Webster County Schools

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6th Grade

Packet 5

COMMONLIT

Name: _____ Class: _____

How far away was that lightning?

By Becky Bolinger
2018

When lightning strikes, it's reassuring to know just how far that bolt of electricity is. In this informational text, Becky Bolinger discusses how you can calculate how far away lightning is. As you read, take notes on the difference between seeing lightning and hearing thunder.

[1] You probably do it. It might be ingrained[1] from when you were a kid, and now it's almost automatic. You see the flash of lightning — and you immediately start counting the seconds till it thunders.

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But does counting really get you a good estimate for how far away the lightning is? Is this one of those old wives' tales,[2] or is it actually based on science? In this case, we have physics to thank for this quick and easy — and pretty accurate — calculation.

So what happens when a big storm rolls in?

The lightning you see is the discharge[3] of electricity that travels between clouds or to the ground. The thunder you hear is the rapid expansion of the air in response to the lightning's intense heat.

[5] If you're really close to the lightning, you will see it and hear the thunder simultaneously.[4] But when it's far away, you see and hear the event at different times. That's because light travels much faster than sound. Think of sitting in the nosebleed seats at a baseball game. You see the batter hit the ball a second before you hear the crack of the bat.

When observing an event on Earth, you see things almost the instant they happen — the speed of light is so fast you can't even detect the travel time. The speed of sound is much slower, which gives us time to do our calculation.

Let's simplify the speed equation: Sound travels a little over 700 miles per hour, or 700 miles in 3,600 seconds. That means 7 miles traveled every 36 seconds. Make this even easier and round down to 7 miles every 35 seconds... or 1 mile every 5 seconds! Count to 5: if you hear thunder, the lightning occurred within 1 mile.

1. **Ingrained** ***(adjective):*** firmly fixed; difficult to change
2. a traditional belief that is usually unscientific or incorrect
3. to allow something to release from where it' been contained
4. **Simultaneous** ***(adjective):*** happening at the same time

Now that you know how far away that lightning strike was, is it far enough to be a safe distance from the storm? That's actually a trick question. Thunder can be heard up to 25 miles away, and lightning strikes have been documented to occur as far as 25 miles from thunderstorms — known as a "bolt from the blue." So if you can hear thunder, you're close enough to be hit by lightning, and sheltering indoors or in an enclosed car is your safest bet.

And don't count on the folk wisdom[5] that lightning never strikes the same place twice to protect you. That one is just plain wrong. For example, lightning strikes the top of the Empire State Building an average of 23 times per year.

[10]

5. legend or popular belief

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which sentence describes the central idea of the text?
   A. The higher you're able to count between when you see lightning and hear thunder, the safer it is to go outside to witness that event in nature.
   B. Counting how many seconds pass between when you see lightning and hear thunder can tell you how far away it is because sound and light travel at different speeds.
   C. While light and sound usually travel at the same speed, the light from lightning strikes so fast that we struggle to process it and end up processing sound first.
   D. The widely held beliefs that you can calculate the distance of lightning by counting and that lightning doesn't strike twice are actually supported by science.

2. PART B: Which detail from the text best supports the answer to Part A?
   A. "But does counting really get you a good estimate for how far away the lightning is? Is this one of those old wives' tales, or is it actually based on science?" (Paragraph 2)
   B. "The lightning you see is the discharge of electricity that travels between clouds or to the ground. The thunder you hear is the rapid expansion of the air in response to the lightning's intense heat." (Paragraph 4)
   C. "When observing an event on Earth, you see things almost the instant they happen — the speed of light is so fast you can't even detect the travel time. The speed of sound is much slower, which gives us time to do our calculation." (Paragraph 6)
   D. "So if you can hear thunder, you're close enough to be hit by lightning, and sheltering indoors or in an enclosed car is your safest bet." (Paragraph 8)

3. What is the relationship between the speed of light and the speed of sound?
   A. The speed of light is faster than the speed of sound on Earth.
   B. Light travels faster than sounds in the eye of a storm.
   C. The speed of sound is faster than anything else on Earth.
   D. Light and sound usually travel at the same speed.

4. How does paragraph 9 contribute to our understanding about lightning?
   A. It shows how dangerous lightning can be and that we shouldn't underestimate its power.
   B. It proves that no one is ever truly safe from lightning.
   C. It shows how it's dangerous to be on high ground during any type of storm.
   D. It stresses how most of the "facts" about lightning are actually legends.

5. What is the relationship between determining how far away lightning is and safety?

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.

1. In the text, the author discusses how we can see the different speeds of light and sound in our daily lives. Describe a time when you saw something occur before you heard it.

2. In what circumstances do you think it would be a good idea to calculate how far away lightning is?

3. Share a memory of a thunderstorm you experienced when you were a kid. How did you feel when you saw lightning or heard thunder?

COMMONLIT

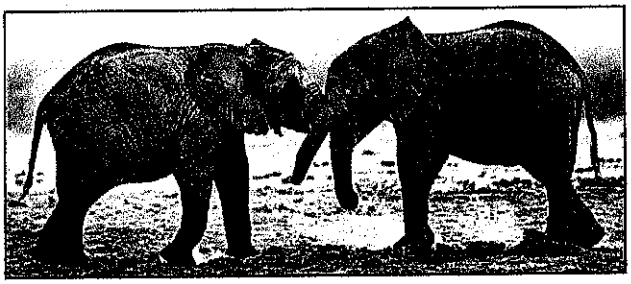
Name: _____ Class: _____

Raising Elephants

By Jennifer Barry
2017

Elephants have the largest bodies of all land animals, the largest brains, and some of the most unique social behaviors and family structures. This text explains what happens when a male elephant becomes a teenager.

[1] In Namibia, Africa, a teenage male elephant leaves the safety of his family on the way to a local water hole. Far ahead of the herd, he is at risk of being attacked by lions. But he is becoming independent and curious. The sooner he arrives at the water hole, the more time he'll have with adult male elephants, called bulls. Soon, bulls will play an important role in this young elephant's life.



"Male calves push each other in a play fight" by Courtesy of O'Connell and Rodwell is used with permission.

"Young males have to enter the adult male world and they look for an entry into this world," says Dr. Caitlin O'Connell-Rodwell, a scientist who studies African elephants in Etosha National Park. "This is where it's really fascinating. Good mentors[1] enjoy engaging with these youngsters, and others push them away or have no interest in them."

Family Life

This young male has lived in a herd of female elephants, called a matriarchal[2] pack, all his life. Young elephants are cared for by their mothers, aunts, grandmothers, siblings, and cousins. The pack has kept him safe, and he has formed bonds with his family members as unique as our own, says Dr. O'Connell-Rodwell.

Alone at the water hole, the young male elephant seems to enjoy chasing away a giraffe. He is becoming more confident and aggressive.[3] In recent months, he has also become more aggressive with members of his herd. Young males spar[4] with one another as a form of play fighting.

[5] In the teen years, their bodies produce natural chemicals called hormones, which can cause them to behave aggressively. Then they begin to spar to compete for dominance[5] in their social group and for the attention of females.

1. **Mentor** ***(noun):*** someone who gives help and advice to a younger individual
2. ruled by females
3. **Aggressive** ***(adjective):*** ready or likely to attack or confront
4. to fight as a form of training
5. **Dominance** ***(noun):*** power over others

"This aggression is the beginning of a young elephant growing into a breeding male, who will find his place in a hierarchy[6] of other male elephants," says Dr. O'Connell-Rodwell. Establishing dominance is important. It maintains respect among males, which creates tolerance[7] and strengthens their bonds.

Ready for a Change

An aggressive teen male can be a danger to younger elephants. In the matriarchal pack, sooner or later, the females act to protect the calves.[8] "At some point in the separation, the females get frustrated with him and actively push him out," Dr. O'Connell-Rodwell says.

By then, he is ready to leave. Around the age of 12 to 15, a young bull begins to distance himself from his family. At this stage, he needs to be around older, more dominant bulls. Otherwise, he can enter a state of heightened aggression called musth (pronounced "must"). In musth, a male can become destructive and dangerous.

Dr. O'Connell-Rodwell and her team study the dung[9] of elephants to determine the levels of hormones. When young males are in the presence of bulls, the hormones that trigger[10] musth are suppressed.[11] This calms the teenagers' behavior. "Older males serve as mentors and mediators[12] for younger ones," she says. "They enforce a strict social hierarchy and keep underlings in line when hormones rage and rowdiness may erupt."

[10] Bulls live in small groups, where older bulls protect younger ones, and they develop close bonds with one another. These relationships will help determine the young male's success and survival. Older bulls will teach him how to get along with other elephants. He will learn to keep his place in society and build friendships with the other males. As an adult, he will depend on those lasting bonds to keep him safe and provide him with the rich social environment elephants need to thrive.

This young male has a life of unknowns ahead of him. He'll face the dangers of competing for mates and protecting against lion attacks. And one day, he, too, may teach young bulls how to behave in elephant society.

6. a system that ranks individuals based on how much power they have
7. **Tolerance** ***(noun):*** the ability to accept something
8. Baby elephants are called "calves."
9. "Dung" is another word for an animal's waste.
10. to cause a process to start happening
11. to slow or stop the development of something
12. **Mediator** ***(noun):*** an individual who helps others stop fighting and make peace

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which of the following best describes the central idea of the text?
   A. Teenage male elephants need to be around older males in order to suppress violent behaviors.
   B. Joining a group of bulls is an important process for young male elephants as they become adults.
   C. When they grow older, male elephants continue the cycle of life by teaching other young males.
   D. Taking risks and becoming more independent are both necessary for someone to grow up.

2. PART B: Which quote from the text best supports your answer to Part A?
   A. "In Namibia, Africa, a teenage male elephant leaves the safety of his family on the way to a local water hole. Far ahead of the herd, he is at risk of being attacked by lions. But he is becoming independent and curious." (Paragraph 1)
   B. "Around the age of 12 to 15, a young bull begins to distance himself from his family. At this stage, he needs to be around older, more dominant bulls. Otherwise, he can enter a state of heightened aggression called musth" (Paragraph 8)
   C. "He will learn to keep his place in society and build friendships with the other males. As an adult, he will depend on those lasting bonds to keep him safe and provide him with the rich social environment elephants need to thrive." (Paragraph 10)
   D. "He'll face the dangers of competing for mates and protecting against lion attacks. And one day, he, too, may teach young bulls how to behave in elephant society." (Paragraph 11)

3. How does paragraph 1 contribute to the development of ideas in the text?
   A. It introduces the elephant whose journey from birth to death is described in the text.
   B. It illustrates how a young male elephant begins to separate from his matriarchal herd.
   C. It establishes that elephants are thriving in Etosha National Park, located in Namibia.
   D. It reveals that the main purpose of elephant societies is to protect members against lions.

4. How has Dr. O'Connell-Rodwell's research helped reveal the changes teenage male elephants experience?
   A. She studied how hormone levels change in teen elephants.
   B. She lived with elephants for years to see how they change.
   C. She made young male elephants live in small groups away from their families.
   D. She observed the interactions between young elephants and other animals.

5. How does the author describe the relationship between teenage male elephants and adult male elephants?

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.

1. What similarities do you observe between elephant society and human society? What differences are there? Are you surprised to learn that elephants have created their own societies? Why or why not?

2. The text describes how teenage male elephants enter into adulthood. Based on your own observations, how do human teenagers enter the world of adults? Are there certain things that human teenagers have to do?

3. What other animals have you learned about that form unique societies? How do societies help these animals survive or accomplish a goal?

Read the passage. Then answer the questions that follow.

His Wings and Tail

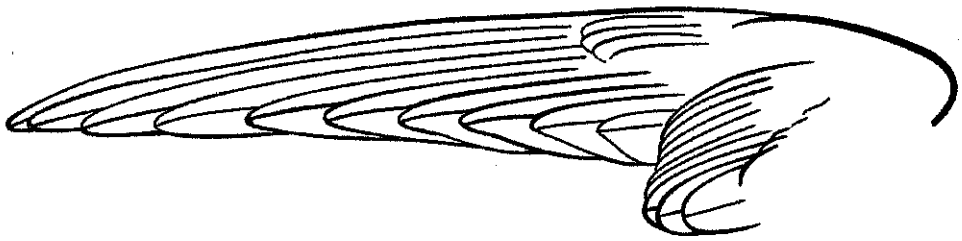
by Olive Thorne Miller
from The Children's Book of Birds, *Houghton Mifflin Company, New York, 1901*

1 A bird's wing does not look much like our arm and hand, yet the bones show that they are the same. The bird has a shoulder, elbow, and wrist, as we have. He even has fingers, though they are so covered up by feathers that one would never know it. He has not so many fingers as we have, and they are not movable like ours.

2 A bird's wing is a wonderful flying-machine, which men have been trying to imitate these many years. It is made of long stiff feathers, which fold down smoothly over one another at his side when he is resting, but can spread in an instant into a broad fan, to beat the air and carry him away.

3 One would not think that feathers could have so much power; but when the wing is spread, the barbs of the feathers hook together with tiny hooks, so small a microscope is needed to see them; and that, together with the edges lapping over each other, makes them almost like one solid surface.

4 Wings are not alike in shape. The wing of a swallow is long and narrow, while that of a hen or grouse is short and round. We can tell by the shape of a wing how a bird flies.



Wing of a Swift

5 A long, narrow, pointed wing shows that the bird has an easy, skimming flight—either he flies great distances, or spends hours at a time on wing.

6 The short round wing shows that a bird has a strong flight for short distances. These wings are found mostly on rather heavy birds, like grouse.

7 The longest wings are seen on water birds, such as the petrel and the frigate-bird. The shortest, also, are found among water birds, those who swim more than they fly, as the auks.

Wing of a Sparrow

8 All the feathers of the wing are named, and it will be well to remember that the long stiff quills are called remiges or "rowers." These are firmly rooted in the flesh, and are the hardest to pull out. They are the most important to the safety of the bird.

9 Birds have also another use for their wings. They are a strong weapon to defend themselves, or to fight others. A large bird can give a severe blow with his wing, and when pigeons fight, it is said they hold up one wing to protect themselves while they strike at the enemy with the other.

10 Sometimes wings serve as musical instruments. Woodcocks make whistling sounds with their wings as they fly, and mourning doves softly murmuring ones. Ruffed grouse produce with theirs a rolling drum-like effect, and others rattle theirs like castanets.

11 If wings are not used, they slowly get to be smaller and weaker, each generation having them more and more useless, till after a while they are of no use whatever, and the birds cannot fly at all. This has happened, it is supposed, to the ostrich family and to some birds living in the sea.

12 The tail of a bird is formed of an equal number of feathers in pairs, most often twelve. When spread they are the shape of a fan, and when closed they lie over each other with the middle pair on top.

13 The tail feathers are not always of the same length, and that makes a difference in the shape of the end. Sometimes they are even, when the tail is said to be "square." Sometimes the middle feathers are a little longer than the outside ones, and then it is "rounded" or "pointed." If the outside feathers are longest, the tail is "forked."

14 The feathers of the tail are called rectrices, or "rudders," because they are supposed to be used to steer, or direct the bird's course in flying. But the tail is used also as a brake to check the speed in alighting.

15 The tail is used more than any other organ to express the emotions. Some birds, like the catbird and thrasher, keep it moving nearly all the time, jerking it this way and that, and tossing it upward.

16 In woodpeckers and swifts the tail feathers are not soft at the end like others, but the stems or shafts project beyond the feathery part, and are stiff like the tail of a sapsucker or sharp like that of the chimney swift. These birds use the tail as a prop to hold them against the tree trunk or chimney wall, and to help them in climbing.

17 Tail feathers are not so strongly rooted as wing feathers, and are easily pulled out. Sometimes, when a man or boy tries to catch a bird by the tail, the bird will escape, leaving the tail in his hand.

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12 Why does the author include the sentence "A bird's wing is a wonderful flying-machine, which men have been trying to imitate these many years" (paragraph 2) in the passage?

A to describe how birds are different from humans

B to illustrate how exciting the study of birds' wings is

C to introduce how different birds fly in different ways

D to explain how strong birds' wing feathers can be

Go On

13 Based on the illustrations and the passage, select **two** sentences that tell how swifts and sparrows are **most likely** different.

A Sparrows generally fly shorter distances than swifts do.

B Swifts are water birds, whereas sparrows are not.

C Sparrows have smooth, easy flights, whereas swifts do not.

D Swifts generally flap their wings more than sparrows do.

E Sparrows have weak wings, whereas swifts have powerful wings.

F Swifts are better able than sparrows to use their wings to glide.

14 The following question has two parts. First, answer part A. Then, answer part B.

Part A

Why are a bird's tail feathers less strongly rooted than its wing feathers?

A A bird uses its wing feathers to fly, while it uses its tail feathers to make sounds.

B Even birds that cannot fly need their wing feathers to help them swim.

C Losing its tail feathers is less dangerous to a bird than losing its wing feathers.

D A bird's wing feathers serve a greater variety of purposes than its tail feathers.

Part B

Find **two** sentences in the passage with details that support the correct answer to part A. Write those sentences on the lines below.

15 The author states that a bird's wing can be used as a weapon of defense. Which of the following details from the passage **best** supports this statement?

A "One would not think that feathers could have so much power; but when the wing is spread, the barbs of the feathers hook together with tiny hooks . . ."

B "A large bird can give a severe blow with his wing, and when pigeons fight, it is said they hold up one wing to protect themselves while they strike at the enemy with the other."

C "Woodcocks make whistling sounds with their wings as they fly, and mourning doves softly murmuring ones."

D "Ruffed grouse produce with theirs a rolling drum-like effect, and others rattle theirs like castanets."

16 The following question has two parts. First, answer part A. Then, answer part B.

Part A

Read the sentences from paragraph 14 of the passage.

> The feathers of the tail are called rectrices, or "rudders," because they are supposed to be used to steer, or direct the bird's course in flying. But the tail is used also as a brake to check the speed in alighting.

As used in the passage, the word "alighting" most closely means

A landing

B flying

C steering

D jerking

Part B

Which of the phrases from the passage **best** helps the reader understand the meaning of "alighting"?

A "feathers of the tail"

B "used to steer"

C "direct the bird's course"

D "as a brake"

Go On

Read the story. Then answer the questions that follow.

In the 1930s, the United States was stuck in a deep economic depression that left millions of people without jobs. In part of the Great Plains, an environmental disaster known as the Dust Bowl added to the hard times. A long drought combined with years of poor farming practices made the land vulnerable to extreme wind erosion. Farmers watched helplessly as the topsoil that had once nourished their crops blew away. In this fictional selection, a boy and his family struggle with the hardships of the Dust Bowl.

Dust

by Charles Grayson

1 As Edwin rested his cheek against the side of his cow, Nelly, he could hear the wind whistling through the barn walls and see the air begin to darken with dust. Annie and Jewel were giggling as they played in the hayloft above him when one of the girls began to wheeze. Edwin quickly finished milking the cow and called to his sisters. "Hurry up, girls," he said, "another black blizzard is coming."

2 The wind suddenly picked up strength, and before Edwin's eyes, the farmhouse—only 50 feet away—became nearly invisible. Without hesitation, Edwin grabbed two pieces of heavy twine, tied one around each girl's waist, and then tied the two girls together. He took Annie's hand and instructed her to hold tightly to Jewel. Leaning into the blinding wind, Edwin slowly navigated them back to the house.

3 Inside, Ma was relieved to see the children. With a sigh, she took the milk from Edwin, eyeing the familiar dust that she would try to skim off before serving the milk to her family. Although it was early morning, the dust storm outside made the small farmhouse dark and dismal. Edwin slapped the dirt from his jacket with his hands. He was weary of the dust, too, but he was smiling inside because tomorrow his father was coming home.

4 The next morning dawned clear and calm. Edwin swept the house while his mother worked in the yard, rescuing her daffodils from the dust that had drifted against the foundation of the house like gritty snow. The clatter of a rundown automobile heralded the arrival of Edwin's father, and the boy raced outside.

5 The family gathered around Pa, who hugged each one of them tightly. He had been in Arizona for three weeks picking cotton. This spring the ground was hard and barren, and the constant dust storms made it impossible to cultivate crops. Pa had to find some way to earn money—his children were wearing tattered hand-me-downs, and his small herd of cattle was slowly starving.

6 When Ma asked about the work, Pa said that the wages he earned were far less than what had been promised. Still, he'd brought home enough money to see them through another month. Eventually, the joy of being reunited with his family faded, and the careworn expression returned to Pa's face.

7 After Pa had been home a few days, Edwin overheard his parents having a serious discussion. "I just don't know if I can leave our home," Ma said, a note of grief in her voice. Pa had heard there was work on commercial farms in California, where cotton, oranges, and other crops grew nearly year round.

8 "I know it's not like owning our own farm, but what choice do we have?" Pa pleaded. Afterward, Ma went into the yard and stood for a long time by her beloved lilac bush, staring out at the desolate fields.

9 Later, Pa asked Edwin to ride the horse into town to purchase provisions. Edwin rode at a slow pace, thinking. He didn't like it when his parents argued, and he didn't like it when his father had to leave home to work. Most of all, Edwin wished there was something he could do to assist his family. At the store, he walked past the half-empty shelves to the back counter and asked Mr. Harburger for beans and flour.

10 As Edwin waited, something bright and orange caught his eye. It was an old advertisement on the shelf in front of him—a photograph of a glistening orange grove with the words "Sunny California" splashed across the top. Edwin had never seen an orange grove before. Studying the picture, Edwin's face brightened. "Take it," Mr. Harburger said with a wink. At home, Edwin tacked the picture up next to his bed. One day, Edwin even caught his mother examining the photograph of the orange grove, smiling for the first time in a long time.

11 When autumn arrived, Edwin's parents learned the government was offering to buy starving livestock for slaughter. Most farmers knew their animals could not survive another winter, so they accepted the offer in exchange for some much-needed cash. After a long discussion, Edwin's parents did the same. Edwin sensed a change was coming.

12 The cow Nelly remained, but Edwin could see that she was becoming desperately thin. The next day, Edwin sold Nelly at the Baileys' farm. The Baileys were doing better than most folks, though Edwin couldn't say why. He returned home with 16 dollars in his pocket and a little relief knowing that Nelly would be cared for.

13 Later that evening, Edwin's parents made an important announcement: they would be packing whatever would fit into their old automobile and moving to California. Then Edwin made his own announcement. "Here," he said, handing his father the 16 dollars. "We can buy fuel with this!"

Answer Form

1 Ⓐ Ⓑ Ⓒ Ⓓ
2 Ⓐ Ⓑ Ⓒ Ⓓ
3 Ⓐ Ⓑ Ⓒ Ⓓ
4 Ⓐ Ⓑ Ⓒ Ⓓ
5A Ⓐ Ⓑ Ⓒ Ⓓ
5B Ⓐ Ⓑ Ⓒ Ⓓ

Number Correct ___/6

1 Read this sentence.

> Edwin wants to help his family during this difficult time.

Which of the following sentences from the story **best** supports this statement?

A "After Pa had been home a few days, Edwin overheard his parents having a serious discussion."

B "Later, Pa asked Edwin to ride the horse into town to purchase provisions."

C "At home, Edwin tacked the picture up next to his bed."

D "The next day, Edwin sold Nelly at the Baileys' farm."

2 Which statement **best** supports the idea that the Dust Bowl made it difficult for families to survive?

A "With a sigh, she took the milk from Edwin, eyeing the familiar dust that she would try to skim off before serving the milk to her family."

B "Although it was early morning, the dust storm outside made the small farmhouse dark and dismal."

C "He was weary of the dust, too, but he was smiling inside because tomorrow his father was coming home."

D "Edwin swept the house while his mother worked in the yard, rescuing her daffodils from the dust that had drifted against the foundation of the house like gritty snow."

3 Which statement **best** expresses the theme of this story?

A Don't rely on others for help.

B You can't make a person change.

C Try to find the good in every situation.

D Be content with what you have.

4 The family in the story demonstrates the idea that people are adaptable, or willing to change when needed. Which sentence from the passage **best** shows this idea?

A "Annie and Jewel were giggling as they played in the hayloft above him when one of the girls began to wheeze."

B "Although it was early morning, the dust storm outside made the small farmhouse dark and dismal."

C "Most farmers knew their animals could not survive another winter, so they accepted the offer in exchange for some much-needed cash."

D "He returned home with 16 dollars in his pocket and a little relief knowing that Nelly would be cared for."

5 Answer Parts A and B below.

Part A

Based on the passage, how do Ma's feelings about moving change over time?

A She becomes more and more resistant to the idea of moving.

B She grows more comfortable with the idea of moving.

C She likes the idea of moving initially, then comes to dislike it.

D She becomes more confident that the family should not move.

Part B

Which sentence from the passage **best** shows Ma's changing feelings about moving?

A "With a sigh, she took the milk from Edwin, eyeing the familiar dust that she would try to skim off before serving the milk to her family."

B "'I just don't know if I can leave our home,' Ma said, a note of grief in her voice."

C "Afterward, Ma went into the yard and stood for a long time by her beloved lilac bush, staring out at the desolate fields."

D "One day, Edwin even caught his mother examining the photograph of the orange grove, smiling for the first time in a long time."

6 What evidence in the story helped you to know that the family would move to California, even before Edwin's parents made their announcement? Describe how the events in the story support this inference.

7 Write a summary that includes the conflict in the story and how it is resolved. Use details from the story to support your answer.

8 Answer Parts A, B, and C below.

Part A

Circle only **one** word that describes Edwin based on evidence from the text. There is more than one correct choice listed below.

thoughtless	resourceful	timid
observant	optimistic	stubborn

Part B

Find **one** sentence in the passage with details that support your response to Part A. Write that sentence on the lines below.

_____

_____

_____

_____

Part C

Find a **second** sentence in the passage with details that support your response to Part A. Write that sentence on the lines below.

_____

_____

_____

_____

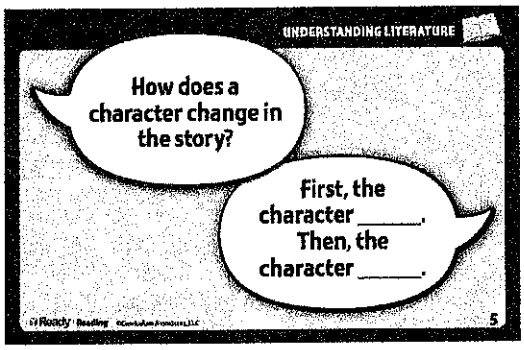
Performance Task—Extended Response

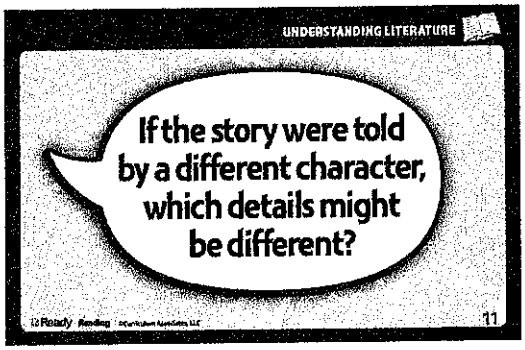
9 What inferences can you make about Edwin's character based on his actions in the story? What events and details from the text helped you make those inferences? Write an essay of two to three paragraphs explaining your answer.

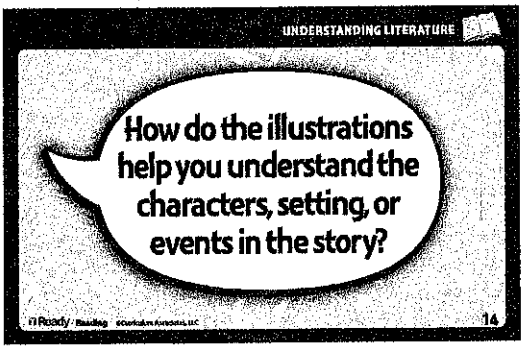
In your answer, be sure to
- explain what inferences you made about Edwin while reading the story
- explain what events and details from the text support your inferences
- cite evidence from the story in your answer

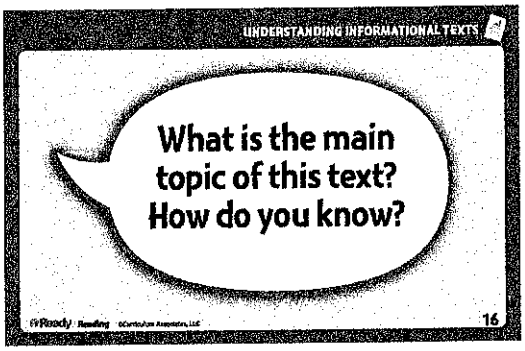
Check your writing for correct spelling, grammar, capitalization, and punctuation.

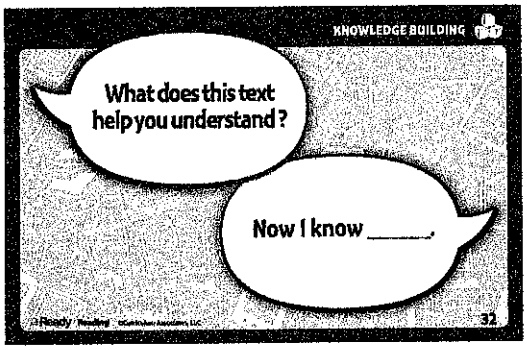
Reading Discourse Cards

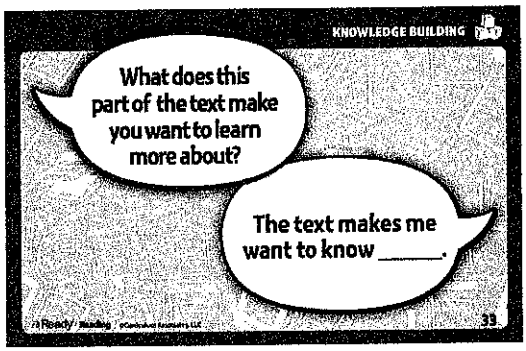


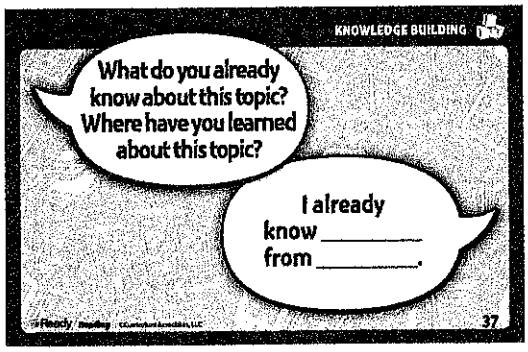


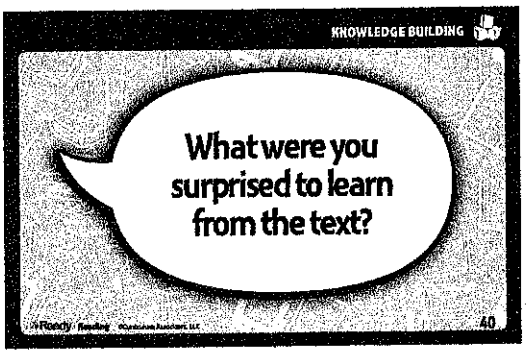


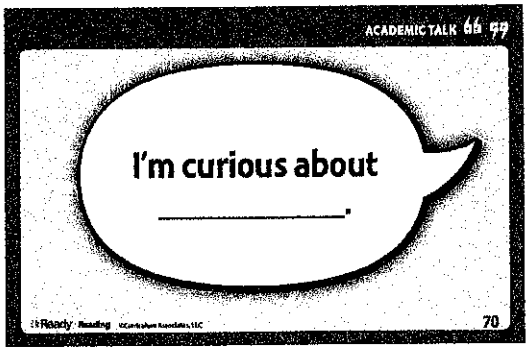


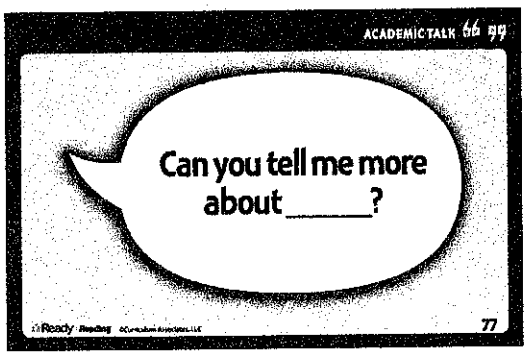












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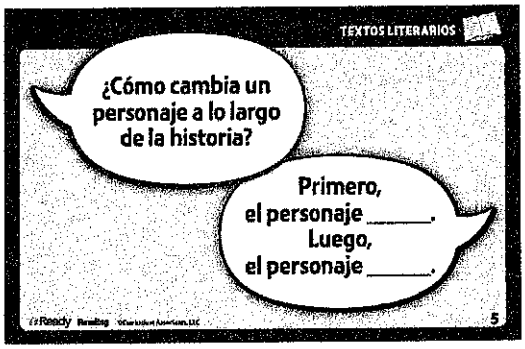

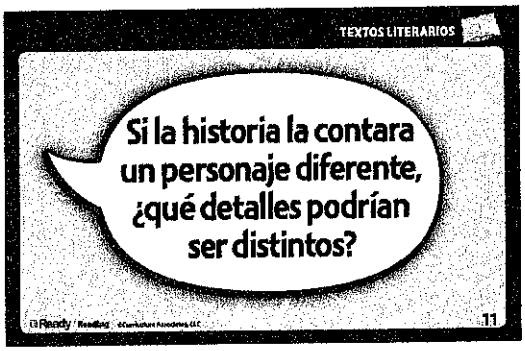

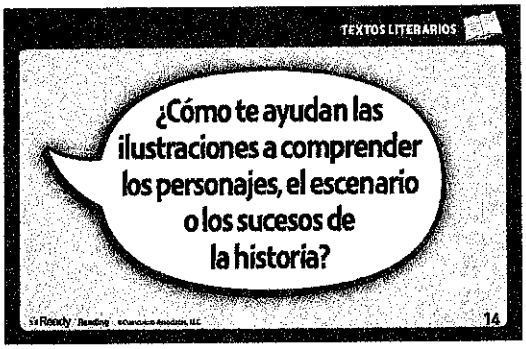

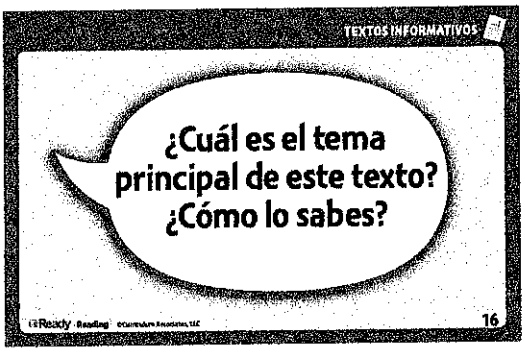

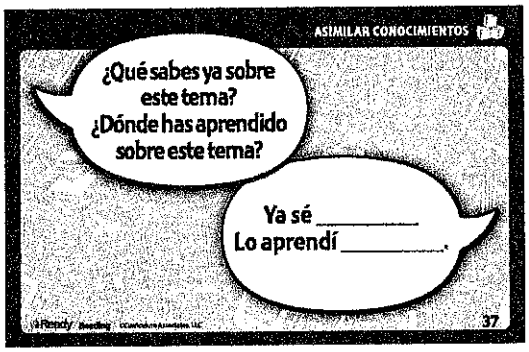

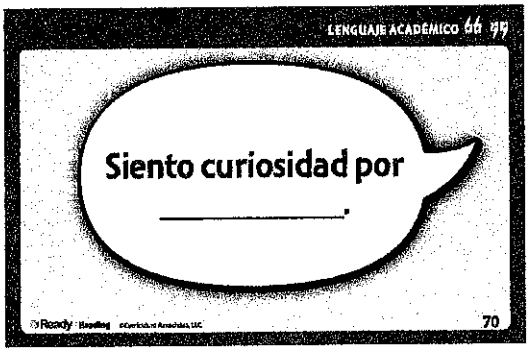

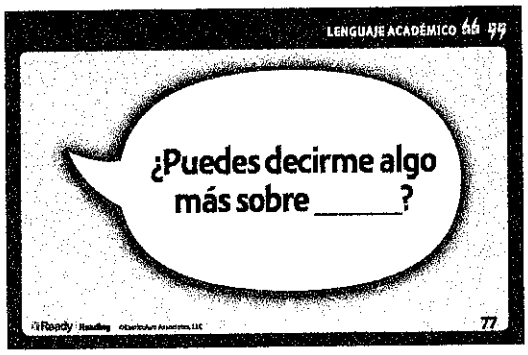

Name: _____ Date: _____

Careers that I might like to have some day include:

_____

_____

_____

In these CAREERS will I need to:

1. Know how to read?	Yes	No
2. Know how to do math?	Yes	No
3. Know how to spell?	Yes	No
4. Know how to write?	Yes	No
5. Arrive at work on time?	Yes	No
6. Get along with others?	Yes	No
7. Listen to my boss?	Yes	No
8. Follow directions?	Yes	No
9. Always do my BEST?	Yes	No

Circle the ones that need to be improved.

Here's how I can improve those areas:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Name: _____ Date: _____

Careers that I might like to have some day include:

_____

_____

_____

In these CAREERS will I need to:

1. Know how to read?	Yes	No
2. Know how to do math?	Yes	No
3. Know how to spell?	Yes	No
4. Know how to write?	Yes	No
5. Arrive at work on time?	Yes	No
6. Get along with others?	Yes	No
7. Listen to my boss?	Yes	No
8. Follow directions?	Yes	No
9. Always do my BEST?	Yes	No

Circle the ones that need to be improved.

Here's how I can improve those areas:

_____

_____

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Name: _____ Class: _____

Casey at the Bat

By Ernest Lawrence Thayer
1888

Ernest Lawrence Thayer (1863-1940) was an American writer and poet, best known for the following poem, which is considered a classic in sports-related literature. As you read, take notes on how the author develops the mood of the poem.

The outlook wasn't brilliant for the Mudville nine[1] that day;
The score stood four to two, with but one inning more to play,
And then when Cooney died at first, and Barrows did the same,
A pall-like[2] silence fell upon the patrons of the game.

"Baseball" by Paul Lim is licensed under CC BY-ND 2.0

A straggling few got up to go in deep despair. The rest
Clung to the hope which springs eternal in the human breast;
They thought, "If only Casey could but get a whack at that—
We'd put up even money now, with Casey at the bat."

But Flynn preceded[3] Casey, as did also Jimmy Blake,
And the former was a hoodoo,[4] while the latter was a cake;[5]
So upon that stricken multitude grim melancholy sat,
For there seemed but little chance of Casey getting to the bat.

But Flynn let drive a single, to the wonderment of all,
And Blake, the much despisèd,[6] tore the cover off the ball;
And when the dust had lifted, and men saw what had occurred,
There was jimmy safe at second and Flynn a-hugging third.

1. The "Mudville Nine" refers to a fictional baseball team in a town called Mudville.
2. relating to a gloom or dreary fog
3. **Precede** ***(verb):*** to come before
4. The term "hoodoo" is meant to imply that this player was a jinx, or bad luck. Originally the poem referred to Flynn as a "lulu," or unskilled player.
5. The term "cake" is meant to imply that this player was also of weak or questionable skill, possibly more concerned with appearances than practice.
6. Here, the accent above the e is called a "grave accent" and is used to signify that the poet intends for the vowel to be pronounced, so as to maintain a certain meter.

COMMONLIT

Then from five thousand throats and more there rose a lusty[7] yell;
It rumbled through the valley, it rattled in the dell;
It pounded on the mountain and recoiled upon the flat,
For Casey, mighty Casey, was advancing to the bat.

There was ease in Casey's manner as he stepped into his place;
There was pride in Casey's bearing and a smile lit Casey's face.
And when, responding to the cheers, he lightly doffed[8] his hat,
No stranger in the crowd could doubt 'twas Casey at the bat.

Ten thousand eyes were on him as he rubbed his hands with dirt;
Five thousand tongues applauded when he wiped them on his shirt;
Then while the writhing[9] pitcher ground the ball into his hip,
Defiance flashed in Casey's eye, a sneer curled Casey's lip.

And now the leather-covered sphere came hurtling through the air,
And Casey stood a-watching it in haughty[10] grandeur[11] there.
Close by the sturdy batsman the ball unheeded sped—
"That ain't my style," said Casey. "Strike one!" the umpire said.

From the benches, black with people, there went up a muffled roar,
Like the beating of the storm-waves on a stern and distant shore;
"Kill him! Kill the umpire!" shouted someone on the stand;
And it's likely they'd have killed him had not Casey raised his hand.

With a smile of Christian charity great Casey's visage[12] shone;
He stilled the rising tumult;[13] he bade the game go on;
He signaled to the pitcher, and once more the dun[14] sphere flew;
But Casey still ignored it and the umpire said, "Strike two!"

"Fraud!" cried the maddened thousands, and echo answered "Fraud!"
But one scornful look from Casey and the audience was awed.
They saw his face grow stern and cold, they saw his muscles strain,
And they knew that Casey wouldn't let that ball go by again.

The sneer is gone from Casey's lip, his teeth are clenched in hate,
He pounds with cruel violence his bat upon the plate;
And now the pitcher holds the ball, and now he lets it go,
And now the air is shattered by the force of Casey's blow.

7. **Lusty** ***(adjective):*** hearty, full of vigor
8. to remove (an article of clothing)
9. **Writhe** ***(verb):*** to twist or squirm
10. **Haughty** ***(adjective):*** arrogantly superior; smug or self-important
11. **Grandeur** ***(noun):*** splendor and magnificence, especially of appearance or style
12. **Visage** ***(noun):*** a person's facial expression
13. **Tumult** ***(noun):*** a loud clamor or noise, especially one caused by a large mass of people
14. of a dull grayish-brown color

Oh, somewhere in this favoured land the sun is shining bright,
[50] The band is playing somewhere, and somewhere hearts are light;
And somewhere men are laughing, and somewhere children shout,
But there is no joy in Mudville—mighty Casey has struck out.

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. Which of the following best states a theme in the text?
   A. It is difficult to fail when you try your hardest.
   B. Too much pride can lead to failure.
   C. Fame is not worth the responsibilities it comes with.
   D. Athletes have more fame and power than they deserve.

2. PART A: What does the term "patrons" most likely mean in line 4?
   A. spectators
   B. businessmen
   C. players
   D. murderers

3. PART B: Which phrase from the poem best supports the answer to Part A?
   A. "but one inning more to play" (Line 2)
   B. "Cooney died at first" (Line 3)
   C. "A straggling few got up to go" (Line 5)
   D. "'We'd put up even money now'" (Line 8)

4. How does the figurative language in stanza 5 contribute to the mood of the poem?
   A. The similes used in the stanza which describe Casey's physical appearance create an excited mood.
   B. The metaphor of the mountain reveals Casey's immense size and creates a fearful mood.
   C. The personification of the crowd's intense reaction creates a terrifying mood.
   D. The hyperbole describing the crowd's excited reaction creates a mood of anticipation.

5. How do stanzas 12-13 contribute to the theme of the poem?

COMMONLIT

Name: _____ Class: _____

First Contact with Europeans

By Stephen Currie
2003

In this informational text, Stephen Currie discusses European explorers' first contact with the American Indians who lived where Florida is today. During this time period, Europeans were just beginning to build settlements on land where American Indians already lived. As you read, take notes on the interactions between European explorers and American Indians.

[1] In 1513, Spanish explorer Juan Ponce de León led an expedition[1] northwest from Puerto Rico. He and his men were looking for a land known as Bimini. According to rumor, Bimini was full of gold. It also was said to be home to the magical Fountain of Youth — a spring whose waters kept people forever young.

"Le Moyne lithograph of Timucua Indians greeting the French - Florida" by Jacques Le Moyne de Morgues is in the public domain.

Ponce de León never located Bimini — at least, he found neither gold nor the Fountain of Youth. He did, however, become the first European to see Florida, as well as the first to meet the native people who lived there. As the explorers sailed north along Florida's southwestern shoreline, they saw some Calusa Indians beckoning them to come ashore. Curious, the Spanish crew dropped anchor and sent several men in small boats to the beach.

This first encounter between Europeans and Indians of the Southeast was far from peaceful. Intrigued[2] by the supplies the visitors carried, the Calusas immediately began carting away tools, oars, and other equipment. When the outnumbered Europeans objected, a Calusa struck and wounded a Spaniard.[3] A brief battle followed, during which two more sailors were injured. The men barely managed to escape back to the safety of the ship.

Ponce de León resolved to return. In 1521, he made a second voyage to Florida. This time, he built a small colony on the shores of the west coast of Florida, the Gulf of Mexico. The Calusas there, however, were even less welcoming than the ones Ponce de León had met in 1513. Within a few months, the Indians attacked the colony, killed many of the Spanish — including Ponce de León — and drove away the rest.

1. **Expedition** *(noun):* journey
2. **Intrigue** *(verb):* to cause interest
3. a person from Spain

[5] Still, the Spanish persisted.[4] In 1539, Hernando de Soto traveled through much of the Southeast, becoming the first European to visit the Indian peoples of Alabama, Georgia, and Mississippi. Unlike the Calusas, however, many of these tribes welcomed the explorers. One Creek ruler, for instance, spoke gracious words of friendship and courtesy while giving de Soto a beautiful string of pearls. Unfortunately, de Soto did not respond in the same manner. Backed by well-armed troops numbering six hundred, he forced the tribes to provide his men with food and shelter. De Soto also enslaved many Indians.

Like Spain, England and France also sent expeditions to the Southeast. The three countries soon began to build towns, forts, and trading posts on American Indian land. In 1564, the French built Fort Caroline near present-day Jacksonville, Florida. The Spanish settled St. Augustine, Florida, one year later. And in 1607, the English established a permanent settlement at Jamestown, Virginia. Little by little, the Europeans were gaining a foothold[5] in the Southeast.

Even when European settlement began, some American Indians were welcoming to the foreigners. Trade was one important reason for this acceptance. The Europeans brought with them metal tools, firearms, and many other objects unknown in North America. Southeastern Indians were eager to trade their own resources for these new valuables.

Other tribes accepted the Europeans for political reasons. Powhatan, the leader of Virginia's Indians, for instance, probably could have destroyed Jamestown soon after it was built, but decided against it. He hoped instead to make a military alliance[6] with the newcomers and eventually defeat his own local enemies.

There were Indian tribes who were deeply suspicious[7] of the Europeans, however. And as time went on, more and more southeastern Indians came to see the negative side of contact with Europeans. The English, French, and Spanish were not interested in sharing the land in North America with the American Indians who had been living there. Rather, the Europeans wanted to expand their empires, control the area's resources, and drive the native peoples away. And, the Europeans' advanced weaponry gave them an enormous edge in fulfilling these desires. Even the American Indians' greater numbers could not make up for the Europeans' firepower.

[10] European contact brought other problems, too. New and unfamiliar diseases were spread among the Indian populations. Because they had never been exposed to these illnesses and had no built-in immunity,[8] the diseases swept through the tribes. In some parts of the Southeast, nine out of ten American Indians died of diseases ranging from measles to chicken pox.

By 1754, it was too late to stop the European advance. The first contact between the Calusa Indians and Ponce de León, two and a half centuries before, had ended with the Spanish being pushed out to sea. But the balance of power had changed. The destruction of the traditional southeastern American Indian culture was well under way.

4. **Persist** *(verb):* to continue to do something
5. a position that allows for further advancement
6. a formal agreement or partnership
7. **Suspicious** *(adjective):* having or showing distrust
8. the ability to be unaffected by an infection or toxin

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: What is the central idea of the text?
   A. American Indians avoided Europeans when they first arrived.
   B. Europeans were willing to share the land with American Indians.
   C. American Indians and Europeans both benefited equally from their alliance.
   D. Europeans clashed with Americans Indians when they arrived in North America.

2. PART B: Which detail from the text best supports the answer to Part A?
   A. "As the explorers sailed north along Florida's southwestern shoreline, they saw some Calusa Indians beckoning them to come ashore." (Paragraph 2)
   B. "Backed by well-armed troops numbering six hundred, he forced the tribes to provide his men with food and shelter." (Paragraph 5)
   C. "Like Spain, England and France also sent expeditions to the Southeast. The three countries soon began to build towns, forts, and trading posts on Indian land." (Paragraph 6)
   D. "Even when European settlement began, some American Indians were welcoming to the foreigners. Trade was one important reason for this acceptance." (Paragraph 7)

3. How does the discussion of Europeans' first meeting with the Calusa Indians contribute to the development of ideas in the text?
   A. It highlights how welcoming American Indians were of the Europeans.
   B. It highlights the conflict between the Europeans and American Indians.
   C. It highlights the Europeans and American Indians' desire to form an alliance.
   D. It highlights how Europeans and American Indians needed each other to survive.

4. What is the meaning of "resolved" as it is used in paragraph 4?
   A. decided
   B. doubted
   C. feared
   D. refused

5. Which of the following describes the author's likely purpose in paragraph 5?
   A. to highlight how much new land the Europeans were able to discover in North America
   B. to suggest that the Europeans didn't realize the American Indians were offering them friendship
   C. to show that the Europeans responded violently to American Indians, even when offered friendship
   D. to show that the Europeans and American Indians were able to share the land in America successfully

6. What is the meaning of "gracious" in paragraph 5?
   A. cruel
   B. kind
   C. misleading
   D. surprising

7. Which of the following describes how the author organizes information in the text?
   A. He describes how Europeans' relationships with American Indians improved over time.
   B. He describes how the power shifted from American Indians to the Europeans over time.
   C. He compares Europeans' exploration of America with their exploration of other countries.
   D. He compares Europeans' relationships with American Indians with their relationship with other Native peoples.

8. How did the arrival of Europeans affect American Indians' way of life? Use evidence from the text to support your answer.

Your most urgent questions about the new coronavirus

By Science News for Students, adapted by Newsela staff on 02.10.20

Word Count **1,292**

Level **MAX**

Image 1. Children wear masks at a train station in Hong Kong, January 22, 2020. A new coronavirus emerged in Wuhan, China, in December 2019. As of February 10, 2020, it had infected more than 40,000 people globally and resulted in more than 900 deaths. Photo: Kin Cheung/AP Photo

Scientists are racing to unravel the mysteries of a new coronavirus that recently emerged in China. The outbreak is now a global public health emergency, the World Health Organization said on January 30. As of February 10, the virus had infected more than 40,000 people globally and resulted in more than 900 deaths. Its rapid spread has sparked global concern. It also is triggering many questions from researchers and the public alike. In this rapidly evolving epidemic, many unknowns remain.

Here's what we know so far about what's known as the 2019 novel coronavirus, or 2019-nCoV.

What is 2019-nCoV?

Coronaviruses are one of a variety of viruses that typically cause colds. But three members of this viral family have caused more severe outbreaks that include pneumonia (a type of inflammatory lung disease) and risk of death. The first was severe acute respiratory syndrome, or SARS. Then

came Middle East respiratory syndrome, or MERS. Now there is 2019-nCoV. This latest coronavirus first emerged in Wuhan, China.

When did the outbreak start?

Chinese officials notified the World Health Organization on December 31, 2019, of an unknown pneumonia-like disease in 44 patients. Initial reports tied this disease to a seafood market in Wuhan, a city in central China's Hubei Province.

But the earliest cases may not be related to exposure at the market. That's what a team of Chinese researchers reported January 24 in The Lancet. The earliest known patient got sick on December 1. He had not been exposed to the market, according to the study, although the first person who died had been.

"The market was not the [source of the] index case. It was an amplifier," said Anthony Fauci. "People crowded in the market infected each other." Fauci directs the National Institute of Allergy and Infectious Diseases in Bethesda, Maryland.

Where did the virus come from?

Coronaviruses originate in wild animals. Sometimes they leap to humans.

Current data suggest that the virus made the leap from animals to humans just once and that since then it has been moving between people. Based on how closely related the viruses are that have been isolated from patients, animals from the seafood market probably didn't give people the virus multiple times (as researchers once thought).

Can it infect pets?

There are currently no reports of pets getting sick with 2019-nCoV.

Several types of coronaviruses can infect animals, and in some cases it can make them ill. So the U.S. Centers for Disease Control and Prevention, or CDC, advises avoiding contact with pets and wearing a face mask if you are sick.

While the CDC recommends that people traveling to China avoid animals, the agency says there is no reason to believe that animals or pets in the United States can transmit the virus.

What are the symptoms of a 2019-nCoV infection?

People sickened by the new virus may develop a fever, cough and difficulty breathing, according to the CDC. Though many people with 2019-nCoV might experience mild symptoms, others can develop pneumonia.

The CDC reports that symptoms of 2019-nCoV may appear from two to 14 days after exposure. On average, it may take someone five days to become visibly sick, researchers reported January 29 in the New England Journal of Medicine. That number, however, is based on only 10 patients, so it needs further study, the researchers wrote.

How infectious is the virus?

Researchers don't yet know, but since 2019-nCoV has never infected humans before last year, people have not yet developed immunity to it. So it's likely that everyone is vulnerable to becoming infected.

How long does it stay on surfaces?

Researchers aren't sure, but not very long. Or that's what they expect, based on what they know about other coronaviruses. These viruses typically survive on a surface for only a few hours, notes Nancy Messonnier. She directs the CDC's National Center for Immunization and Respiratory Disease in Atlanta, Georgia.

While it's still unclear how the new virus spreads, coronaviruses in general are thought to be spread primarily by respiratory droplets. These are spread when patients cough, for instance. There is no evidence suggesting 2019-nCoV can be transmitted from things such as imported goods, according to the CDC.

How does it spread?

The new virus is spreading from person to person. Like SARS and MERS, it probably spreads between people similarly to other respiratory diseases, the CDC says. Respiratory droplets from an infected person's cough or sneeze can carry the virus to someone new.

Some coronaviruses can cause the common cold. Severe coronaviruses infect deeper parts of the respiratory tract than cold viruses do. So infected people are not usually contagious until they start to show symptoms, says Stanley Perlman. He's a virologist at the University of Iowa in Iowa City.

There have been some reports of people without symptoms spreading 2019-nCoV. And because people might be infected and not show obvious symptoms, doctors should isolate patients and trace their contacts as soon as possible.

How far has 2019-nCoV spread?

So far, it's not clear how many people the virus has sickened. Epidemiologists — researchers who work as disease detectives — are attempting to come up with a good estimate.

Through the end of January, most of the thousands of people with confirmed diagnoses of the new virus have been in China. But several other countries — 27 as of February 7 — also reported isolated cases. Many of these patients had just returned from a trip to China.

A few countries outside China are now reporting human-to-human transmission, including Vietnam, Germany and the United States.

How deadly is the disease?

The coronaviruses that cause colds usually bring fairly mild symptoms. They tend to just affect the upper airways (sinuses and throat). But the new virus is more like SARS and MERS. It penetrates much deeper into the respiratory tract. 2019-nCoV is "a disease that causes more lung disease than sniffles," says Fauci of the National Institute of Allergy and Infectious Diseases. It's damage to the lungs that can make these viruses deadly.

An analysis of 99 hospitalized patients, including the first cases from Wuhan, shows that 17 developed what is known as acute respiratory distress syndrome. It's a condition that affects the lungs and can limit the blood from getting enough oxygen. Eleven of these patients would go on to die from multiple organ failure.

Right now, the 2019-nCoV death rate appears to be about four in every 100 infected people. That's what the World Health Organization reported on January 23. But that number may well change as more cases are diagnosed, Fauci notes.

What is the situation in the U.S.?

As of February 4, health officials had confirmed the coronavirus in 11 people. These included two infected by someone else in the U.S.

Twenty U.S. airports began actively screening travelers from China for symptoms in late January. Because of the relatively rapid release of information from China, countries like the U.S. have had time to put strong screening procedures in place.

What are the best ways to protect yourself?

There is no drug or vaccine to treat or prevent 2019-nCoV. But there are things people can do to limit the chance they will become infected. And they aren't much different from what you'd do to keep from picking up colds or the flu, the CDC says.

Wash your hands with soap and water for at least 20 seconds. Other tips include covering your mouth when you cough or sneeze. Finally, don't touch your eyes, nose or mouth. Who knows what viruses might have been on surfaces that you touched?

Quiz

1 Which statement is a central idea of the article?

(A) The coronavirus had infected 11 people in the United States as of February 4.

(B) The coronavirus is a serious health concern for people all over the world.

(C) The coronavirus is a new type of illness that is similar to the common cold.

(D) The coronavirus has symptoms such as cough and difficulty breathing.

2 Which sentence from the article would be MOST important to include in a summary of the article?

(A) Current data suggest that the virus made the leap from animals to humans just once and that since then it has been moving between people.

(B) Several types of coronaviruses can infect animals, and in some cases it can make them ill.

(C) She directs the CDC's National Center for Immunization and Respiratory Disease in Atlanta, Georgia.

(D) 2019-nCoV is "a disease that causes more lung disease than sniffles," says Fauci of the National Institute of Allergy and Infectious Diseases.

3 What is MOST likely the reason the author included the information about SARS?

(A) to explain that another virus was much more deadly than the coronavirus

(B) to emphasize that most types of the coronavirus orignated in Wuhan, China

(C) to describe another type of coronavirus that posed a threat to humans

(D) to stress that some diseases are not directly spread by contact between humans

4 Read the following selection.

But the earliest cases may not be related to exposure at the market. That's what a team of Chinese researchers reported January 24 in The Lancet. The earliest known patient got sick on December 1. He had not been exposed to the market, according to the study, although the first person who died had been.

Why did the author include this idea?

(A) to introduce uncertainty about the origin of the coronavirus

(B) to explain how many people have been infected by the coronavirus

(C) to stress the danger that the coronavirus poses to humans

(D) to describe how people can protect themselves from the coronavirus

Solving Equations

Key Concepts:

Inverse Operations:

The inverse of addition is _____

The inverse of subtraction is _____

The inverse of multiplication is _____

The inverse of division is _____

You can be absolutely sure you have 100% of your equations solved correctly if you take the time to check your answers.

How I feel about this concept:

☐ I Completely Get It ☐ I'm Struggling

☐ I've Almost Got It ☐ I'm Lost

I still don't understand:

Practice:

Solve each equation.

1) $7x = 49$

2) $2 + x = 26$

3) $x - 8 = 4$

4) $23 + x = 30$

5) $x - 75 = 4$

6) $x \div 2 = 8$

Is the given number a solution to the equation?

7) $x \div 5 = 40$; $x = 8$

8) $15x = 45$; $x = 3$

Solving Equations

Directions: Solve each equation. Show your work.

1) Solve for x: $x \div 12 = 24$

Show your check.

2) Solve for x: $x - 20 = 4$

Show your check.

3) Is the given number a solution to the equation? $x + 12 = 15$; $x = 27$

4) Mrs. Jacobs purchased 10.2 ounces of candy for her class. Each student gets 0.85 ounces. Write and solve an equation to determine how many students are in Mrs. Jacobs' class.

Show your check.

5) Hilda can run one mile in 7.5 minutes. Write and solve an equation to determine how far she can run in 67.5 minutes.

Show your check.

6) Is the given number a solution to the equation? $9x = 72$; $x = 8$

7) Kiara has $450 in the bank. After buying groceries she has $398.72 left in her account. Write and solve an equation to determine how much she spent at the grocery store.

Show your check.

8) Solve for x: $x \div 1.5 = 30$

Show your check.

Name _____ Class _____ Date _____

Cumulative Review

Chapters 1–8

Multiple Choice. Choose the letter of the best answer.

1. What is $\frac{4}{12} + \frac{6}{12}$ in simplest form?

   A. $\frac{1}{6}$ B. $\frac{10}{24}$

   C. $\frac{11}{12}$ D. $\frac{5}{6}$

2. Which is the closest estimate of $3\frac{1}{3} - 1\frac{3}{8}$?

   F. 1 G. $1\frac{1}{2}$

   H. $2\frac{3}{4}$ J. 4

3. Adina has a 14-foot piece of rope and she wants to cut it into $3\frac{1}{2}$-foot lengths. How many $3\frac{1}{2}$-foot pieces can she make from the original rope?

   A. 3 pieces B. 4 pieces

   C. 5 pieces D. 49 pieces

4. How many gallons are in 12 quarts?

   F. 24 G. 8

   H. 3 J. 2

5. Use mental math to find the value of y.
   $\frac{7}{18} = \frac{y}{36}$

   A. 7 B. 14

   C. 21 D. 28

6. What is 37 out of every 100 throws expressed as a percent?

   F. 100% G. 74%

   H. 37% J. 3.7%

7. What is the least common multiple of 100 and 20?

   A. 5 B. 10

   C. 100 D. 2000

8. What is the perimeter of an equilateral triangle whose sides are 16 centimeters?

   F. 19 cm G. 32 cm

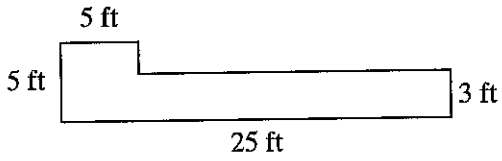
   H. 48 cm J. 64 cm

9. What is the perimeter of a square with an area of 16 square centimeters?

   A. 4 cm B. 8 cm

   C. 12 cm D. 16 cm

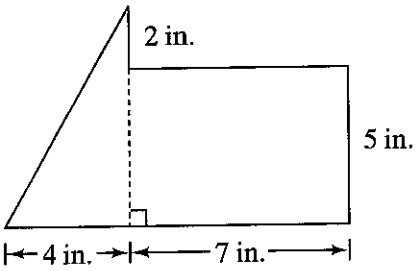
10. What is the perimeter of the figure below?



    F. 38 ft G. 40 ft

    H. 60 ft J. 75 ft

11. What is the area of the figure below?



    A. 18 in.^{2} B. 43 in.^{2}

    C. 49 in.^{2} D. 63 in.^{2}

12. The length of a bridge on a map is 3 inches. The actual length of the bridge is 12 miles. What is the scale of the map?

    F. 1 in. : 4 mi

    G. 1 in. : 8 mi

    H. 1 in. : 12 mi

    J. 1 in. : 24 mi

Name _____ Class _____ Date _____

Cumulative Review (continued)

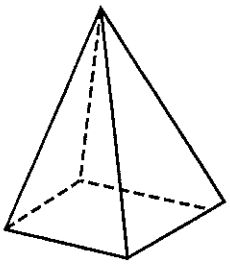
Chapters 1–8

13. Which number is less than $|-4|$?

A. $|-5|$ B. $|-6|$

C. 4 D. -6

14. Name the three-dimensional figure shown below.



F. Square pyramid G. Rectangular prism

H. Quadrilateral J. Triangular pyramid

15. What is the name given to a polygon with 6 sides?

A. sixagon B. decagon

C. hexagon D. octagon

16. Which of the following is NOT a type of quadrilateral?

F. equilateral triangle G. trapezoid

H. rhombus J. parallelogram

17. Write $\frac{2}{5}$ as a percent and as a decimal.

A. 20%, 0.2 B. 25%, 0.25

C. 40%, 0.4 D. 52%, 0.52

18. What is 35% of 46?

F. 161 G. 156.4

H. 16.1 J. 16

19. Find the surface area of a rectangular prism with a length of 5 centimeters, a width of 4 centimeters, and a height of 3 centimeters.

A. 3 cm B. 47 cm^2

C. 94 cm^2 D. 104 cm^2

20. What is the volume of a rectangular prism with length = 10 cm, width = 2 cm, and height = 4.5 cm?

F. 16.5 cm^3 G. 20 cm^3

H. 90 cm^3 J. 102.5 cm^3

21. What is the area of a parallelogram with height 3.7 m and base 4.2 m?

A. 12.14 m^2 C. 15.54 m^2

B. 16 m^2 D. 16.25 m^2

Use the spreadsheet below for Exercises 22–24.

	A	B	C	D	E
1	Day	Time Start	Time Stop	Hours Worked	Amount Earned
2	Sun.	3	6		
3	Wed.	6	8		
4	Fri.	6	10		
5	Sat.	7	11		
6			Totals		

22. Kelly baby-sits weekly and earns $3.75 an hour. The spreadsheet shows a typical weekly schedule for her. What is the formula for cell D4?

F. = B4 − C4

G. = C4 − B4

H. = B4 + C4

J. = D2 + D3

23. How much did Kelly earn on Saturday night?

A. $3.75 B. $7.50

C. $11.25 D. $15.00

24. What is the formula for cell E6?

F. = E2 + E3 + E4 + E5

G. = A6 + B6 + C6 + D6

H. = (C6 − B6) × 3.75

J. = 4 × D6

Short Response

25. You measure the distance you biked in kilometers but need to submit the distance biked to your gym teacher in meters. If you biked 10.6 km, how many meters will you submit to your gym teacher?

_____

Name _____ Class _____ Date _____ Answer Sheet

Cumulative Review

Chapters 1–8

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1. What is $\frac{4}{12} + \frac{6}{12}$ in simplest form?

   A. $\frac{1}{6}$ B. $\frac{10}{24}$

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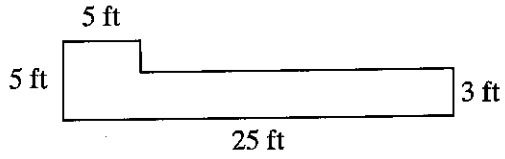

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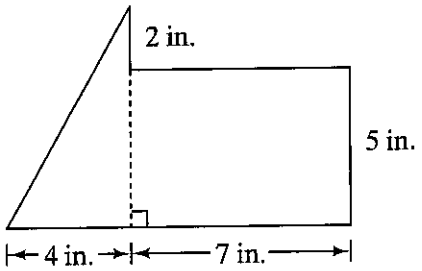

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Name _____ Class _____ Date _____ Answer Sheet

Cumulative Review (continued)

Chapters 1–8

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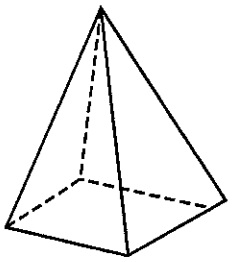

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24. What is the formula for cell E6?

(F.) = E2 + E3 + E4 + E5

G. = A6 + B6 + C6 + D6

H. = (C6 − B6) × 3.75

J. = 4 × D6

Short Response

25. You measure the distance you biked in kilometers but need to submit the distance biked to your gym teacher in meters. If you biked 10.6 km, how many meters will you submit to your gym teacher?

10,600 m

Name _____ Class _____ Date _____

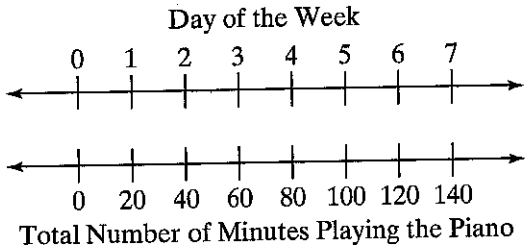
Reteaching 5-1

Ratios

Ratios on a Tape Diagram: The tape diagram shows the ratio of boys to girls in a swimming class. How can you describe the ratio of boys to girls?

For every 6 boys in the class, there are 5 girls in the class.

Using a Double Number Line diagram: Megan plays the piano every day. Using the double number line, describe the ratio of the number of days she plays the piano in one week to the total number of minutes she plays the piano that week.



Write each ratio in two other ways.

1. $\frac{10}{20}$ _____
2. $\frac{1}{4}$ _____
3. 6 : 8 _____
4. 7 : 21 _____
5. 25 to 30 _____
6. 80 to 100 _____
7. $\frac{2}{3}$ _____
8. 44 : 45 _____

Write the ratio described in each problem.

9. A bookstore has three times as many paperback books as hardcover books. Write a ratio describing the number of paperback books to the number of hardcover books.

_____

10. A doggie daycare currently has 15 large dogs. They have 8 medium-size dogs and 9 small dogs. Write a ratio to describe the number of small dogs to the number of large dogs.

_____

Describe the ratio shown in each diagram.

11. 

_____

12. 

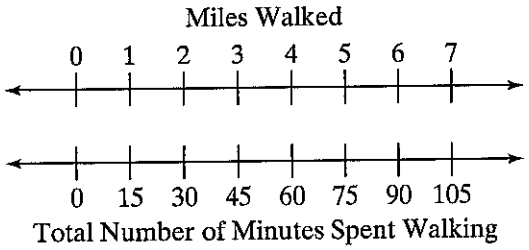
_____

Reteaching 5-1 (continued)

13.

Describe the ratio shown in each diagram and explain the meaning of the ratio.

14.



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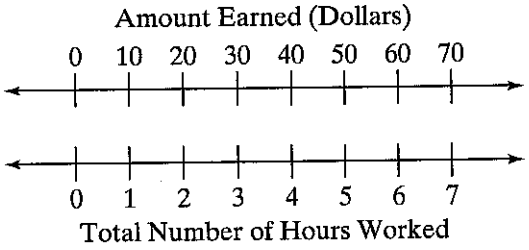

Name _____ Class _____ Date Answers

Reteaching 5-1

Ratios

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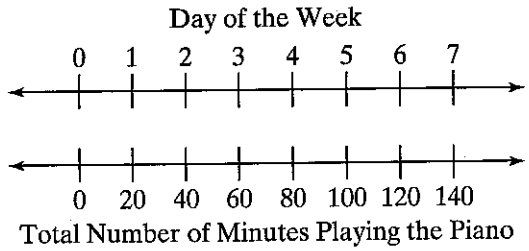


Write each ratio in two other ways.

1. $\frac{10}{20}$ — 10 : 20, 10 to 20
2. $\frac{1}{4}$ — 1 : 4, 1 to 4
3. 6 : 8 — $\frac{6}{8}$, 6 to 8
4. 7 : 21 — $\frac{7}{21}$, 7 to 21
5. 25 to 30 — 25 : 30, $\frac{25}{30}$
6. 80 to 100 — $\frac{80}{100}$, 80 : 100
7. $\frac{2}{3}$ — 2 : 3, 2 to 3
8. 44 : 45 — 44 to 45, $\frac{44}{45}$

Write the ratio described in each problem.

9. A bookstore has three times as many paperback books as hardcover books. Write a ratio describing the number of paperback books to the number of hardcover books.

   $\frac{3}{1}$, 3 : 1, or 3 to 1

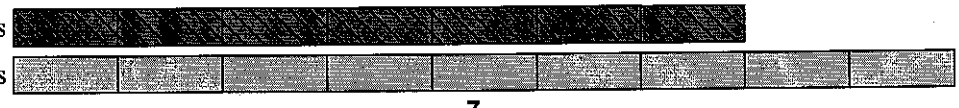
10. A doggie daycare currently has 15 large dogs. They have 8 medium-size dogs and 9 small dogs. Write a ratio to describe the number of small dogs to the number of large dogs.

    $\frac{9}{15}$, 9 : 15, or 9 to 15

Describe the ratio shown in each diagram.

11. 

    $\frac{4}{8}$, 4 : 8, or 4 to 8

12. 

    $\frac{7}{9}$, 7 : 9, 7 to 9

Name _____ Class _____ Date Answers

Reteaching 5-1 (continued)

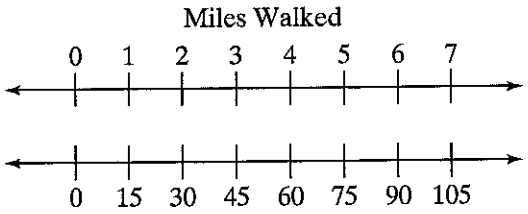
Ratios

13.

$\frac{12}{15}$, 12 : 5, 12 to 5

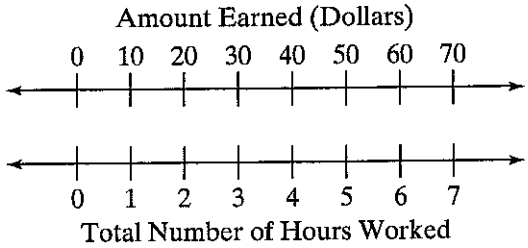
Describe the ratio shown in each diagram and explain the meaning of the ratio.

14.



$\frac{1}{15}$, 1 : 15, or 1 to 15; for every mile walked, 15 minutes were spent walking.

15.



$\frac{10}{1}$, 10 : 1 or 10 to 1; for every $10 earned, one hour of work has been completed.

Name _____ Class _____ Date _____

Reteaching 5-2

Unit Rates

A *rate* is a ratio that compares quantities that are measured in different units. Suppose a sprinter runs 100 yards in 10 seconds.

$\frac{100\text{ yd}}{10\text{ s}}$ compares yards to seconds.

A *unit rate* compares a quantity to one unit of another quantity.

You can find the unit rate by dividing by the denominator.

$$\frac{100\text{ yd} \div 10}{10\text{ s} \div 10} = \frac{10\text{ yd}}{1\text{ s}}$$

10 yards per second is the sprinter's unit rate.

Find the unit cost for each situation.

1. \$70 for 10 shirts _____
2. \$150 for 3 games _____
3. \$20 for 5 toys _____
4. \$120 for 6 shirts _____
5. \$45 for 5 boxes _____
6. \$132 for 3 books _____
7. \$100 for 5 rackets _____
8. \$56 for 7 hours _____
9. \$1.98 for 6 cans _____

Write the unit rate as a ratio. Then find an equal ratio.

10. The cost is \$4.25 for 1 item. Find the cost of 5 items. _____
11. There are 7 cheerleaders in a squad. Find the number of cheerleaders on 12 squads. _____
12. The cost if \$10.10 for 1 item. Find the cost of 10 items. _____
13. There are 2.54 centimeters per one inch. Find the number of centimeters in 5 inches. _____

For Exercises 14–16, tell which unit rate is greater.

14. Dillan scores 24 points in 2 games. Eric scores 40 points in 4 games. _____
15. A fern grows 4 inches in 2 months. A tree grows 6 inches in 4 months. _____
16. Tyler jogs 4 miles in 32 minutes. Joey jogs 2 miles in 18 minutes. _____

Name _____ Class _____ Date Answers

Reteaching 5-2

Unit Rates

A *rate* is a ratio that compares quantities that are measured in different units. Suppose a sprinter runs 100 yards in 10 seconds.

$\frac{100\text{ yd}}{10\text{ s}}$ compares yards to seconds.

A *unit rate* compares a quantity to one unit of another quantity.

You can find the unit rate by dividing by the denominator.

$$\frac{100\text{ yd} \div 10}{10\text{ s} \div 10} = \frac{10\text{ yd}}{1\text{ s}}$$

10 yards per second is the sprinter's unit rate.

Find the unit cost for each situation.

1. \$70 for 10 shirts — **\$7/shirt**
2. \$150 for 3 games — **\$50/game**
3. \$20 for 5 toys — **\$4/toy**
4. \$120 for 6 shirts — **\$20/shirt**
5. \$45 for 5 boxes — **\$9/box**
6. \$132 for 3 books — **\$44/book**
7. \$100 for 5 rackets — **\$20/racket**
8. \$56 for 7 hours — **\$8/hour**
9. \$1.98 for 6 cans — **\$0.33/can**

Write the unit rate as a ratio. Then find an equal ratio.

10. The cost is \$4.25 for 1 item. Find the cost of 5 items. **\$21.25**
11. There are 7 cheerleaders in a squad. Find the number of cheerleaders on 12 squads. **84 cheerleaders**
12. The cost if \$10.10 for 1 item. Find the cost of 10 items. **\$101**
13. There are 2.54 centimeters per one inch. Find the number of centimeters in 5 inches. **12.7 cm**

For Exercises 14–16, tell which unit rate is greater.

14. Dillan scores 24 points in 2 games. Eric scores 40 points in 4 games. **24 points in 2 games**
15. A fern grows 4 inches in 2 months. A tree grows 6 inches in 4 months. **4 inches in 2 months**
16. Tyler jogs 4 miles in 32 minutes. Joey jogs 2 miles in 18 minutes. **4 miles in 32 minutes**

Name _____ Class _____ Date _____

Reteaching 5-3

Equivalent Ratios and Rates

Two ratios that name the same number are **equivalent ratios**.

You can use multiplication tables to find equivalent ratios.

1. Use a multiplication table to find three ratios that are equivalent to 2 to 3.

×	1	2	3	4
1	1	2	3	4
2	2	4	6	8
3	3	6	9	12
4	4	8	12	16

2. The equivalent ratios are 4 to 6, 6 to 9, and 8 to 12.

How to solve rate problems:

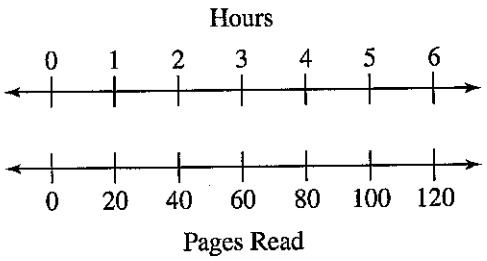
Given: Maggie reads 20 pages an hour. She reads for 3 hours.
How many pages will she have read after 3 hours?

1. Method 1: Make a table of equivalent ratios.

Hours	1	2	3
Pages Read	20	40	60

Maggie reads 60 pages after 3 hours.

2. Method 2: Make a double number line.



Maggie reads 60 pages after 3 hours.

Use equivalent ratios and rates to answer each question.

1. Chen rode her bicycle for 15 minutes, 4 days in a row. How long did she ride her bike in total over the 4 days? _____
2. A hot dog costs $1.25. How much do 10 hot dogs cost? _____
3. Elijah works in the garden three times a week for one month. How many times does Elijah work in the garden in one month? _____

Reteaching 5-3 (continued)

4. Sarah made a snack mix using pretzels and popcorn. The ratio of pretzels to popcorn was 5:15. She used 6 cups of popcorn. How many cups of pretzels did she use? _____

5. The ratio of adults to children at a park is 1/3. The total number of people at the park is 36. How many children are at the park? _____

Name _____ Class _____ Date Answers

Reteaching 5-3

Equivalent Ratios and Rates

Two ratios that name the same number are **equivalent ratios**.

You can use multiplication tables to find equivalent ratios.

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3	3	6	9	12
4	4	8	12	16

2. The equivalent ratios are 4 to 6, 6 to 9, and 8 to 12.

How to solve rate problems:

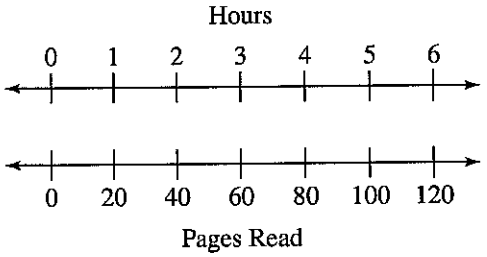
Given: Maggie reads 20 pages an hour. She reads for 3 hours.
How many pages will she have read after 3 hours?

1. Method 1: Make a table of equivalent ratios.

Hours	1	2	3
Pages Read	20	40	60

Maggie reads 60 pages after 3 hours.

2. Method 2: Make a double number line.



Maggie reads 60 pages after 3 hours.

Use equivalent ratios and rates to answer each question.

1. Chen rode her bicycle for 15 minutes, 4 days in a row. How long did she ride her bike in total over the 4 days? **60 minutes**
2. A hot dog costs $1.25. How much do 10 hot dogs cost? **$12.50**
3. Elijah works in the garden three times a week for one month. How many times does Elijah work in the garden in one month? **12 times**

Name _____ Class _____ Date Answers

Reteaching 5-3 (continued)

Equivalent Ratios and Rates

4. Sarah made a snack mix using pretzels and popcorn. The ratio of pretzels to popcorn was 5:15. She used 6 cups of popcorn. How many cups of pretzels did she use? **2 cups**

5. The ratio of adults to children at a park is 1/3. The total number of people at the park is 36. How many children are at the park? **27 children**

Name _____ Class _____ Date _____

Reteaching 5-4

Using Ratios to Convert Measurement Units

To convert from one unit of measurement to another, use a ratio of equivalent measurements in which the two quantities are equal, but use different units.

Example 1: Use Ratios to Convert Measures
Hannah has a 96 inch jump rope. What is the length of the jump rope in feet?

First, write a ratio to relate feet and inches. Write the new unit, feet, in the numerator. 1 foot/12 inches

Then multiply the given measurement by the ratio:

$$96\ inches = 96\ inches \times \left(\frac{1\ foot}{12\ inches}\right)$$

$$= 96\ inches \times \left(\frac{1\ foot}{12\ inches}\right)$$

$$= \frac{96\ feet}{12} = 8\ feet$$

Hannah's jump rope is 8 feet long.

Example 2: Converting Metric Units
Convert 2 meters to kilometers.

Multiply the given measure by the correct ratio of equivalent measurements. Write the new units, kilometers, in the numerator.

$$2\ meters = 2\ meters \times \left(\frac{1\ kilometer}{1{,}000\ meters}\right)$$

$$= 2\ meters \times \left(\frac{1\ kilometer}{1000\ meters}\right)$$

$$= \frac{2\ kilometer}{1000} = 0.002\ kilometer$$

Exercises:

Convert each measurement.

1. 3 grams to milligrams _____
2. 200 centiliters to liters _____
3. 12 meters to centimeters _____
4. 16 cups to quarts _____
5. 3 feet to inches _____
6. 12 pints to cups _____
7. 2 miles to yards _____
8. 5 kilometers to meters _____

Name _____ Class _____ Date Answers

Reteaching 5-4

Using Ratios to Convert Measurement Units

To convert from one unit of measurement to another, use a ratio of equivalent measurements in which the two quantities are equal, but use different units.

Example 1: Use Ratios to Convert Measures
Hannah has a 96 inch jump rope. What is the length of the jump rope in feet?

First, write a ratio to relate feet and inches. Write the new unit, feet, in the numerator. 1 foot/12 inches

Then multiply the given measurement by the ratio:

$$96\ inches = 96\ inches \times \left(\frac{1\ foot}{12\ inches}\right)$$

$$= 96\ inches \times \left(\frac{1\ foot}{12\ inches}\right)$$

$$= \frac{96\ feet}{12} = 8\ feet$$

Hannah's jump rope is 8 feet long.

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$$= 2\ meters \times \left(\frac{1\ kilometer}{1000\ meters}\right)$$

$$= \frac{2\ kilometer}{1000} = 0.002\ kilometer$$

Exercises:

Convert each measurement.

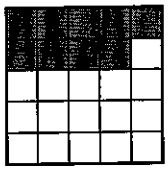
1. 3 grams to milligrams **3,000 milligrams**
2. 200 centiliters to liters **2 liters**
3. 12 meters to centimeters **1200 centimeters**
4. 16 cups to quarts **4 quarts**
5. 3 feet to inches **36 inches**
6. 12 pints to cups **24 cups**
7. 2 miles to yards **3,520 yards**
8. 5 kilometers to meters **5000 meters**

Name _____ Class _____ Date _____

Reteaching 5-5

Understanding Percents

A **percent** is a ratio that compares a number to 100. The figure at the right contains 25 squares.



$\frac{9}{25}$ of the squares are shaded.

To write $\frac{9}{25}$ as a percent, follow these steps.

① Write a ratio with a denominator of 100 that is equal to $\frac{9}{25}$.

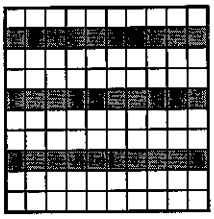
② Write the ratio as a percent.

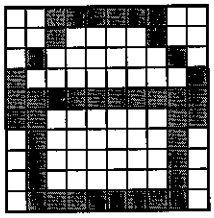
$\frac{9}{25} = \frac{9 \cdot 4}{25 \cdot 4} = \frac{36}{100}$

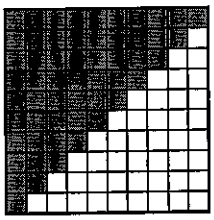
$\frac{36}{100} = 36\%$

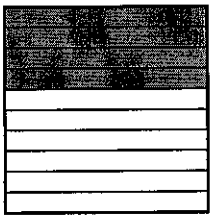
36% of the squares are shaded.

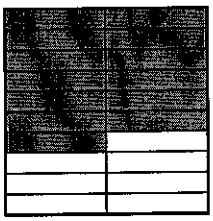
Write a percent for each shaded figure.

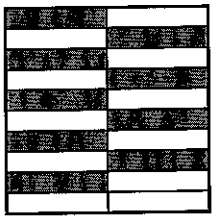
1. 

2. 

3. 

4. 

5. 

6. 

Write each ratio as a percent.

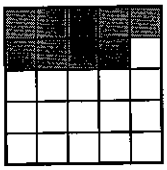
7. $\frac{3}{5}$ _____
8. $\frac{17}{100}$ _____
9. $\frac{18}{25}$ _____
10. $\frac{8}{10}$ _____
11. $\frac{1}{4}$ _____
12. $\frac{17}{50}$ _____
13. $\frac{7}{20}$ _____
14. $\frac{21}{25}$ _____
15. $\frac{3}{10}$ _____
16. $\frac{2}{5}$ _____
17. $\frac{99}{100}$ _____
18. $\frac{11}{20}$ _____
19. $\frac{1}{10}$ _____
20. $\frac{39}{50}$ _____
21. $\frac{19}{20}$ _____

Name _____ Class _____ Date Answers

Reteaching 5-5

Understanding Percents

A **percent** is a ratio that compares a number to 100. The figure at the right contains 25 squares.



$\frac{9}{25}$ of the squares are shaded.

To write $\frac{9}{25}$ as a percent, follow these steps.

① Write a ratio with a denominator of 100 that is equal to $\frac{9}{25}$.

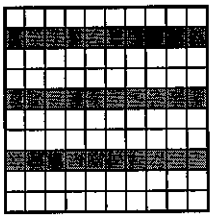
② Write the ratio as a percent.

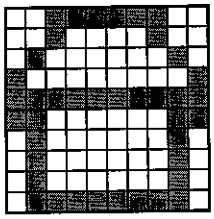
$\frac{9}{25} = \frac{9 \cdot 4}{25 \cdot 4} = \frac{36}{100}$

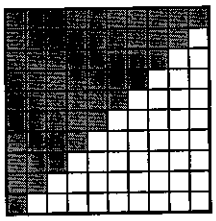
$\frac{36}{100} = 36\%$

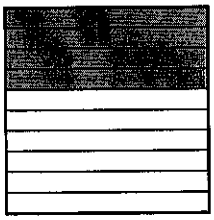
36% of the squares are shaded.

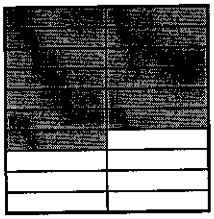
Write a percent for each shaded figure.

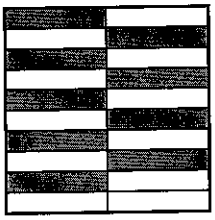
1.  30%

2.  40%

3.  55%

4.  40%

5.  65%

6.  45%

Write each ratio as a percent.

7. $\frac{3}{5}$	60%	8. $\frac{17}{100}$	17%	9. $\frac{18}{25}$	72%
10. $\frac{8}{10}$	80%	11. $\frac{1}{4}$	25%	12. $\frac{17}{50}$	4%
13. $\frac{7}{20}$	35%	14. $\frac{21}{25}$	84%	15. $\frac{3}{10}$	30%
16. $\frac{2}{5}$	40%	17. $\frac{99}{100}$	99%	18. $\frac{11}{20}$	55%
19. $\frac{1}{10}$	10%	20. $\frac{39}{50}$	78%	21. $\frac{19}{20}$	95%

Name _____ Class _____ Date _____

Reteaching 5-6

Percents, Fractions, and Decimals

- To *write a percent as a fraction* in simplest form, first write a fraction with a denominator of 100. Then simplify.

  $74\% = \frac{74}{100} = \frac{37}{50}$

- To *write a percent as a decimal,* first write a fraction with a denominator of 100. Then write the decimal.

  $74\% = \frac{74}{100} = 0.74$

- To *write a decimal as a percent,* move the decimal point two places to the right.

  $0.23 = 23\%$

Here are two ways to *write a fraction as a percent.*

- Write an equivalent fraction with a denominator of 100, then write the percent.

  $\frac{3}{20} = \frac{15}{100} = 15\%$

- Divide the numerator by the denominator.

$$\frac{3}{8} = 8\overline{)3.000} = 0.375 = 37.5\%$$

$$\begin{array}{r} 0.375 \\ 8\overline{)3.000} \\ -24 \\ \hline 60 \\ -56 \\ \hline 40 \\ -40 \\ \hline 0 \end{array}$$

↑ Move the decimal point two places to the right.

So, $\frac{3}{8} = 37.5\%$.

Write each percent as a decimal and as a fraction in simplest form.

1. 30% _____
2. 14% _____
3. 16% _____
4. 5% _____
5. 92% _____
6. 80% _____
7. 21% _____
8. 38% _____

Write each fraction or decimal as a percent.

9. $\frac{17}{25}$ _____
10. 0.85 _____
11. 0.16 _____
12. $\frac{5}{40}$ _____
13. $\frac{7}{200}$ _____
14. $\frac{1}{10}$ _____
15. 0.64 _____
16. 0.008 _____
17. $\frac{9}{20}$ _____
18. $\frac{6}{15}$ _____
19. 0.32 _____
20. 0.07 _____
21. $\frac{13}{100}$ _____
22. $\frac{45}{50}$ _____
23. 0.010 _____
24. 0.60 _____

Name _____ Class _____ Date Answers

Reteaching 5-6

Percents, Fractions, and Decimals

- To *write a percent as a fraction* in simplest form, first write a fraction with a denominator of 100. Then simplify.

  $74\% = \frac{74}{100} = \frac{37}{50}$

- To *write a percent as a decimal,* first write a fraction with a denominator of 100. Then write the decimal.

  $74\% = \frac{74}{100} = 0.74$

- To *write a decimal as a percent,* move the decimal point two places to the right.

  $0.23 = 23\%$

Here are two ways to *write a fraction as a percent.*

- Write an equivalent fraction with a denominator of 100, then write the percent.

  $\frac{3}{20} = \frac{15}{100} = 15\%$

- Divide the numerator by the denominator.

$$\frac{3}{8} = 0.375 = 37.5\%$$

$$8\overline{)3.000}$$

$$-24$$

$$60$$

$$-56$$

$$40$$

$$-40$$

$$0$$

↑ Move the decimal point two places to the right.

So, $\frac{3}{8} = 37.5\%$.

Write each percent as a decimal and as a fraction in simplest form.

1. 30% — 0.30, $\frac{3}{10}$
2. 14% — 0.14, $\frac{7}{50}$
3. 16% — 0.16, $\frac{4}{25}$
4. 5% — 0.05, $\frac{1}{20}$
5. 92% — 0.92, $\frac{23}{25}$
6. 80% — 0.80, $\frac{4}{5}$
7. 21% — 0.21, $\frac{21}{100}$
8. 38% — 0.38, $\frac{19}{50}$

Write each fraction or decimal as a percent.

9. $\frac{17}{25}$ — 68%
10. 0.85 — 85%
11. 0.16 — 16%
12. $\frac{5}{40}$ — 12.5%
13. $\frac{7}{200}$ — 3.5%
14. $\frac{1}{10}$ — 10%
15. 0.64 — 64%
16. 0.008 — 0.8%
17. $\frac{9}{20}$ — 45%
18. $\frac{6}{15}$ — 40%
19. 0.32 — 32%
20. 0.07 — 7%
21. $\frac{13}{100}$ — 13%
22. $\frac{45}{50}$ — 90%
23. 0.010 — 1%
24. 0.60 — 60%

Name _____ Class _____ Date _____

Reteaching 5-7

Finding the Percent of a Number

You can find 70% of 90 using different methods.

Use mental math.

① Write the percent as a fraction in simplest form.

$70\% = \frac{70}{100} = \frac{7}{10}$

② Multiply by the fraction.

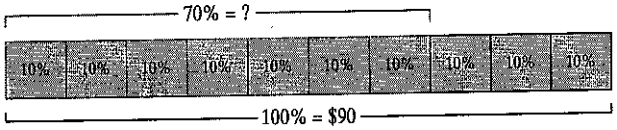
$\frac{7}{10} \times \frac{90}{1} = \frac{630}{10} = 63$

70% of 90 = 63.

Use a Model

① Find 70% of 90.

The bar model shows the total of 90 and 70% of the total.



10 parts = 90

1 part = 90 ÷ 10 = 9

70% is 7 parts and 7 × 9 = 63

So 70% of 90 is 63.

Find each answer using mental math.

1. 45% of 60

2. 60% of 160

3. 90% of 80

4. 35% of 60

Find each answer using a bar model.

5. 40% of 60

6. 85% of 300

Name _____ Class _____ Date _____

Reteaching 5-7 (continued)

Finding the Percent of a Number

7. 22% of 500

_____

8. 37% of 400

_____

Find each answer.

9. 25% of 100

_____

10. 70% of 70

_____

11. 75% of 40

_____

12. 80% of 50

_____

13. 24% of 80

_____

14. 45% of 90

_____

Name _____ Class _____ Date Answers

Reteaching 5-7

Finding the Percent of a Number

You can find 70% of 90 using different methods.

Use mental math.

① Write the percent as a fraction in simplest form.

$70\% = \frac{70}{100} = \frac{7}{10}$

② Multiply by the fraction.

$\frac{7}{10} \times \frac{90}{1} = \frac{630}{10} = 63$

70% of 90 = 63.

Use a Model

① Find 70% of 90.

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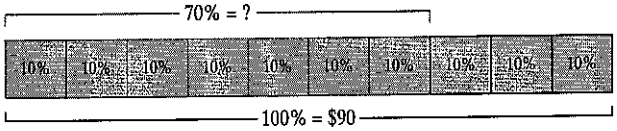

10 parts = 90

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70% is 7 parts and 7 × 9 = 63

So 70% of 90 is 63.

Find each answer using mental math.

1. 45% of 60

   27

2. 60% of 160

   96

3. 90% of 80

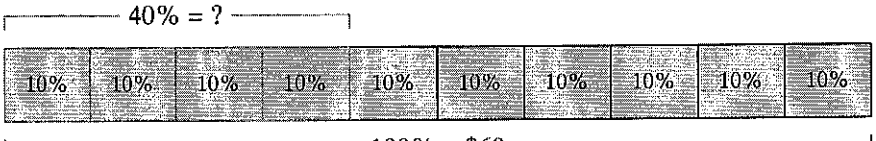
   72

4. 35% of 60

   21

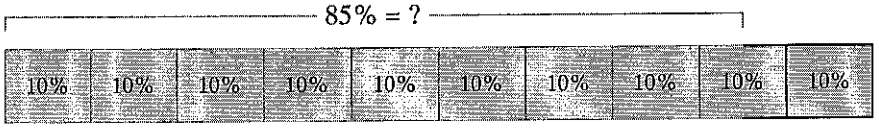
Find each answer using a bar model.

5. 40% of 60



40% of 60 = 24

6. 85% of 300



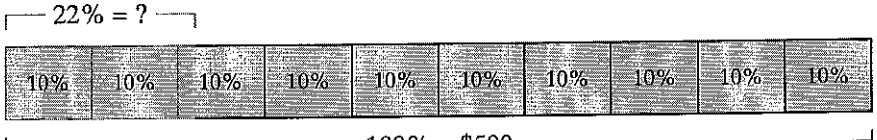
85% of 300 = 255

Name _____ Class _____ Date Answers

Reteaching 5-7 (continued)

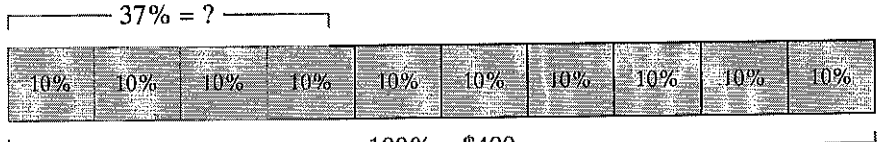
Finding the Percent of a Number

7. 22% of 500



22% of 500 = 110

8. 37% of 400



37% of 400 = 148

Find each answer.

9. 25% of 100

25

10. 70% of 70

49

11. 75% of 40

30

12. 80% of 50

40

13. 24% of 80

19.2

14. 45% of 90

40.5

Name _____ Class _____ Date _____

Reteaching 5-8

Finding the Whole

A percent is a quantity out of 100. You are given the percent of a number and the part that results, but you do not know the whole quantity. Two methods you can use to find the whole quantity are equivalent ratios and equations.

Example 1: Use Equivalent Ratios
Marvin bought a new school bag for $9. This is 60% of the original price. What was the original price of the school bag?

Write a fraction for 60% in simplest form.

$60\% = \frac{60}{100} = \frac{3}{5}$

Make a table of equivalent ratios to find the whole.

Part	60	3	9
Whole	100	5	15

The original price of the school bag was $15.

Example 2: Use an equation.

A farmer has 280 vegetables for sale at his farmer's stand. These vegetables represent 80% of the vegetables he brought to the stand. How many vegetables did he bring in all?

Write a fraction in simplest form for 80%.

$80\% = \frac{80}{100} = \frac{4}{5}$

Write an equation. Solve to find the whole, x.

Think: 280 is $\frac{4}{5}$ of what number?

$280 = \frac{4}{5}x$

$\frac{5}{4}280 = \frac{4}{5}x\left(\frac{5}{4}\right)$

$350 = x$

The farmer brought 350 vegetables to the stand.

Exercises:

1. 42 is 30% of what number? _____
2. 12 is 8% of what number? _____
3. 90 is 75% of what number? _____
4. 48 is 60% of what number? _____
5. 30 is 80% of what number? _____

Name _____ Class _____ Date Answers

Reteaching 5-8

Finding the Whole

A percent is a quantity out of 100. You are given the percent of a number and the part that results, but you do not know the whole quantity. Two methods you can use to find the whole quantity are equivalent ratios and equations.

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$280 = \frac{4}{5}x$

$\frac{5}{4}280 = \frac{4}{5}x\left(\frac{5}{4}\right)$

$350 = x$

The farmer brought 350 vegetables to the stand.

Exercises:

1. 42 is 30% of what number? 140
2. 12 is 8% of what number? 150
3. 90 is 75% of what number? 120
4. 48 is 60% of what number? 80
5. 30 is 80% of what number? 37.5