each week?

- F Divide \$90 by 9
- G Divide \$60 by 6
- H Subtract \$60 from \$90
- J Subtract \$70 from \$80

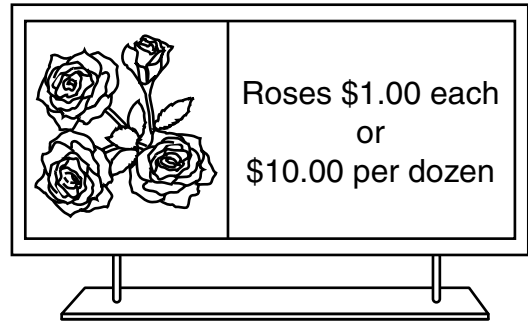
- 9 Yushiqua rolled 3 fair number cubes, and the numbers shown below came out on top.



If each number is used only once, which group shows all the 3-digit numbers that can be made with these digits?

- A 456, 565, 654
 - B 456, 546, 654, 645
 - C 456, 465, 564, 654, 546
 - D 456, 465, 564, 546, 645, 654
- 10 Carrie has 300 coins in her collection. She has 125 more coins than Michael and 50 fewer coins than Sara. How many coins does Michael have?
- F 175
 - G 250
 - H 350
 - J 475

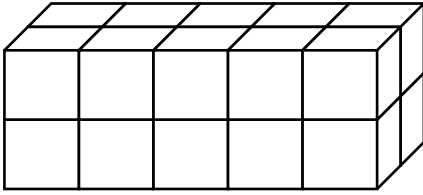
- 11 A florist posted the sign below in his store window.



Sharla's mother needs to buy 3 dozen roses for Sharla's sister's wedding. According to the sign, how much will she save by buying the roses by the dozen instead of individually?

- A \$10.00
- B \$8.00
- C \$6.00
- D \$5.00

- 12 A rectangular prism made of 1-centimeter cubes is shown below.



What is the volume of this rectangular prism?

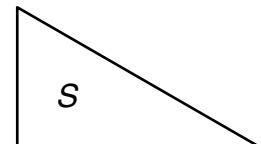
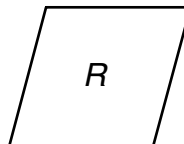
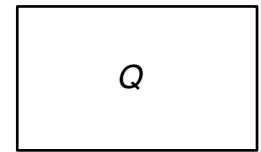
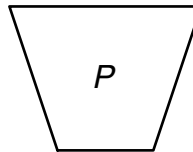
- F** 4 cm^3
G 9 cm^3
H 10 cm^3
J 20 cm^3
- 13 Clyde and Anita were making barbecue sauce. Clyde's recipe called for $\frac{1}{2}$ cup of honey, and Anita's recipe called for $\frac{3}{16}$ cup of honey. Which shows the correct relationship between these fractions?

- A** $\frac{1}{2} > \frac{3}{16}$
B $\frac{1}{2} = \frac{3}{16}$
C $\frac{3}{8} > \frac{1}{4}$
D $\frac{1}{2} < \frac{3}{16}$

- 14 The Milky Way galaxy has about 200,000,000,000 stars. How is this number written in words?

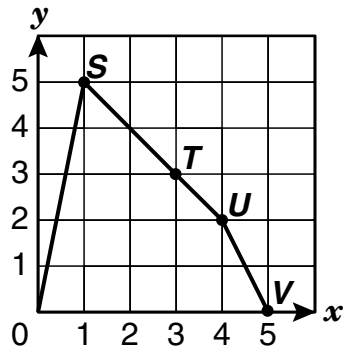
- F** Two hundred thousand
G Two hundred million
H Two hundred billion
J Two hundred trillion

- 15 Which statement about the figures shown below is true?



- A** Figures *R* and *S* are congruent.
B Figures *Q* and *S* each have parallel sides.
C Figures *P* and *R* each have at least 2 obtuse angles.
D Figures *S* and *P* each have all acute angles.

16 The graph shows a figure with 4 points labeled.



Which table shows the coordinates of these 4 points?

F

Point	<i>S</i>	<i>T</i>	<i>U</i>	<i>V</i>
<i>x</i>	1	3	4	5
<i>y</i>	5	3	2	1

G

Point	<i>S</i>	<i>T</i>	<i>U</i>	<i>V</i>
<i>x</i>	5	3	2	0
<i>y</i>	1	3	4	5

H

Point	<i>S</i>	<i>T</i>	<i>U</i>	<i>V</i>
<i>x</i>	5	3	2	0
<i>y</i>	1	3	2	0

J

Point	<i>S</i>	<i>T</i>	<i>U</i>	<i>V</i>
<i>x</i>	1	3	4	5
<i>y</i>	5	3	2	0

- 17 Look for the pattern in the sequences of numbers below.

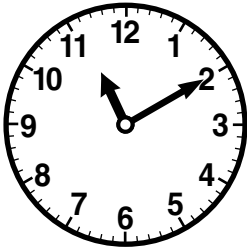
2, 4, 6, 8, 10

7, 14, 21, 28, 35

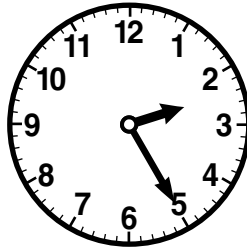
11, 22, 33, 44, 55

Each sequence is an example of which kind of numbers?

- A Even numbers
 - B Multiples
 - C Primes
 - D Odd numbers
- 18 Jesse's father ran a race from 11:10 A.M. to 2:25 P.M., as shown on the clocks below.



Start

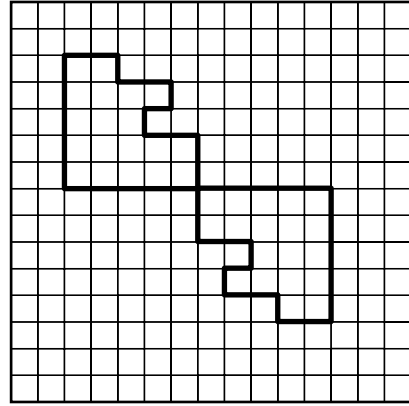


Finish

For how many hours and minutes did Jesse's father run?

- F 3 h 5 min
- G 3 h 10 min
- H 3 h 15 min
- J 3 h 20 min

- 19 Which transformation is represented in the diagram?



- A Reflection
- B Translation
- C Rotation
- D Not here

- 20 The table below shows the populations of 5 different cities.

City Populations

City	Population
Seaside	50,235
Oceanside	45,006
Lakeside	71,213
Mountainside	67,250
Riverside	32,701

Which city in the table represents the median population?

- F Seaside
- G Oceanside
- H Mountainside
- J Riverside

- 21 Bart's drama club put on a play. There were 843 people in the audience. Each ticket to the play cost \$8. The audience was seated in 3 sections. If each section had the same number of people in it, how many people were in each section?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

22 Mr. LaSalle is buying ice-cream bars for the 8 dozen fifth graders at his school. The ice-cream bars are packaged 10 to a box. What is the least number of boxes he can buy so that each fifth grader gets at least 1 ice-cream bar?

F 12

G 10

H 9

J 8

23 Erin's brother weighed 6 pounds 5 ounces when he was born. How many ounces did her brother weigh when he was born?

A 5 oz

B 96 oz

C 101 oz

D 176 oz

24 A basketball team scored 48 baskets in 1 game. Each basket was worth one or two points. If the team scored 84 points, how many one-point baskets and two-point baskets did it score?

F 6 one-point baskets, 42 two-point baskets

G 12 one-point baskets, 36 two-point baskets

H 16 one-point baskets, 32 two-point baskets

J 20 one-point baskets, 32 two-point baskets

25 Marcie has 11 letter cards that spell the word *MISSISSIPPI* when put together. If she picks 1 card without looking, what is the probability that it will have the letter *S* on it?

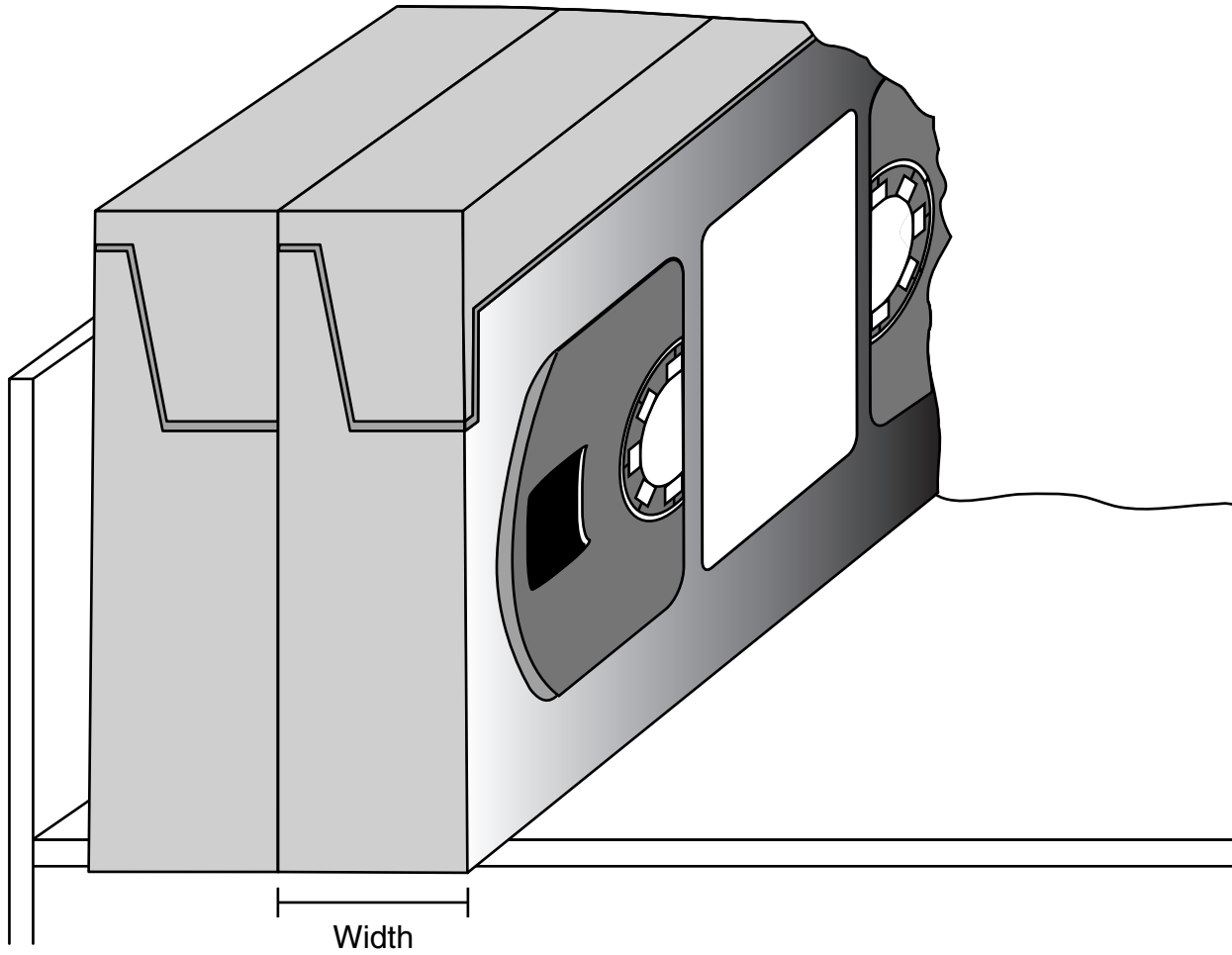
A $\frac{4}{7}$

B $\frac{3}{7}$

C $\frac{4}{11}$

D $\frac{7}{11}$

- 26 Stella stores videotapes side by side on a shelf, as shown below. Use the ruler on the Mathematics Chart to measure the width in inches of one videotape.



If the shelf is 3 feet long, what is the greatest number of videotapes that Stella can store on the shelf?

- F** 12
- G** 24
- H** 36
- J** 48

- 27 The list below contains the 8 factors of which number?

2, 18, 9, 54, 6, 27, 3, 1

- A 18
- B 24
- C 54
- D 27

- 28 The table shows the results of 18 spins Jules made with a spinner.

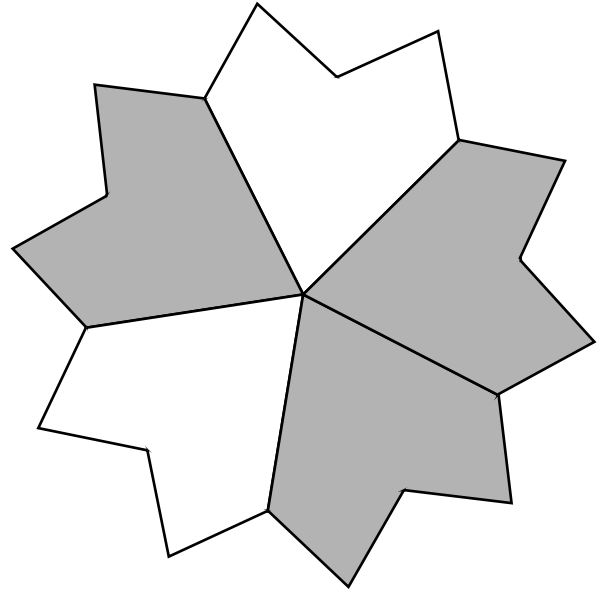
Spinner Results

Fruit	Number of Spins
Grape	5
Apple	4
Orange	6
Pear	3

Based on these results, what is the probability that Jules's spinner will land on the apple on his next spin?

- F $\frac{2}{9}$
- G $\frac{1}{4}$
- H $\frac{2}{7}$
- J $\frac{1}{3}$

- 29 Alma shaded $\frac{3}{5}$ of her design.



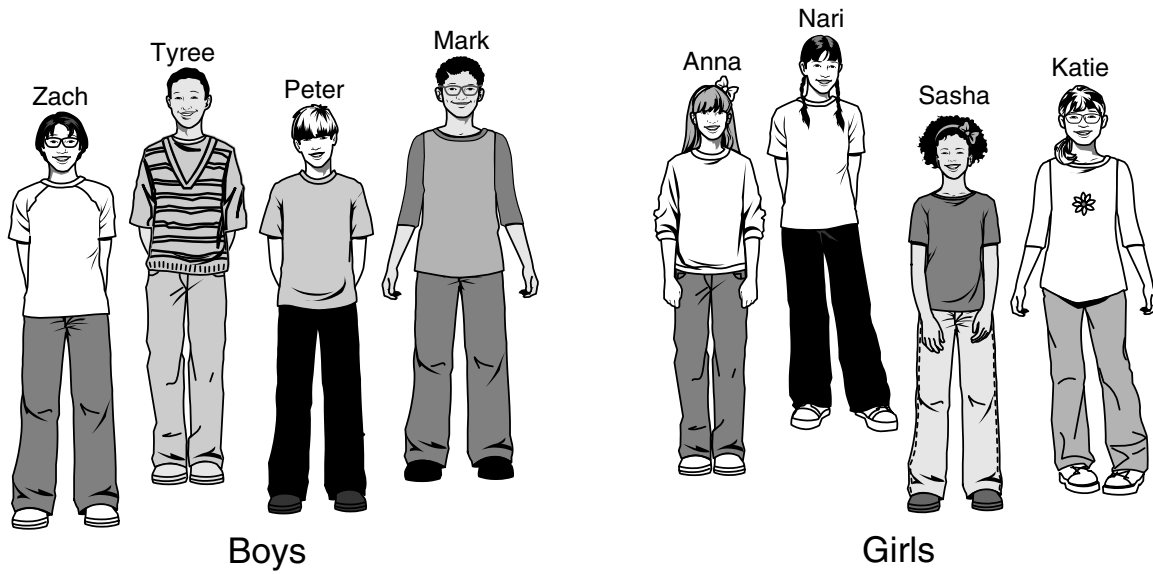
Which decimal number represents the shaded part of her design?

- A 0.6
 - B 0.06
 - C 0.006
 - D 0.0006
- 30 Which shape could never have parallel sides?

- F Rhombus
- G Triangle
- H Octagon
- J Pentagon

- 31 The fractions $\frac{2}{4}$, $\frac{3}{6}$, $\frac{4}{8}$, and $\frac{5}{10}$ are each equivalent to $\frac{1}{2}$. What is the relationship between the numerator and denominator in each fraction that is equivalent to $\frac{1}{2}$?
- A The numerator is twice the denominator.
 - B The denominator is twice the numerator.
 - C The numerator is 2 more than the denominator.
 - D The denominator is 2 more than the numerator.

- 32 Ally has to choose teams of 2 people for a game. Each team must have 1 boy and 1 girl on it. The people from whom Ally can choose are shown below.



How many different team combinations are possible using these boys and girls?

- F** 16
G 8
H 12
J 4
-
- 33 Which of the following numbers is less than 6.001?
- A** 6.011
B 6.0
C 6.101
D 6.1

34 Vanessa poured 250 milliliters of water into a flowerpot. What fractional part of a liter is 250 milliliters?

F $\frac{1}{2}$

G $\frac{1}{3}$

H $\frac{1}{4}$

J $\frac{1}{25}$

35 Which group shows all the numbers that are common factors of 36 and 48?

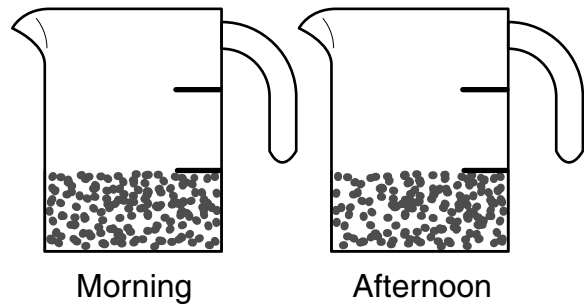
A 1, 2, 3, 4, 6

B 1, 2, 3, 4, 6, 12

C 1, 2, 3, 4, 6, 9, 12, 18

D 1, 2, 3, 4, 6, 8, 12, 16, 24

36 Pat gives his pet rabbit $\frac{1}{3}$ cup of dry food in the morning and $\frac{1}{3}$ cup of dry food in the afternoon, as shown in the measuring cups below.



How much dry food does he give his rabbit each day?

F $\frac{1}{3}$ c

G $\frac{2}{3}$ c

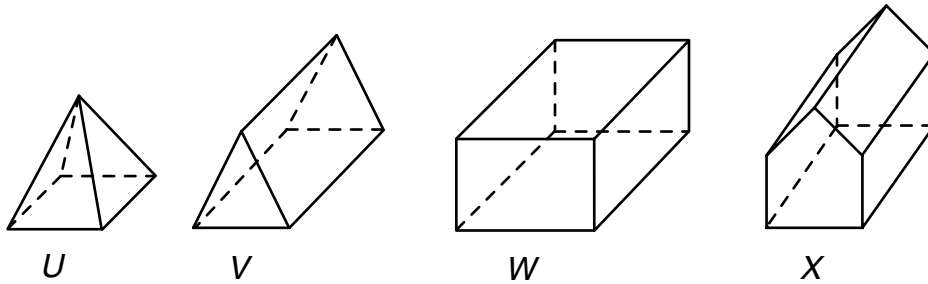
H $\frac{1}{2}$ c

J 1 c

- 37** A track team ran 4 miles in 36 minutes. Which shows how to find the number of minutes it would take the track team to run 20 miles?
- A** $36 \div 4 = 9$, so $9 \times 20 = 180$ minutes
 - B** $4 \times 9 = 36$, so $9 \times 36 = 324$ minutes
 - C** $36 \div 4 = 9$, so $4 \times 36 = 144$ minutes
 - D** $4 \times 5 = 20$, so $5 \times 20 = 100$ minutes

- 38** A school basketball team won 8 of the 20 games it played. What fraction of its games did the team win?
- F** $\frac{1}{28}$
 - G** $\frac{1}{12}$
 - H** $\frac{2}{5}$
 - J** $\frac{5}{2}$

39 Which figure below has 10 vertices?



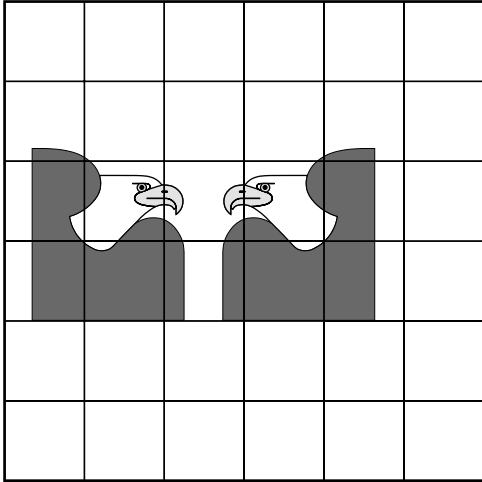
- A Figure *U*
- B Figure *V*
- C Figure *W*
- D Figure *X*

40 Juan bought 4 packets of notebook paper for school last year. Each packet contained 500 sheets of paper. He used about 20 sheets of paper each week. What information is needed to find the approximate number of sheets of paper Juan had left after the school year was over?

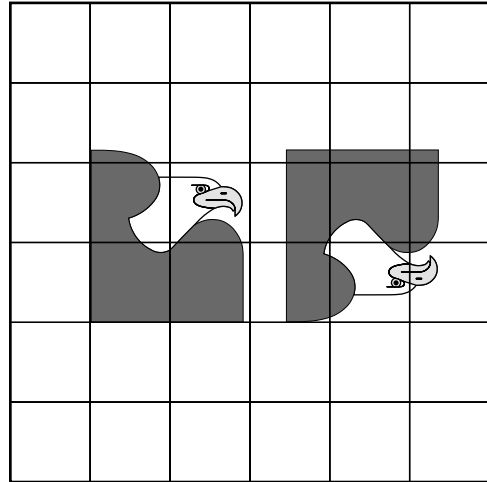
- F The number of hours Juan did homework every day
- G The number of classes Juan had
- H The number of students in Juan's grade
- J The number of weeks in the school year

41 Which pair of eagle pictures shows a translation?

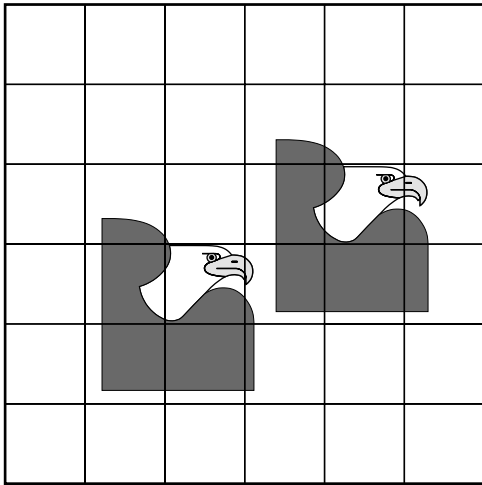
A



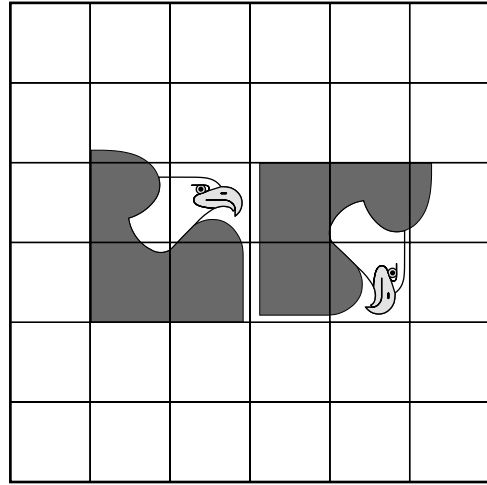
C



B



D



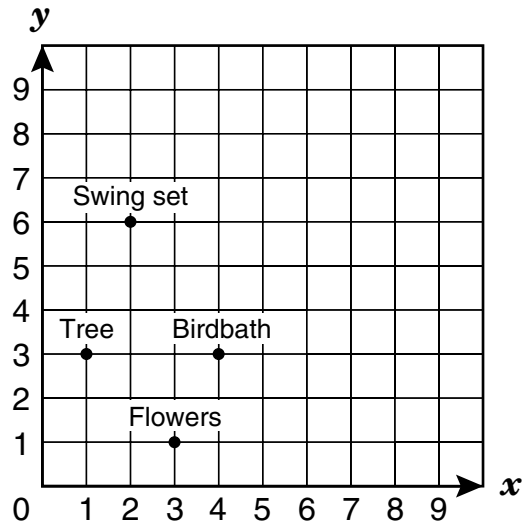
42 A parking lot has 6 rows, with 24 spaces in each row. If 83 spaces are occupied, which of the following shows a way to find the number of empty spaces in the parking lot?

- F Add 24 to the product of 83 and 6
- G Add 83 to the product of 24 and 6
- H Subtract 24 from the product of 83 and 6
- J Subtract 83 from the product of 24 and 6

43 Mr. Lyons bought a computer that was on sale for \$816. The regular price of the computer was \$1,395. Which is the best estimate of the amount of money Mr. Lyons saved by buying the computer on sale?

- A \$500
- B \$600
- C \$1,400
- D \$2,200

44 Jordan made the grid below to show the location of some things in his yard.



Which ordered pair best represents the point on the grid labeled “Tree”?

- F (2, 6)
- G (3, 1)
- H (1, 3)
- J (4, 3)

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS
ON THE ANSWER DOCUMENT.



READING

A Lasting Impression

- 1 Seventeen-year-old Vinnie Ream's steps echoed down the long marble halls as she approached President Abraham Lincoln's office. It was the middle of the day—time for the president's half hour of relaxation. This half hour he spent in quiet, thinking or reading.
- 2 Vinnie opened the door of the office and quietly walked to the corner where her supplies were stored. She tied her apron around her waist and gathered her tub of clay and her tools. Then she removed the towel that covered the beginnings of a clay head and shoulders. Vinnie had draped the wet towel over the clay sculpture to keep it from drying out overnight.
- 3 President Lincoln was already reclining in his favorite chair. Most days he leaned back in his chair, his long legs stretched out in front of him. Some days he read. Other times he closed his eyes, rested his chin on his chest, and sat as still as a sleeping giant. He usually said nothing.
- 4 Each day for weeks Vinnie had studied Lincoln's expressions during his half-hour break. She was a sculptor known for more than her ability to shape the eyes, nose, and mouth of each of her subjects. The sculptures also captured their expressions and moods. Her sculptures of people seemed to say "I am worried" or "I am proud."
- 5 As she worked, Vinnie thought of the contrast between Lincoln and herself. The president stood six feet four inches tall, while Vinnie was barely five feet tall. He was the leader of a nation; she was just a student of sculpture. She often replayed the events in her mind of how her dream of sculpting Lincoln had come true.
- 6 Vinnie had been working at an art studio in the U.S. Capitol in Washington, D.C. There she was learning the art of sculpting from master sculptor Clark Mills. Congressman James Rollins, a family friend, had introduced Vinnie to Mills. Recognizing that she had natural talent, Mills asked Vinnie to become his student helper. From time to time, Congressman Rollins stopped by to check on her progress. "How is my favorite sculptor doing today?" he asked one day.

7 “I’ve learned a great deal,” Vinnie replied, “but each day I dream of one day sculpting a likeness of the president.” Vinnie looked up from her work and sighed, “I know, I know, I’m just a dreamer.”

8 “And a wonderful dream it is!” Rollins agreed.

9 Later that day Rollins asked Lincoln whether he would allow Vinnie to sculpt his likeness. At first Lincoln declined. He was still recovering from the death of his young son Willie. He told Rollins that he was in no mood to be stared at by anyone.

10 After talking for a while longer, though, Rollins finally won Lincoln over. Lincoln agreed to allow Vinnie to work quietly in his office for a half hour each day. Soon, her clay and tools were moved to a corner of the president’s office. The idea of making a sculpture of the president thrilled Vinnie.

11 However, once she began working, Vinnie quickly became discouraged. She couldn’t get Lincoln’s expression right. He often stared out the window while she worked. She could see his melancholy expression grow even darker. “What makes him so unhappy?” Vinnie wondered.

12 Then one day, for the first time, Lincoln watched Vinnie as she worked. Finally he spoke. “You remind me of my son Willie. He liked reading books, and he was artistic.” Lincoln then stood up and walked to the window. On his face the same look appeared that Vinnie had seen so many times before. This time she knew what it meant. When Lincoln stared out the window, he saw the empty lawn where his son Willie had played.



Vinnie Ream poses next to her sculpture of Abraham Lincoln.

Vinnie bent quickly over her work, and Lincoln’s image began to appear in the clay.

13 Each day when she uncovered her sculpture, Vinnie’s satisfaction grew. She could see that she had perfected Lincoln’s features—the large nose, the bushy eyebrows, the sunken cheeks. Everything was right. The eyes were sad but determined. The expression was perfect. It was Abraham Lincoln—the gentleman, the father, the president.

14 Finally, on April 13, 1865, nearly five months after she had started, Vinnie announced, “I believe I’m done.” It was a happy day, but a sad one, too. She knew her daily visits to Lincoln’s office would end.

15 *The next night, Abraham Lincoln was assassinated while attending a play at Ford’s Theater. Vinnie Ream was later chosen from among many fine sculptors to do a life-size statue of Lincoln. She used the sculpture of his head for the statue, which now stands in the Rotunda of the U.S. Capitol in Washington, D.C.*

Photograph courtesy of © CORBIS.

- 1 Why did Vinnie become frustrated as she began her work?
- A She was having a difficult time getting her sculpture the way she wanted it.
 - B She didn't think Lincoln was happy with her work.
 - C She was too nervous to do her work.
 - D She didn't feel comfortable working with Lincoln.

- 2 According to the story, why did Clark Mills ask Vinnie to be his student helper?
- F He had seen her sculpture of the president.
 - G He needed help on a sculpture of the president.
 - H He had heard that Vinnie was a famous sculptor.
 - J He saw that Vinnie had natural artistic ability.

- 3 Which words from the story help the reader know what the word reclining means in paragraph 3?

- A *long legs*
- B *leaned back*
- C *rested his chin*
- D *sat as still*

- 4 Based on information in the story, the reader can conclude that Lincoln —
- F never got to see his statue in the Rotunda
 - G was upset that the sculpture took so long to finish
 - H never liked the sculpture Vinnie made
 - J was sad that Vinnie wasn't coming to see him anymore

- 5 Why was Lincoln unhappy when he looked out the window of his office?
- A He was bored and wished Vinnie would hurry.
 - B He was remembering his son, who had recently died.
 - C He didn't like the way his sculpture was turning out.
 - D He wanted to be outside instead of posing for the sculpture.

- 6 What is the most likely reason why the author wrote this story?
- F To persuade the reader to go to the U.S. Capitol and see Vinnie's sculpture
 - G To tell a story about how a sculptor created a piece of history
 - H To share information about Lincoln
 - J To show how to become a famous sculptor

- 7 Which sentence from the story tells the reader that Vinnie was a talented sculptor?
- A *The sculptures also captured their expressions and moods.*
 - B *As she worked, Vinnie thought of the contrast between Lincoln and herself.*
 - C *Vinnie had been working at an art studio in the U.S. Capitol in Washington, D.C.*
 - D *“How is my favorite sculptor doing today?”*

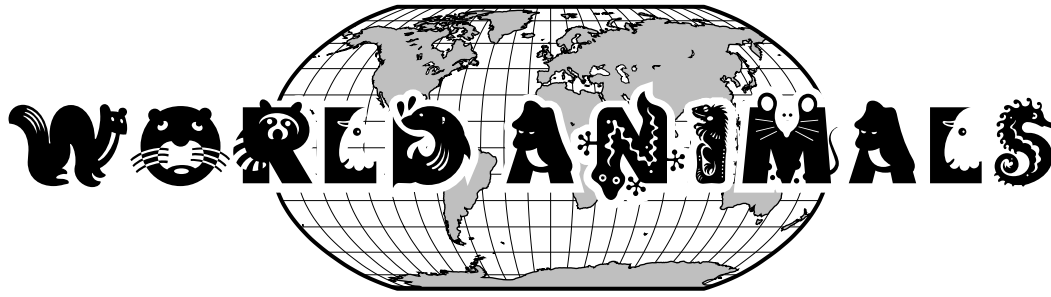
- 8 Why was Vinnie sad when her sculpture was finished?
- F She wasn't sure whether she would have another sculpting job.
 - G She knew she would not be able to visit Lincoln anymore.
 - H She wasn't happy with the way the sculpture looked.
 - J She knew Lincoln didn't like her work.

- 9 What does the word melancholy mean in paragraph 11?
- A Frightened
 - B Angered
 - C Saddened
 - D Concerned

- 10 What is paragraph 5 mainly about?
- F Why Vinnie and Lincoln became friends
 - G How Vinnie came to sculpt Lincoln
 - H How Vinnie and Lincoln were different
 - J Why Vinnie dreamed of sculpting Lincoln's likeness

- 11 The reader can conclude that Lincoln —
- A valued his relaxation time
 - B collected many of Vinnie's sculptures
 - C liked having people in his office
 - D knew Vinnie's family well

- 12 Based on information about Vinnie, which of the following represents something she probably would not have done?
- F Continue to create sculptures
 - G Become an art teacher
 - H Sculpt other presidents
 - J Ask for her sculpture back



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Volume 1

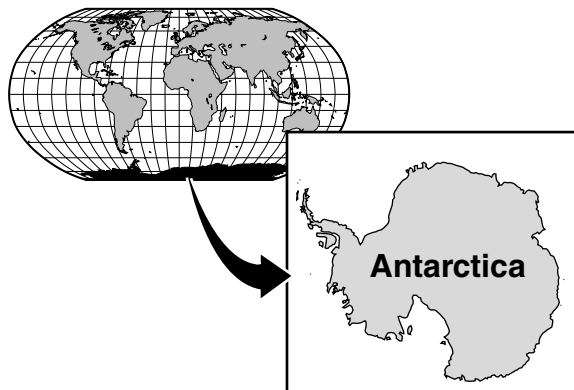
Emperors of the Antarctic

by Lynda Norwood

- 1 A large male emperor penguin waddles slowly across the ice to the water. He dives deep into the chilly salt water and then springs back onto the ice. Nearby a female penguin sleeps as her baby rests on the tops of her feet. A group of smaller, younger penguins gather together in a circle to keep warm. The penguins are enjoying another beautiful day of sunshine and freezing temperatures in the Penguin Encounter, a special home built just for them in sunny California.
- 2 The Penguin Encounter is located at Sea World in San Diego, California. It is the home of several hundred penguins. The Penguin Encounter was built to help study the emperor penguin, the largest of all penguins. The emperor penguin's natural home is in the Antarctic, near the South Pole. Because of changes in the environment, scientists are concerned about the future of the emperor's home. Increases in Earth's temperatures, called global warming, could cause large amounts of



A baby penguin rests on its mother's feet.



ice to break up and float into the ocean. Scientists fear that this drastic change in the environment could destroy many of the emperor's nesting areas. This would cause the number of emperor penguins to greatly decrease. A new home for them seemed to be the perfect answer.

■ see Emperors, page 2

Photograph courtesy of © Wolfgang Kaehler/CORBIS.

3 Scientists wanted to make the Penguin Encounter a comfortable home for the black-and-white feathered birds. A team of scientists was sent to the Antarctic to learn more about the emperor penguin. Scientist Frank Todd led the team. Todd is an expert on birds, especially penguins. He has spent more than 25 years studying them.

4 Getting close enough to the emperor penguins in the Antarctic wasn't difficult for the group of scientists. The penguins were quite curious. Sometimes they would waddle close to Todd and his team. The scientists deduced that this behavior could be the result of poor eyesight. Penguins are nearsighted, which allows them to see better in the water than on land. Another possible reason for their behavior was that they had little to fear on the ice. Their enemies, such as leopard seals and killer whales, hunt mainly in the water.

5 Todd and his team spent many months studying the diet and social habits of the emperor penguins. It was easy to get close to the penguins, but it wasn't easy to study them in the Antarctic. The temperature rarely rises above zero degrees—perfect weather for penguins but not for scientists. Once Todd and his team had finally gathered enough information, they made plans for a new home in California for a number of emperor penguins. Scientists hoped to study the birds in conditions that were more scientist-friendly.

6 To make this new home fit the needs of the penguins, scientists had to make a world much like the real Antarctic. First it had to be cold—very cold—just like the Antarctic. The



Emperor penguins play on the ice.

penguins' home was built inside a giant room that was kept as cold as a freezer. The room was filled with thousands of pounds of ice. Two saltwater pools were also included. Special lights were made to mimic the light conditions in the Antarctic. The lights were put on timers so that they grew brighter and then dimmer over the course of a day, just like the natural light in the Antarctic.

When the "new Antarctic" was complete, Todd and his team brought several hundred emperor penguins to California from the Antarctic. To keep the penguins comfortable during the trip, the temperature in the plane's cargo bay was kept below zero. Once in California, the penguins quickly adjusted to their new environment. It took no time at all before they were sliding headfirst across the ice into the pools of water.

The penguins' new home is now open to the public. Visitors can see the emperors in a setting much like their natural home. The Penguin Encounter is a great place to get a close look at some cool birds.

7

8

Photograph courtesy of © Wolfgang Kaehler/CORBIS.

- 13 Why did scientists need to study penguins in the Antarctic before building the Penguin Encounter?
- A The scientists were afraid the penguins' homes would be destroyed before the Penguin Encounter was finished.
 - B The scientists wanted to make the Penguin Encounter as much like the penguins' natural home as they could.
 - C The scientists wanted to see how the penguins reacted to global warming before taking them to sunny California.
 - D The scientists knew it would take many years to capture several hundred penguins for the Penguin Encounter.

- 14 A common idea throughout this article is the importance of —
- F learning more about the emperor penguin
 - G finding a way to stop global warming
 - H visiting the emperor penguins at Sea World
 - J working as a team in the Antarctic

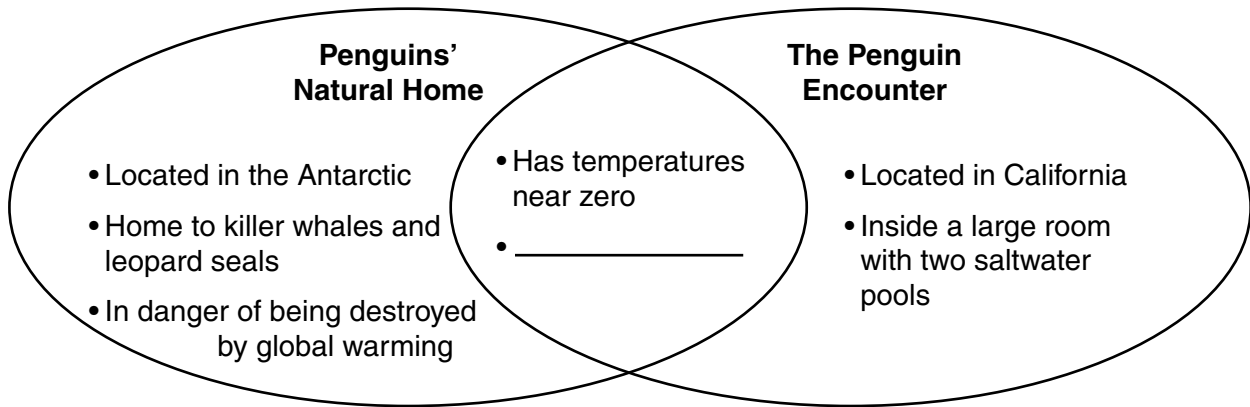
- 15 Scientists think one reason they are able to get close to penguins is that the penguins —
- A are used to scientists after 25 years
 - B have poor vision
 - C are too busy playing to notice them
 - D have been treated well

- 16 In paragraph 2, what does the word drastic mean?
- F Extreme
 - G Important
 - H Exact
 - J Uncomfortable

- 17 What can the reader tell about emperor penguins from this article?
- A It is difficult for them to survive in warm temperatures.
 - B They aren't very good swimmers.
 - C It is possible they will attack scientists who get too close to them.
 - D They can be kept at the Penguin Encounter only for a short time.

- 18 Which sentence from this article shows that the penguins are happy in their new home?
- F *Sometimes they would waddle close to Todd and his team.*
 - G *It was easy to get close to the penguins, but it wasn't easy to study them in the Antarctic.*
 - H *It took no time at all before they were sliding headfirst across the ice into the pools of water.*
 - J *The penguins' new home is now open to the public.*

19 Look at the diagram of information from this article.



Which detail belongs on the blank line?

- A Specially built by scientists
- B Located near the South Pole
- C Where scientists study penguins
- D Includes special lights on timers

20 Which sentence from this article shows that scientists think penguins might be harmed by global warming?

- F *This would cause the number of emperor penguins to greatly decrease.*
- G *The temperature rarely rises above zero degrees—perfect weather for penguins but not for scientists.*
- H *First it had to be cold—very cold—just like the Antarctic.*
- J *The room was filled with thousands of pounds of ice.*

21 Why do penguins have little to fear on the ice?

- A Their enemies usually hunt in the water.
- B It is easy to see their enemies on the white ice.
- C They can easily slide to safety on the smooth ice.
- D It is too cold for other animals to survive on the ice.

Fighting Fires

Rosie lives in a small Texas town. Her town has no paid firefighters. Instead, the town has a volunteer fire department. The volunteers are a group of men and women who have learned how to fight fires and help out when needed.

- 1 When Rosie came home from school, she was greeted by the sight of her father in the kitchen. He hadn't shaved. The corners of her mouth turned down.
- 2 "How did the job hunting go today?" Rosie asked.
- 3 "There's nothing out there right now," Dad answered.
- 4 Three weeks ago the machine-repair shop where Rosie's father had worked for years had closed down. At first her father had been optimistic that he could quickly find a new job. But the days had passed without any offers. Rosie's mother had just taken a second job part-time to help support the family.
- 5 "I'm just starting dinner," Dad said. "You want to help?"
- 6 "Sorry, I have homework," Rosie said. She poured herself a glass of juice, went into her room, and shut the door.
- 7 Rosie usually loved helping in the kitchen, but she didn't want her father to see how worried she was. Rosie's mother was doing O.K. for the family, but her second job was only temporary. It would last only until October. Rosie knew her father was looking everywhere for a job, but he just wasn't having any luck. She didn't know what would happen if he didn't find a job. To top it all off, she had to deal with the kids at school. She didn't want anyone feeling sorry for her.
- 8 After Rosie had finished her homework, she started writing about the day's events in her diary. At the top of the page, she wrote, "What will happen if Dad can't find a job?" She was just beginning to write about her fears when she heard her father shout, "Rosie! I just heard on the CB radio that Mr. Becket's barn is on fire, and Mike said it's bad. You're going to have to come with me. Get a jacket and shoes on while I leave a note for your mom."

- 9 For as long as Rosie could remember, her father had been a member of the town's volunteer fire brigade. In all those years he had never failed to respond to a call to fight a fire. Rosie couldn't believe she was actually going to be at the fire with him and the other volunteers. Tossing her pen and journal onto her bed, Rosie quickly scrambled to put on warm clothes. She ran into the hall.
- 10 As Rosie and her father drove onto Mr. Becket's land, she saw a reddish glow in the sky. They hopped out of their truck, and Dad threw on his firefighter's jacket. Snapping the strap of his helmet under his chin, he rushed over to help aim the heavy hose of the town's only fire truck. All 10 of the town's volunteer firefighters were there. They shouted to one another as they ran back and forth, throwing buckets of water on the fire and beating out the flames that were trying to spring up outside the barn. Rosie had never seen a fire raging like this one. It was like a hungry monster with a thousand yellow arms. The arms kept grabbing at the wooden sides of the barn, the grass, and the black sky itself.
- 11 The smell of charred wood filled Rosie's nostrils. She stood next to Mr. Becket and watched as her father helped control the water hose and keep it on the flames that shot out from the barn. Each time the firefighters managed to extinguish one part of the fire, it seemed to flare up even more brightly somewhere else. Rosie gasped as one wall of the barn fell, and flames came close to her father's face. But he didn't give up. He and the others held tight to the hose. One smoke-blackened hour blurred into the next until finally the last little flame was beaten out.



- 12 Rosie wandered into the crowd to find her father. She spotted him quickly. He was pulling off his soot-stained jacket. When he saw her, he put his arm around her shoulders and said, “Come on. The Hemingways down the road have food for us. Let’s go eat.”
- 13 The Hemingways were Mr. Becket’s nearest neighbors. They had made several pots of coffee and laid out platters of meat and cheese for the firefighters to make sandwiches. Rosie was tired and didn’t think she was hungry, but her stomach growled when she saw the food. She stood close to her father and chewed her sandwich as she listened to the conversation.
- 14 Finally Dad said, “Time to go, Rosie. It’s almost one in the morning. Your mother will be waiting up for us.”
- 15 Rosie couldn’t believe how much time had passed. All her earlier exhaustion had dropped away as she stood in the circle of brave firefighters. She listened as her father and the others shared memories of other fires they had handled over the years. She hadn’t realized how many emergencies her father had responded to.
- 16 Rosie and Dad sat quietly as they drove down the winding roads that took them back home. Dad finally broke the silence. “Everything’s going to be fine, Rosie. I’ll get another job. It’s just a matter of time.”
- 17 Back home Rosie saw her diary lying on her bed. She picked up her pen to finish writing what she had started earlier. But she wrote nothing. What she had planned to write didn’t seem quite right anymore.
- 18 As she sat there staring at the page, her mind raced with images of her father fighting the fire. She thought about the words her father had said to her on their ride home. She closed her diary, put on her pajamas, and climbed into bed.

22 Which sentence from the story best shows that putting out the barn fire was difficult?

- F** *In all those years he had never failed to respond to a call to fight a fire.*
- G** *He and the others held tight to the hose.*
- H** *One smoke-blackened hour blurred into the next until finally the last little flame was beaten out.*
- J** *All her earlier exhaustion had dropped away as she stood in the circle of brave firefighters.*

23 What does the word optimistic mean in paragraph 4?

- A** Thoughtful
- B** Hopeful
- C** Needy
- D** Talkative

24 Why does the author compare the fire to a hungry monster?

- F** To show how hungry Rosie and her father are
- G** To show that the fire is as harmless as a make-believe monster
- H** To explain why the firefighters are shouting
- J** To emphasize the danger of the fire

25 Why does Rosie gasp while at the fire?

- A** She is tired of breathing the thick black smoke.
- B** She is afraid her father will be hurt.
- C** She is afraid the barn wall is going to fall on her.
- D** She is worried that the firefighters won't be able to control the fire.

26 Why is paragraph 4 important to this story?

- F** It tells the reader why Rosie's mother is worried.
- G** It describes how Rosie's father feels about not having a job.
- H** It explains the difficulty Rosie's family is experiencing.
- J** It shows the reader how Rosie feels about her father not working.

27 Which of these shows that Rosie's father is a dedicated firefighter?

- A** He went to the fire instead of looking for a job.
- B** He makes Rosie go with him to Mr. Becket's farm.
- C** He enjoys eating and visiting with the other firefighters after a fire.
- D** He has responded to every call to fight a fire that he has ever received.

- 28 Why does Rosie go to the fire with her father?
- F He wants to take her out for dinner afterward.
 - G She asks whether she can go with him.
 - H He wants her to learn how to fight a fire.
 - J Her father doesn't want to leave her home alone.

- 29 Which is the best summary of the story?
- A Rosie comes home from school. She sees that her father hasn't found a job yet. She becomes upset and goes to her room instead of helping with dinner. After the fire she eats sandwiches at the Hemingways'.
 - B Rosie's father is a volunteer firefighter. He gets a call to go fight a fire at Mr. Becket's farm. Rosie has to go with him. It takes the firefighters several hours to put out the fire.
 - C Rosie is worried because her father has lost his job. When he must go fight a fire with the volunteer fire department, she is reminded that he is a hard worker and has helped many people. She starts to feel more hopeful.
 - D Rosie's father lost his job when the shop he worked for closed down. Since then he has been looking for a new job, but he hasn't had any luck. Because Rosie's mother is now working two jobs, her father must take Rosie with him to help fight the fire.

- 30 After the fire, why does Rosie decide to close her diary without writing in it?
- F She can't remember what she wanted to write because several hours have passed.
 - G She is afraid that her thoughts won't be private if she writes them down.
 - H She no longer feels the way she did when she started writing.
 - J She is too tired from staying up late to watch her father fight the fire.

- 31 Which words from paragraph 11 help the reader know what the word extinguish means?
- A *blurred into the next*
 - B *flame was beaten out*
 - C *keep it on the flames*
 - D *shot out from the barn*

A Personal Achievement

- 1 “You’re next, Carl,” Mrs. Sosa said. Carl walked nervously to the stage. Why had he let his friend Neil talk him into trying out for the play? He hated standing in front of people.
- 2 He had spent the weekend memorizing lines, but he knew he wouldn’t get the part. It was a small part anyway, not like the lead role he just knew Neil would get. Neil had already finished his audition. As always he had done well even though he hadn’t practiced at all.
- 3 “You’re trying out for a guard?” Mrs. Sosa asked. “I’ll read the queen’s lines. Begin when you’re ready.”



- 4 Carl took a deep breath and tried to picture himself as a guard, just as his mother had suggested when she helped him practice. “Your majesty,” Carl began uncertainly, “the castle is under siege.”
- 5 “Call my knights!” Mrs. Sosa responded as the queen, sounding like Carl’s mother had. He almost smiled. At first he felt silly in front of the other students, but as he concentrated on his lines, he forgot about the people watching. It was as if he had really become a guard in a queen’s service!
- 6 After Carl finished, he walked over to Neil. As soon as Carl sat down, Neil asked, “Do you think I got the part of the knight?”
- 7 “I’m sure you did,” Carl mumbled. Sometimes he thought Neil just liked hearing how great he was. “It’s not like he doesn’t

already hear what a great basketball player he is,” Carl thought. Neil was confident and talented. He seemed to succeed at everything without even trying, while Carl struggled just to be average.

8 “You should have made your voice sound like that actor in *The Bank Caper*,” Neil said.

9 “I had enough trouble just remembering my lines,” Carl said.

10 The next afternoon Carl went to Mrs. Sosa’s room to see who had been given the part of the guard. His name wasn’t listed. “Figures,” he muttered.

11 Mrs. Sosa walked up to Carl and said, “Rehearsals start tomorrow. There’s a lot of work to do.” Seeing Carl’s puzzled face, she said, “Oh, you haven’t heard.” She pointed to the top of the list. “You’re playing Sir Trawood. You had the best tryout of anyone, Carl.”

12 Carl was stunned. “But what about Neil?”

13 Mrs. Sosa sighed. “Neil was offered a smaller part, but he rejected it.”

14 “He did?” Carl’s eyes widened. “But I can’t be in the play without Neil,” he said.

15 Mrs. Sosa frowned. “But, Carl, you’re the best actor for this part.”

16 Neil called Carl that night and said, “I guess you’re happy to get the best part. I have to admit I’m jealous.” Carl was silent. He couldn’t believe that Neil would be jealous of *him*.

Star of the Show

- 1 “Begin when you’re ready, Neil,” Mrs. Sosa said.
- 2 Neil started to speak. “Humph,” he coughed, trying to stall. He had looked at the script that morning, but now his mind was blank. Maybe he could improvise—make up his own words now and memorize his lines after he got the part. Then luckily he remembered. “Knights of the Royal Order,” he hissed, trying to sound like his favorite actor, “this means war!”
- 3 He saw Mrs. Sosa raise her eyebrows. He could tell she was impressed. He stumbled over his words a couple more times, but he still felt confident when he had finished. He couldn’t wait to star in a real play. Most days he imagined himself as a basketball star, but sometimes he thought he would like to star in the movies. “Maybe I’ll be an actor after I retire from basketball,” he thought.
- 4 His friend Carl was next. Neil felt sorry for him. Carl looked terrified. When he started talking, he sounded as if he had swallowed a frog. Carl remembered all his lines, but he didn’t act very well. He just used his regular voice.
- 5 When Carl returned, Neil noticed that he was sullen. “Do you think I got the part of the knight?” he asked his friend, hoping to take Carl’s mind off his own tryout. “Maybe I’ll ask Mrs. Sosa to give Carl another chance,” Neil thought.
- 6 After basketball practice the next day, Neil rushed to Mrs. Sosa’s room to see who else was in the play. He noticed right away that Carl hadn’t gotten the part of the guard. Then Neil gasped. Carl had gotten the part of Sir Trawood! There had to be some mistake.
- 7 “I’m afraid you didn’t get the part you wanted, Neil,” Mrs. Sosa said. “You’ll be playing the part of a messenger.”
- 8 “But Carl didn’t even try out for Sir Trawood,” Neil protested.
- 9 Mrs. Sosa nodded. “Yes, but I think he’ll make an excellent knight.”
- 10 “He didn’t even sound like an actor,” Neil complained.

- 11 “That’s why he did so well,” Mrs. Sosa said. “You’ll see what I mean at practice tomorrow.”
- 12 “No, I won’t,” Neil said. “I’m not going to be some stupid messenger.” He stormed out. As he walked home, he kept thinking it wasn’t fair. Carl probably wouldn’t even have tried out for the play if Neil hadn’t insisted. He felt angry that Carl would be in the play without him. “But I guess I should congratulate him,” he thought. “After all, I’m the school’s star basketball player, and Carl didn’t even make the team.”

**Use “A Personal Achievement” (pp. 42–43)
to answer questions 32–35.**

- 32** What is Carl’s problem just after he gets the part of Sir Trawood?
- F** He must choose between playing basketball or being in the play.
 - G** He really wanted the part of one of the queen’s guards.
 - H** He must spend the weekend memorizing his new lines.
 - J** He has to decide whether to be in the play without Neil.

- 33** The reader can tell that Sir Trawood is —
- A** one of the guards in the queen’s service
 - B** a character without a speaking part
 - C** one of the main characters in the play
 - D** not as important as the messenger

- 34** Which of these is the best summary of this story?
- F** Carl doesn’t like standing in front of people. He wishes he hadn’t let his friend persuade him to try out for a part in the play. He thinks he isn’t good enough to get even a small part.
 - G** Carl spends the weekend memorizing his lines for a play. His mother helps him practice for the tryout. He hopes to get a part as a guard. He wonders how his friend Neil can try out without practicing at all.
 - H** Carl tries out for a part in a play after his friend Neil talks him into it. He is nervous at first but then forgets about the people watching. The next day he is surprised to find out he has been given the role of Sir Trawood instead of Neil.
 - J** Carl’s mother helps him memorize his lines for a play that he wants to try out for. They spend the weekend practicing. Carl notices that his teacher and his mother sound alike when they read the lines of the queen.

- 35** In paragraph 13, the word rejected means —
- A** turned down
 - B** forgot about
 - C** worried over
 - D** laughed about

Use “Star of the Show” (pp. 44–45) to answer questions 36–38.

36 Which words in paragraph 2 help the reader know what improvise means?

F *memorize his lines*

G *trying to stall*

H *make up his own words*

J *started to speak*

38 What are paragraphs 1 through 3 mainly about?

F The script of the play

G Neil’s tryout for the play

H The Knights of the Royal Order

J Neil’s favorite actor

37 The reader can conclude that Neil —

A had basketball practice and couldn’t memorize his lines

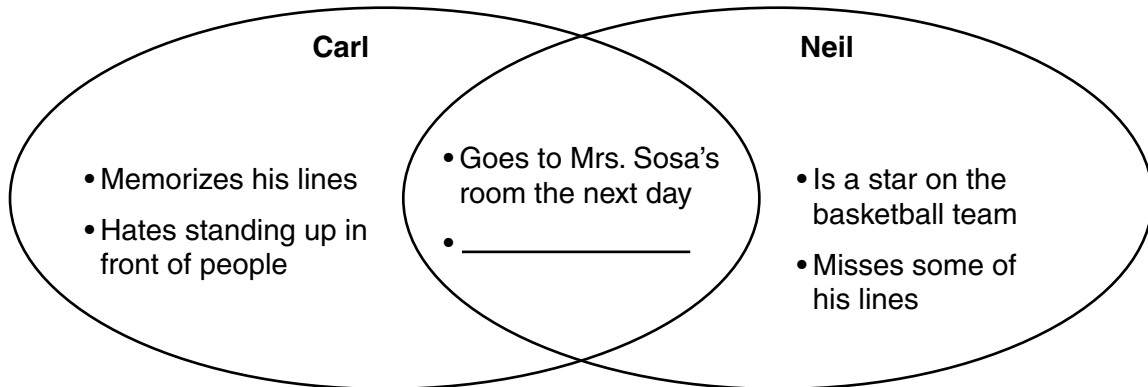
B tries out for a main part in the play

C decides to play the part of the messenger

D no longer wants to be a basketball player when he grows up

**Use “A Personal Achievement” and “Star of the Show”
to answer questions 39–42.**

39 Look at this diagram of information from both stories.



Which of these belongs on the blank line?

- A** Imitates an actor's voice
- B** Tries out for the part of Sir Trawood
- C** Doesn't want to try out for the play
- D** Is offered a part in the play

40 One idea found in both of these stories is that people can be —

- F** angry about the way people treat others
- G** pleased with what is given to them
- H** relieved about not getting something
- J** surprised by what happens

41 One difference between Carl and Neil is that —

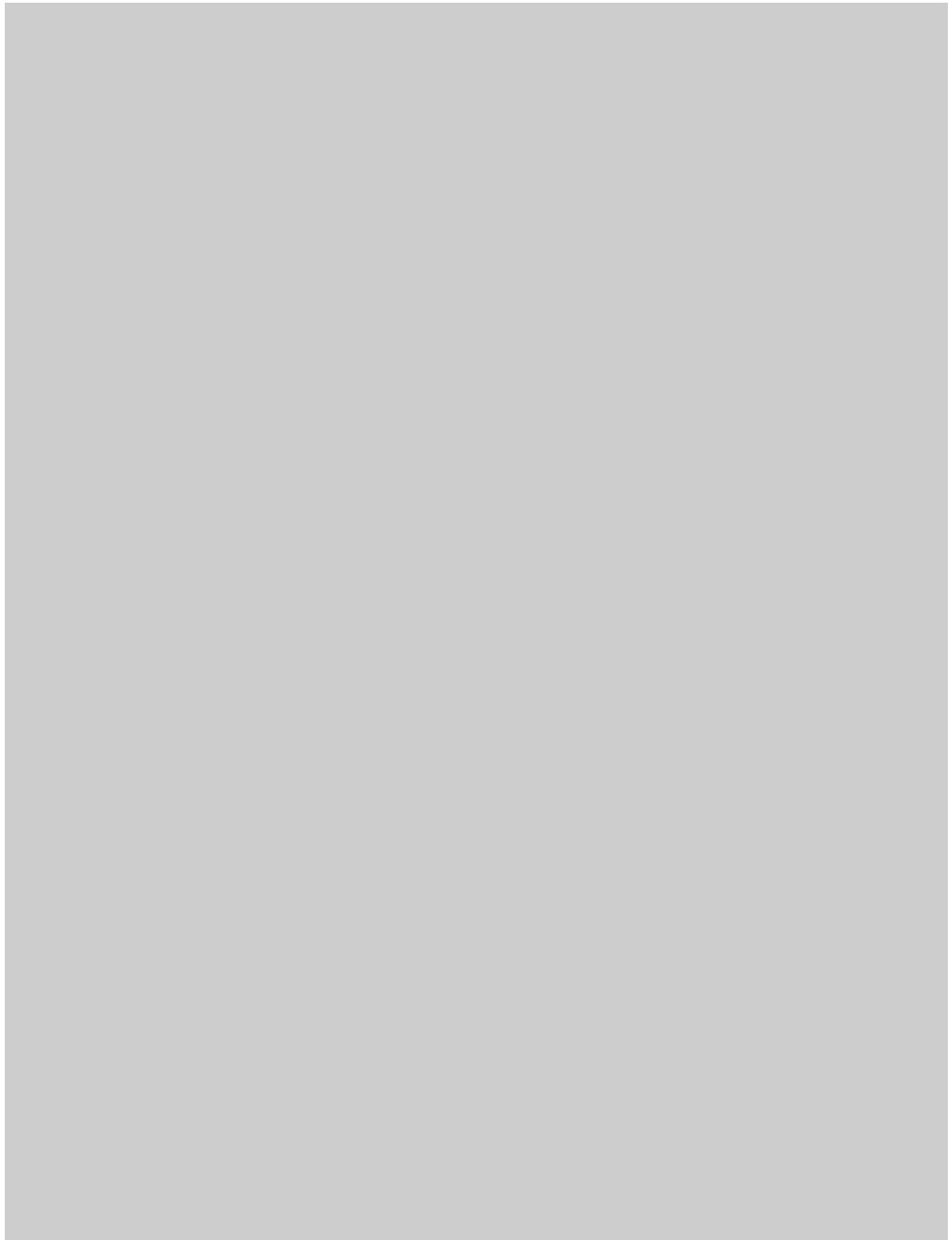
- A** Carl is more popular than Neil
- B** Neil expects to earn a part in the play
- C** Carl is more confident than Neil
- D** Neil must struggle to do most things

42 Both of these stories describe —

- F** how the characters' parents helped them memorize their lines
- G** why Carl hates standing up in front of people
- H** the boys' thoughts at the tryouts for the play
- J** what Neil imagines for himself in the future

**BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS
ON THE ANSWER DOCUMENT.**





SCIENCE

DIRECTIONS

Read each question and choose the best answer. Then fill in the correct answer on your answer document.

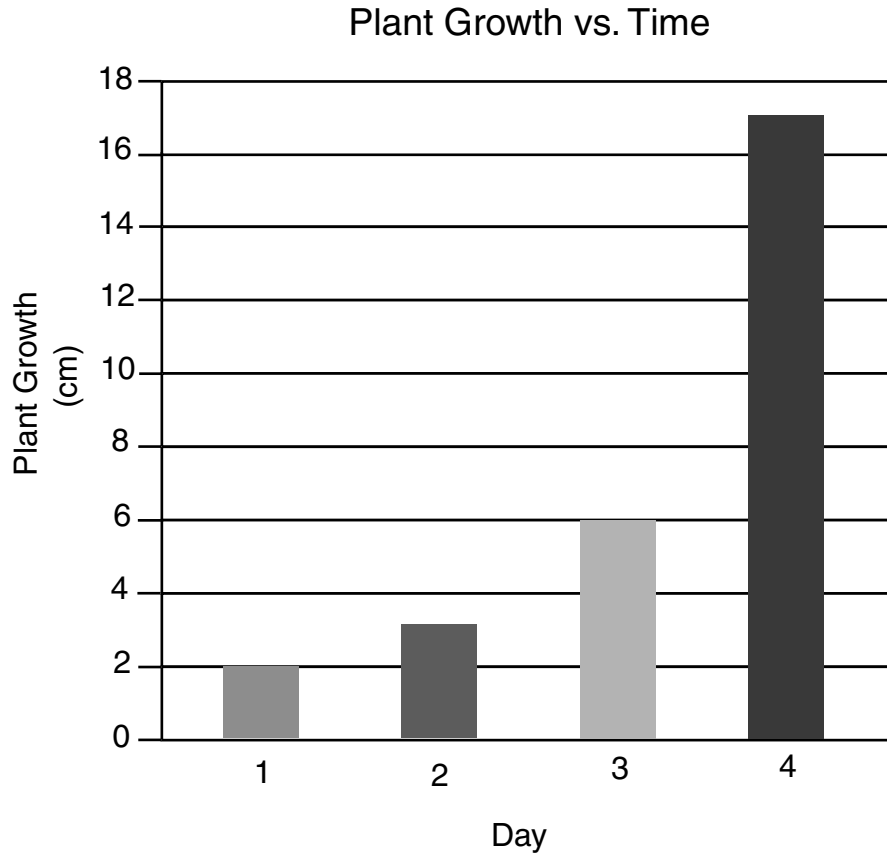
SAMPLE A

Objects That Conduct Heat	Objects That Do Not Conduct Heat
Silver spoon	Plastic fork
Copper pan	Glass block
Iron nail	Wooden handle
Gold ring	???

The chart shows some objects that conduct heat and some that do not conduct heat. Which of these would complete the column of objects that do not conduct heat?

- A Electrical wire
- B Water
- C Eraser
- D Horseshoe magnet

SAMPLE B



The graph shows how much a plant grew over four days. According to the graph, how many centimeters did the plant grow between Day 1 and Day 4? Record and bubble in your answer on the answer document.







1 Clearing a forest to build a shopping mall will most likely result in woodpeckers —

- A** nesting on roofs
- B** losing habitat
- C** laying more eggs
- D** flying slower

2 In a model of our solar system, a tennis ball is used to represent Earth. A marble would be a good representation of Mercury in this model because compared to Earth, Mercury is —

- F** brighter
- G** lighter
- H** smaller
- J** more solid

Plant Growth

Plant Group	Amount of Light per Day (hours)	Average Growth in One Week (centimeters)
 1	4	1
 2	6	4
 3	8	6
 4	10	3

- 3 The chart shows data collected when potted plants were placed in sunlight for different lengths of time. Which conclusion is best supported by the data?
- A The plants that received 4 hours of sunlight a day had the most leaves.
 - B The plants given less than 6 hours of sunlight a day had the thickest stems.
 - C The plants that received 8 hours of sunlight a day grew the most.
 - D The plants given more than 10 hours of sunlight a day wilted.

4 On a warm day water was accidentally spilled onto a metal tabletop. Later in the day, the water was gone. The most likely explanation is that someone wiped the water up or that —

- F germs drank the water
- G the table absorbed the water
- H all the water spilled onto the floor
- J the water evaporated into the air



5 Which basic need do groundhogs meet by digging tunnels in meadow soil?

- A Water
- B Shelter
- C Light
- D Air

6 Matter can undergo changes. When water boils, a —

F liquid becomes a solid

G solid becomes a liquid

H liquid becomes a gas

J gas becomes a solid

7 Making imprints of objects in clay is most useful for learning about —

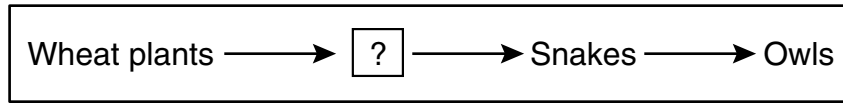
A weathering

B fossils

C renewable resources

D the rock cycle

Prairie Food Chain



8 Which of these would best complete this food chain?

- F Hawks
- G Grapes
- H Toads
- J Mice



A



B

9 Earthworm B is how many centimeters longer than Earthworm A?

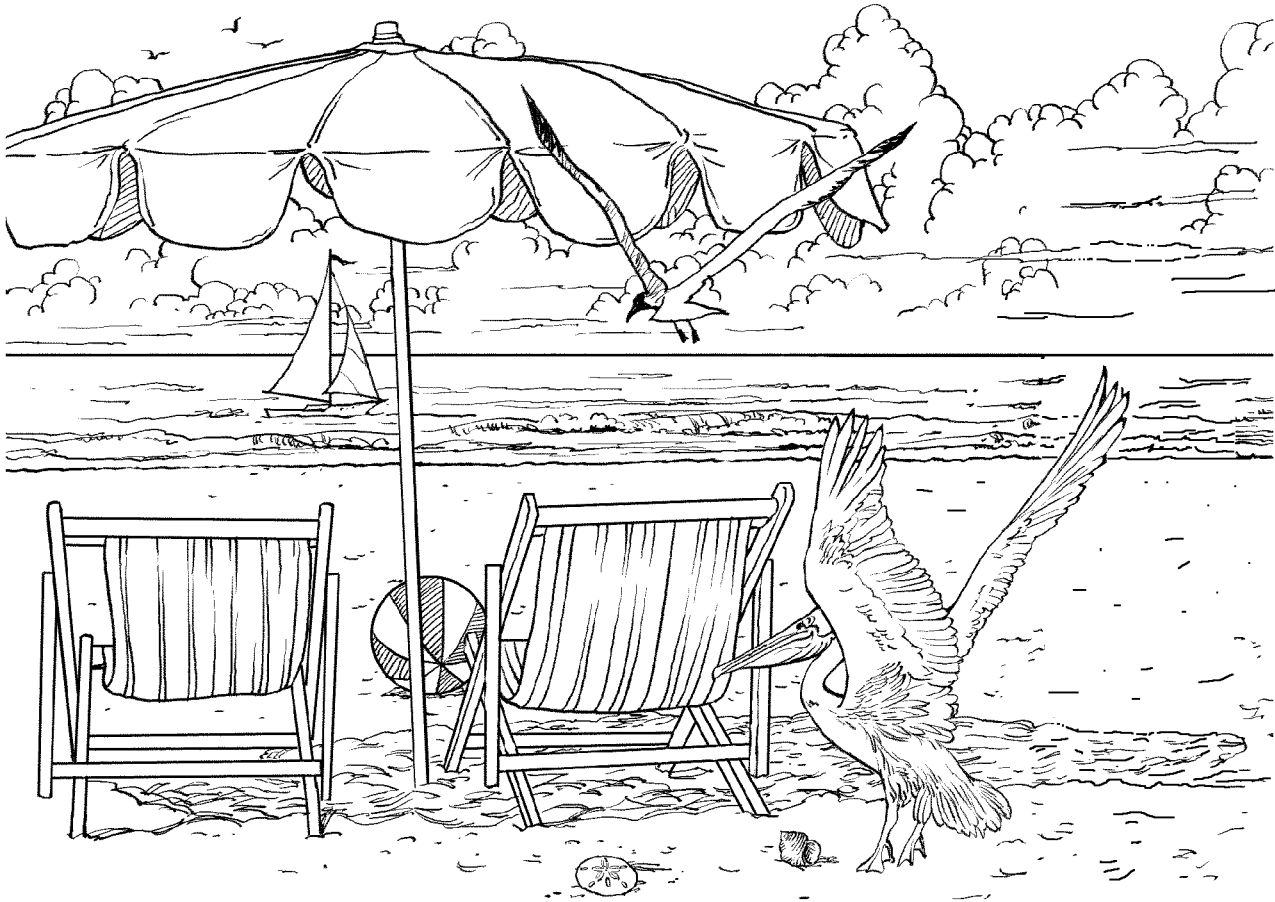
- A 1.5 cm
- B 2.0 cm
- C 3.0 cm
- D 5.5 cm

Day	Air Pressure (mm of mercury)	Weather
1	767	Fair; mild temperatures
2	767	Fair; mild temperatures
3	765	Cloudy; mild temperatures
4	756	Rainy; windy; cool temperatures
5	758	Rainy; cool temperatures
6	764	Fair; mild temperatures
7	765	Sunny; mild temperatures

10 According to this information, what kind of weather is related to low air pressure?

- F Sunny
- G Fair
- H Rainy
- J Mild

Use the information below and your knowledge of science to help you answer questions 11–13.



Texas has more than 5,000 kilometers of shoreline along the Gulf of Mexico. Many families are able to visit the coast to have fun or just to relax. Many people have jobs and homes on or near the coast.

11 As seagulls fly over the water, they sometimes dive into the water to catch prey. Which of these senses is useful to seagulls that feed in this manner?

- A Sight
- B Smell
- C Hearing
- D Touch

12 The energy that causes seawater to form water vapor comes from —

- F the clouds
- G underwater mountains
- H chemical reactions in the sea
- J the sun



- 13 The picture shows a bottle of the sunscreen FSC. Which of these statements indicates how well this product helps prevent skin damage?
- A Great for all outdoor activities
 - B Contains the finest ingredients
 - C Sun protection factor (SPF) 30
 - D Money-back guarantee

14 The surface of the sun is made of —

- F gases
- G solids
- H liquids
- J energy

16 Blowing through a pipe can produce a sound because the —

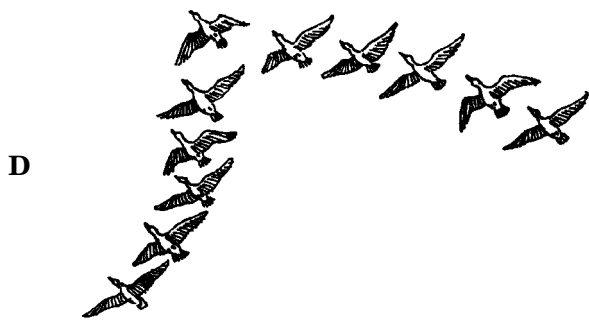
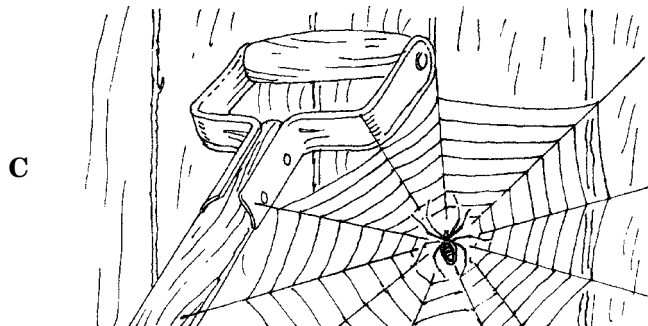
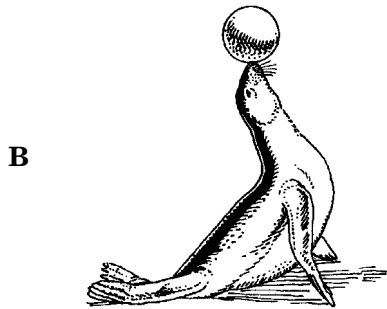
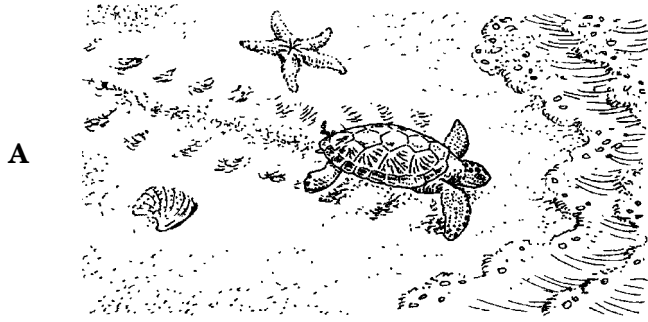
- F air in the pipe vibrates
- G pipe speeds up the air
- H pipe cools the air
- J air is absorbed by the pipe

Time (h)	Distance (cm)
2	45
4	90
6	?
8	180

15 This table shows the movement of a snail over an 8-hour period. If the snail traveled at the same pace the entire time, how far did it travel in 6 hours?

- A 130 cm
- B 135 cm
- C 140 cm
- D 145 cm

17 Which of these is an example of a learned behavior?

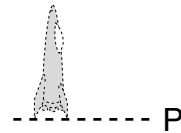
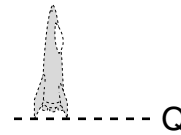
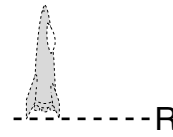
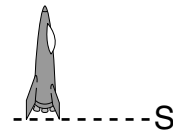


18 Which force is most responsible for raindrops falling to Earth?

- F Friction
- G Wind
- H Thrust
- J Gravity

19 In order for tomato plants to make their own food, their leaves must absorb —

- A rain
- B sunlight
- C oxygen
- D minerals



20 The picture shows different points along a toy rocket's path after it blasted off. How much height did the rocket gain between Points Q and R? Use the ruler to measure the distance to the nearest centimeter. Record and bubble in your answer on the answer document.

21 Tides on the Texas coast usually occur twice —

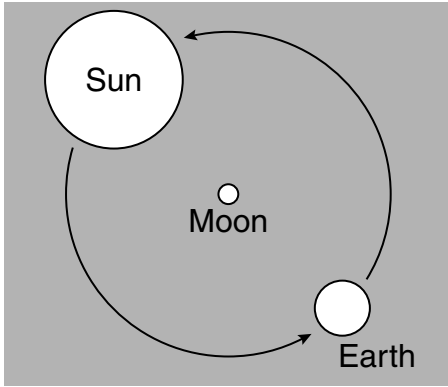
- A** daily
- B** weekly
- C** monthly
- D** yearly

22 Carbon powder and iron filings are both black powders. When mixed together, they look like one black powder. Which of these would be best to use to separate the iron filings from the carbon powder?

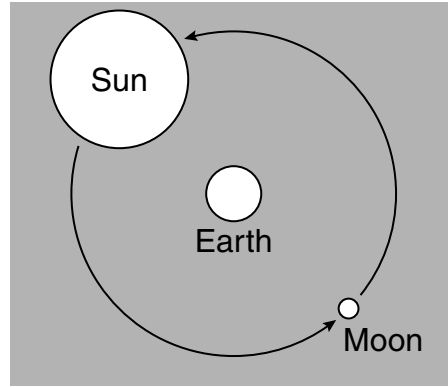
- F** A magnifying glass
- G** Heat
- H** A magnet
- J** Water

23 Which of these best shows the relationship between Earth, the moon, and the sun?

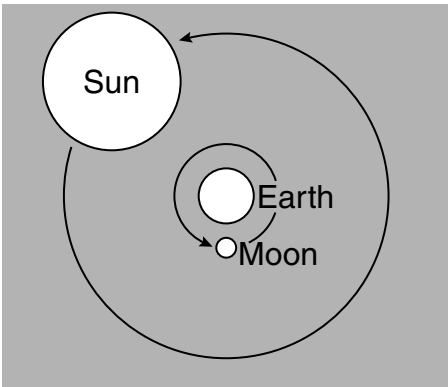
A



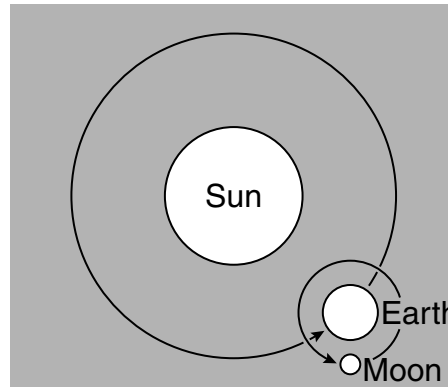
C



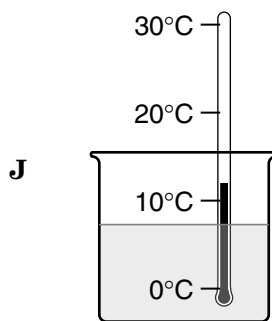
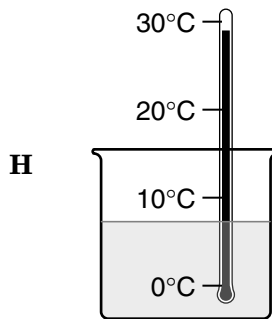
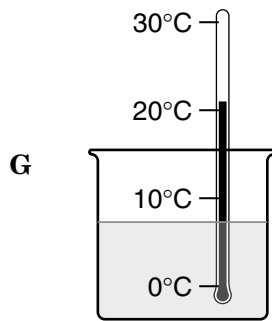
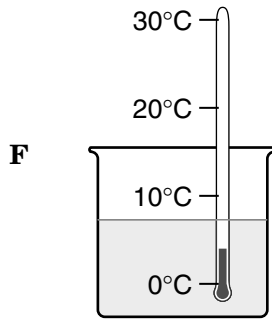
B



D



24 In which container will the water evaporate most quickly?



25 Which of the senses must be protected when doing an activity concerning a solar eclipse?

- A Touch
- B Taste
- C Sight
- D Smell

26 Brightly colored flowers are most often pollinated by —

- F wind
- G mammals
- H rainfall
- J insects

Types of Soil	Amount of Water Collected (mL)
Potting soil	220
Sandy soil	250
Gravel	295
Clay	225

27 Similar containers were filled with different types of soil. Holes were poked into the bottom of each container, and 300 milliliters of water were added. The water that dripped out was collected and measured. According to the information in the table, which type of soil retained water best?

- A Potting soil
- B Sandy soil
- C Gravel
- D Clay

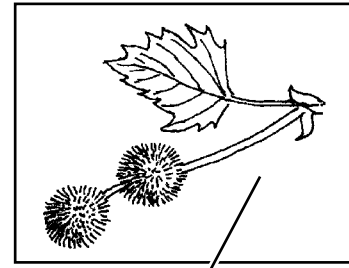
Fossil Fuels	Alternative Energy Sources
Oil	Wood
Natural gas	Wind
?	Sun

28 Which of these best completes this chart?

- F Water
- G Soil
- H Coal
- J Sand

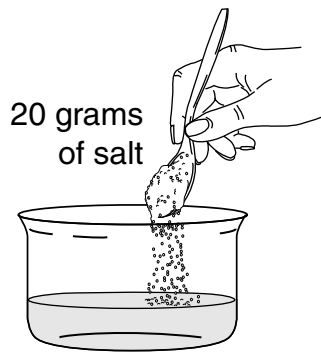
29 A rock is taken from the surface of the moon and brought to Earth. What is different about this rock on Earth?

- A Its mass
- B Its shape
- C Its length
- D Its weight

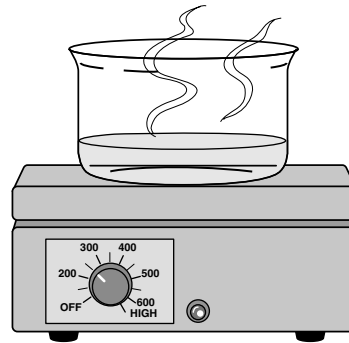


30 The picture shows the leaf and fruit of a sycamore tree. A tree like the sycamore would have the hardest time growing in an environment that is mostly —

- F cold and dark
- G warm and rainy
- H cool and wet
- J hot and cloudy



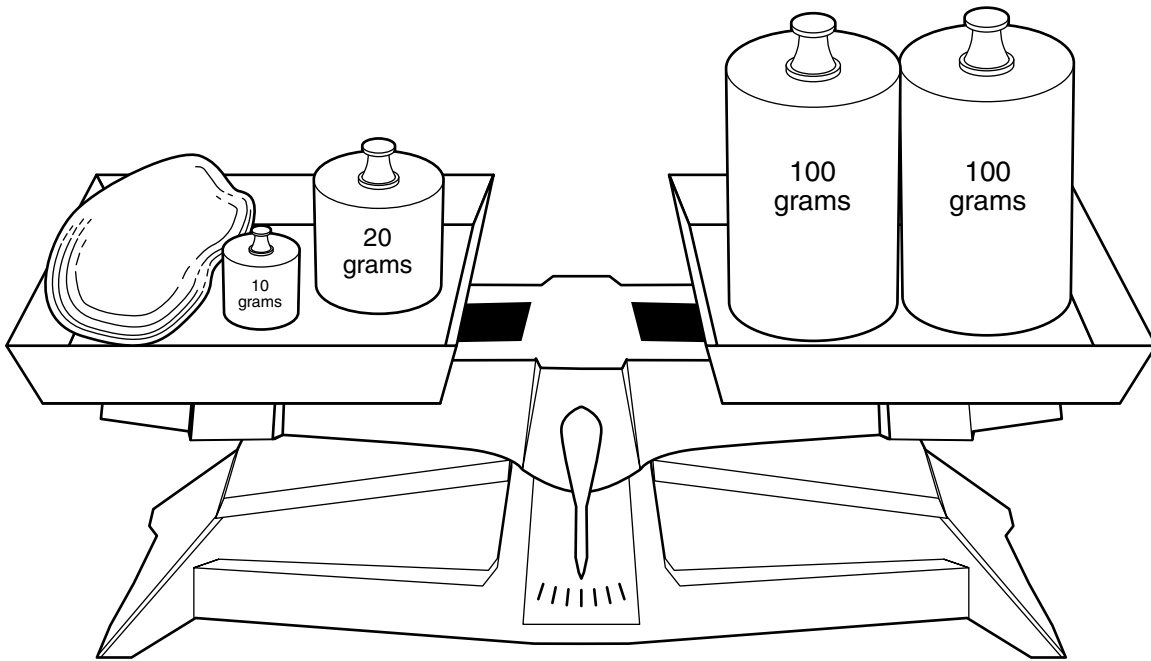
70 grams of water



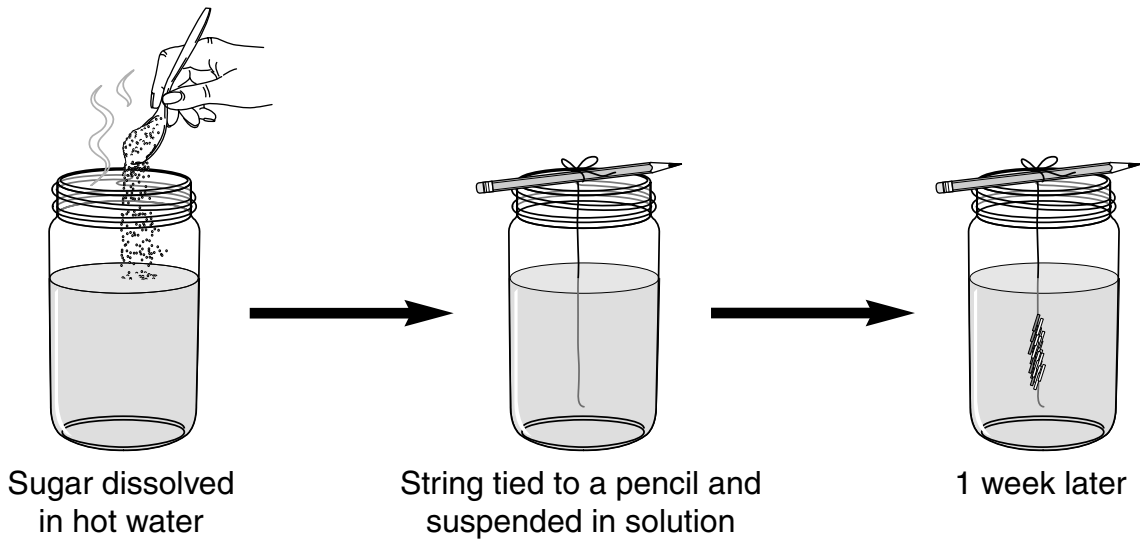
Salt water left to evaporate

- 31 In an activity, 20 grams of salt are dissolved in 70 grams of pure water. The water is then heated on a hot plate. When the water evaporates completely, how much salt will be left?
- A 0 grams
 - B 18 grams
 - C 20 grams
 - D 22 grams

- 32 When a chocolate bar is heated by the sun, all of the following are likely to be seen **EXCEPT** —
- F boiling
 - G a liquid
 - H melting
 - J a change in shape



- 33** The pans in this balance are at the same height. According to this information, the mass of the rock sample is —
- A** 170 grams
 - B** 180 grams
 - C** 200 grams
 - D** 230 grams



- 34 Crystals were grown on a string in a clean glass jar containing sugar dissolved in hot water. The crystals grew on the string for several weeks. What kind of crystals are they?
- F String
 - G Water
 - H Glass
 - J Sugar

35 Which diagram shows how energy flows through a food chain?

- A Producers → carnivores → herbivores
- B Sun → producers → herbivores → carnivores
- C Sun → herbivores → carnivores → producers
- D Carnivores → producers → herbivores



36 The type of penguin shown in the picture above lives in the icy lands of Antarctica. The male penguins huddle together in a tight group. They stay in these tight groups most likely because they are —

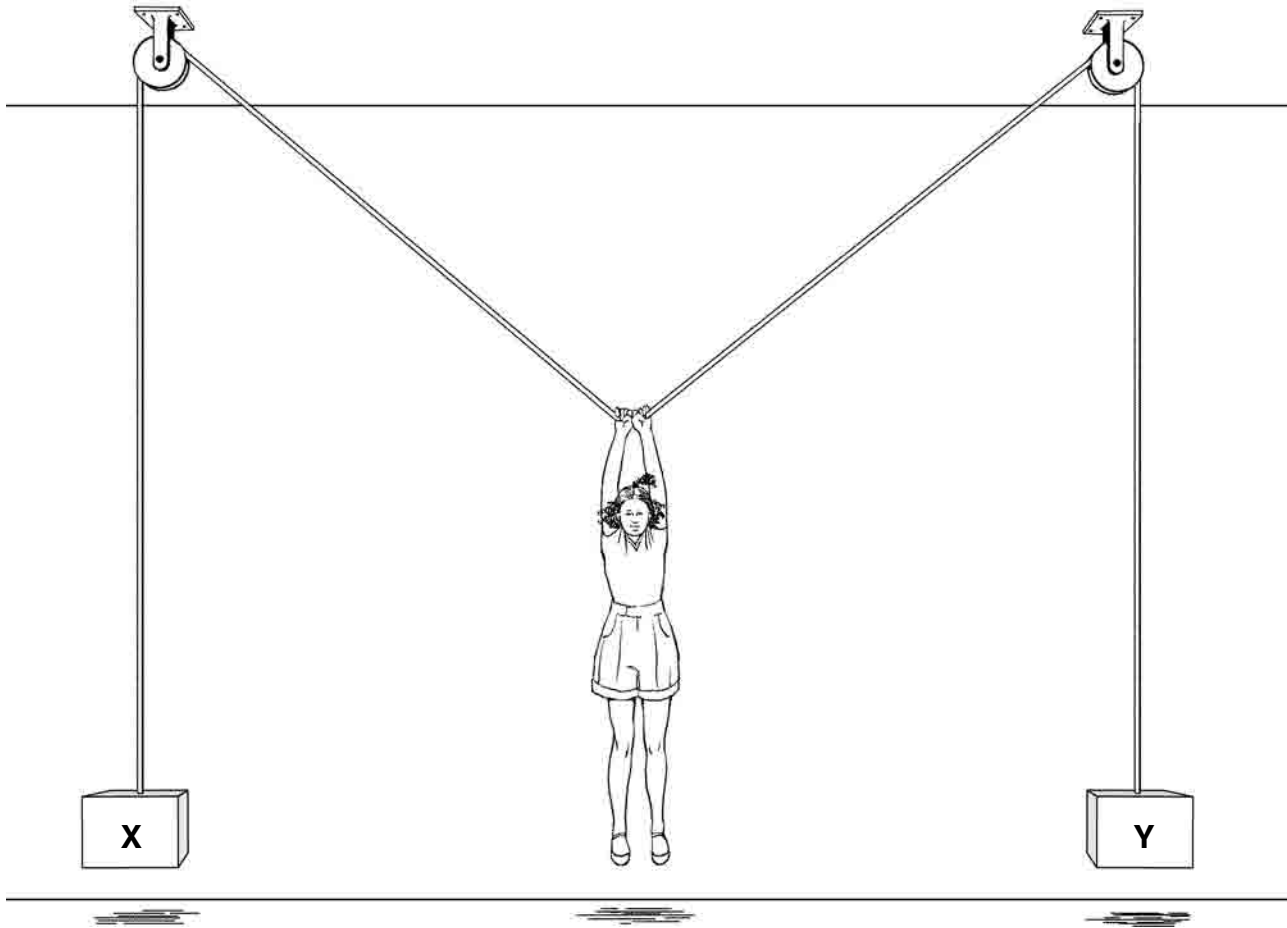
- F looking for the sun
- G hiding from predators
- H sharing body heat
- J fighting over a piece of food

Freezing Rates

Solution	Trial 1	Trial 2	Trial 3
50 mL water	45 min	43 min	47 min
50 mL water and 5 g salt	70 min	75 min	82 min
50 mL water and 10 g salt	120 min	125 min	119 min

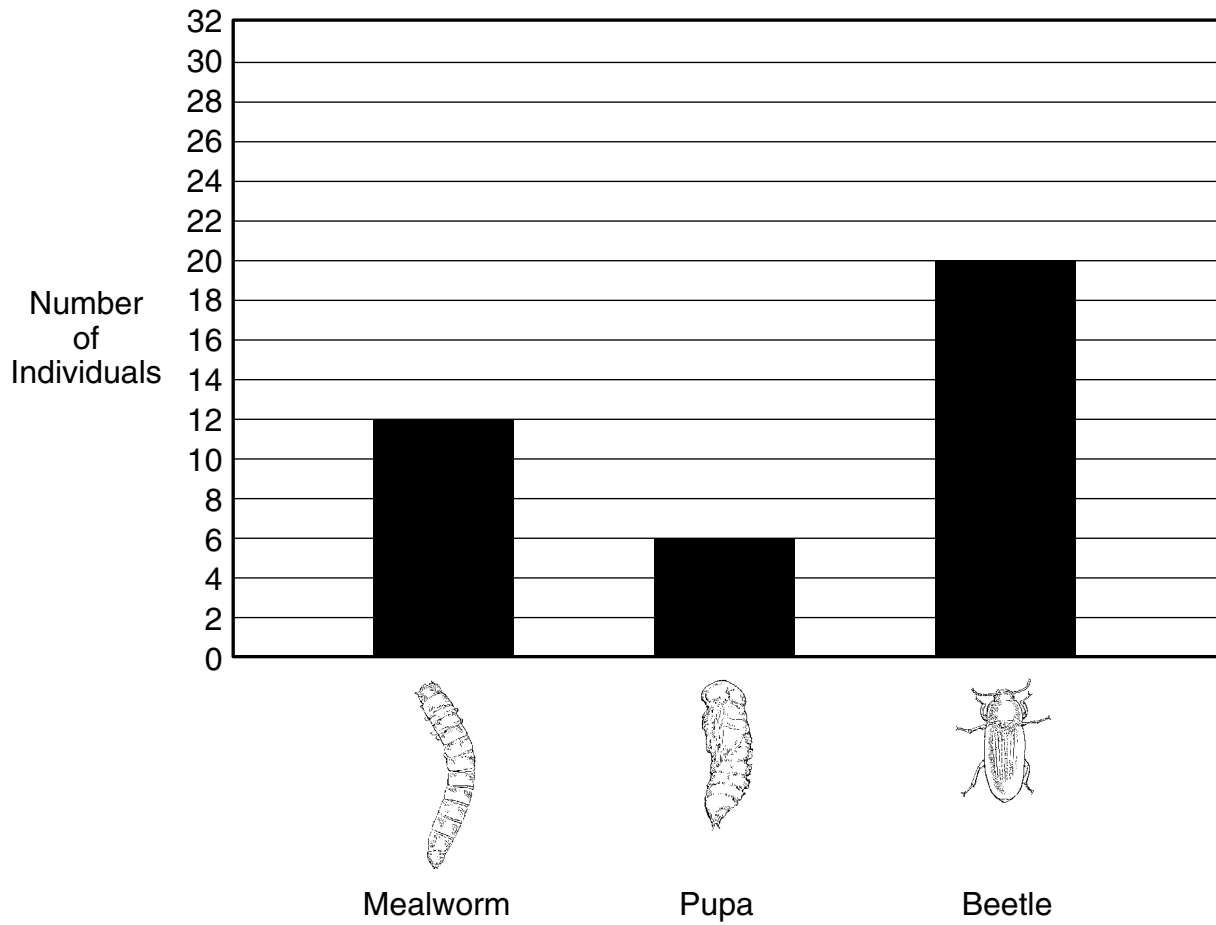
- 37 The table shows the time it took to freeze water in two different salt solutions with different salt content. According to the table —
- A freezing rates are the same in each trial
 - B water with more salt takes longer to freeze
 - C water loses heat at a rate of 1°C per minute
 - D salt dissolves more quickly in small amounts of water

-
- 38 An advertisement for a breakfast food states that the product is “the healthiest choice.” Which of these could show that this is a valid claim?
- F The bar code
 - G The nutrition information
 - H The number of grams
 - J The pictures on the box



- 39 If the person in the middle lets go of the rope, in which direction would objects X and Y go?
- A X up, Y up
 - B X up, Y down
 - C X down, Y down
 - D X down, Y up

Some Stages in the Life Cycle of a Beetle Colony



40 The graph shows how many individuals were found in a beetle colony. How many more beetles than mealworms were found in this colony?

- F 5
- G 8
- H 14
- J 32

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS
ON THE ANSWER DOCUMENT.



