

Name _____

4th Grade
NTI Packet
Day 11

NAME: _____

DATE: _____

Day 11
4th Grade

2-digit by 2-digit Multiplication Homework - 4.NBT.B.5

$35 \times 24 =$

	30	5
20	$30 \times 20 = 600$	$20 \times 5 = 100$
4	$4 \times 30 = 120$	$4 \times 5 = 20$

$$\begin{array}{r}
 35 \\
 \times 24 \\
 \hline
 140 \\
 700 \\
 \hline
 840
 \end{array}$$

Directions: Use the example above to guide you in solving the problems below. Show your work and circle your answer!

<p>1. $32 \times 42 =$</p> <div style="border: 1px solid black; width: 150px; height: 80px; margin: 10px auto; display: flex; align-items: center; justify-content: center;"> <div style="border-right: 1px solid black; border-bottom: 1px solid black; width: 100%; height: 100%;"></div> </div>	<p>5. $19 \times 41 =$</p> <div style="border: 1px solid black; width: 150px; height: 80px; margin: 10px auto; display: flex; align-items: center; justify-content: center;"> <div style="border-right: 1px solid black; border-bottom: 1px solid black; width: 100%; height: 100%;"></div> </div>
<p>2. $54 \times 28 =$</p> <div style="border: 1px solid black; width: 150px; height: 80px; margin: 10px auto; display: flex; align-items: center; justify-content: center;"> <div style="border-right: 1px solid black; border-bottom: 1px solid black; width: 100%; height: 100%;"></div> </div>	<p>6. $43 \times 42 =$</p> <div style="border: 1px solid black; width: 150px; height: 80px; margin: 10px auto; display: flex; align-items: center; justify-content: center;"> <div style="border-right: 1px solid black; border-bottom: 1px solid black; width: 100%; height: 100%;"></div> </div>
<p>3. $61 \times 24 =$</p> <div style="border: 1px solid black; width: 150px; height: 80px; margin: 10px auto; display: flex; align-items: center; justify-content: center;"> <div style="border-right: 1px solid black; border-bottom: 1px solid black; width: 100%; height: 100%;"></div> </div>	<p>7. $55 \times 28 =$</p> <div style="border: 1px solid black; width: 150px; height: 80px; margin: 10px auto; display: flex; align-items: center; justify-content: center;"> <div style="border-right: 1px solid black; border-bottom: 1px solid black; width: 100%; height: 100%;"></div> </div>
<p>4. $17 \times 62 =$</p> <div style="border: 1px solid black; width: 150px; height: 80px; margin: 10px auto; display: flex; align-items: center; justify-content: center;"> <div style="border-right: 1px solid black; border-bottom: 1px solid black; width: 100%; height: 100%;"></div> </div>	<p>8. $65 \times 33 =$</p> <div style="border: 1px solid black; width: 150px; height: 80px; margin: 10px auto; display: flex; align-items: center; justify-content: center;"> <div style="border-right: 1px solid black; border-bottom: 1px solid black; width: 100%; height: 100%;"></div> </div>

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Reading

Read the passage. Then answer the questions.

The Bicycle Rodeo

Scene I: Greene Elementary School cafeteria. Students are finishing lunch.

Todd: Hey, Josie, are you going to sign up for the bike rodeo on Saturday?

Josie: What's a bike rodeo?

Maria: It's a bicycle-riding course where you ride around a special path and avoid obstacles. Whoever has the fastest time is the winner. It's a lot of fun.

Josie: *(shaking her head)* Umm . . . I don't think so.

Maria: There is going to be a bike-decorating contest, too.

Josie: *(head down)* I can't . . . I mean, I am going somewhere that day.

Todd: Gee, Josie, you will miss out on everything.

Josie: *(picking up her tray and moving away)* Sorry . . . I just . . . I can't do it.

Todd: What does she mean, "I can't do it"?

Maria: *(shrugs)* I don't know.

Scene II: After school, in Ms. Choi's room, Josie is packing up her backpack and Ms. Choi is grading papers at her desk.

Ms. Choi: Josie, are you coming to the bike rodeo this Saturday? I'll be judging the bike-decorating contest.

Josie: *(sadly)* I can't, Ms. Choi.

Ms. Choi: I'm sorry to hear that. It's going to be lots of fun.

Josie: Yeah, but . . . *(Josie looks as if she is about to cry.)*

Ms. Choi: *(looks at Josie with concern)* What's the matter, Josie?

Josie: The truth is . . . I can't ride a bicycle! We used to live in the city, in an apartment building, and there was nowhere to keep a bike, so I just never learned. It seems like everyone here knows how to ride a bike except me!

Ms. Choi: Lots of people never learn to ride a bike, Josie. In fact, I never learned to ride a bike until a few years ago.

Josie: Really?

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Ms. Choi: (*places her arm around Josie's shoulders*) Really. It wasn't a Herculean task, and I learned very quickly. You're never too old to learn something new.

(*Todd and Maria enter the classroom.*)

Todd: We overheard what you said, Josie, and you don't have to worry—Maria and I can teach you to ride in no time!

Maria: (*nodding*) You can borrow my sister's old bike and enter it in the bike-decorating contest.

Josie: Well . . . maybe. I'll think about it.

Scene III: Saturday morning. The bike rodeo is set up on the school playground. Todd and Maria are busy decorating their bikes with streamers and balloons, and Ms. Choi is handing out supplies.

Todd: I wonder where Josie is.

Maria: She said she was coming yesterday when I gave her my sister's bike.

Ms. Choi: I hope she will be here soon and didn't misunderstand the time or place.

(*Josie enters from the far side of the playground, slowly riding a red bicycle.*)

Todd: Josie, you're riding a bike! Who taught you?

Josie: My dad gave me some tips last night after Maria gave me her sister's bike, and it wasn't that hard! Although it did take me forever to ride up the hill!

Ms. Choi: But you made it!

Todd: Look—the rodeo is starting! Are you going to take part, Josie?

Josie: I think I will just watch this time.

(*Todd and Maria ride their bikes around the obstacle course. Josie and Ms. Choi sit on the sidelines, cheering them on.*)

Josie: Wow, look at Todd go! He is really good, and so is Maria.

(*Todd and Maria return to the sidelines. Todd is holding a blue first-place ribbon.*)

Todd: Look, I won! I can't believe it!

Josie: You were great. Can you teach me how to ride that fast?

Todd: Sure, just as soon as we finish the bike-decorating contest.

Josie: (*grinning*) I can't wait!

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- 4 Read the sentence from the passage.

Ms. Choi: I hope she will be here soon and didn't misunderstand the time or place.

What does the word misunderstand **most likely** mean?

- (A) stand
- (B) arrive
- (C) decline
- (D) confuse

- 5 This question has two parts. First, answer part A. Then, answer part B.

Part A

Which idea **best** describes the theme of the passage?

- (A) It is good to have friends.
- (B) Trying new things can be fun.
- (C) Riding a bike is good exercise.
- (D) You never forget how to ride a bike.

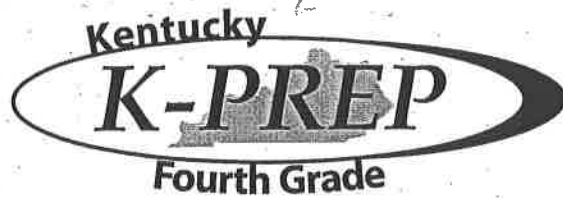
Part B

Which detail from the passage supports the answer to part A?

- (A) Todd, Maria, and Josie are friends.
- (B) Ms. Choi learned how to ride a bike when she was an adult.
- (C) Josie learns to ride a bike and has a good time at the bike rodeo.
- (D) Maria lends her sister's bike to Josie for the bike-decorating contest.

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- 6 How does Josie change from the beginning of the passage to the end of the passage? Give specific examples from the play to support your answer.



Chapter 19

Environmental Changes

Do you remember that fungi change dead plants and animals into soil? Maybe you have heard about global warming. These two things may not seem related, but in a way, they are. These two things illustrate one important point: all organisms have the potential to change their environment. Humans, plants, animals, fungi, and even bacteria have the ability to change their environment. When plants, animals, fungi, and bacteria change their environment, without human interaction, it is considered natural environmental change. When humans change their environment, it is considered man-made change.

NATURAL AND MAN-MADE ENVIRONMENTAL CHANGE

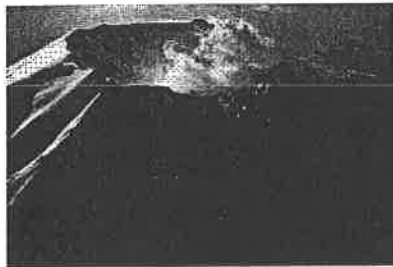


Figure 19.1 Volcano

There are thousands of ways natural changes happen within environments. When animals and plants modify their environment (without any human planning or interference), it is natural environmental change. For instance, volcanoes may erupt and release gases and ash into the atmosphere. This causes the Earth to cool. It is one example of natural environmental change.

In another example, lichens create soil on rocky surfaces. The lichens break down rock into soil. The new soil encourages plant growth. Plants growing in an area encourage animals to inhabit that area. These are just a few examples of natural environmental change.

Surely, you can name several ways humans have changed their environment. Humans dam rivers, cut down forests, make roads, create pollution, and mine natural resources.

PLANTS AND ANIMALS CAUSE ENVIRONMENTAL CHANGE

In a previous chapter, we discussed how plants are a key component of ecosystems. This is true for several reasons. Most importantly, the plant life in an area determines the amount and types of consumers that can survive in that area. Plants that make lots of delicious leaves, fruit, and seeds can support more animals than plants that do not. Plants determine the amount of shade in an area and the available amount of nutrients. The amount of food stored by plants can only support a given amount of animal life. If there is a large amount

MICROORGANISMS CAUSE ENVIRONMENTAL CHANGE

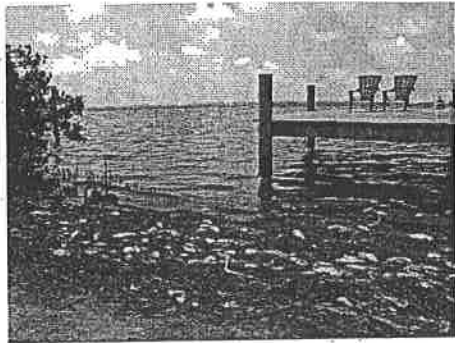


Figure 19.4 Red Tide Causing Fish Kill

Fungi, bacteria and other microorganisms (also called microscopic organisms) can modify their environment by chemically changing the materials found in those environments. Fungi, along with other microorganisms, have a huge capacity to change their environment. Because some microorganisms are so tiny, they have a very short life cycle. That means they can create many offspring quickly. This results in a large population.

These organisms can quickly and easily digest nutrient sources and break down harmful chemicals. Algae, a type of protist, are an important marine microorganism. Algae often “bloom” in a rapid population explosion. This depletes the environment of nutrients. Red algae can reproduce rapidly causing “red tides.” Red tides kill many fish and other organisms by releasing toxins into the environment.

ENVIRONMENTAL CHANGE CAN BE HELPFUL OR HARMFUL

Sometimes when an environment is changed, it becomes harmful to organisms, like when humans, or red algae, release pollution and toxins into the environment. Toxins can harm plants and animals.

Other times, environmental changes can be beneficial to organisms. Let’s say you are a bacterium that loves to eat harmful pollution. Suddenly, the fact that humans are releasing large quantities of pollution (that is “your food”) isn’t such a bad thing. It all depends on your perspective. What may be harmful to one organism is actually beneficial to another. Here is another example: a beaver creating a pond is beneficial to the beaver and the fish that live in the pond. But it is harmful to the grass and mice that lived in the meadow where the pond is now located.




Figure 19.5 A Beaver Pond

Challenge Question

Describe a situation or event that would be helpful to the plants and animals living in the desert. Then try to think of a harmful situation or event.

THE THREE "RS"

REDUCE



Reduce

Reduce simply means to consume and throw away less. When we use fewer resources, we create less trash to throw away. That's better for our environment. Here are a few ways to reduce:

- Purchase durable, long-lasting products.
- Look for products that don't have a lot of packaging.

REUSE



Reuse

Reuse of materials means to make and use products that can be used again. Here are several practical ways you help the environment by reusing materials.

- Use washable mugs instead of Styrofoam™, paper or plastic cups.
- Use cloth napkins and dishtowels.
- Reuse boxes.
- Turn empty jars into containers for leftover food.
- Purchase refillable pens and pencils.
- Use rechargeable batteries.

Reducing and reusing actually prevent the generation of waste in the first place. That is why they are the best method of conserving resources. Another strategy is the option of recycling.

RECYCLE



Recycle

Recycling turns materials that would otherwise become waste into valuable resources. Materials like glass, metal, plastics and paper can be collected, separated and sent to facilities that process them into new materials or products. It is estimated by the Environmental Protection Agency (EPA) that recycling diverted 79 million tons of material away from landfills and incinerators in 2005.

Chapter 19

CHAPTER 19 REVIEW

- 1 What type of organism changes its environment?
A Bacteria
B Humans
C Plants
D All the above
DOK 1
- 2 What is not a main reason plants are considered key to an ecosystem?
A They provide shade for animals.
B They provide energy to animals.
C They provide organic content to the soil.
D They provide air pollution by making CO₂.
DOK 1
- 3 What type of environmental change is helpful to bluebirds?
A Humans logging national forest lands
B Humans cutting down trees to build neighborhoods
C Humans planting trees
D Humans using lumber to build bridges
DOK 2
- 4 What type of environmental change is harmful to fish?
A Goats eating desert grasses
B Pumas hunting desert goats
C Humans storing toxic waste in facilities
D A long drought where no rain falls
DOK 2
- 5 How do plants most encourage animals to inhabit an area?
A Plants provide DNA structure to animal cells.
B Plants provide synthetic chemicals to animals.
C Plants provide cover to hide prey animals.
D Plants provide support to animals.
DOK 3
- 6 Samantha brings her lunch every day in a reusable plastic container. How is Samantha using sustainable practices?
A By eating lunch
B By using chemicals
C By recycling products
D By reducing waste and reusing products
DOK 3

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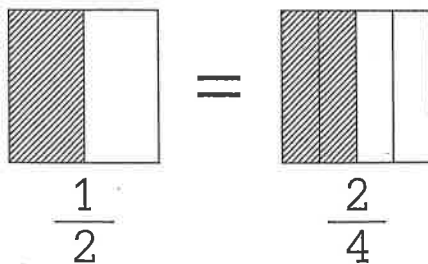
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Equivalent fractions (1)

Name: _____

Equivalent means 'equal in value'. Fractions can look different but be equivalent.

For example:



To make equivalent fractions follow this rule:

Multiply the fraction by one, in the form of a whole fraction, e.g. $\frac{4}{4}$.

Look at the following equivalent fractions and how they were made.

$$\frac{1}{2} \rightarrow \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$$

$$\frac{2}{3} \rightarrow \frac{2 \times 3}{3 \times 3} = \frac{6}{9}$$

$$\frac{1}{4} \rightarrow \frac{1 \times 4}{4 \times 4} = \frac{4}{16}$$

$$\frac{3}{5} \rightarrow \frac{3 \times 6}{5 \times 6} = \frac{18}{30}$$

To make more equivalent fractions for these examples, you can multiply the fraction by a different **whole fraction**. For example, if you multiply $\frac{1}{2}$ by the whole fractions $\frac{2}{2}$, $\frac{3}{3}$, $\frac{4}{4}$, etc. you get the equivalent fractions $\frac{2}{4}$, $\frac{3}{6}$, $\frac{4}{8}$, etc.

1. Write 5 equivalent fractions for $\frac{1}{3}$ in the space provided below.

2. Write 5 equivalent fractions for $\frac{3}{4}$ in the space provided below.

3. Write 5 equivalent fractions for $\frac{2}{5}$ in the space provided below.



Equivalent fractions (2)

Name: _____

Write two equivalent fractions for each of these fractions.

1. $\frac{2}{3} = \underline{\quad} = \underline{\quad}$

6. $\frac{4}{8} = \underline{\quad} = \underline{\quad}$

2. $\frac{7}{10} = \underline{\quad} = \underline{\quad}$

7. $\frac{2}{5} = \underline{\quad} = \underline{\quad}$

3. $\frac{15}{100} = \underline{\quad} = \underline{\quad}$

8. $\frac{1}{9} = \underline{\quad} = \underline{\quad}$

4. $\frac{3}{5} = \underline{\quad} = \underline{\quad}$

9. $\frac{3}{4} = \underline{\quad} = \underline{\quad}$

5. $\frac{3}{8} = \underline{\quad} = \underline{\quad}$

10. $\frac{9}{10} = \underline{\quad} = \underline{\quad}$

Which is the simplest way of writing one-half out of these equivalent fractions?

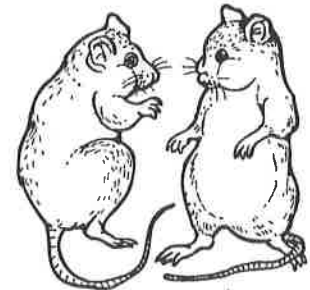
$$\frac{1}{2} \quad \frac{2}{4} \quad \frac{3}{6} \quad \frac{4}{8}$$

The answer is of course $\frac{1}{2}$. This is the way to show one-half as a fraction.

To simplify a fraction we find a number which will divide into both the numerator and the denominator evenly, leaving no remainder.

For example, to simplify the fraction $\frac{6}{10}$, we divide the numerator and the denominator by 2:

$$\frac{6}{10} \longrightarrow \frac{\div 2}{\div 2} = \frac{3}{5}$$



So $\frac{3}{5}$ is the simplified fraction for $\frac{6}{10}$.

Simplify these fractions by dividing the numerator and the denominator by the same number.

1. $\frac{15}{20} = \underline{\quad}$ (divide both by)

3. $\frac{15}{18} = \underline{\quad}$ (divide both by)

2. $\frac{2}{10} = \underline{\quad}$ (divide both by)

4. $\frac{5}{10} = \underline{\quad}$ (divide both by)

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Reading

Read the passage. Then answer the questions.

Making Cheese

Cheese is one of Americans' favorite foods. We find cheese on pizza, hamburgers, tacos, sandwiches, burritos, nachos, crackers, and many more popular food items. Cheese is even eaten all by itself as string cheese or small cubes. While many people eat cheese, very few people know exactly how it is made.

No matter what kind of cheese or how it is used, all cheese starts out with the same ingredient—milk. Many cheese factories get their milk from family farms or other farms nearby. The milk must be fresh because old milk does not make good cheese. Then the milk is tested for quality. Anything that does not belong in the milk is taken out. After that, the milk is pasteurized. Pasteurizing means heating the milk to a high temperature and then cooling it back down. This process takes out any bad bacteria. Now, the milk is ready to be made into cheese. It takes just over a gallon of whole milk to make a one-pound block of cheddar cheese. This means cheese factories need a lot of milk.

Next, good bacteria is added to the milk. This bacteria helps to make the cheese flavor. After the good bacteria grows, the milk needs a coagulant. The coagulant used to make the cheese is called a rennet. Once the rennet is added, the milk thickens and separates into curds, a solid, and whey, a liquid.

The curds are the beginnings of cheese. The curds are cut. Next, both the curds and whey are cooked. Then the curds are taken out of the whey. After that, salt is added. The salt gives flavor. It also helps the cheese last longer. Finally, the curds are pressed into blocks or round forms.

Up until this point, all block cheese is made pretty much the same. After this step, some cheese has flavors added. Spices, herbs, vegetables, and bacon are just a few of the flavors. Some cheese is stretched. Some cheese even has color added. All cheese is naturally white, but some cheese has yellow food coloring added to it. Adding food coloring is rather silly since it does not change the flavor. After adding these things, the cheese ages in a temperature-controlled warehouse. This aging gives the cheese better flavor.

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Finally, the cheese is cut into smaller blocks, or shredded, cubed, or otherwise cut to be ready to ship to stores. Once the cheese reaches the stores, it is ready to be eaten as a snack. You can also use it to make your favorite recipe. If you make your favorite cheese-filled food, take a photograph. But you better take the picture quickly because it tastes even better!

- 1 This question has two parts. First, answer part A. Then, answer part B.

Part A

What is the author's opinion about Americans and cheese?

- (A) Americans know a lot about cheese.
- (B) Americans prefer yellow cheese.
- (C) Americans do not enjoy cheese.
- (D) Americans love to eat cheese.

Part B

How does the author support the opinion in part A?

- (A) The author writes about how cheese is made.
- (B) The author lists all the places people eat cheese.
- (C) The author writes about the many different types of cheese.
- (D) The author lists many favorite foods that have cheese in them.

- 2 What is rennet?

- (A) a coagulant that thickens milk
- (B) a bacteria that grows in milk
- (C) a flavoring added to cheese
- (D) a bowl of curds and whey

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- 3 Mark the boxes to show the main concept of each paragraph.

	Paragraph 2	Paragraph 3	Paragraph 4
All cheese starts with milk.			
Curds are the first sign of cheese.			
Milk needs bacteria for flavor and coagulants to thicken.			

- 4 Why does the author think that adding food coloring to cheese is silly?

- (A) because it is a waste of money
- (B) because white cheese looks better
- (C) because it takes too much time to do
- (D) because it does not change the flavor of the cheese

- 5 Read the sentences from the passage.

You can also use it to make your favorite recipe. If you make your favorite cheese-filled food, take a photograph. But you better take the picture quickly because it tastes even better!

What does the word photograph mean?

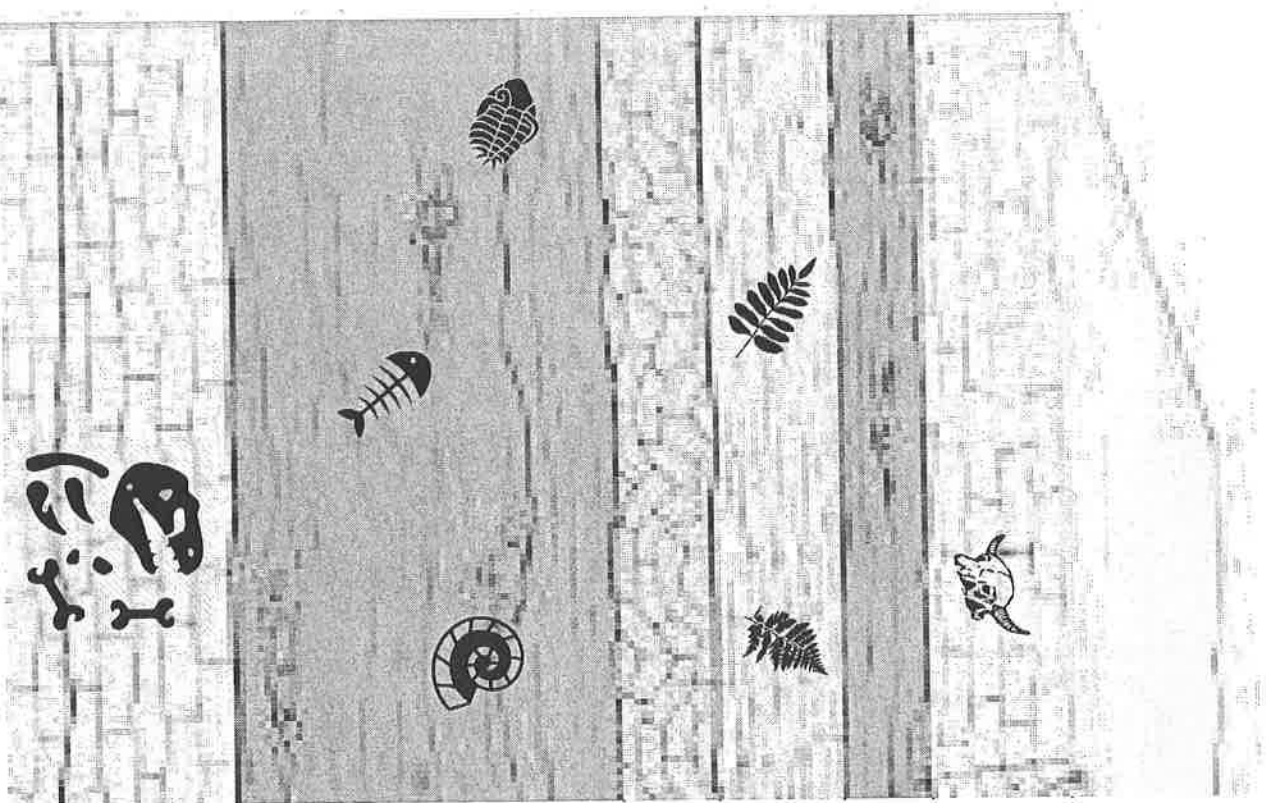
- (A) a sound from far away
- (B) a recorded image
- (C) a type of light
- (D) a drawing

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- 6 What is the main idea of the passage? Use evidence from the passage to support your answer.

! Name: _____

**ROCK
LAYERS**



#1 (3,000 years ago)

#2 (5 million years ago)

#3 (50 million years ago)

#4 (100 million years ago)

#5 (140 million years ago)

#6 (230 million years ago)

- 1) Which rock layer is the oldest? # _____
- 2) Millions of years ago, this area was covered by ocean. Which rock layer shows this time period? # _____
- 3) In which layer of rock are scientists most likely to find a shark fossil? # _____
- 4) In which 2 layers of rock do you not see any evidence of living organisms? # _____ # _____
- 5) Dinosaurs used to roam this land before it was covered by ocean. When did dinosaurs live on this land? _____ million years ago
- 6) Scientists think this land also used to be covered by large plants. Looking at the fossils, when do you think this was? _____ million years ago
- 7) Would a land animal be able to survive in this area 140 million years ago? Why or why not?

- 8) Would sharks and whales be able to survive in this area 3,000 years ago? Why or why not?

- 9) Would you possibly find human fossils in rock layer #6? Why or why not?

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Multiplication and Division Word Problems

Read each problem and then answer the questions.

The Bailey family runs a small market that not only sells but also grows fresh fruit and vegetables. They sell gardening tools, seeds, and plants. They help their customers with questions about picking which plants to grow and how to best care for them.

1. Two hundred fifteen watermelon seeds were planted in the ground. Five seeds were planted in each small hole. How many small holes were there?	2. The gardeners at Bailey's Market planted 48 onions in each of 12 rows. How many onions were planted?
3. A clerk sold Garrett a rake for \$7.75 and a shovel for \$13.77. He paid half and had his brother pay the other half. How much did each pay?	4. Tim bought 2,000 carrot seeds on Monday and 3,985 seeds on Tuesday. He needs to plant all of the seeds. He plants 7 seeds in each hole. How many holes will he have when he is done?
5. Randy planted 7 rows of corn and each row had 8 plants in it. He needed to wrap them into bundles of 4. How many bundles would he have?	6. Two customers each bought 25 potatoes for a pot luck supper. They made 10 pots of stew and used all of the potatoes. How many potatoes did they use in each stew?
7. Each seed packet cost \$.79. Robyn bought 9 of them. How much did she spend?	8. Each seed packet has 135 seeds in it. Robyn will need to plant 15 seeds in a row. How many rows will she plant?
9. What will be the total cost of 2 bags of grapes at \$2.00 each, 1 bag of potatoes at \$1.99 each, and 4 baskets of strawberries at \$3.46 each?	10. The workers need to move the display case that has the apples in it. There are 6 different kinds of apples. Each bin has 44 apples in it. How many apples are there in the display case?

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Reading

Read the passage. Then answer the questions.

Mei's Canvas

Mei stared out the window as the movers loaded the last box into the moving van. She heard her mother calling her name. It was time to leave. She had left hundreds of times before, but she always came back home. This time would be different. Mei was not going to school or art lessons or soccer practice. She was moving to another state. She felt like someone had yanked her heart in two. This place had been her home for as long as she could remember. She tried to convince herself that a new home meant a new beginning, but that's not how it felt.

"I'm coming, Mom," Mei called as she wiped a tear from her eye and clutched her sketchpad tightly to her chest. Then she took one last, long look around the room. The walls had once been filled with her vibrantly colored paintings, but now only a few small holes where the nails had been were left. Somehow Mei forced herself to walk away.

In the car Mei opened her sketchpad and glanced at the pictures she had drawn in the past week. As she looked at them, her emotions ran wild. There was a drawing of her soccer team celebrating after a big win. She smiled as she remembered their last game when her friend Estella had kicked the game-winning goal and they had finally beaten their rival, the Hornets. The next drawing was a picture of her house with the Sold sign plastered over the For Sale sign in front. Mom thought that it was a glorious day, while Mei thought it was the worst day of her life. She would no longer be at the same school as her friends. She would have to drive for hours just to see them. Mei was happy about Mom's new job opportunity, but she wished it had been in their town. Mom didn't seem to understand how devastating this move was for Mei.

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As Mom drove past the park where Mei had learned to kick a soccer ball, she chirped away about how beautiful their new apartment would be. Mei's head filled with questions. What would it be like to live in an apartment? Would other kids live nearby? Would she be able to walk to a park? What would her new school and teacher be like? Would her school have a soccer team, and would she still take art lessons? Would she be able to make new friends who made her laugh like Estella did? Mei turned to a clean page in her sketchpad and pulled out her colored pencils. Then she drew a picture of herself with her head tilted up at the sky, her arms outstretched, and her body turning in circles. Everything in the sky looked fuzzy. What would happen when her world stopped spinning?

Hours later, Mei sat in her new room. It was empty because her furniture had not yet arrived and her things were still packed away in boxes. Her room reminded Mei of a blank canvas. At that very minute, she felt better. She was an artist with a blank canvas. Mei could make her new home what she wanted it to be. She opened her sketchpad to a new page and began to draw.

1 How does Mei feel at the beginning of the passage?

- (A) excited about a new life
- (B) happy her team won a game
- (C) sad about moving to a new state
- (D) angry that her mother wants to move

2 Mark the boxes to match the descriptions with the characters they describe.

	Mei	Mom
Worried about missing her friends		
Didn't seem to understand how devastating the move could be		
Felt like someone had yanked her heart in two		

Name _____ Date _____

- 3 Read the sentences from the passage.

In the car Mei opened her sketchpad and glanced at the pictures she had drawn in the past week. As she looked at them, her emotions ran wild.

What is the meaning of the phrase her emotions ran wild as it is used in the passage?

- (A) Her emotions felt natural.
 - (B) Her emotions jogged away.
 - (C) Her emotions were out of her control.
 - (D) Her emotions were as fast as wild animals.
- 4 This question has two parts. First, answer part A. Then, answer part B.

Part A

From what point of view is the story being told?

- (A) first person, Mei
- (B) first person, Mom
- (C) third person, Mom
- (D) third person, not a story character

Part B

Which of the following supports the answer to part A?

- (A) because the narrator is a character in the story
- (B) because the narrator talks directly to the reader
- (C) because the narrator knows only his or her own thoughts
- (D) because the narrator shares the thoughts of all the characters

Name _____ Date _____

- 5 Which statement **best** describes the lesson that Mei learns?
- Ⓐ Sometimes you have to fight changes.
 - Ⓑ A new home can mean a new beginning.
 - Ⓒ You should always be ready to start over.
 - Ⓓ The place where you grow up will always be important.
- 6 How do Mei's feelings about moving change by the end of the passage?
Support your answer with details from the passage.

Weathering and Erosion Test

Name: _____

Vocabulary:

Weathering – the **breaking** of rock or other materials on Earth’s surface.

Erosion – the **moving** of rock, sand, sediment or other materials on Earth’s surface.

Sediment – Bits of rock, sand, soil, shells and other materials.

Directions:

Use the words “**Weathering**” or “**Erosion**” to complete the blanks below.

Hint: Underline the verb in each sentence. If the verb is “**breaking**” or a synonym for “breaking”, then it’s an example of “Weathering”.

If the verb is “**moving**” or a synonym of “moving”, then it’s an example of “Erosion”.

1. _____ Water runs down a river breaking off pieces of rock along the bank of the river.
2. _____ A fast moving river carries rock and sediment to the bottom of the river.
3. _____ Many beaches in Florida are losing their sand due to ocean carrying the sand out to sea.
4. _____ A wave crashes into a sea cliff causing it to break off and fall into the ocean.

Name _____

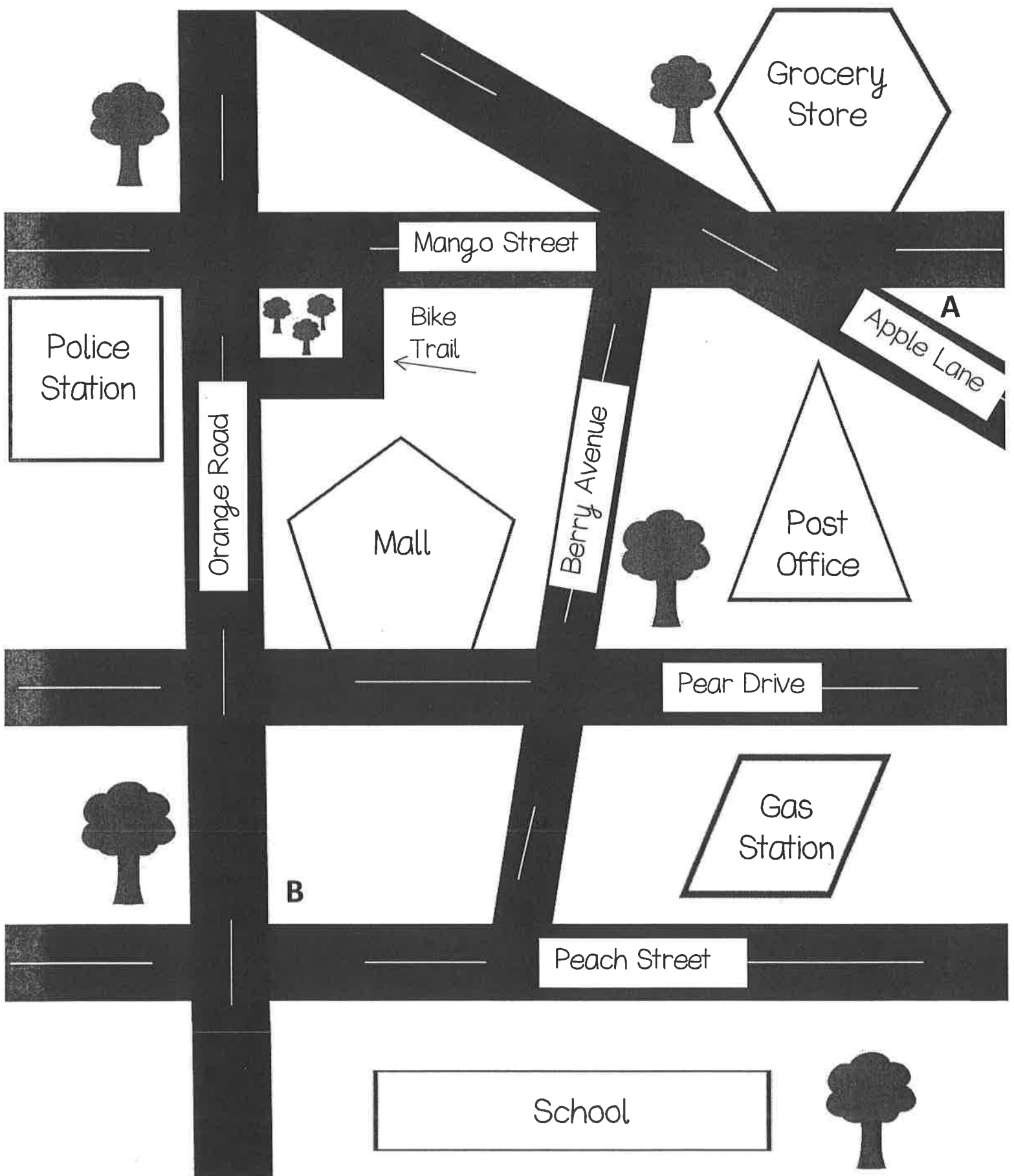
4th Grade
NTI Packet
Day 14

NAME _____

Day 14
4th Grade

GEOMETRY TOWN

Use the neighborhood below to answer the following questions.



Name _____

1. Name two streets that are intersecting

_____ and _____

2. Name two streets that are parallel.

_____ and _____

3. Name two streets that are intersecting

_____ and _____

4. Name two streets that form perpendicular angles.

_____ and _____

5. Which building is a pentagon? _____ Color it yellow.

6. Which building a rhombus? _____ Color it orange.

7. Which building is a hexagon? _____ Color it purple.

8. Color the quadrilateral buildings red.

9. Some streets and the bike trail formed right angles. Outline every right angle in the neighborhood in blue.

10. What type of triangle is the post office?

equilateral isosceles scalene

11. What type of angle is Angle A? obtuse acute right

12. What type of angle is Angle B? obtuse acute right

Name _____

Directions: Read the following passage. Use information from the passage to answer the questions.

How Tía Lola Came to Visit Stay

by Julia Alvarez

The long, sweet, sunny days of summer come one after another after another. Each one is like a piece of fancy candy in a gold-and-blue wrapper.

Most nights, now that school is out, Tía Lola tells stories, sometimes until very late. The uncle who fell in love with a *ciguapa* and never married. The beautiful cousin who never cut her hair and carried it around in a wheelbarrow. The grandfather whose eyes turned blue when he saw his first grandchild.

Some nights, for a break, they explore the old house. In the attic, behind their own boxes, they find dusty trunks full of yellowing letters and photographs. . . . One photo of a boy with a baseball glove in his hand is inscribed, *Charlebois, '34*.

Miguel tries to imagine the grouchy old man at Rudy's Restaurant as the young boy with the friendly smile in the photograph.

But he can't see even a faint resemblance.

Since the team doesn't have a good place for daily practice, Miguel's mother suggests they use the back pasture behind the house. "But let me write Colonel Charlebois first, just in case."

Their landlord lives in a big white house in the center of town. He has already written them once this summer, complaining about "the unseemly shape of the vegetation," after Tía Lola trimmed the hedges in front of the house in the shapes of pineapples and parrots and palm trees.

"Can't you just call him and ask him, Mami?" Miguel asks. After all, the team is impatient to get started with practice. A letter will take several days to be answered. . . .

Two days later, Colonel Charlebois's answer is in their mailbox. It has not been postmarked. He must have driven out and delivered it himself.

“I would be honored to have the team practice in my back pasture,” he replies in a shaky hand. . . .

“Honored!” Miguel’s mother says, lifting her eyebrows. She translates the letter for Tía Lola, who merely nods as if she’d known all along that Colonel Charlebois is really a nice man.

And so every day Miguel’s friends come over, and the team plays ball in the back field where only six months ago, Miguel (or maybe it was the *ciguapas*?) wrote a great big welcome to Tía Lola. Twice a week, Rudy drops by to coach. They play all afternoon, and afterward, when they are hot and sweaty, Tía Lola invites them inside for cool, refreshing smoothies, which she calls *frío-fríos*. As they slurp and lick, she practices her English by telling them wonderful stories about Dominican baseball players like Sammy Sosa and the Alou brothers and Juan Marichal and Pedro and Ramón Martínez. The way she tells the stories, it’s as if she knows these players personally. Miguel and his friends are enthralled.

After a couple of weeks of practice, the team votes to make Miguel the captain. José, who is visiting from New York, substitutes for whoever is missing that day. Tía Lola is named manager. . . .

It is a happy summer—

Until Tía Lola decides to paint the house purple. . . .

The front porch is the color of a bright bruise. Miguel can’t help thinking of the deep, rich purple whose name he recently learned from his father in New York. “Dioxazine,” he mutters to himself. The rest of the house is still the same color as almost every other house in town. “Regulation white,” Papi calls it whenever he comes up to visit and drives through town.

In her high heels and a dress with flowers whose petals match the color of the porch stands Tía Lola, painting broad purple strokes.

For a brief second, Miguel feels a flash of that old embarrassment he used to feel about his crazy aunt.

“Awesome,” his friend Dean is saying.

Name _____

Text-Based Comprehension

Directions: Read the questions below and choose the best answer.

1. Part A

Which sentence best describes the character of Tía Lola?

- A. She is artistic.
- B. She is lively.
- C. She is boastful.
- D. She lives in the past.

Part B

Which detail best supports your answer in Part A?

- A. “She translates the letter for Tía Lola, who merely nods as if she’d known all along that Colonel Charlebois is really a nice man.”
- B. “she practices her English by telling them wonderful stories about Dominican baseball players like Sammy Sosa.”
- C. “Tía Lola tells stories, sometimes until very late.”
- D. “In her high heels and a dress with flowers whose petals match the color of the porch stands Tía Lola, painting broad purple strokes.”

COMMON CORE STATE STANDARDS

Literature 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. **Literature 3.** Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character’s thoughts, words, or actions).

2. The following statements describe events in *How Tía Lola Came to Visit Stay*. Number the statements from 1 to 5 to match the sequence of events in the passage.

- _____ Miguel's mother writes a letter to Colonel Charlebois.
- _____ Miguel and his friends begin practicing together every day.
- _____ Miguel becomes captain of the team and Tía Lola becomes the manager.
- _____ Miguel's mother suggests the team practice in the field behind their house.
- _____ Colonel Charlebois leaves an answer in Miguel's mailbox.

3. What event before Miguel's mother asks Colonel Charlebois to let the team practice hints at what will happen?

- A. Colonel Charlebois complains to Miguel's family.
- B. Miguel suggests calling Colonel Charlebois.
- C. Miguel sees Colonel Charlebois at a restaurant.
- D. Miguel finds keepsakes of Colonel Charlebois.

COMMON CORE STATE STANDARDS

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Name _____

4. Why does Colonel Charlebois agree to let the team practice in the back pasture?
- A. He lives in a big house in the center of town.
 - B. He is always kind and generous to others.
 - C. He played baseball when he was a boy.
 - D. He feels bad for complaining about the hedges.
5. What causes Miguel's feelings of embarrassment toward Tía Lola to change?
- A. She paints the house purple.
 - B. His friends think she is cool.
 - C. She trims the hedges.
 - D. Colonel Charlebois likes her.

COMMON CORE STATE STANDARDS

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Water Carves the Land

Cross-Curricular Focus: Earth Science



The coastlines of North America have a beautiful, but unusual shape. The ocean waves are responsible for weathering away bits of soil, rock, and sand wherever the water meets the land. Some beaches change more than others. Those that experience severe storms or frequent winds change the most. Water carries the sediment, or sand, soil and rocks, and drops it along another part of the coast.

A **bay** is formed when wears away the land in a natural curve. This creates a body of water that has a wide opening to the sea, but is partly enclosed by land. The waters of a bay are usually calm.

Ocean waves aren't the only water sources that pick up and redeposit sediment. River systems are made up of many different rivers. They join up on their journey toward the ocean. They all eventually join a major river that will take them all the way to the ocean. One example of this is the Mississippi River system. It eventually empties into the Gulf of Mexico. At the mouth of the river, deposits of sediment build up over time. This forms a large land area called a **delta**.

Sometimes people change the path that water naturally follows. Man-made lakes are created by building dams. The lake that forms is called a **reservoir** and stores the region's fresh water supplies. In some areas, the dam may also use the force of gravity to make electricity. Water rushing from a high place to a low one turns huge turbines, or wheels, creating and storing electricity for the region's power system. Water from reservoirs can also be used in irrigation projects that help farmers get enough water to grow crops.

Water often shapes our land. Humans also shape and control the water sources of the Earth.

Name: _____

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) What is sediment?

2) What happens when sediment builds up over time?

3) What is responsible for the unusual shape of a coastline?

4) What is an example of people changing the way water flows?

5) What is one benefit of building a dam?

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5) What is one benefit of building a dam?

Name _____

4th Grade
NTI Packet
Day 15

Name: _____

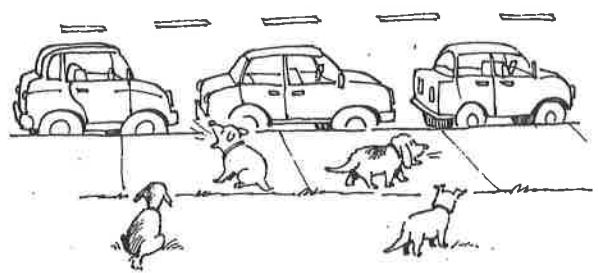
Date: _____

Riddle **40**

How do lazy dogs have fun?

Add.

Solve the riddle using your answers below.



$\begin{array}{r} 2.01 \\ + 2.62 \\ \hline \end{array}$ <p>C</p>	$\begin{array}{r} 3.98 \\ + 2.65 \\ \hline \end{array}$ <p>E</p>	$\begin{array}{r} 5.32 \\ + 1.53 \\ \hline \end{array}$ <p>R</p>
$\begin{array}{r} 3.24 \\ + 5.55 \\ \hline \end{array}$ <p>P</p>	$\begin{array}{r} .99 \\ + .89 \\ \hline \end{array}$ <p>D</p>	$\begin{array}{r} 4.86 \\ + 3.39 \\ \hline \end{array}$ <p>Y</p>
$\begin{array}{r} 1.57 \\ + .54 \\ \hline \end{array}$ <p>H</p>	$\begin{array}{r} .19 \\ + .75 \\ \hline \end{array}$ <p>K</p>	$\begin{array}{r} 5.48 \\ + 3.86 \\ \hline \end{array}$ <p>S</p>
$\begin{array}{r} 3.20 \\ + 4.36 \\ \hline \end{array}$ <p>T</p>	$\begin{array}{r} 4.64 \\ + 3.46 \\ \hline \end{array}$ <p>W</p>	$\begin{array}{r} 8.20 \\ + 1.48 \\ \hline \end{array}$ <p>A</p>

Solve the Riddle!

Write the letter that goes with each answer.

$\frac{7.56}{\quad}$	$\frac{2.11}{\quad}$	$\frac{6.63}{\quad}$	$\frac{8.25}{\quad}$	$\frac{4.63}{\quad}$	$\frac{2.11}{\quad}$	$\frac{9.68}{\quad}$	$\frac{9.34}{\quad}$	$\frac{6.63}{\quad}$	
$\frac{8.79}{\quad}$	$\frac{9.68}{\quad}$	$\frac{6.85}{\quad}$	$\frac{.94}{\quad}$	$\frac{6.63}{\quad}$	$\frac{1.88}{\quad}$	$\frac{4.63}{\quad}$	$\frac{9.68}{\quad}$	$\frac{6.85}{\quad}$	$\frac{9.34}{\quad}$

Name _____

Directions: Read the following passage. Use information from the passage to answer the questions.

The Case of the Gasping Garbage

by Michelle Torrey

“Gabby Talberg,” she shrieked. “Hurry! Hurry!”

“Oh, hi, Gabby.” Gabby Talberg was in Drake’s fifth-grade class at school. She was a nice girl, even if she did talk too much. “Now, calm down and speak slowly. What seems to be the problem?”

“Speak-slowly?-Are-you-nuts?-I-said-there’s-a-huge-giant-bloodsucking-monster-in-my-garbage-can-and-it’s-growing-bigger-and-bigger-every-second-and-I’m-alone-in-the-house-and-it’s-going-to-gobble-me-up-and-I-don’t-want-to-be-someone’s-dinner!” Gabby gasped for breath.

Drake was excited. This could prove to be a great day for Doyle and Fossey, Science Detectives. They’d never had a monster assignment before. And, of course, it would be a great day for the small town of Mossy Lake. They’d publish their findings in the local newspaper. **GARBAGE-EATING MONSTER DISCOVERED! MOSSY LAKE’S GARBAGE PROBLEMS SOLVED!** Maybe they’d even lecture at Mossy Lake University!

But Drake couldn’t allow his excitement to overwhelm his good scientific sense. That was the first rule of science. And Drake was a stickler about rules of science. He cleared his throat and forced himself to speak calmly. “What makes you think there’s a monster?” he asked.

“All kinds of weird gasping noises are coming from my garbage can. Something’s inside. Hurry, Drake, you have to come over immediately and get rid of it. Because if you don’t, I’ll just have to call James Frisco.”

Great Scott! thought Drake, horrified. Not James Frisco! Frisco was in their fifth-grade class at school. Frisco was a competitor. Frisco was a scientist, but he was a bad scientist. A very bad scientist. A mad scientist, you might say.

Frisco's business card read:

FRISCO

~~BAD~~ MAD SCIENTIST

(Better than Doyle and Fossey)

Call me. Day or night.

555-6190

Why was Frisco such a ~~bad~~ mad scientist? Because if Frisco didn't like a number, he erased it. Because if an experiment asked for pink, Frisco used blue. Because if an experiment called for two, Frisco used one. (Or three.) But most especially, because if an experiment said "Adult Supervision Required, OR ELSE!" Frisco did it anyway. Alone.

Drake knew that if Gabby hired Frisco, there was no telling what could happen. Knowing Frisco's sloppy scientific techniques, Frisco might let the monster out of the can, and he and Gabby would never be seen again! Gobbled in the blink of an eye!

"Drake," said Gabby, "Drake, are you there? I said you have to come over immediately and get rid of it or else I'll call Frisco!"

"Check. I'll be right there."

Click.

Drake phoned Nell. She was the most fabulous partner an amateur scientist and detective genius could have. Whenever they had a serious case, Nell dropped everything and reported for duty.

"Doyle and Fossey," she answered, picking up the phone on its first ring.

"Drake here. Meet me at Gabby's house right away. Gabby's garbage is gasping."



Name _____

Text-Based Comprehension

Directions: Read the questions below and choose the best answer.

1. Part A

What is the main reason Drake wants to solve Gabby's mystery?

- A. He likes Gabby and wants to be her friend.
- B. He wants his detective business to become famous.
- C. He is afraid Gabby's monster will attack the whole town.
- D. He does not want Frisco's business to be successful.

Part B

Which sentence best supports your answer to Part A?

- A. "She was a nice girl, even if she did talk too much."
- B. "And, of course, it would be a great day for the small town of Mossy Lake."
- C. "This could prove to be a great day for Doyle and Fossey, Science Detectives."
- D. "Because if you don't, I'll just have to call James Frisco."

COMMON CORE STATE STANDARDS

Literature 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. **Literature 3.** Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).

2. What is the main way Drake Doyle and James Frisco differ as scientists? Read the adjectives in the box below. Choose one that describes Frisco and one that describes Drake based on text details. Write each word in the correct column in the chart.

fierce	successful	careless
careful	gentle	unsuccessful

Drake Doyle	James Frisco
Drake is _____.	Frisco is _____.

3. Which is a theme of the story?
- A. It is important for scientists to follow rules.
 - B. People may say untrue things about a competitor.
 - C. Scientists who solve mysteries become famous.
 - D. Fifth-graders are too young to run a business.

COMMON CORE STATE STANDARDS

Literature 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. **Literature 2.** Determine a theme of a story, drama, or poem from details in the text; summarize the text. **Literature 3.** Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).


 Next

Name _____

4. Think about how Gabby speaks to Drake in the following paragraph. Which statement best describes her state of mind?
- “Speak-slowly?-Are-you-nuts?-I-said-there’s-a-huge-giant-bloodsucking-monster-in-my-garbage-can-and-it’s-growing-bigger-and-bigger-every-second-and-I’m-alone-in-the-house-and-it’s-going-to-gobble-me-up-and-I-don’t-want-to-be-someone’s-dinner!” Gabby gasped for breath.”
- A. She is furious.
- B. She is exhausted.
- C. She is disgusted.
- D. She is terrified.
5. Which statement correctly summarizes the problem that Drake must investigate, or look into?
- A. A smelly gas is oozing from Gabby’s garbage can.
- B. Gabby’s garbage can is producing unusual sounds.
- C. Something keeps knocking over Gabby’s garbage can.
- D. Gabby’s garbage can shakes and trembles on its own.

COMMON CORE STATE STANDARDS

Literature 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. **Literature 2.** Determine a theme of a story, drama, or poem from details in the text; summarize the text. **Literature 3.** Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character’s thoughts, words, or actions).

Name _____

Writing – Constructed Response

Will Drake be successful in solving the mystery? Why or why not? Use details about Drake's character and his actions to support your ideas.

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To the Teacher: Use the Writing Rubric on page T21 to assess students' writing.

COMMON CORE STATE STANDARDS

Literature 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. **Writing 1.** Write opinion pieces on topics or texts, supporting a point of view with reasons and information. **Writing 9.a.** Apply *grade 4 Reading standards* to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character's thoughts, words, or actions].").

Next 

Name _____

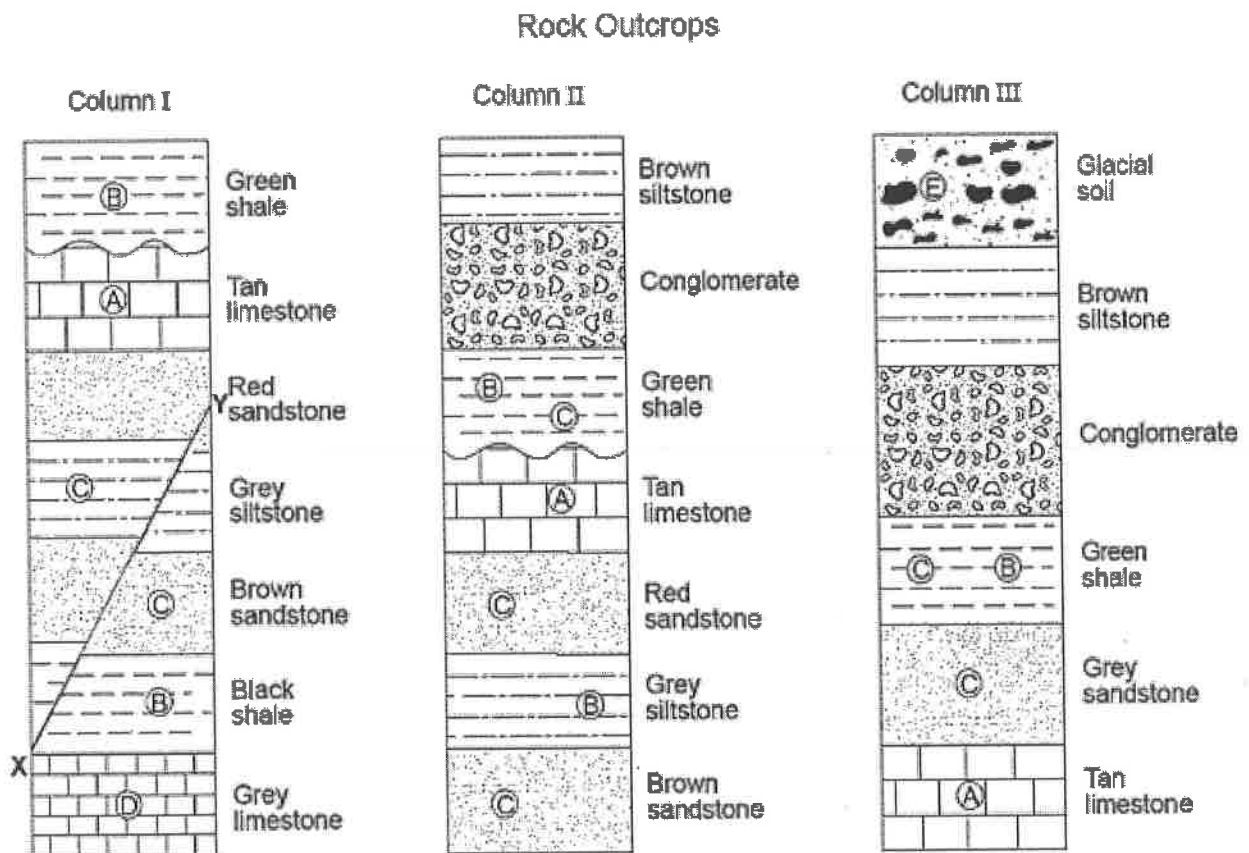


Rock outcrops (like this one from the [Salta Province of Argentina](#)) give scientists a glimpse into the rock layers below Earth's surface. The patterns of rock formations reveal changes over time due to earth forces. The presence and location of certain fossil types indicate the order in which rock layers were formed.

The diagram below (Figure 1) organizes rock layers and fossils (A-E) in a region of New York State. The line drawn from X-Y represents a fault formed during an earthquake.

1. Analyze the patterns in Figure 1 to complete the questions in the table below.

How are all three outcrops similar ?	How are all three outcrops different ?



(Figure 1)



Name _____

4th Grade
NTI Packet
Day 16

Weekly CCSS Skill Assessment #1

Skills 4.NBT.5, 4.OA.2, 4.NF.1, 4.G.2, 4.MD.3, 4.NBT.6

Name _____ # _____

Day 16
4th Grade

Solve.

1. $40 \times 60 =$ _____

2. $500 \times 50 =$ _____

3. $800 \div 40 =$ _____

4. $15,000 \div 30 =$ _____

5.
$$\begin{array}{r} 62 \\ \times 34 \\ \hline \end{array}$$

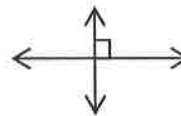
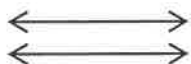
6.
$$\begin{array}{r} 33 \\ \times 87 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 75 \\ \times 29 \\ \hline \end{array}$$

8. $2 \overline{)4385}$

9. $5 \overline{)3362}$

Label the lines below with the correct term.



10. _____

11. _____

12. _____

Multiple Choice

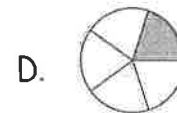
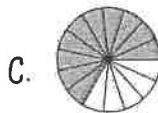
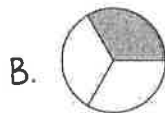
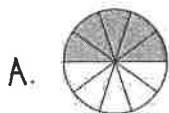
13. A cup holds 8 ounces of coffee. A thermos holds 32 ounces of coffee. How many times as many ounces does a thermos hold than a cup?

- A. 4 times B. 8 times C. 24 times D. 40 times

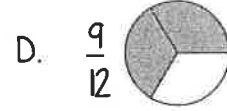
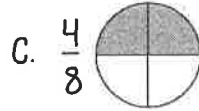
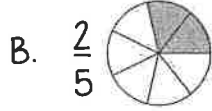
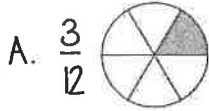
14. There are 5 days in a school week. There are 45 days in a school quarter. How many times as many days are there in a school quarter than in a school week?

- A. 5 times B. 7 times C. 9 times D. 40 times

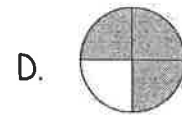
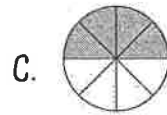
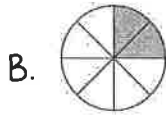
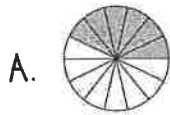
15. Wally has biked 5 miles. He wants to bike a total of 15 miles. The shaded region of which figure models the number of miles Wally has biked out of the total he wants to bike?



16. Which pair of fractions are equivalent?

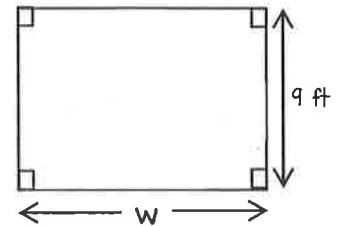


17. Ashlyn has completed 6 pages of her book report. The book report must be 8 pages total. The shaded region of which figure models the number of pages Ashlyn has completed out of the total number of pages she must complete?



18. The figure to the right shows a diagram of a bedroom. The area of the room is 126 square feet. What is the width (w) of the bedroom?

- A. 8 ft. B. 12 ft. C. 14 ft. D. 54 ft.



19. A poster is 12 inches wide and 22 inches long. What is the area of the poster?

- A. 34 square inches B. 48 square inches
C. 68 square inches D. 264 square inches

20. A sidewalk is 3 feet wide and 20 feet long. What is its perimeter?

- A. 23 feet B. 46 feet C. 60 feet D. 460 feet

Introduction English words come from many languages, including Greek and Latin.

- A **root** is a word part that usually can't stand alone as a word. Sometimes one root is added to another root to make a word, as in the word *photograph*.

Root	Meaning	Root	Meaning
<i>graph</i>	"write"	<i>act</i>	"do"
<i>vis, vid</i>	"see"	<i>photo</i>	"light"
<i>phon, phono</i>	"sound, voice"	<i>port</i>	"carry"

- **Affixes** are word parts, such as prefixes and suffixes, that are added to word roots to make words. You can add the root *vis* to *-ible* to make *visible*.

Prefix	Meaning	Suffix	Meaning
<i>auto-</i>	"self"	<i>-ist, -er, -or</i>	"someone who"
<i>tele-</i>	"distance"	<i>-able, -ible</i>	"able or capable"

- As you learn Greek and Latin roots and affixes, your vocabulary will grow.

Guided Practice

Circle the roots in the underlined words. Write the meaning of each root. Then tell a partner the meaning of each underlined word.

HINT Remember, words may have two roots or a root and an affix.

- 1 My favorite actor is Jesse B.

- 2 I have five photographs of Jesse B. on my wall.

- 3 One even has an autograph on it.

- 4 I've asked my mom if I could telephone Jesse B.

- 5 She said I could just watch Jesse B. on television.



Independent Practice

For numbers 1–4, read each sentence. Then answer the question.

- 1** I decided to compose a letter to Jesse B.

The prefix *com-* means “with,” and the root *poser* means “to put or set down.” What is the meaning of compose as used in the sentence?

- A** to think
- B** to write
- C** to talk
- D** to mail

- 2** Dear Jesse B., I just read a biography about you.

The prefix *bio-* means “life,” and the root *graph* means “write.” What is the meaning of biography as used in the sentence?

- A** writing about the life of an actor
- B** writing about someone else’s life
- C** writing about the beauty of life
- D** writing about how to live your life

- 3** Your life story inspires me and many other fans.

The prefix *in-* can mean “within,” and the root *spir* means “breathe.” What is the meaning of inspires as used in the sentence?

- A** causes people to become alive
- B** causes a heavy wind to blow
- C** causes people to faint
- D** causes strong lungs

- 4** I hear you are a very benevolent person, giving to many charities.

The prefix *bene-* means “well,” and the root *velle* means “wish.” What is the meaning of benevolent as used in the sentence?

- A** surrounded by good people
- B** showing good will to others
- C** liked by many good people
- D** hoping others are good

Over Bridge, Under Tunnel

by Lloyd Frank

- 1 Mountains, lakes, and rivers can get in the way of people traveling from one place to another. There are structures that help people pass such obstacles. Bridges and tunnels help people overcome such barriers.
- 2 Bridges and tunnels are different in design and placement. A bridge is built over a body of water, a highway, or a railroad track. A tunnel, in contrast, is a passageway under the ground, under a body of water, or through a mountain. Bridges vary in shape and are often placed above ground or water. Some are even famous. The Golden Gate Bridge is one of the most renowned bridges in the world. This celebrated structure crosses over the entrance to San Francisco Bay and connects San Francisco to northern California. The Golden Gate is known for its length and height. But it is best known for its beauty. People come from all over the world not just to cross the Golden Gate but simply to look at it.
- 3 Of course, not even the world's most famous tunnel gets many visitors who just want to look. It's hard to get a good view of a subterranean passage. But since the Channel Tunnel opened in 1994, it has transported millions of people. The Channel Tunnel, or "Chunnel," runs beneath the English Channel and connects France and England. The Chunnel is a rail tunnel. The only automobiles that cross it are carried on special railway cars. The Chunnel is not the longest tunnel in the world, but it is one of the few tunnels that connects two countries.

Close Reader Habits

How can context clues help you? **Circle** words that are unfamiliar.

Reread the article.

Underline clues that help you figure out the meaning of the words.

► **Think** Use what you learned from reading the science article to respond to the following questions.



1 What is the meaning of obstacles as it is used in paragraph 1 of the text?

- A things made below or above ground
- B things that slow or stop movement
- C things that help people travel
- D things built through mountains or over water

2 Underline **four** context clues in paragraph 2 that **best** help you understand the meaning of the word renowned.

A bridge is built over a body of water, a highway, or a railroad track. . . . Bridges vary in shape and are often placed above ground or water. Some are even famous. The Golden Gate Bridge is one of the most renowned bridges in the world. This celebrated structure crosses over the entrance to San Francisco Bay and connects San Francisco to northern California. The Golden Gate is known for its length and height. But it is best known for its beauty.

Synonyms are context clues with meanings that are almost like the unfamiliar words. Antonyms are context clues with meanings that are opposite to the unfamiliar words.

► **Talk**

3 Discuss the meaning of the word subterranean as it is used in this sentence from paragraph 3:

It is hard to get a good view of a subterranean passage.

HINT Use a chart to organize your thoughts about context clues.

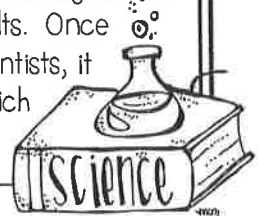
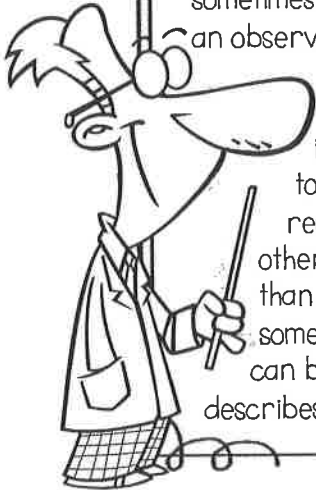
►  **Write**

4 **Short Response** Write a definition of the word subterranean. Identify the context clues you found. Describe the strategy you used to figure out the meaning of the word. Use details from the text to support your response. Use the space provided on page 209 to write your answer.

Exploring the Scientific Method

The **scientific method** is a process that scientists use to better understand the world around them. It includes making observations and asking a question, forming a hypothesis, designing an experiment, collecting and analyzing data, and drawing a conclusion. This is sometimes also referred to as scientific inquiry. A **hypothesis** is a possible explanation for an observation. A good scientist will design a **controlled experiment** to test their hypothesis.

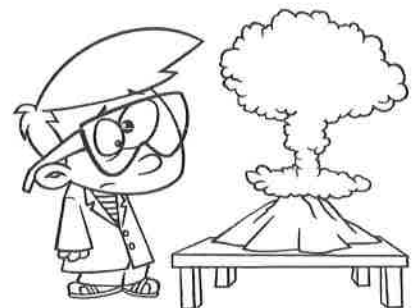
In a controlled experiment, only one variable is tested at a time. It is called the manipulated or **independent variable**. The **experimental group** will test the independent variable. The **control group** will be left alone, so you have something to compare your results to. The variable that determines the data is the responding, or **dependent variable**. It responds to the manipulated variable. All other variables in the experiment should remain the same, because if you change more than one variable, you will not know which variable explained your results. Once something has been tested many different times by many different scientists, it can become a **scientific theory**. It is different from a **scientific law**, which describes what will happen every time under a particular set of conditions.



True or False

If the answer is true, write "true" on the line. If the answer is false, replace the underlined word or phrase with one that will make the sentence correct. Write the new word(s) on the line.

- _____ Forming a hypothesis is the first step of the scientific method.
- _____ A scientific law is different from a scientific theory because it describes something in nature without attempting to explain it.
- _____ In order for a hypothesis to be testable, scientists need to be able carry out investigations that will either support or disprove it.
- _____ The experimental group is the group that is left alone during the experiment.
- _____ The manipulated variable is the same thing as the independent variable.



Name _____

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Use a strategy of your choice to solve each problem.

- 1 There are 5 times as many tulips as rose bushes in a garden. There are 15 tulips. How many rose bushes are in the garden?

There are _____ rose bushes in the garden.

- 2 Kelly has 2 times as many quarters as dimes. She has 18 quarters. How many dimes does she have?

Kelly has _____ dimes.

- 3 There are 18 blueberries in a bowl. There are 3 times as many blueberries as strawberries in the bowl. How many strawberries are in the bowl?

There are _____ strawberries in the bowl.

- 4 Amanda swims for 16 minutes. This is 4 times as many minutes as Julio swims. How many minutes does Julio swim?

Julio swims _____ minutes.

- 5 A tile pattern has 6 times as many white squares as gray squares. There are 48 white tiles in the pattern. How many gray tiles are there?

There are _____ gray tiles in the pattern.

- 6 Leah has 3 times as many country songs as she has pop songs on her MP3 player. She has 27 country songs. How many pop songs does Leah have?

Leah has _____ pop songs.

- 7 Erik sees 42 stars in the sky on Tuesday night. This is 7 times as many stars as he sees on Monday night. How many stars does Erik see on Monday night?

Erik sees _____ stars on Monday night.

- 8 Lucas spends 72 minutes cleaning his room. This is 8 times as long as it takes him to wash the dishes. How long does it take Lucas to wash the dishes?

It takes Lucas _____ minutes to wash the dishes.

- 9 Write and solve a word problem for this equation: $6 \times n = 54$

Introduction Sometimes when you're reading a story or an article, you'll come across a word you don't know. When you don't know the meaning of a word, often you can figure it out by looking at the words and sentences around it. When you do this, you are using **context clues**.

Kinds of Context Clues	Examples
Look for a definition in the text.	In high school, Jim Lovell built his first <u>rocket</u> , a jet engine that could fly to great heights.
Find an example that will give you clues about the word's meaning.	Lovell's first attempt was a <u>failure</u> . His rocket flew into the air but then exploded and crashed.
Look for a restatement . A restatement happens when the word is discussed in a way that makes its meaning clear.	A rocket is pushed upward by materials that are <u>combustible</u> . These materials burn and release gases.



Guided Practice

Read the paragraph below with a partner. Circle the context clues that help you understand the meaning of the underlined word. Write the meanings of the underlined words on the space provided.

HINT Sometimes context clues can be found in a sentence before or after the word you're trying to figure out.

Jim Lovell had always been fascinated by rockets. He was interested in learning everything about them and even built his own rocket. Lovell applied to the United States Naval Academy but was rejected. After failing to get into the Academy, Lovell did not give up. He persisted, or kept trying, and finally succeeded. After the Academy, he joined the NASA space program.

fascinated: _____

rejected: _____

persisted: _____



Independent Practice

For numbers 1–4, use context clues to figure out the meaning of each underlined word.

NASA chose Lovell to command the *Apollo 13* space mission. Lovell was in charge of two men and of making all final decisions. After they were in space for a little more than two days, Lovell and his crew ran into trouble. One of the oxygen tanks blew up. The explosion caused a leak in another tank, and now there wouldn't be enough oxygen for a moon landing. Lovell and his crew had to return to Earth. Their safe return was due to Lovell's capable leadership.

- 1** What does the word command mean?
 - A** to study
 - B** to fly with others on
 - C** to be at the head of
 - D** to be part of

- 2** What words help you understand the meaning of command?
 - A** "in charge of"
 - B** "two men"
 - C** "space mission"
 - D** "chose Lovell"

- 3** What does the word explosion mean?
 - A** a leak
 - B** a bursting of something
 - C** a lack of oxygen
 - D** leaving outer space

- 4** What does the word capable suggest about Lovell as a leader?
 - A** He is a gentle and patient leader.
 - B** He is skillful at leading others.
 - C** He is harsh to those he leads.
 - D** He is weak when leading others.

Lesson 18

Using a Dictionary or Glossary

Introduction There are many places you can look to find information about words. A dictionary and a glossary are two kinds of references you can use.

- A **dictionary** lists words in alphabetical order. Each entry has an entry word, the pronunciation, the part of speech, and the meanings of the word.

break (brāk) *v.* **1.** to smash **2.** to disobey **3.** to do better than: *Ina broke the record for the high jump.* *n.* **4.** time off **5.** luck **break into** **1.** to disturb **2.** to start to do suddenly **3.** to start a new job: *He broke into acting.*

The pronunciation uses special symbols to show how to say the word.

The part of speech is abbreviated. Here it is *v.* for verb.

When there is more than one meaning, each definition is numbered.

- A **glossary** is a kind of dictionary often found at the back of a book. It lists important words from the book in alphabetical order. It gives the meaning of each word as it is used in that book.

carry (kār'ē) **1.** to move **2.** to hold **carry on** **1.** to continue **2.** to act excitedly

Sometimes a sample sentence helps make the meaning of a word or phrase clearer.

Guided Practice

Read the paragraph. Use the entries above to find the meanings of the underlined words and phrases. Write the number of the correct meaning above each word or phrase.

HINT To find the right meaning of a word or phrase, read all the definitions first. Decide which meaning makes the most sense in the sentence.

Hank Aaron broke into major league baseball in the 1950s. A big break came for him in 1954 when he replaced an injured player. Aaron's talent helped him break Babe Ruth's record of 714 home runs. When Aaron hit his 715th home run, his fans broke into cheers. Aaron carried on hitting home runs until he retired in 1976.



Independent Practice

Use the dictionary entries to answer numbers 1–4.

material (mə tīr' ē əl) *n.* **1.** fabric or cloth **2.** ideas and facts used in writing something *adj.* **3.** made of matter **4.** having great meaning or effect

- 1** Which definition matches how material is used in this sentence?

Hank Aaron had few material goods growing up, but his parents gave him love and encouragement.

- A Definition 1
- B Definition 2
- C Definition 3
- D Definition 4

hammer (hām' ər) *n.* **1.** a tool used for pounding objects, such as nails **2.** a part of a piano *v.* **3.** to hit hard **4.** to join with nails

- 2** Which definition matches how hammer is used in this sentence?

His skill at hammering baseballs helped Aaron become a successful baseball player.

- A Definition 1
- B Definition 2
- C Definition 3
- D Definition 4

stand (ständ) *n.* **1.** a display area **2.** an opinion or a position on an issue *v.* **3.** to be on one's feet **4.** to endure, put up with **stand for** **1.** to represent, be a symbol of **2.** to allow **3.** to believe in and support: *He stands for equality.* **4.** an abbreviation for

- 3** Which definition matches how stand is used in this sentence?

Aaron could stand a lot of pressure, too.

- A Definition 1
- B Definition 2
- C Definition 3
- D Definition 4

- 4** Which definition matches how stand for is used in this sentence?

Hank Aaron stands for the talent, hard work, and courage that make an athlete great.

- A Definition 1
- B Definition 2
- C Definition 3
- D Definition 4

CLAM - EVIDENCE – REASONING practice

DIRECTIONS: Read the experiment details below, then use the observations to complete the CER conclusions.

Problem: Does the size of the pot a plant is grown in affect how tall the plant will grow?

Hypothesis: If the plant pot is larger, then the plant will grow taller, because the roots have more room to spread out.

Observations: After 31 days the following plant heights were recorded.

POT	Diameter	Plant Height
1	5 cm	15 cm
2	10 cm	20 cm
3	15 cm	30 cm
4	20 cm	32 cm
5	25 cm	39 cm



Conclusions:

CLAM	What do you conclude?	
EVIDENCE	What data proves this claim?	
REASONING	How does the evidence support the claim?	

Name _____

4th Grade
NTI Packet
Day 18

Day 18th
4th

Dividing Four-Digit Numbers

Name: _____

**Estimate. Circle all the problems with quotients between 500 and 1,500.
Then find the exact quotients of only the problems you circled.**

1 $2,508 \div 4 =$ _____

2 $7,058 \div 9 =$ _____

3 $2,726 \div 9 =$ _____

4 $7,429 \div 5 =$ _____

5 $3,506 \div 9 =$ _____

6 $8,318 \div 8 =$ _____

7 $7,645 \div 2 =$ _____

8 $4,113 \div 4 =$ _____

9 $3,196 \div 5 =$ _____

10 $5,018 \div 7 =$ _____

11 $8,127 \div 6 =$ _____

12 $6,155 \div 3 =$ _____

13 What strategies did you use to estimate the quotients? Explain.

14 Check one of your answers by solving it with a different strategy. Show your work.

Name _____

Directions: Read the following passage. Use information from the passage to answer the questions.

The Man Who Named the Clouds

by Julie Hannah and Joan Holub

Luke was determined to find new ways to study the weather. In 1796, he joined a club called the Askesian Society. The word *askesian* comes from a Greek word that means “philosophical exercise” or “training.”

Most of the club’s members were Quakers who wanted to learn about science. They did experiments and brainstormed to try to answer questions about weather, astronomy, electricity, and other branches of science. They wrote their ideas in reports and read them aloud at club meetings held twice a month. At every meeting, each member had to read a paper he had written or pay a fine!

It wasn’t easy to discuss clouds because everyone described their shapes differently. Luke knew clouds needed to be classified and named. But scientists had tried this before and failed because their systems weren’t exact enough.

Luke studied the work of a Swedish botanist named Carl von Linné, also known as Linnaeus. In 1735, Linnaeus had created a system for scientifically classifying plants and animals using Latin names. This gave Luke an idea for the way to classify clouds.

At a society meeting in 1802, Luke read an essay he’d written called “The Modification of Clouds.” (At the time, *modification* meant “classification” or “naming by categories.”) In his paper, Luke described three main cloud shapes and gave them Latin names. . . .

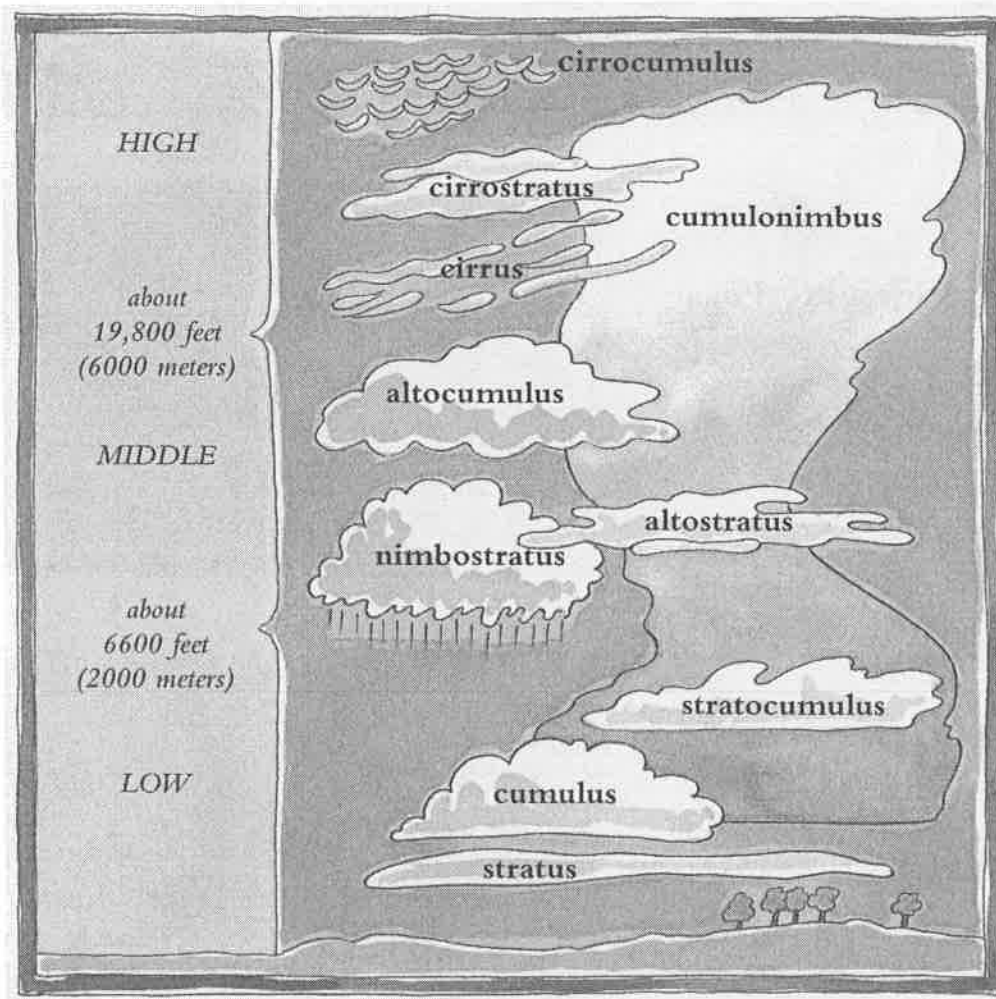
He also described four other types of clouds, which were combinations of the three main ones. . . . Everyone in the Askesian Society was excited about his essay. Finally, someone had a good idea for a system to name clouds! . . .

Luke’s essay was printed and sold in bookstores. His cloud-naming system appeared in the *Encyclopedia Americana* in the early 1800s.



Still, scientists argued about his system. Was it really possible there were only seven cloud types as Luke claimed? Although some people proposed different classification ideas, Luke never changed his list of seven cloud types. But, over time, others did.

In 1896, an important conference about weather was held in Paris, France. Scientists who attended agreed on a list of ten types of clouds. Each cloud type was given a name based on its shape and the height of its base. Five of Luke's original names were used on the new list. The other five were combinations or revisions of his cloud names.



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Next

Name _____

Text-Based Comprehension

Directions: Read the questions below and choose the best answer.

- Which of the following statements is an opinion?
 - “Everyone in the Askesian Society was excited about his essay.”
 - “In 1796, he joined a club called the Askesian Society.”
 - “Luke studied the work of a Swedish botanist named Carl von Linné, also known as Linnaeus.”
 - “Luke described three main cloud shapes and gave them Latin names.”

- Reread the third paragraph of the passage. Which of the following is a reason the author uses to support the point that it was difficult for different groups to talk about clouds?
 - No one had tried to think of a way to name the clouds.
 - People described clouds using long scientific terms that few could understand.
 - No one could agree on what exactly a cloud is.
 - People did not speak about the appearance of clouds in the same way.

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COMMON CORE STATE STANDARDS

Informational Text 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. **Informational Text 8.** Explain how an author uses reasons and evidence to support particular points in a text.

Next

3. Part A

Which of the following topics would most likely have been discussed by the members of the Askesian Society?

- A. the shortage of tea in the local market
- B. the best way to raise their children
- C. the arrival of a comet in the night sky
- D. the politics of the ruling party

Part B

What detail from the passage best supports your answer to Part A?

- A. “Most of the clubs members were Quakers”
- B. “*askesian* comes from a Greek word”
- C. “They wrote their ideas in reports and read them aloud”
- D. “questions about weather, astronomy, electricity, and other branches of science.”

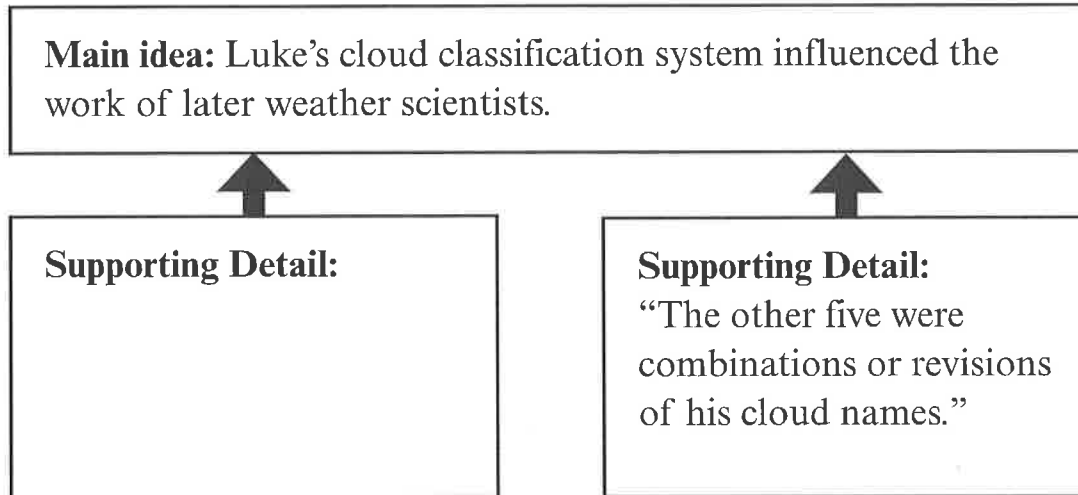
COMMON CORE STATE STANDARDS

Informational Text 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. **Informational Text 4.** Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*.

Next 

Name _____

4. Reread the final paragraph of the passage. Which sentence in the paragraph is another strong supporting detail for the main idea? Write it to complete the chart.



5. You’ve read that scientists eventually came up with a list of ten types of clouds. Suppose you see a cloud in the sky that is very tall and thick. Study the diagram at the end of the passage. Which cloud type are you most likely looking at?
- A. cirrus
- B. cumulonimbus
- C. cirrostratus
- D. cumulus

COMMON CORE STATE STANDARDS

Informational Text 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. **Informational Text 2.** Determine the main idea of a text and explain how it is supported by key details; summarize the text. **Informational Text 7.** Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.

Name _____

Writing – Constructed Response

In *The Man Who Named the Clouds* you read about the efforts of Luke Howard to come up with a way to classify and name the different types of clouds. What traits made Luke a good scientist? What qualities did he show to make sure his ideas were heard? Support your opinion with facts and details from the text. Be sure to link ideas using words and phrases such as “for example,” “also,” and “because.” Conclude with a statement that relates to your opinion.

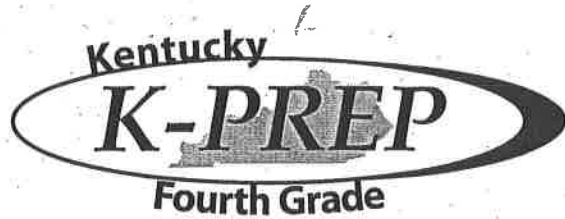
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To the Teacher: Use the Writing Rubric on page T21 to assess students' writing.

COMMON CORE STATE STANDARDS

Writing 1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information. **Writing 1.a.** Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose. **Writing 1.b.** Provide reasons that are supported by facts and details. **Writing 1.c.** Link opinion and reasons using words and phrases (e.g., *for instance, in order to, in addition*). **Writing 1.d.** Provide a concluding statement or section related to the opinion presented.

Next



Chapter 19

Environmental Changes

Do you remember that fungi change dead plants and animals into soil? Maybe you have heard about global warming. These two things may not seem related, but in a way, they are. These two things illustrate one important point: all organisms have the potential to change their environment. Humans, plants, animals, fungi, and even bacteria have the ability to change their environment. When plants, animals, fungi, and bacteria change their environment, without human interaction, it is considered natural environmental change. When humans change their environment, it is considered man-made change.

NATURAL AND MAN-MADE ENVIRONMENTAL CHANGE

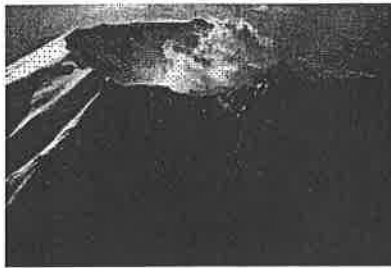


Figure 19.1 Volcano

There are thousands of ways natural changes happen within environments. When animals and plants modify their environment (without any human planning or interference), it is natural environmental change. For instance, volcanoes may erupt and release gases and ash into the atmosphere. This causes the Earth to cool. It is one example of natural environmental change.

In another example, lichens create soil on rocky surfaces. The lichens break down rock into soil. The new soil encourages plant growth. Plants growing in an area encourage animals to inhabit that area. These are just a few examples of natural environmental change.

Surely, you can name several ways humans have changed their environment. Humans dam rivers, cut down forests, make roads, create pollution, and mine natural resources.

PLANTS AND ANIMALS CAUSE ENVIRONMENTAL CHANGE

In a previous chapter, we discussed how plants are a key component of ecosystems. This is true for several reasons. Most importantly, the plant life in an area determines the amount and types of consumers that can survive in that area. Plants that make lots of delicious leaves, fruit, and seeds can support more animals than plants that do not. Plants determine the amount of shade in an area and the available amount of nutrients. The amount of food stored by plants can only support a given amount of animal life. If there is a large amount

MICROORGANISMS CAUSE ENVIRONMENTAL CHANGE

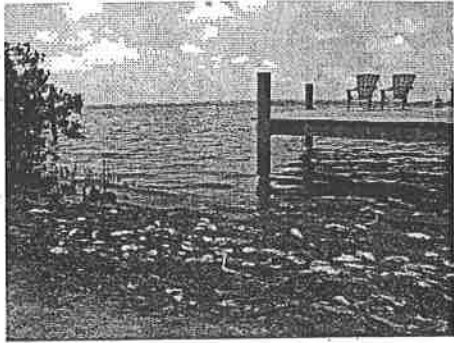


Figure 19.4 Red Tide Causing Fish Kill

Fungi, bacteria and other microorganisms (also called microscopic organisms) can modify their environment by chemically changing the materials found in those environments. Fungi, along with other microorganisms, have a huge capacity to change their environment. Because some microorganisms are so tiny, they have a very short life cycle. That means they can create many offspring quickly. This results in a large population.

These organisms can quickly and easily digest nutrient sources and break down harmful chemicals. Algae, a type of protist, are an important marine microorganism. Algae often “bloom” in a rapid population explosion. This depletes the environment of nutrients. Red algae can reproduce rapidly causing “red tides.” Red tides kill many fish and other organisms by releasing toxins into the environment.

ENVIRONMENTAL CHANGE CAN BE HELPFUL OR HARMFUL

Sometimes when an environment is changed, it becomes harmful to organisms, like when humans, or red algae, release pollution and toxins into the environment. Toxins can harm plants and animals.

Other times, environmental changes can be beneficial to organisms. Let’s say you are a bacterium that loves to eat harmful pollution. Suddenly, the fact that humans are releasing large quantities of pollution (that is “your food”) isn’t such a bad thing. It all depends on your perspective. What may be harmful to one organism is actually beneficial to another. Here is another example: a beaver creating a pond is beneficial to the beaver and the fish that live in the pond. But it is harmful to the grass and mice that lived in the meadow where the pond is now located.

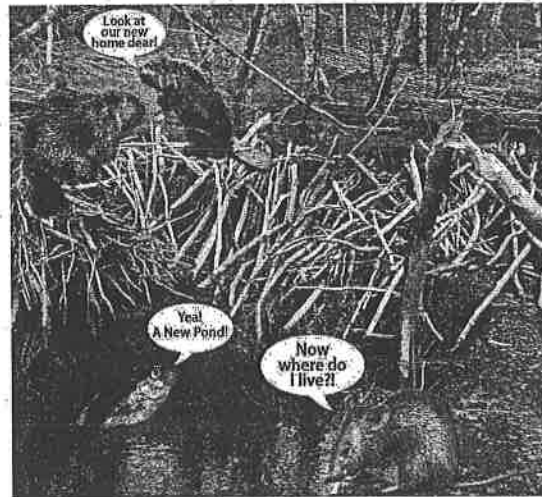



Figure 19.5 A Beaver Pond

Challenge Question

Describe a situation or event that would be helpful to the plants and animals living in the desert. Then try to think of a harmful situation or event.

THE THREE "RS"

REDUCE



Reduce

Reduce simply means to consume and throw away less. When we use fewer resources, we create less trash to throw away. That's better for our environment. Here are a few ways to reduce:

- Purchase durable, long-lasting products.
- Look for products that don't have a lot of packaging.

REUSE



Reuse

Reuse of materials means to make and use products that can be used again. Here are several practical ways you help the environment by reusing materials.

- Use washable mugs instead of Styrofoam™, paper or plastic cups.
- Use cloth napkins and dishtowels.
- Reuse boxes.
- Turn empty jars into containers for leftover food.
- Purchase refillable pens and pencils.
- Use rechargeable batteries.

Reducing and reusing actually prevent the generation of waste in the first place. That is why they are the best method of conserving resources. Another strategy is the option of recycling.

RECYCLE



Recycle

Recycling turns materials that would otherwise become waste into valuable resources. Materials like glass, metal, plastics and paper can be collected, separated and sent to facilities that process them into new materials or products. It is estimated by the Environmental Protection Agency (EPA) that recycling diverted 79 million tons of material away from landfills and incinerators in 2005.

Chapter 19

CHAPTER 19 REVIEW

- 1 What type of organism changes its environment?
A Bacteria
B Humans
C Plants
D All the above
DOK 1
- 2 What is not a main reason plants are considered key to an ecosystem?
A They provide shade for animals.
B They provide energy to animals.
C They provide organic content to the soil.
D They provide air pollution by making CO₂.
DOK 1
- 3 What type of environmental change is helpful to bluebirds?
A Humans logging national forest lands
B Humans cutting down trees to build neighborhoods
C Humans planting trees
D Humans using lumber to build bridges
DOK 2
- 4 What type of environmental change is harmful to fish?
A Goats eating desert grasses
B Pumas hunting desert goats
C Humans storing toxic waste in facilities
D A long drought where no rain falls
DOK 2
- 5 How do plants most encourage animals to inhabit an area?
A Plants provide DNA structure to animal cells.
B Plants provide synthetic chemicals to animals.
C Plants provide cover to hide prey animals.
D Plants provide support to animals.
DOK 3
- 6 Samantha brings her lunch every day in a reusable plastic container. How is Samantha using sustainable practices?
A By eating lunch
B By using chemicals
C By recycling products
D By reducing waste and reusing products

Environmental Changes

- 7 When pollutants leak from a landfill, which type of pollution is least likely to result?
- A Air pollution
 - B Soil pollution
 - C Surface water pollution
 - D Groundwater pollution
- DOK 2
- 8 Which of the following is not a health consequence of water pollution?
- A Cancer
 - B Poisoning
 - C Fetal deformities
 - D Diabetes
- DOK 1
- 9 A homeowner cleared some land. He removed the trees and shrubs. He planted grasses and flowers. Explain how this action is both harmful and beneficial.
- DOK 2
- 10 Beavers often change landscapes. They build dams that stop the flow of water to create ponds. Describe how this change can be harmful to organisms.
- DOK 2

Challenge Question

2

How does recycling help planet Earth?

Name _____

4th Grade
NTI Packet
Day 19

Day 19
4th Grade

Clues About the Continents

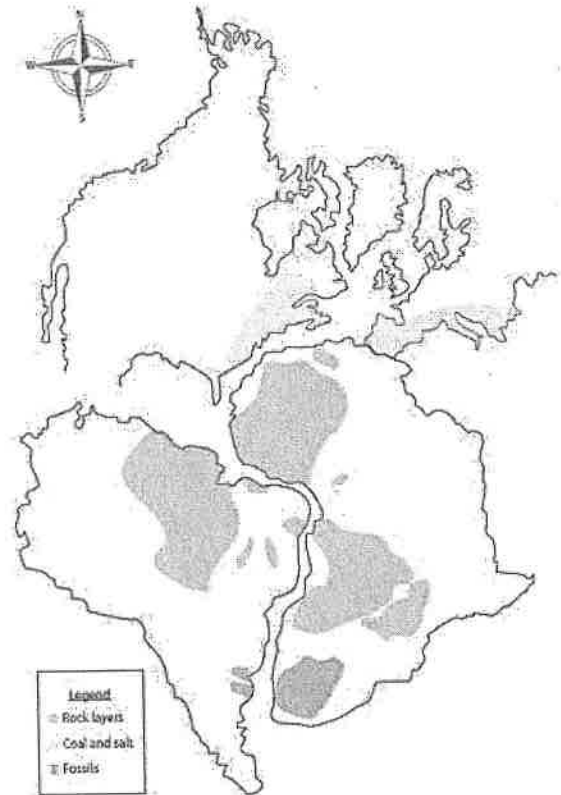
This text is adapted from an original work of the Core Knowledge Foundation.

As early as the 1400s, 1500s, and 1600s, people studying maps noticed something interesting. They saw that several continents looked as if they might fit together like pieces of a jigsaw puzzle.

Later, during the 1800s and early 1900s, geologists studied rock layers on the continents. They made additional intriguing discoveries. For example, rock layers along the northern and eastern coasts of South America match rock layers along Africa's western coast. Also, deposits of coal and salt in eastern North America are similar to those in southern Europe.

Geologists found fossils of an ancient fern called *Glossopteris* in similar rock layers in Africa, India, Australia, and South America. They found fossils of an ancient reptile, *Lystrosaurus*, in both southern Africa and India. In South America and Africa, fossils of another ancient reptile, *Cynognathus*, turned up directly across the Atlantic Ocean from each other.

All of these discoveries seemed to indicate that the continents had once been joined-but how? Furthermore, how had they become separated? Several scientists proposed explanations, but they were quite far-fetched. One involved a gigantic eruption from the center of the earth that ripped all the land apart. Another suggested that part of Earth's land broke away to become the moon and what was left became the continents. Few people paid much attention to these ideas. A better explanation was needed, one with evidence to support it. In the early 1900s, Alfred Wegener provided just that.



Discoveries of rock layers, as well as coal and salt, indicated that the continents had once been joined.

Enter Alfred Wegener

Born and educated in Germany, Alfred Wegener was interested in many scientific subjects,

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including weather, astronomy, and cold, polar regions. Around 1910, Wegener read a scientific paper about similar fossils and rock formations found on different continents. He was intrigued by the mystery of the matching continents and he wanted to solve this mystery.

Wegener gathered evidence. He pulled together discoveries made by many other scientists about rock formations, fossils, and mountain ranges. Polar explorers had recently unearthed fossils of *Glossopteris* in Antarctica. Similar fossils had previously been found in other parts of the world. This seemed to indicate that ice-covered Antarctica might once have been joined to South America, Africa, India, and Australia. It also meant that Antarctica had once had a climate warm enough for ferns to grow.

From this evidence, Wegener concluded that all the present-day continents had been joined as one huge landmass long ago. He understood, as with any new discovery, that his conclusions might be altered or challenged in the future by more evidence. Nonetheless, he believed that the existing evidence supported his conclusions.



Alfred Wegener

Name: _____ Date: _____

1. Long ago, when people studied maps, what did they notice?

- A. The continents all looked as though they were the same shape and size.
- B. Fossils of the same kind of lizard could be found in India and Africa.
- C. Rock layers from Eastern South America matched rock from Western Africa.
- D. The continents looked as though they could fit together, like a puzzle.

2. This text lists and describes the evidence scientists used to conclude that the continents were once joined. What is one piece of evidence scientists used to prove this idea?

- A. There was a gigantic volcanic eruption that caused the continents to split apart across the Atlantic Ocean.
- B. Fossils of an ancient reptile called *Lystrosaurus*, were found in Southern Africa and India.
- C. Parts of Earth's land broke off to become the moon and the land that was left became the continents.
- D. Scientists discovered fossils of ancient ferns that could survive in the freezing temperatures.

3. The text says, "In South America and Africa, fossils of another ancient reptile, *Cynognathus*, turned up directly across the Atlantic Ocean from each other." What conclusion can be drawn based on this evidence?

- A. Long ago, the place where the fossils were found in South America was connected to the part of Africa where the fossils were found.
- B. Long ago, the ancient lizard *Cynognathus* was able to swim across entire oceans and survive in vastly different lands.
- C. Long ago, South America and Africa were connected, but they separated before the time that *Cynognathus* lived.
- D. Long ago, the separation of the continents caused the death of many ancient animals, like *Cynognathus*.

4. Antarctica once had a climate warm enough for ferns to grow there. What evidence from the text best supports this conclusion?

- A. "...ice-covered Antarctica might once have been joined to South America, Africa, India, and Australia."
- B. "Polar explorers had recently unearthed fossils of [the ancient fern] *Glossopteris* in Antarctica."
- C. "Similar fossils had previously been found in other parts of the world."
- D. "...Wegener read a scientific paper about similar fossils and rock formations found on different continents."

5. What is the main idea of this text?

- A. Alfred Wegener was obsessed with learning the truth about the continents, dinosaurs and ancient plants.
- B. Scientists have been studying ancient plants and animals that can survive both tropical and Antarctic climates.
- C. Alfred Wegener gathered evidence from many scientists' discoveries to conclude that the continents were one landmass long ago.
- D. Several ancient lizard species were excellent swimmers and crossed the Atlantic Ocean several times.

6. Please read the following sentences from the passage.

"All of these discoveries seemed to indicate that the continents had once been joined-but how? Furthermore, how had they become separated? Several scientists proposed **explanations**, but they were quite far-fetched. [...] Few people paid much attention to these ideas. A better **explanation** was needed, one with evidence to support it."

Based on the text, what does the word **explanation** most closely mean?

- A. an idea about why something is a certain way
- B. an exploration of a new or unfamiliar land
- C. a mystery that cannot be solved
- D. evidence that supports a certain idea

7. Please choose the answer that best completes the sentence below.

Alfred Wegener wanted to solve the mystery of the matching continents, _____ he gathered evidence.

- A. however
- B. until
- C. so
- D. but

8. What evidence did Wegener use to help him conclude that the continents had been joined together? Support your answer with at least two examples from the text.

9. The passage says that before Alfred Wegener, some people thought that part of Earth's land broke away to become the moon and other people thought the continents were blown apart by a gigantic eruption. However, few people paid attention to these ideas. Why did many people ignore them?

10. The passage says that Alfred Wegener collected enough evidence to convince him that the continents were joined together long ago. However, "He understood, as with any new discovery, that his conclusions might be altered or challenged in the future by more evidence."

Why is it important for scientists to support their conclusions with solid evidence? Support your answer with details from the text.

Day 19
4th

Understanding of Place Value

Name: _____

Set A

- 1 Write the number 78,215 in the place-value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

Write 78,215 in expanded form and word form.

- 2 Write the number 540,632 in the place-value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

Write 540,632 in expanded form and word form.

Set B

- 3 Show different ways to make 25,302.

_____ thousands + _____ hundreds + _____ ones

_____ hundreds + _____ ones

_____ ones

- 4 Show different ways to make 708,496.

_____ hundred thousands + _____ thousands + _____ hundreds +
_____ tens + _____ ones

_____ thousands + _____ hundreds + _____ tens + _____ ones

_____ hundreds + _____ tens + _____ ones

Set B *continued*

- 5 Show different ways to make 492,623.

_____ ten thousands + _____ thousands + _____ hundreds +
_____ tens + _____ ones

_____ thousands + _____ tens + _____ ones

_____ hundreds + _____ ones

- 6 Write 841,620 in three different ways.

- 7 Why do both of these show 27,974?

$$20,000 + 7,000 + 900 + 70 + 4$$

$$27 \text{ thousands} + 97 \text{ tens} + 4 \text{ ones}$$

Name _____

4th Grade
NTI Packet
Day 20

Multiplication in Word Problems

Name: _____

Use a strategy of your choice to solve each problem.

- 1 The library has 5 mystery books on a shelf. It has 4 times as many fiction books on another shelf. How many fiction books are on the shelf?

There are _____ fiction books on the shelf.

- 3 Violet has 3 markers. She has 6 times as many colored pencils as markers. How many colored pencils does she have?

Violet has _____ colored pencils.

- 5 Tasha used 8 tomatoes to make salsa. She used 4 times as many tomatoes to make sauce. How many tomatoes did Tasha use to make sauce?

Tasha used _____ tomatoes to make sauce.

- 7 There are 9 school buses in the parking lot. There are 6 times as many cars as school buses in the parking lot. How many cars are in the parking lot?

There are _____ cars in the parking lot.

- 2 Paul runs 2 laps around the gym. Carrie runs 6 times as many laps as Paul. How many laps does Carrie run?

Carrie runs _____ laps.

- 4 Owen draws 7 comics in April. He draws 3 times as many comics in May. How many comics does Owen draw in May?

Owen draws _____ comics in May.

- 6 There are 7 pear trees on a farm. There are 7 times as many apple trees as pear trees. How many apple trees are on the farm?

There are _____ apple trees.

- 8 There are 8 vases at an art show. There are 9 times as many paintings as vases at the art show. How many paintings are at the art show?

There are _____ paintings at the art show.

- 9 Write and solve a word problem for this equation: $5 \times 6 = ?$

Name _____

Day 20
4th Grade

Directions: Read the following passage. Use information from the passage to answer the questions.

A Film with a Message of Hope

by Robert Sparks

Because of Winn-Dixie is a charming movie that will not disappoint. Directed by Wayne Wang, the film tells the story of a ten-year-old girl named Opal. She and her father have just moved to a small town in Florida. One day, while shopping in the Winn-Dixie grocery store, Opal finds a homeless dog. She takes the dog home and names him “Winn-Dixie,” after the store where she found him. He is an ordinary-looking dog, yet he has an amazing smile.

The dog is Opal’s first friend in her new town. Soon, Opal and Winn-Dixie make many other friends. These include Gloria Dump, who has a wildly overgrown backyard, a librarian named Miss Franny, and Otis, who runs the local pet store. These characters might not seem like typical friends for a ten-year-old girl, but they turn out to be good friends for Opal.

I enjoyed this movie very much. The character of Opal is played by the young actress, AnnaSophia Robb. She is absolutely perfect in the role. She portrays Opal as a thoughtful, friendly girl who is eager to surround herself with good friends. There is a sadness to the character of Opal because her mother left the family when she was a toddler. Opal misses her mother, but her love for Winn-Dixie and her new friends help her to find her place in the world. The film features outstanding performances by Jeff Daniels (Opal’s father), Dave Matthews (Otis), Eva Marie Saint (Miss Franny), and Cicely Tyson (Gloria).

The movie is based on the award-winning children’s book by Kate DiCamillo. Like the book, the movie *Because of Winn-Dixie* offers a message of hope and optimism. The movie seems to tell us that no matter what has happened in the past, we can all have a happy future. With a strong cast, a delightful story, and an adorable dog, this is a movie that you won’t want to miss. This is a wonderful family film with a positive message.

Text-Based Comprehension

Directions: Read the questions below and choose the best answer.

1. Part A

Which of the following best describes the author’s purpose for writing “A Film with a Message of Hope”?

- A. to entertain
- B. to inform
- C. to persuade
- D. to explain

Part B

Which sentence from the passage best supports your answer to Part A?

- A. “He is an ordinary-looking dog, yet he has an amazing smile.”
- B. “There is a sadness to the character of Opal because her mother left the family when she was a toddler.”
- C. “Directed by Wayne Wang, the film tells the story of a ten-year-old girl named Opal.”
- D. “With a strong cast, a delightful story, and an adorable dog, this is a movie that you won’t want to miss.”

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COMMON CORE STATE STANDARDS

Informational Text 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. **Informational Text 8.** Explain how an author uses reasons and evidence to support particular points in a text.

Next 

Name _____

2. Which of the following is a reason the author uses to convince readers to see the movie version of *Because of Winn-Dixie*?
- A. Movies based on books are usually excellent.
 - B. The actors and actresses do a great job.
 - C. The movie takes place in a beautiful setting.
 - D. The movie is full of surprising events.
3. Which word best describes the author's opinion of AnnaSophia Robb playing Opal in the movie version of *Because of Winn-Dixie*?
- A. ideal
 - B. foolish
 - C. surprising
 - D. gloomy

COMMON CORE STATE STANDARDS

Informational Text 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. **Informational Text 8.** Explain how an author uses reasons and evidence to support particular points in a text.

4. The following statements describe events in the movie *Because of Winn-Dixie*. Number the statements from 1 to 4 to match the sequence, or order, of events described in the passage.

_____ Opal and the dog make friends in town.

_____ Opal finds a dog at the grocery store.

_____ Opal moves to a small town.

_____ Opal names the dog “Winn-Dixie.”

5. Reread the second paragraph of the passage. Which statement describes the main, or most important, idea of the paragraph?

- A. Opal wants very much to make friends in town.
- B. Opal makes a group of true, though unexpected, friends in town.
- C. Opal uses Winn-Dixie to help her make friends.
- D. Opal gets along with adults more easily than with others her age.

COMMON CORE STATE STANDARDS

Informational Text 1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. **Informational Text 2.** Determine the main idea of a text and explain how it is supported by key details; summarize the text.

Next

Is the soil permeable?



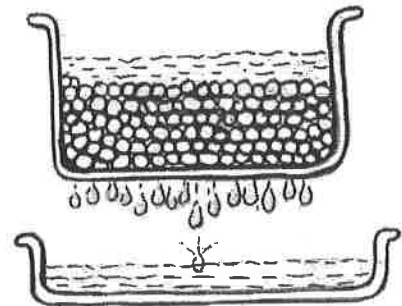
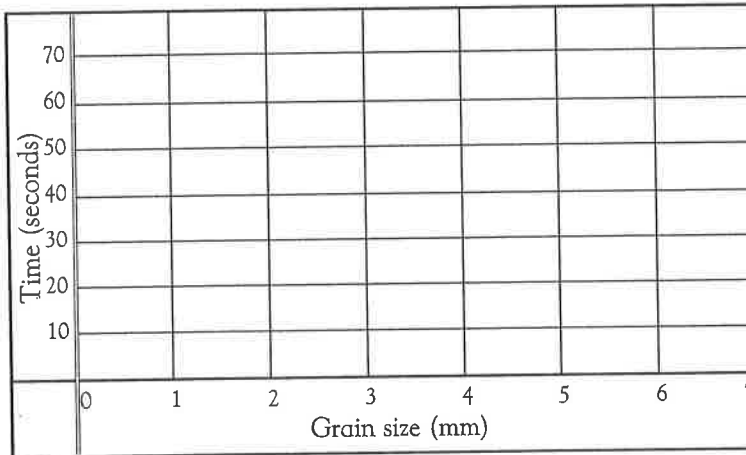
Background knowledge

The amount of time water takes to drain through a soil is known as the soil's *permeability*. Some soils drain easily, others do not. How quickly a soil drains depends on the proportion of humus and on the size of the grains of rock.

Science activity

Does a soil's grain size affect how quickly it drains? Make a line graph with the data in the table below to answer this question. Connect the points.

Size of grain	Time taken (for 1 liter of water to drain through a cup of soil)
2 mm	60 seconds
1 mm	70 seconds
6 mm	20 seconds
4 mm	40 seconds
3 mm	50 seconds



How does grain size affect a soil's permeability?

Science investigation

⚠ Take extra care - ask an adult to supervise you.

Obtain two tennis cans with lids. Cut the bottom off one and discard its lid. Punch holes in the lid of the other and place it on the can. Place the cut can on top of the covered can and use electrical tape to attach them together. Place a coffee filter inside the open top can. You have now created a soil filter. Design and conduct your own experiment to test the permeability of different soils.

