Week #1 Fourth Grade Weekly Planner: April 20th-24th

INDEPENDENT READING **20 min/day**	**Monday's Book Title:** **Tuesday's Book Title:**	**Wednesday's Book Title:** **Thursday's Book Title:**	**Friday's Book Title:** ***Parent initial to verify daily reading:*** _____
READING **Read Works** **readworks.org** **Class Codes** **Fry: 75CQDL** **Greer: 2AZZR4** **LaCourse: 3CXAYF** **Password: 1234**	**Read Works Article of the Day: "Earth's Changing Surface"** Each day, read one article and write at least two sentences of a response in the online Book of Knowledge or in your notebook.	**Read Works Articles: "Earth's Changing Surface"** ☐ Monday's Book of Knowledge ☐ Tuesday Book of Knowledge ☐ Wednesday's Book of Knowledge ☐ Thursday's Book of Knowledge ☐ Friday's Book of Knowledge	**Read Works Paired Text: "Making Friends"** ☐ Read both texts in "Making Friends" ☐ Answered Questions
MATH ***Math Facts: 10 minutes** ***My Math: They don't have to finish everything each day, but do what they can in about 40 minutes.**	**Monday:** ☐ **Math Facts 10 min:** Xtra Math or flash cards ☐ **My Math Book**: Ch. 13 Lesson 1 pg. 825-830 **Tuesday:** ☐ **Math Facts 10 min:** Xtra Math or flash cards ☐ **My Math Book**: Check My Progress pg. 837-838	**Wednesday:** ☐ **Math Facts 10 min:** Xtra Math or flash cards ☐ **My Math Book**: Ch. 13 Lesson 3 pg. 839-844 **Thursday:** ☐ **Math Facts 10 min:** Xtra Math or flash cards ☐ **My Math Book**: Ch. 13 Lesson 4 pg. 845-850	**Friday:** ☐ **Math Facts 10 min:** Xtra Math or flash cards ☐ **My Math Book**: Ch. 13 Lesson 5 pg. 851-856 ***Parent initial to verify Math Facts practiced each day:*** _____
WRITING **-Thoughtful writing** **-Best spelling** **-Proper capitalization and punctuation** **-Title and Date** **-At least ½ page each day in their notebook**	☐ **Monday's Prompt:** *What do you miss about having school at home?* ☐ **Tuesday's Prompt:** *What do you like about having school at home?*	☐ **Wednesday's Prompt:** *Write an opinion paragraph about your favorite animal.* ☐ **Thursday's Prompt:** *Write an informational paragraph about your family. (Facts only)*	☐ **Friday's Prompt:** *Write a conversation between two cats (or any two animals).* **Parent initial _____ to verify daily writing**

SCIENCE **Science Studies Weekly**	***Read all articles for:*** ***Fry/Tito Week #2: Oceans and Waterways*** ***Greer Week #9: Science and Technology*** ***LaCourse Week #1: Shaping the Earth*** **Parent initial _____ to verify reading**	☐ Crossword completed on the back of my studies weekly ☐ Checked my answers online at: studiesweekly.com or underlined my evidence in text	**Name of my favorite article:**
SOCIAL STUDIES **California Studies Weekly**	***Read all articles for:*** ***Fry/Tito Week #29: Transcontinental Railroad*** ***Greer Week #24: Women in Early California*** ***LaCourse Week #26: Compromise of 1850*** **Parent initial _____ to verify reading**	☐ Crossword completed on the back of my studies weekly ☐ Checked my answers online at: studiesweekly.com or underlined my evidence in text	**Name of my favorite article:**

Submission of Work: *Assignments can be turned in digitally to your teacher sooner, but the paper drop off is scheduled at our site for Friday, 5/8/20 and Friday, 5/15/20.*

Submit Logs & Products: Scan / photo /upload/or deliver to site

Office Hours 11:00-1:00 Monday-Friday: *Teachers have two hours scheduled every day for emails, phone calls, conference calls, and virtual experiences. If your student needs additional help, please reach out and we will find a way to help anytime.*

Fry/Tito Contacts: sfry@tusd.net or atito@tusd.net or call/text (209) 426-0989

Greer Contact: cgreer@tusd.net or call/text (209) 624-0010

LaCourse Contact: jlacourse@tusd.net or call/text (209) 597-8683

Zoom Weekly Class Meetings: *Teachers will email invitations for Zoom meetings. Please have students join these important meetings for guidance, collaboration, motivation, reflection, and sharing assignments virtually.*

Time	Monday	Tuesday	Wednesday	Thursday	Friday
11:00-11:30	**Zoom: Weekly Kick Off**				**Zoom: Reflection Day**

Continents That Drift

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

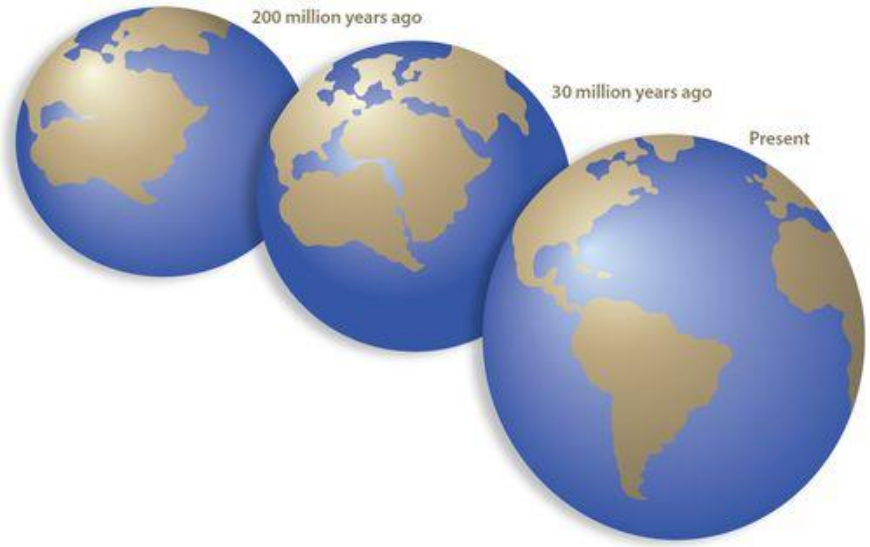
In the early 1900s, a scientist named Alfred Wegener came up with an interesting and important idea about Earth's continents. After considering discoveries other scientists had made about fossils, rock formations, and mountains, he concluded that all the continents had once been part of a single landmass.

But if Wegener's conclusions were correct, then how had the continents moved apart? An important clue came from the ocean. The ocean was still largely unexplored in Wegener's day. In the 1870s, however, scientists discovered that much of the ocean bottom was made of basalt, a heavy, dense rock that is formed when lava cools and hardens. Lava is magma that has erupted up above Earth's crust from deep underground. Most rocks that make up the continents are lighter and less dense than basalt.

of the last time you put ice in a glass of tea or lemonade. The ice floated, right? Ice oats because it is less dense than water. Wegener thought about the fact that the rocks that make up continents are less dense than rocks on the seafloor. "What if continents were like enormous pieces of ice?" he wondered. "Could they oat over the denser rocks of the ocean bottom and move around?"

In 1915, Wegener published a book titled The Origins of Continents and Oceans. In it, he presented his hypothesis about how the earth's continents had moved over time. He called the process continental drift.

Wegener proposed that millions of years ago, Earth had one huge landmass. He described it as a supercontinent and named it Pangaea, from the Greek word pangaia, meaning "all the Earth." At some point, Pangaea broke up, and the pieces—the continents—very slowly drifted away from each other. As the continents moved, mountain ranges pulled apart. Rock formations split. New oceans filled in the widening gaps between the landmasses. Groups of plants and animals that had once lived together were separated. As continents drifted, their climates changed. Antarctica's climate, for example, grew so cold that the continent's plants and animals died. Only their fossils remained, buried under snow and ice.

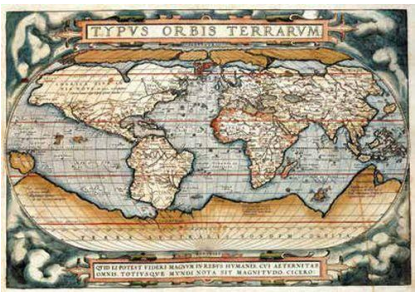


Book of Knowledge: Write 2 or 3 things you learned from the article. Use complete sentences!

Earth's Changing Surface

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

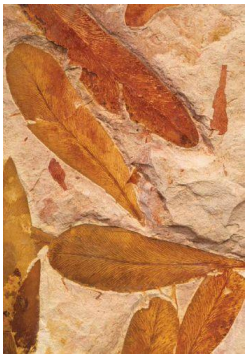
If you had lived in Europe during the Middle Ages, the idea that the earth changes would have seemed crazy. At that time, people believed that mountains, valleys, and other landscape features had always been there. True, rare natural catastrophes sometimes occurred. Earthquakes, for example, shook the ground and triggered landslides. In some places, volcanoes erupted and sent up fountains of lava, or red-hot melted rock. However, people viewed these catastrophes as punishments from God, not as the earth changing.



1570 CE world map

Powerful Forces and Gradual Change

During the 1700s and 1800s, many people skilled in scientific observation became convinced that Earth's surface features do indeed change. They noticed how great masses of rock appeared to have been lifted up to form cliffs and mountains over time. They began to believe that once-tall mountains had been worn down by wind, rain, and ice, and that, over thousands of years, valleys had been carved by rivers flowing through them. These scientists found evidence that seemed to show that sea levels had been higher—and lower—at different times in the past. They found layers of rock on mountain peaks that contained fossils, the preserved remains of things that lived long ago. These scientists observed how big rocks gradually broke down into tiny pieces called sediments. They saw how new rocks formed as they observed volcanic lava cool and harden.


Fossils help provide information about the history of the earth.

All these observations led many scientists to believe that powerful natural forces were at work changing Earth's surface. Most of these changes were thought to have taken place very slowly. Over long periods of time, slow, gradual changes added up to produce dramatic results. These scientists were convinced that Earth's rocky surface had changed continuously throughout the planet's long history. It had changed in the past, and Earth was changing in the present, too.

These ideas laid the foundation for the modern science of geology. Geology is the study of the makeup of the earth and the forces and processes that shape and change it. Rocks are very important in geology. That's because rocks hold clues to how Earth's surface has changed over time. Together with fossils, rocks provide information about the history of the earth.

Book of Knowledge: Write 2 or 3 things you learned from the article. Use complete sentences!

Searching for the "How" of Continental Drift

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

In 1915, scientist Alfred Wegener shared his hypothesis about how the earth's continents had moved over time. He called the process continental drift. He proposed that, at one point, all the continents had been part of a single landmass. Over time, they had drifted apart.

Most geologists rejected the idea of continental drift because there was no explanation for how it happened. For decades, Wegener's hypothesis was harshly criticized. Still, a few geologists thought Wegener was on the right track. What if the driving force behind continental drift was below Earth's surface? How can you discover what lies beneath Earth's crust? Oddly enough, earthquakes helped scientists answer these questions.

What Waves Reveal

Have you ever tossed a small rock into a pond? Little waves travel out from the spot where the rock hits the water's surface. Although you can't see them, waves travel through the water below the surface, too.

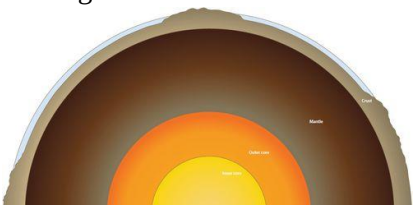
An earthquake is a bit like a rock plunking into water. During an earthquake, the ground shakes. The shaking is caused by waves of energy traveling out from the earthquake's source through the earth. Scientists call these seismic waves. Powerful seismic waves can travel very long distances. They can travel through Earth's crust and deep into its interior.

Around the time Alfred Wegener was thinking about continental drift, scientists were studying Earth's interior using seismic waves. How? Using instruments called seismographs, they tracked seismic waves traveling through the planet. Seismic waves move in slightly different ways as they move through different materials. For instance, they travel faster through solids than liquids. Studying seismic waves helped scientists identify Earth's four main layers.

Earth's deepest layer is a solid inner core of very hot metal. This metal may be nearly as hot as the sun's surface. The next layer, the outer core, is also made of hot metal, but it's liquid, not solid. The mantle surrounds the outer core. The mantle is Earth's largest and thickest layer and consists of very hot, very dense rock. The rock is solid in the lower and upper parts of the mantle. In between, however, is a region where the rock is neither liquid nor solid.

The slow movement and behavior of this material, caused by heat and pressure, have an impact on Earth's surface. Above the mantle is Earth's outermost layer, the thin, rocky crust. There are two types of crust: oceanic crust and continental crust. Oceanic crust is covered by ocean water. Most of the continental crust is dry land, but some of the crust around the edges is covered by water. Oceanic crust is thinner but heavier than continental crust.

For scientists interested in continental drift, it was the slowly moving material in the middle of the mantle that caught their attention. Did material movement in the mantle contribute to crust movement, too? Could this be part of the reason why continents drift? Some scientists thought so. Before they could be sure, however, they needed evidence that Earth's crust was actually moving.



Continental crust features a solid rock mass called bedrock. Bedrock is the outside layer on the crust. Bedrock is often covered with subsoil and topsoil. Topsoil supports plant life.

Book of Knowledge: Write 2 or 3 things you learned from the article. Use complete sentences!

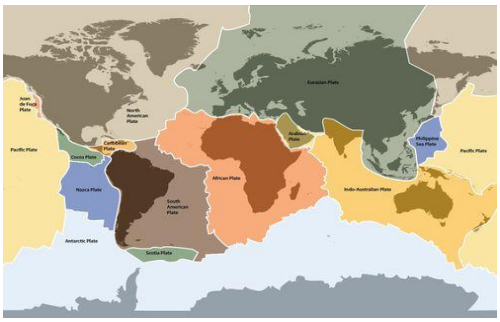
The Theory of Plate Tectonics

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

In the 1960s, scientists formed a new theory about how Earth's surface changes. They called the theory plate tectonics.

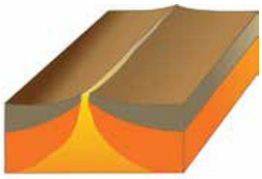
The theory of plate tectonics states that Earth's crust, together with the solid top of the mantle, is broken up into sections. These huge, rocky slabs are called tectonic plates. Tectonic plates fit tightly together. They aren't fixed in place though; they can move. They move because of heat and pressure in the mantle. As the material in the mantle slowly moves, it exerts enormous pressure on the overlying plates. All that pressure forces the plates to move as well—very, very slowly.

Earth's tectonic plates have been slowly moving and interacting for billions of years. They interact mostly along their edges, or boundaries. Plate boundaries are where two or more tectonic plates meet.



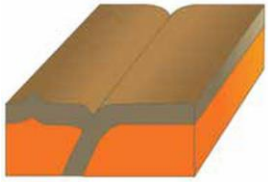
A Matter of Time

At some boundaries, tectonic plates are moving apart. As the plates separate, molten rock flows up from the mantle into the space between them, creating new crust. Mid-ocean ridges are an example of this type of plate interaction. Tectonic plates along the mid-ocean ridge in the Atlantic Ocean are moving apart at a rate of about 0.8 to 2 inches per year. That may not seem like much, but it adds up. Two hundred million years ago, the landmasses of North America and Europe were joined. So were South America and Africa. Thanks to separating plates, these continents now lie on opposite sides of a vast ocean.

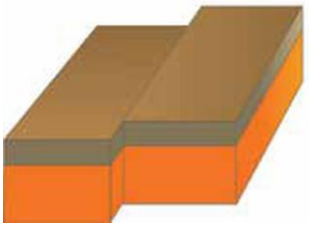


At other plate boundaries, tectonic plates are colliding, or crashing together. In some places, colliding plates slowly crash into each other. The crust at their edges gradually crumples and is pushed higher and higher, creating mountains. In other places, one of the colliding plates slides under the other.

Two plates are colliding this way along the western coast of South America. A heavier oceanic plate is sliding under a lighter continental plate. Scientists call this process subduction. Subduction has created a deep ocean trench off the coast of Chile and Peru. It has also had a role in creating the towering Andes Mountains along the western edge of South America. Similar plate interactions have formed mountain ranges throughout Earth's long history.



Finally, tectonic plates slide sideways past one another. It's never a smooth process. Plate edges press together hard. They often get stuck while the pressure keeps building. Eventually the pressure gets too great. The stuck edges break free, causing the plates to jerk past each other.



Providing the Answers

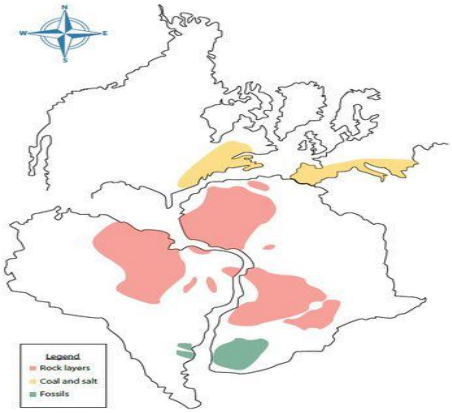
The theory of plate tectonics answered many questions in geology. It explained how Pangaea, the giant landmass hypothesized by Alfred Wegener in 1915, broke apart. It explained how the continents have been slowly rearranged over millions of years. The movement of the plates also explained mid-ocean ridges, deep ocean trenches, patterns in the locations of mountains, and many other features on Earth's surface. The theory has become the cornerstone of modern geology.

Book of Knowledge: Write 2 or 3 things you learned from the article. Use complete sentences!

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.

Enter Alfred Wegener

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

Book of Knowledge: Write 2 or 3 things you learned from the article. Use complete sentences!

Lonely

When the bell rang for lunch, instead of going to the outdoor cafeteria to meet Morgan like she usually did, Jessica took her lunchbox and retreated to the library. The rest of the school was rushing past her, relieved for a 50-minute break after the first day back from winter vacation—like she didn't exist. And today, Jessica really felt like maybe she *didn't* exist.

She pushed open the swinging door to the library and sat at one of the tables in the corner. Nobody—not even Mrs. Garcia, the librarian—was around. The windows to the library looked out onto the cafeteria space. Jessica could hear kids laughing and screaming and chatting, eating lunch at the plastic picnic tables and enjoying each other's company. Jessica hunched down until her chin hit the hard, wood table and groaned. She pulled her lumpy cheese sandwich out of her lunchbox and chewed awkwardly against the table, staring off into space.

Suddenly, Jessica heard a rustling in the corner. She turned around and saw that the pink and orange, four-foot-tall, stuffed dragon that had lived in that exact corner of the library ever since she had started at the school (almost six years ago) was stretching its wings and yawning.

Jessica turned back to the table, eyes wide. "Oh my gosh," she whispered. "Oh my gosh, oh my gosh, oh my gosh." She peeked over her shoulder again and saw the dragon was walking toward her. She shook her head and closed her eyes tightly. "This can't be happening," she said to herself. "I must be going insane."

"Hi there!" a voice said from behind Jessica's left elbow.

Jessica turned around slowly. The dragon was standing in front of her, one claw on the scaly area near what would be its waist, smiling and blinking. The dragon looked confused.

"Do you speak English?" the dragon said.

"Um…yes?" Jessica said. "I think I'm just hallucinating."

The dragon shrugged and pulled out the chair next to Jessica and sat down heavily, its wings spreading out majestically.

"Probably. Why are you eating in here by yourself?"

"Uh…" Jessica looked around the library. It was still lunchtime; she could still hear her peers playing outside in the courtyard; and the library was still empty.

"Look, I know this is unusual, but why don't you just try to go with it?" the dragon said. It looked at Jessica's half-eaten sandwich. "Finish your lunch. I'll sit with you."

Jessica picked up her sandwich and took a bite, then looked over. The dragon was still sitting there watching her steadily. It seemed a little concerned about her. It had the same look in its eye as her mother did when Jessica was quiet during the car ride home, or when she was doing her homework on Saturday nights at the kitchen table.

She knew her mother thought she was a loner, but it wasn't that Jessica didn't have any friends. They all just happened to live really far away. Jessica knew she had a very rich social life online, and stayed up chatting with her friends in Australia until midnight sometimes. She had met them in chat rooms or on blogs about favorite bands they had in common, or their favorite book characters. She felt comfortable chatting with her friends through the blue light of her computer screen. Talking face-to-face was the not-so-comfortable part. The first days back at school after vacations were the hardest. Jessica had spent the last two weeks talking to people all day, and today she had barely said two words to her homeroom teacher.

"I know how you feel," the dragon said, as if it could read her mind. "I get lonely here, too, sometimes."

"I'm not lonely," Jessica said. "And don't read my mind."

“You *are* lonely,” the dragon said, leaning forward on the table to look at Jessica close in the eye. “I can see it in your face. You haven’t smiled all day.”

Jessica felt a wave of sadness settle over her limbs. If a stuffed *dragon* could even sense her loneliness, she didn’t even want to think about what the other kids in school thought of her.

“Just say hi to someone today,” the dragon said softly. “I promise they’ll say hi back.”

The five-minute bell indicating lunch was almost over rang. Jessica sniffed and felt her eyes well up with tears. The dragon obviously didn’t understand how difficult that was going to be. When she looked up to say something, it was gone. Jessica looked around the room. The dragon was back in its corner, wings stiff and at the ready behind it.

Jessica packed up the rest of her uneaten lunch. Clearly the dragon was trying to help just her. It probably didn’t come alive for everyone who ate alone in the library (but then again, how many people actually ate lunch alone in the library?). Maybe she should take its advice.

In the hallway outside the library, a girl from Jessica’s homeroom class was crouched on the floor, picking up pens, pencils, and highlighters that had clearly just dropped out of her empty pencil case, open beside her. Jessica, fighting the urge to just walk away, leaned down and picked up a few pens.

“Let me help you,” she said.

The girl, Molly, looked up at her and smiled gratefully. “Thank you!” she said. Jessica smiled back.

Lizzie Escapes

Lizzie vowed that she would not return to summer camp. The first year at camp had been intolerable. The next year had been even worse. And last year had been the absolute pits. Silently, she swore an oath to her dearly departed cat, Felinious Monk, that she would find a way out.

“Now, Sugar Plum,” her mother said, rubbing Lizzie’s back. “I know you don’t want to go back to camp, but think how much fun you’ll have. All your friends from last year will be there.”

“What friends?” asked Lizzie. “I don’t have friends at camp.”

“What about Brittany? She was so nice.”

“Mom, Brittany was my *bunkmate*. She didn’t choose to live with me. We had nothing in common.”

“Nothing?” Her mother winced. “But she seemed so outgoing.”

“Nothing. She hadn’t even heard of Saul Bellow.”

Her mother winced again.

Lizzie’s idea of an exciting summer was sitting in an air-conditioned library and systematically devouring a high stack of novels. She’d graduated from 7th grade two weeks earlier and since then had been showing up at the library at a quarter to nine in the morning, fifteen minutes before it opened. As soon as the doors opened, she’d sprint to a table on the second floor, right next to the big window. It was an equal distance from the water fountain and the fiction section. For the next eight hours, she’d sit at the table and read. It was heavenly.

“I heard the camp added knitting as a new activity this year,” her mother said. “And archery.”

Lizzie frowned. “Aren’t kids supposed to stay away from weapons?”

“Archery is a sport, dear.”

“Sure,” said Lizzie. “So is bowling. And croquet. And baseball.”

Her mother sighed.

As they drove to the camp, Lizzie sat in the front seat, staring out the window. Her suitcase was sitting in the back seat. She'd packed it last night, but her mother had had a flaming fit when she discovered Lizzie hadn't packed any clothes. Lizzie had tried to argue that a pair of flip-flops and the collected novels of Henry James were all you really needed for three weeks in upstate New York, but her mom wasn't having it and had made her re-pack.

"Sweetie, look," her mom said, giving Lizzie a pleading expression. "I love that you're such a little bookworm. I do. I really do. But being outside and making friends with people your own age is really important, too."

"Why?" asked Lizzie.

"Because it makes you well-adjusted and happy."

"Camp is forced labor. You know last year they made us weave baskets? I weaved a basket, and now where is it? The camp director probably sold it for poker money."

"Mr. Scottadino did not sell your basket for poker money," said Lizzie's mom, absently checking her makeup in the rearview mirror. "It's sitting on top of my dresser, and it's beautiful."

"Yeah, well."

As they pulled up to the camp entrance, Lizzie strained her mind for last-minute strategies that could free her. In a panic, she briefly considered faking a severe illness, but figured that if it were severe enough to force her mother to pull her out of camp, then it would be severe enough to keep her home from the library. This wouldn't be the worst thing in the world, but the thought of spending all day with her mom was enough to make her retch.

As her mother pulled to a stop, she turned to look at Lizzie. Lizzie saw her mother's forehead had the little lines it got when she was worried.

"Promise me you'll make a friend," her mother said.

"Mom…"

"Please? Promise me." Her mother looked suddenly quite sad. Lizzie worried she might start crying.

"OK," Lizzie sighed. "I'll make a friend."

"I love you, Sugar Plum."

"I know."

As Lizzie dragged her luggage to the camp's main lodge, she started creating an imaginary friend that she could tell her mother about in three weeks, when she came to pick her up. She had to think up a whole character in her head, someone whom she knew everything about—what she looked like, what she dressed like, what she acted like. If her mother asked her any question about her imaginary friend, she'd be able to answer. She might even start planting seeds by dropping her imaginary friend's name in the letter the camp would make her write and send home next week. And then, when her mom came to pick her up, she'd just tell her that her imaginary friend had left a day early, to travel with her family to do aid work in Africa. Her mom would like that. It was perfect.

The camp director, Mr. Scottadino, stepped out of the lodge.

"Hello, Lizzie. And hello, Ms. Lockwood. Nice to see you again."

"And nice to see you again, Mr. Scottadino," said her mother, blushing. "Lizzie, say hi to Mr. Scottadino."

Lizzie shrugged.

"Lizzie, it's wonderful to have you back," said Mr. Scottadino.

Lizzie was already lost in thought. She needed to make her imaginary new friend someone her mother could actually imagine her being friends with, but also someone her mother would like. She'd have to be a bookworm, like her, but

have other interests too—interests that could, in her mother's words, "broaden" her. Maybe she liked knitting? No, she would never be friends with someone who knits.

Lizzie hugged her mother goodbye. Her mother blew her a kiss.

"Have fun, Sugar Plum."

Mr. Scottadino picked up her suitcase and walked her to her cabin.

"Now, I remember how much you like to read," Mr. Scottadino said as they walked. "So, I was wondering if you might do a special job for me this summer."

Lizzie cocked an eye at the camp director. "What kind of job?

"I want you to be the camp librarian."

Lizzie stopped in her tracks. "The camp has a library?"

"It's brand new. One of our former campers died and left us his library in his will. It's quite a collection—classics, nonfiction, and a lot of contemporary authors too. He was 80 when he died, but he tried hard to keep up with the hot new talent. Do you think you could sort it?"

Lizzie began hyperventilating. "I can do that."

"Excellent," Mr. Scottadino smiled. "Let me lead you to it."

Mr. Scottadino, still carrying Lizzie's bag, led her to a small building behind the dining room. He opened the door.

"Now, you can arrange them anyway you like, but—oh, hello, Jenny. I didn't know you were in here."

Lizzie walked through the doorway to find several heaping columns of books and, at their bottom, a girl her age. The girl was wearing glasses and a baseball jersey and reading a well-thumbed copy of Don DeLillo's *Underworld*.

"Hey Mr. Scottadino," said Jenny. She turned to Lizzie. "What's your name?"

"Lizzie."

"Do you like Don DeLillo?" Jenny asked.

For a moment, Lizzie was too surprised to speak. Then she gathered herself. "I like *early* DeLillo."

"Me too. The early novels are funnier than the big, long, serious ones." She held up *Underworld*. "But this one has some good parts."

Lizzie sat down next to Jenny.

"Do you want to help me sort these?" she asked quietly.

Paired Text Questions

Use the article "Lonely" to answer questions 1 to 2.

1. What does Jessica do when the bell rings for lunch?

2. Is Jessica lonely?

Support your answer with evidence from the story.

Use the article "Lizzie Escapes" to answer questions 3 to 4.

2. What does Lizzie start creating as she drags her luggage to the camp's main lodge?

4. Is Lizzie lonely?

Support your answer with evidence from the text.

Use the articles "Lizzie Escapes" and "Lonely" to answer questions 5 to 6.

5. Compare the way Jessica behaves to the way Lizzie behaves.

6. Would Jessica and Lizzie get along with each other? Support your answer with evidence from both stories.

Name .....

Measurement and Data
4.MD.3
CCSS

Measure Perimeter

Lesson 1

ESSENTIAL QUESTION
Why is it important to measure perimeter and area?

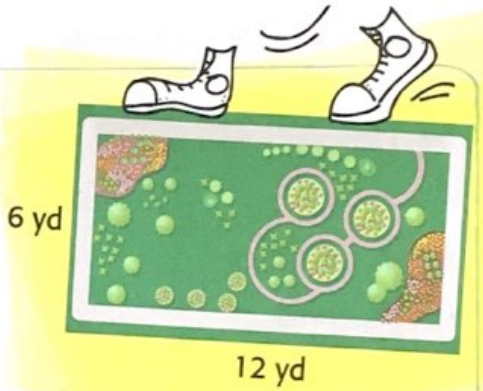
The distance around a closed figure is called the **perimeter**.

Math in My World

Watch Tutor

Example 1

Berto walked around a park on the rectangular path shown. How far did Berto walk?



Opposite sides of a rectangle are equal. So, the side lengths are 12 yards, 12 yards, 6 yards, and 6 yards.

Add the measures of all of the sides of the figure.

Perimeter = 12 yards + 12 yards + 6 yards + 6 yards

Perimeter = _____ yards

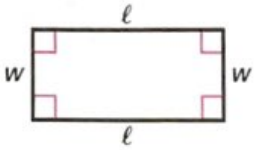
So, Berto walked _____ yards.

Key Concept Perimeter of a Rectangle

Words To find the perimeter of a rectangle, add the lengths of the sides. The perimeter of a rectangle also equals 2 times its length plus 2 times its width.

Symbols $P = \ell + w + \ell + w$

$P = (2 \times \ell) + (2 \times w)$

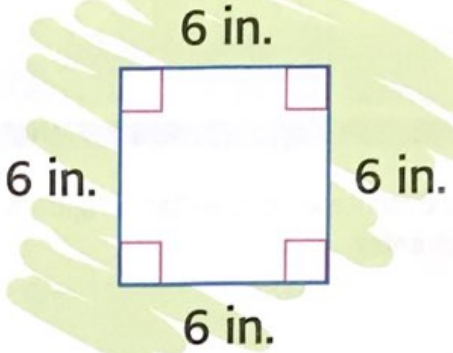


A square has four sides of equal length. To find the perimeter of a square, multiply the length of one side by four.

Example 2

Tutor

Find the perimeter of a square with side lengths of 6 inches.



One Way **Add the measures of all of the sides of the figure.**

$P = 6 \text{ inches} + 6 \text{ inches} + 6 \text{ inches} + 6 \text{ inches}$

$P = 24 \text{ inches}$

Another Way **Use a formula.**

Multiply the length of one side by 4 because there are 4 sides of equal length.

$P = 4 \times s$ ← s is equal to one side length

$P = 4 \times 6 \text{ inches}$

$P = 24 \text{ inches}$

So, the perimeter of the square is _____ inches.

Talk MATH

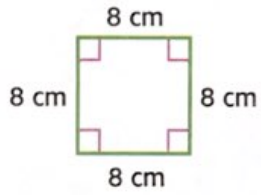
Describe two ways to find the perimeter of a square.

Guided Practice

Check

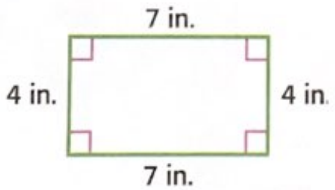
Find each perimeter.

1.



$P =$ _____

2.



$P =$ _____

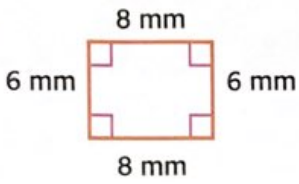
Name _____

CCSS

Independent Practice

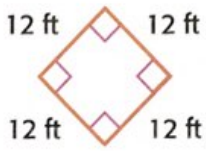
Find each perimeter.

3.



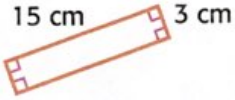
$P =$ _____

4.



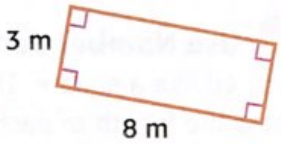
$P =$ _____

5.



$P =$ _____

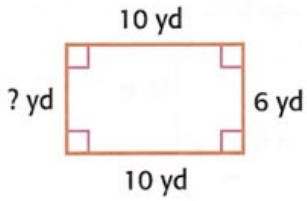
6.



$P =$ _____

Algebra Find the unknown side length. Write an equation to find the perimeter.

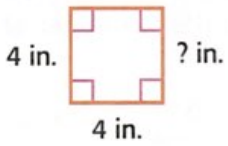
7.



The unknown side length is _____.

_____

8.

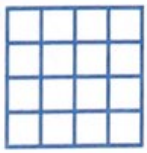


The unknown side length is _____.

_____

Find the perimeter of each rectangle in units.

9.



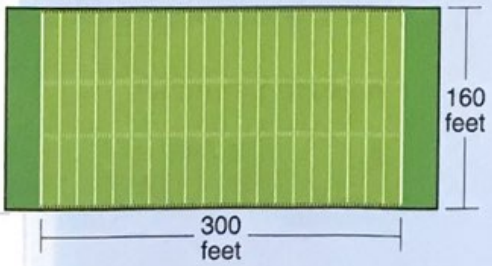
$P =$ _____

10.

$P =$ _____

Problem Solving

Use the picture of a football field for Exercises 11–12.



11. What is the perimeter of the football field without the end zones?

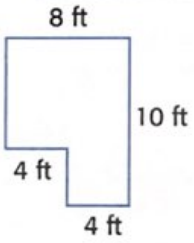
12. Each end zone is 10 yards long. What is the perimeter of the entire football field in feet?

My Work!

13. Mathematical PRACTICE 2 **Use Number Sense** A baseball diamond is shaped like a square. The perimeter is 360 feet. What is the length of each side?

HOT Problems

14. Mathematical PRACTICE 6 **Explain to a Friend** Explain to a friend how to find the perimeter of the figure shown to the right.



15. **Building on the Essential Question** How can a formula help me to find perimeter?

Name .....

Measurement and Data
4.MD.3
CCSS

MY Homework

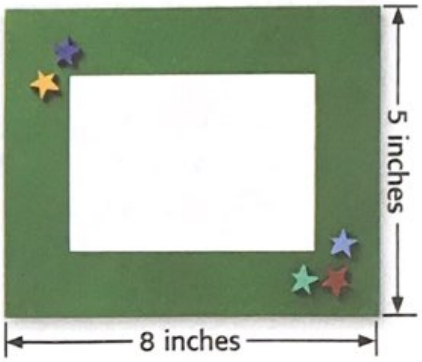
Lesson 1
Measure Perimeter

Homework Helper

eHelp

Need help? connectED.mcgraw-hill.com

Claire plans to glue ribbon around the edges of the picture frame. How much ribbon will she need?



One Way **Add the measures of all sides of the figure.**

You know that opposite sides of a rectangle are equal, so the measures are 5 inches, 5 inches, 8 inches, and 8 inches.

P = 5 inches + 5 inches + 8 inches + 8 inches
P = 26 inches

Another Way **Use a formula.**

$P = (2 \times 8 \text{ inches}) + (2 \times 5 \text{ inches})$
P = 16 inches + 10 inches
P = 26 inches

So, Claire will need 26 inches of ribbon.

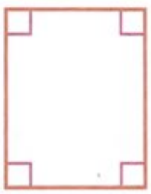
Helpful Hint
The perimeter of a rectangle equals 2 times the length plus 2 times the width.

$P = (2 \times \ell) + (2 \times w)$

Practice

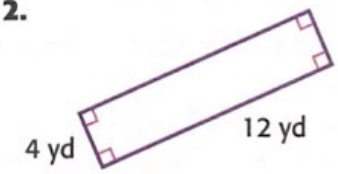
Find each perimeter.

1.



P = _____ cm

2.

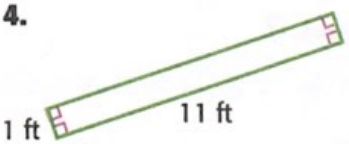


P = _____ yd

3.

P = _____ mm

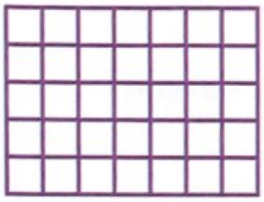
4.



P = _____ ft

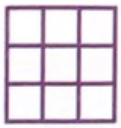
Find the perimeter of each rectangle in units.

5.



$P =$ _____ units

6.



$P =$ _____ units

Problem Solving

Mathematical PRACTICE 4

7. Model Math Justin walked his dog 2 blocks west, 6 blocks north, 2 blocks east, and 6 blocks south. Then he walked his other dog along the same route. Draw a picture to represent Justin's route. How many blocks did Justin walk in all?

_____

8. A rectangle has a perimeter of 30 inches. One side measures 5 inches. What are the measures of the other three sides?

_____

9. Carolla is putting a border around the edge of a rectangular bulletin board. One side of the bulletin board measures 2 feet and another side measures 4 feet. Is 10 feet of border enough? Explain.

_____

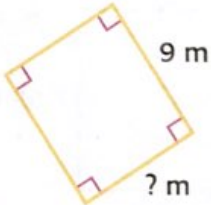
Vocabulary Check

10. Write a definition for the term perimeter. _____

_____

Test Practice

11. What is the measure of the unknown side of the rectangle?



$P = 32$ m

Ⓐ 23 meters Ⓒ 7 meters

Ⓑ 14 meters Ⓓ 5 meters

Check My Progress

Vocabulary Check

The distance around a closed figure is called the **perimeter**.

1. Which of the following is a formula for finding the perimeter of a rectangle? Circle the correct response.

$P = \ell + w$

$P = 4 \times \ell \times w$

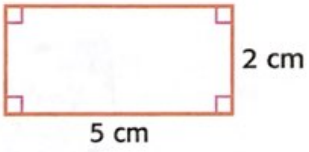
$P = \ell \times w$

$P = (2 \times \ell) + (2 \times w)$

Concept Check

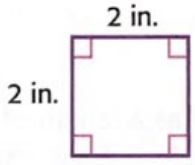
Find each perimeter.

2.



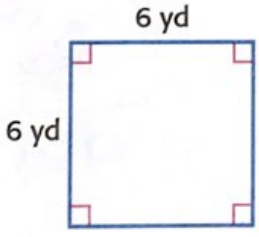
$P =$ _____

3.



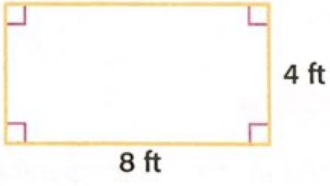
$P =$ _____

4.



$P =$ _____

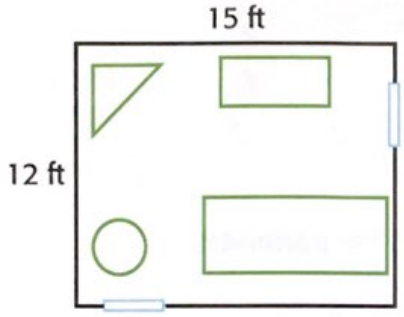
5.



$P =$ _____

Real World Problem Solving

6. Byron made a drawing of his room. His drawing is shown. What is the perimeter of Byron's room?



My Work!

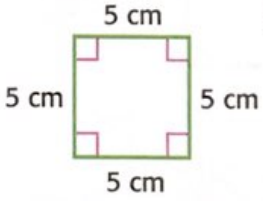
7. What is the perimeter of a square with side lengths of 4 inches?

8. Felicia is building a rectangular garden. The garden will have a perimeter of 20 meters. Give three pairs of possible side lengths.

9. A rectangular poster has a length of 24 inches, and its width is 12 inches. What is the perimeter of the poster?

Test Practice

10. Which of the following is the perimeter of the square?



Ⓐ 10 centimeters Ⓒ 20 centimeters

Ⓑ 15 centimeters Ⓓ 25 centimeters

Name .....

Measurement and Data
4.MD.3
CCSS

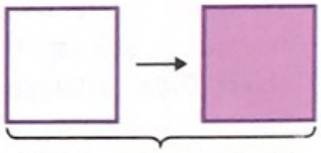
Hands On
Model Area

Lesson 3

ESSENTIAL QUESTION
Why is it important to measure perimeter and area?

A square with a side length of one unit is called a **unit square**.

A unit square has one **square unit** of area and can be used to measure area. **Area** is the number of square units needed to cover a figure without overlapping.



Shading, or covering, a unit square results in one square unit.

Draw It

Find the area of the rectangles shown in the table.

Rectangle	Length (units)	Width (units)	Area (sq units)

1 Draw each rectangle.
Use grid paper to draw each rectangle.

2 Find the length and width of each rectangle.
Count the number of unit squares that cover the length and width of the rectangle. Record each in the table.

3 Determine the area of each rectangle.
Count the number of whole squares that cover the rectangle. Each whole square is 1 square unit.

Try It

Find a formula that can be used to find the area of a rectangle.

1 Measure the length and width of each object listed in the table.

Use a centimeter ruler to measure the length and the width of each object to the nearest centimeter. Record the results in the table.

2 Find the area of each object.

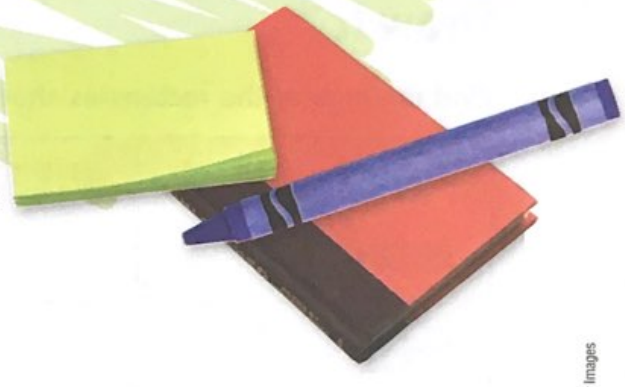
Use what you learned in the first example to estimate the area of each object. Draw rectangles on grid paper. Then count the unit squares to find the area. Record the results.

Object	Length (cm)	Width (cm)	Area (sq cm)
sticky note			
crayon box			
book			

3 Justify the formula for area.

Look for a pattern to find how length and width relate to area.

The area of each object is the product of the _____ and _____.



Talk About It

1. How did you make your estimates for the areas of the objects in Activity 2? How close were the estimates to the actual areas?

2. What operation can you use with the length and the width to equal the area of a rectangle? Explain.

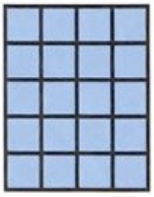
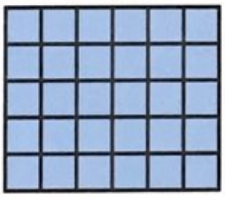
3. Mathematical PRACTICE 2 **Use Symbols** What is the formula for the area of a rectangle? Use A for area, ℓ for length, and w for width.

Name .....

CCSS

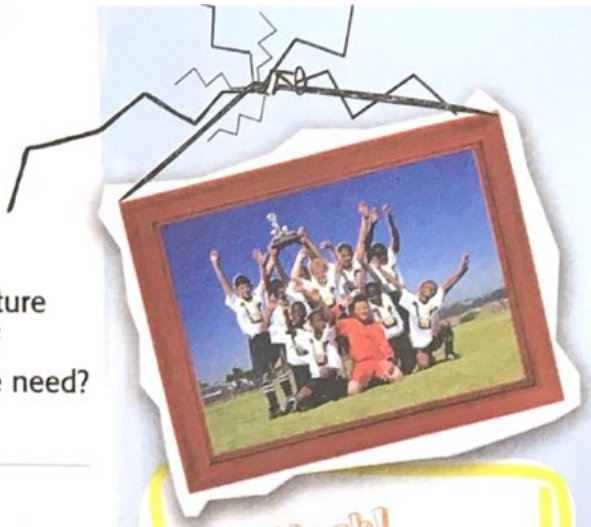
Practice It

Complete the table below.

Rectangle	Length (units)	Width (units)	Area (sq units)
4. 		1	
5. 			
6.	6	3	
7. 			
8.	7	6	

Apply It

Use the area formula you wrote in Exercise 3 to solve each problem.



My Work!

9. Mr. Hart is hanging a picture on a wall. The picture frame has a length of 12 inches and a width of 9 inches. How much wall space will the picture need?

10. What is the area of a classroom with a length of 30 feet and a width of 15 feet?

11. Miss Foster wants to buy carpet for her living room. The living room has a length of 15 feet and a width of 10 feet. How much carpet will she need?

12. Mathematical PRACTICE 5 **Use Math Tools** Ricky's computer monitor is a rectangle. The length is 15 inches and the width is 12 inches. Estimate the area of the monitor.

Write About It

13. Suppose two rectangles have the same area. Must they have the same length and width? Explain.

Name _____

Measurement and Data
4.MD.3
CCSS

MY Homework

Lesson 3
Hands On: Model Area

Homework Helper

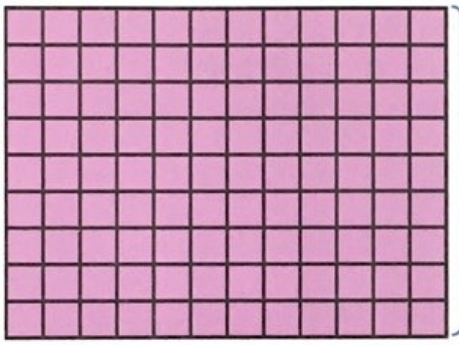
eHelp

Need help? connectED.mcgraw-hill.com

Find the area of a parking lot that is 9 yards by 12 yards.

One Way **Use a model.**

Use grid paper to model the parking lot. Each square equals 1 square yard. Count the number of squares it takes to fill a rectangle that measures 12 units by 9 units.



There are 108 squares, or square units, in all.

Another Way **Multiply.**

To find the area of a rectangle, multiply the length by the width.

$A = \ell \times w$

$A = 9 \text{ yards} \times 12 \text{ yards}$

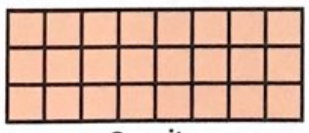
$A = 108 \text{ square yards}$

So, the area of the parking lot is 108 square yards.

Practice

Find the area of each rectangle.

1.

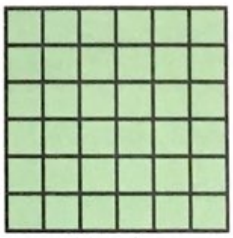


3 units

8 units

$A =$ _____ square units

2.



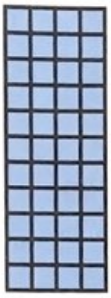
6 units

6 units

$A =$ _____ square units

Find the area of each rectangle.

3.

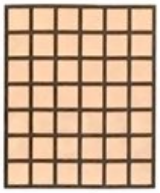


11 units

4 units

$A =$ _____

4.



7 units

6 units

$A =$ _____

Real World Problem Solving

Use the area formula $A = \ell \times w$ you discovered in the lesson to solve each problem.

5. Mathematical PRACTICE 3 **Justify Conclusions** Three guinea pigs living in the same cage need at least 12 square feet of living space. Is a cage that measures 3 feet by 5 feet big enough for three guinea pigs? Explain.

_____

_____

6. Jeanette drew a rectangle with an area of 6 square centimeters. Identify a possible length and width for her rectangle.

_____

7. Marcus wants to carpet his clubhouse. One side of the rectangular floor measures 11 feet. Another side measures 8 feet. How many square feet of carpet does Marcus need to completely cover the floor?

_____

Vocabulary Check

Vocab

8. Explain the relationship between area and square units.

_____

9. Define *unit square*.

_____

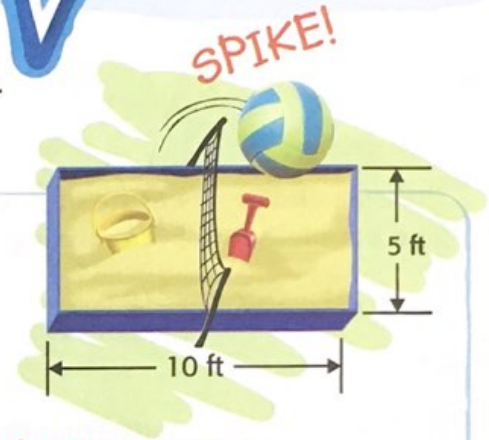
Name _____

Measure Area

Lesson 4

ESSENTIAL QUESTION
Why is it important to measure perimeter and area?

You know that area is the number of square units needed to cover a region or figure without any overlap.



Math in My World

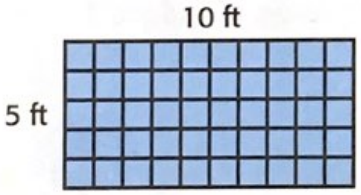
Watch Tutor

Example 1

The Perez family wants to put the sandbox shown in their backyard. What is the area of the sandbox?

One Way **Count unit squares.**

Tile the rectangle with unit squares. Each unit square has an area of one square foot.



There are _____ unit squares.

There are _____ square feet.

Another Way **Multiply.**

Multiply the length times the width to find the area.

A = length × width

$A = \ell \times w$

A = 10 feet × 5 feet

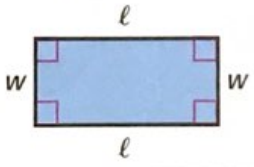
A = _____ square feet

So, the area of the sandbox is _____ square feet.

Key Concept Area of a Rectangle

Words To find the area A of a rectangle, multiply the length ℓ by the width w.

Symbols $A = \ell \times w$

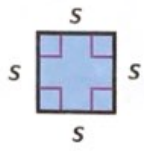


You can also find the area of a square.

Key Concept Area of a Square

Words To find the area A of a square, multiply the length of one side s by itself.

Symbols $A = s \times s$



Tutor

Example 2

The area and the measure of one side of the square is given. Find the measure of the missing side.

Area = 64 sq m

$A = s \times s$ Write the formula.

$64 = 8 \times s$

Think: 8 times what number equals 64?

$s =$ _____ meters

The measure of the missing side is _____ meters.

Talk MATH

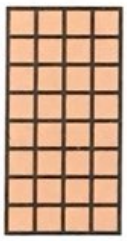
Describe two ways to find the area of a square.

Guided Practice

Check

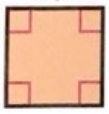
Find the area of each square or rectangle.

1.



$A =$ _____

2. 3 yd



3 yd

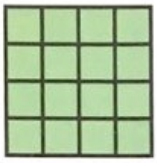
$A =$ _____

Name _____

CCSS

Independent Practice

Find the area of each square or rectangle.

3. 

$A =$ _____

4. 

$A =$ _____

5. 6 m

2 m

$A =$ _____

6. 10 yd

2 yd 

$A =$ _____

Algebra **The area and the measure of one side of each square or rectangle are given. Label the missing sides.**

7. 7 in. 

Area = 49 square inches

8. 4 m 

Area = 32 square meters

9. 1 cm

Area = 5 square centimeters

10. 6 in.

Area = 24 square inches

Real World Problem Solving

My Work!

11. Each child in Mrs. Dixon's class has a rectangular notebook that has an area of 108 square inches. If the notebook is 9 inches wide, what is the length of the notebook?

12. A car is 15 feet long and 6 feet wide. It is parked on a rectangular driveway with an area of 112 square feet. How much of the driveway is not covered by the car?

13. Mathematical PRACTICE 1 **Plan Your Solution** A rectangular playground is 40 meters by 10 meters. Its area will be covered with shredded tires. Each bag of shredded tires covers 200 square meters and costs $30. Find the total cost for this project.

HOT Problems

14. Mathematical PRACTICE 2 **Reason** A square has sides measuring 3 feet. If the sides of a square are doubled, will the area also double? Explain.

15. **Building on the Essential Question** How can estimation help me to find the area of a rectangle or square?

Name _____

Measurement and Data
4.MD.3
CCSS

MY Homework

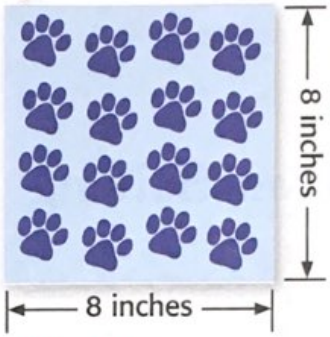
Lesson 4
Measure Area

Homework Helper

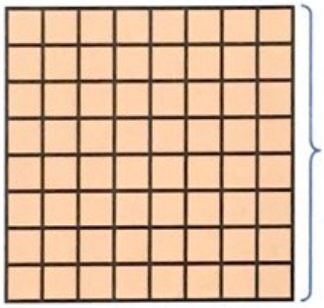
eHelp

Need help? connectED.mcgraw-hill.com

Kristin is making a scrapbook about her pets. She covers one page of the scrapbook with decorative paw print paper. What is the area of this page?



One Way **Count the units.**



So, the area of the scrapbook page is 64 square inches.

Another Way **Multiply.**

To find the area of a square, multiply the length of one side by itself.

$A = s \times s$

$A = 8 \text{ inches} \times 8 \text{ inches}$

$A = 64 \text{ square inches}$

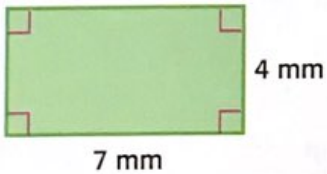
Helpful Hint

To find the area of a rectangle, multiply the length by the width.

Practice

Find the area of each figure.

1.



$A =$ _____ square millimeters

2.

$A =$ _____ square units

Name .....

Measurement and Data
4.MD.3
CCSS

Relate Area and Perimeter

Lesson 5

ESSENTIAL QUESTION

Why is it important to measure perimeter and area?

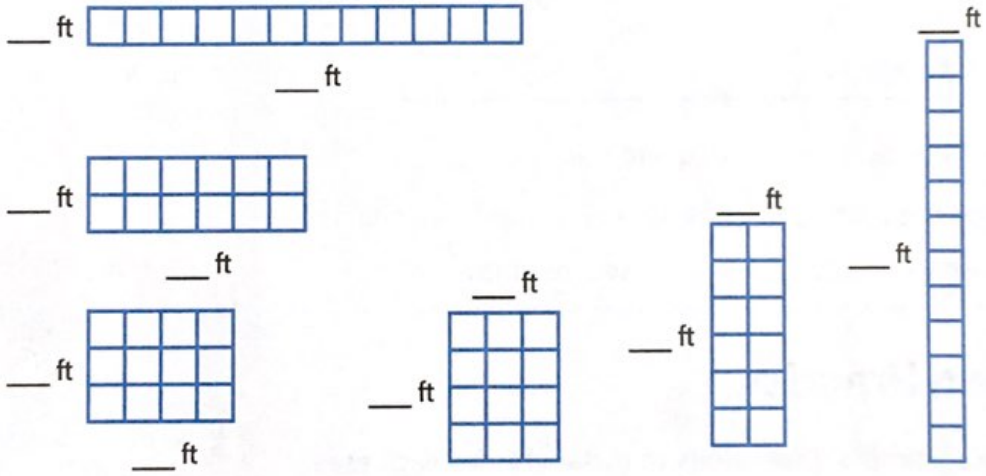
Math in My World

Tutor

Example 1

The swim team put its trophy on a table that has an area of 12 square feet. List all of the possible lengths and widths of rectangles with an area of 12 square feet.

The models show all of the possible rectangles. Label each model.



So, the table could have the following possible lengths and widths.

_____ × _____ = 12 _____ × _____ = 12

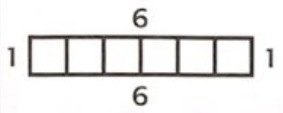
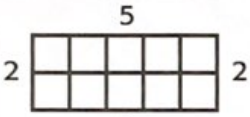
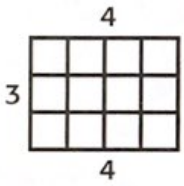
_____ × _____ = 12 _____ × _____ = 12

_____ × _____ = 12 _____ × _____ = 12

Example 2

Find the rectangle with the greatest area whose perimeter is 14 units.

The table shows each rectangle that has a perimeter of 14 units. Complete the table.

Drawing	Rectangle Dimensions	Area
 $1 + 6 + 1 + 6 = 14$	1×6	6 square units
 $2 + 5 + 2 + 5 = 14$	$2 \times$ ____	____ square units
 $3 + 4 + 3 + 4 = 14$	$3 \times$ ____	____ square units

Helpful Hint

The rectangles not listed in the table have dimensions of 6×1, 5×2, and 4×3. If you reverse the dimensions of a rectangle, it will still have the same area.

Talk MATH

Which rectangle in Example 2 has the least area?

The greatest area is _____ square units.

So, the rectangle with the greatest area is _____ units by _____ units. Its area is _____ square units.

Guided Practice

List all the possible dimensions of rectangles for each area.

1. 9 square units

_____ × _____

_____ × _____

_____ × _____

2. 14 square units

_____

_____

_____

_____

Name _____

CCSS

Independent Practice

List all the possible dimensions of rectangles for each area.

3. 16 square units

4. 20 square units

Find the perimeter and area for each square or rectangle.

5.

Perimeter: _____

Area: _____

6.

Perimeter: _____

Area: _____

7. What do the figures in Exercises 5 and 6 have in common? How do these figures differ?

_____

_____

Problem Solving

Mathematical PRACTICE 1 **8. Plan Your Solution** Violet is making a rectangular banner for the basketball team to run through before the start of the game. She has 24 square feet of paper. List all of the possible dimensions of rectangles with an area of 24 square feet.

9. Which of the dimensions found in Exercise 8 has the greatest perimeter?

10. If a rectangle has a greater perimeter than another rectangle, does it also have a greater area? Explain.

HOT Problems

Mathematical PRACTICE 2 **11. Reason** Is it possible to draw a rectangle that has an area of 24 square units and a perimeter of 24 units? Explain.

12. Building on the Essential Question What is the difference between area and perimeter?

Name .....

Measurement and Data
4.MD.3
CCSS

MY Homework

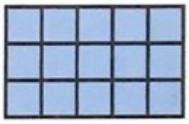
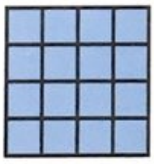
Lesson 5
Relate Area and Perimeter

Homework Helper

eHelp Need help? connectED.mcgraw-hill.com

A rectangle has a perimeter of 16 units. What is its greatest possible area?

1 Draw all of the possible rectangles with a perimeter of 16 units.

Drawing	Rectangle Dimensions	Area
1  7 1 + 7 + 1 + 7 = 16	1 × 7 (or 7 × 1)	A = 7 square units
2  6 2 + 6 + 2 + 6 = 16	2 × 6 (or 6 × 2)	A = 12 square units
3  5 3 + 5 + 3 + 5 = 16	3 × 5 (or 5 × 3)	A = 15 square units
4  4 4 + 4 + 4 + 4 = 16	4 × 4	A = 16 square units

If you reverse the dimensions of a rectangle, it will still have the same area.

2 Compare the areas of the rectangles.

The greatest area is 16 square units.

So, 16 square units is the greatest possible area for a rectangle whose perimeter is 16 units.