



# PLANNED INSTRUCTION LESSON MATERIALS

**4th Grade**

Mrs. Veronica Will, Principal 814 873-5158

Mr. Aubrey Favors, Interim CEO 814 812-3026

**DUE DATE: FRIDAY, MAY 29<sup>TH</sup>**

Please complete the following materials by the due date noted above.

Completed materials may be dropped off at the school (1006 West 10th Street) during food distribution Tuesdays and Fridays from 10:00am – 12:00noon, or turned in when the next week's materials are delivered to your home.

If you need assistance in completing the attached materials, please reach out to your classroom teacher via email, the school's website or Facebook page, or Class Dojo. You may also call the school directly Monday – Friday from 9:30-5:30 at 814-520-6468

**Genre** Tall Tale**Essential Questions**

How do tall tales come to be?

How can tall tales influence art?

# PAUL BUNYAN

by Dennis Ferrig • illustrated by Olga and Aleksey Ivanov

**A BIG, BIG BABY**

For folks living on the coast of Maine, seeing heavy-looking clouds drift in from the sea isn't unusual. So on a day long ago, Papa Bunyan didn't think twice about the big cloud floating in the sky. He didn't even think twice about the group of birds flying around it. Of course, Ma Bunyan did.

Suddenly, Papa yelled, "Wait, that's not a cloud. It's a giant blanket!"

Ma smiled. "Yes, and those birds are storks."

"You mean our baby's coming?" yelled Papa, as he counted the storks. "It's a five-stork baby!"

Ma grinned. It WAS a five-stork baby.

Now it may not have happened just this way, but that's how most folks think Paul Bunyan came into this world.



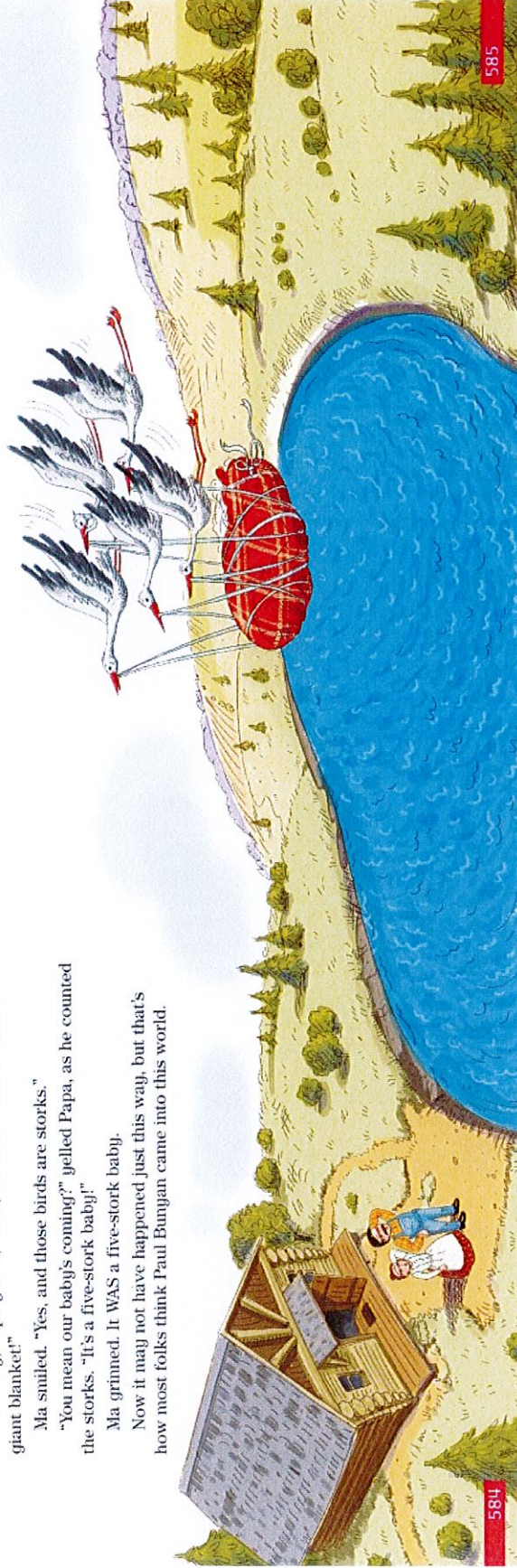
Like any baby, Paul needed a cradle to sleep in. Papa made one, but Paul grew too fast and shattered it.

Papa cut down some tall trees, and the sound of Paul's howls knocked down a few more. Papa and Ma used that wood to make the largest cradle the world will ever see!

The Bunjans set the cradle in the water a little off shore. The gentle waves rocked the baby to sleep, but Paul's size made the cradle rock faster and faster. Soon the rocking caused great waves

to crash into the coast! The colossal waves carved out big chunks of Canada just north of Maine.

The gap formed a new body of water called the Bay of Fundy. Folks who don't believe it should look at a map!



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## PAUL ROAMS

As Paul grew, Papa taught him how to be a lumberjack. Soon Paul was toppling more trees than a spinning tornado.

Like most youngsters, Paul had dreams. One summer morning, teenage Paul packed some tools and bade Papa and Ma good-bye. Paul traveled west to find tall trees and good lumberjack work.

Paul walked with long strides through Maine. After he crossed into New Hampshire, he hiked up and down the rugged White Mountains. He even jumped over a towering peak or two! Then Paul walked through the Green Mountain Forest on the border between Vermont and New York. In New York, Paul reached a forest clearing and went to sleep. After all, he had walked nearly three hundred fifty miles since leaving home that morning.

The next day, Paul woke up as thirsty as a mule, so he drank all the water in a nearby pond. It was a small pond, though, that covered only three acres.

Paul walked with huge steps across the state of New York. Some folks claimed they felt earthquakes as he walked. Then when Paul slipped and fell, he actually did cause an earthquake! His hands hit the ground so hard that they left long, deep ditches in the dirt. After rain filled those ditches, they became known as the Finger Lakes.

Paul walked quickly and covered another three hundred fifty miles by late afternoon. When he reached the Niagara River, he was very hot, so he made a cannonball jump into the water. His splash was so large that it took five days for the water to fall back to Earth. When the water fell, it created Niagara Falls!

Paul loved the falls and spent time digging out a large pit for the water from the falls to flow into. The pit is called Lake Ontario.



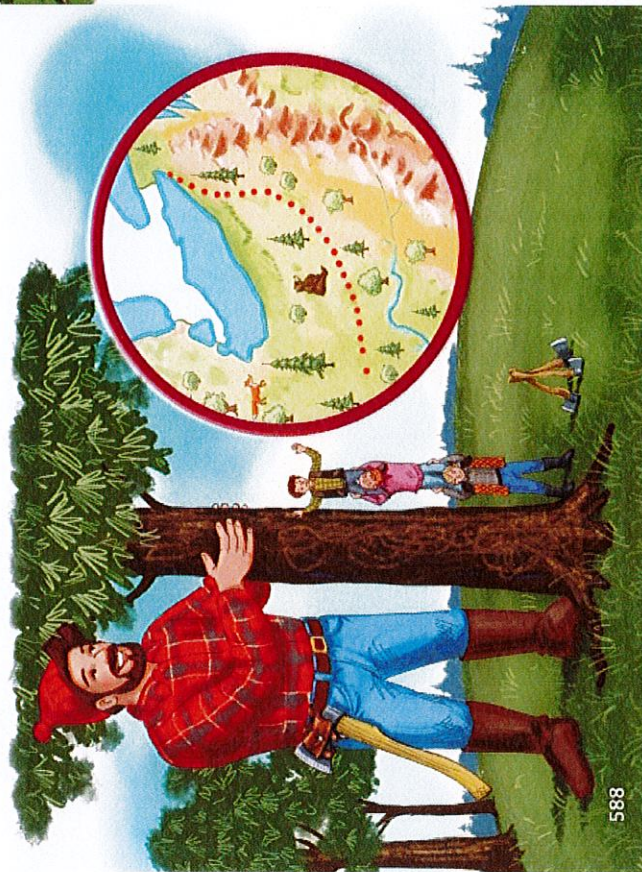
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## BIGGER AND STRONGI

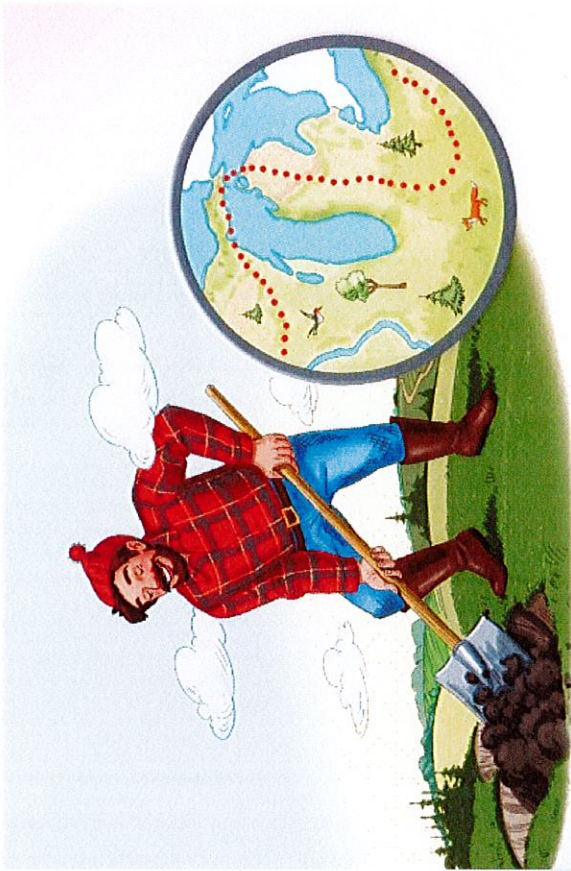
Paul Bunyan was a strong, tall teen when he left Maine. Over the next few years, he grew into a stronger, taller man. Some folks say he was bigger than two tall men—maybe three men, maybe more—stacked on top of each other.

Paul had herculean strength, too, and used it. When he was in Pennsylvania, for example, he decided he liked digging new lakes, so he dug another one, which became Lake Erie. Paul dug fast, tossing huge shovelfuls of dirt up into the high west winds.

When Paul stopped digging, he looked up and discovered he was now in the state of Ohio.



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Paul also dug the other three Great Lakes. When he was digging Lake Huron next to the state of Michigan, he noticed a huge forest of tall trees. Paul dug around the forest. That piece of land sticks out into Lake Huron. It forms the thumb in the mitten-shape of Michigan.

Curiosity and lake digging took Paul into Wisconsin. He spent some time working in Wisconsin logging camps. With his own crews, he cut down huge trees and floated them on wide rivers to sawmills. He logged so many trees that even today, almost every wooden building, bench, table, wagon, and doghouse contains drops of Paul Bunyan's sweat.

Paul worked with dozens of different lumberjacks. The lumberjacks made Paul into a legend of sorts. They swapped stories with each other about all the remarkable things Paul did. Some folks say those stories were exaggerations. Some tales might have been exaggerated, but not many.

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590-591

### A BLUE OX NAMED BABE

When Paul was lumberjacking with his crew in Minnesota, he made a special discovery. It was in the Winter of Blue Snow. The deep, drifting snow that year was actually blue! Look it up!

The snow was so deep that only a giant like Paul could trek through it. The good news was that lumberjacks didn't need to cut down trees. Heavy snows made them topple over.

One day, Paul spotted a patch of shimmering blue snow. *Wow! It's really cold when the snow shivers*, he thought.

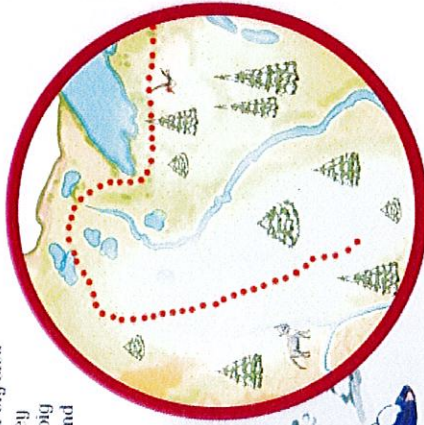
Paul brushed away the snow and discovered a half-frozen, teeth-chattering baby ox.

Paul noticed two strange things about this ox. First, it was as blue as the sky, maybe from the cold or maybe from the snow. Second, it was the biggest baby ox Paul had ever seen. It might even have been a five- or six-stork baby ox! Paul named the ox "Babe."

Babe grew quickly and soon was as tall as Paul was tall. Babe was happy to work with Paul and his crew. Babe would pull heavy logs or wagons filled with tons of water and grub. Folks had always said Paul was as strong as an ox. Now they talked about an ox that was as strong as Paul!

Paul and Babe had some fine adventures. The best one was when they chased each other all over Minnesota. Their running, stomping game of tag created footprints that formed the ten thousand lakes of Minnesota!

After some years in Minnesota, Paul felt the urge to travel again. He loaded tools, food, cooking equipment, and large vats of water on a big sled that Babe pulled. As they crossed into Iowa, the big sled cleared acres of land for farmers to use.



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592-593

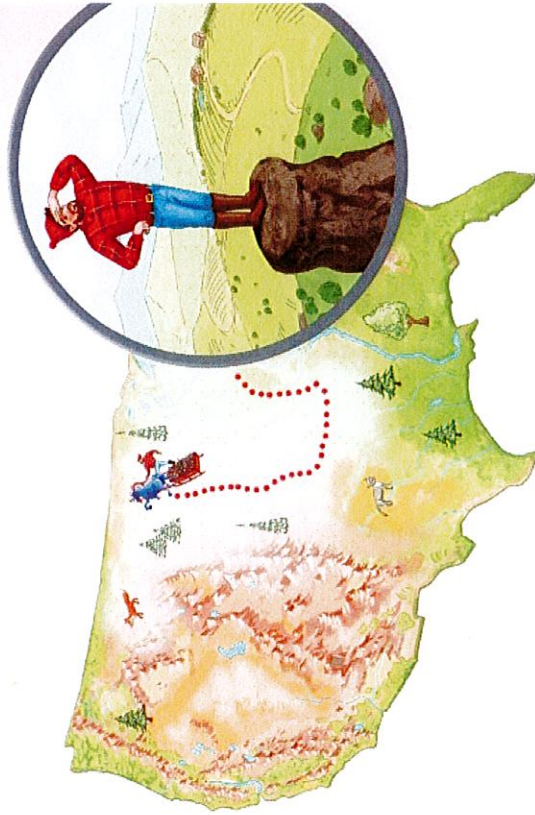
## GOOD DEEDS

For some time, Paul and his crew worked in the Missouri forests, near the Mississippi River. Paul did more than cut trees. When the river flooded, he had Babe drink river water while Paul built a huge dam. But Babe gulped so much water that the dam wasn't needed!

Folks in Kansas heard how Paul and Babe cleared farmland in Iowa, so they sent one hundred twenty-eight officials to Missouri to ask Paul to do the same in Kansas. Paul agreed, and Babe gave all one hundred twenty-eight officials a free ride back to Kansas on his big sled. The sled cut a deep, wide path in Missouri. Folks say the Lake of the Ozarks now fills part of that path.



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From Kansas, Paul and Babe and the w traveled west. Paul still could walk as fast as a pronghorn antelope could run. Babe was a bit slower, so Paul let the ox rest in the middle of Nebraska. Paul wanted to see what was ahead, so he built a three-hundred-foot tall tower to stand on. Today, folks call it Chimney Rock.

The friends traveled through South and North Dakota, and had a few small adventures along the way. One time big, big Paul helped a family find a lost child. Paul found the boy on top of Black Elk Peak, the highest mountain east of the Rockies, and jumped to the top of the mountain to rescue him. That boy grew up to be the governor of South Dakota.

Paul also stopped a charging herd of buffalo from destroying a small town in North Dakota. He lassooed all one hundred of the beasts with one giant rope!

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### A SAD TIME

Paul and his lumberjack crew worked all over the West. It was hard, but it was work Paul loved. Babe loved it, too, but Paul knew work was getting harder for his old friend. One summer evening in Montana, Paul could tell Babe was feeling under the weather. That night, Babe died in Paul's big arms.

Paul thought back to the day he found Babe shivering in the snow. The discovery was a blessing. Babe had become his best friend.

Paul started to weep big, big tears and did not stop for days. His tears pooled up and flowed south. Folks say Paul's tears were the beginning of the Missouri River. The incredible thing is that the new river flowed past or through many of the places Paul and Babe had logged.



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Paul and his crew moved on to Wyo! It was hot and dry. The crew needed water. Paul looked for an underwater spring. With mighty swings of his ax, he dug holes in the ground. On the third swing, he hit a gusher, but it was not cool drinking water that burst out. It was a geyser of hot water and steam. Paul had just opened Old Faithful! He used the hot water to make tea for the crew.

While traveling in Colorado, Paul visited the Rocky Mountains. He was shocked when he read a wooden sign at the top of the highest peak. It said:

These Rocky Mountains were formed by dirt  
Paul Bunyan flung miles into the air when  
he dug the Great Lakes.



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### PAUL STILL FEELS YO 3

The Rocky Mountains also reach into New Mexico. Paul planned to log the forests there. In Colorado, Paul told his crew to meet him in a New Mexico forest near Wheeler Peak. Paul planned to jump from one Rocky Mountain peak to the next until he reached Wheeler Peak.

Paul and his crew left on the same day. The crew worried Paul was too old to leap from mountain to mountain. Paul was a bit worried too.

As the crew took wagons full of supplies along snow-packed roads, Paul jumped from one mountain peak to another. At first, he was careful. Soon, though, he was jumping from peak to peak as fast as possible. He was as strong as in the old days!

The peaks were snow-covered and slippery, and Paul slid down a mountainside feet first! His huge body knocked down trees and made a wide, smooth path into a valley. Today, that route is called the Taos Ski Valley. That's on a map too. People today probably never think about Paul Bunyan as they ski down the mountain.

The most important thing for Paul was arriving in the forest before his crew. In fact, Paul had logged half the trees by the time they arrived.

Paul did feel a tad tired for a time after his race to Wheeler Peak. This may be why he dragged his big ax behind him as he visited Arizona, Utah, and Nevada. By the way, that's how Paul and his heavy ax carved out the Grand Canyon.



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598-599

### A NEW FRIEND

As Paul grew older, life became more difficult. In California, he fell out of a gigantic redwood tree. He wasn't hurt much, but trees crashed all around him. Folks say his fall created a long, deep crack along the West Coast. It's called the San Andreas Fault.

Over the years, Paul heard about a big, strong lumberjack in Canada named Big Joe Mufferaw. Folks told almost as many stories about Big Joe as they told about Paul. By chance, Paul met Big Joe in the Cascade Mountains, which stretch from California to Canada.



Like Paul, Big Joe enjoyed jumping fi mountaintop to mountaintop. They met because both Paul and Joe jumped onto the same mountain at the same time. That mountain shrank about twenty feet! The two men stared at each other. They weren't sure they liked each other. It was good they both knew not to judge a book by its cover.

After Paul and Big Joe had a brief mountain-jumping contest, they talked. They swapped stories as they walked through Oregon and Washington. They cooked suppers over mountaintop campfires and put the flames out with huge rocks. Folks say they created two big volcanoes that way—Mount Hood and Mount Rainier.

They talked so much that they walked right into Canada and didn't know it!

The two became good friends. Folks say they continue to swap stories even to this day as they hike together through the Cascade Mountains.

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Use the different sections of this letter to begin conversations with your child about what he or she is learning.

## Big Idea: Where do you see literature and art together?

Ask your child how this week's reading selection helps him or her answer this question.

### This week's reading selection: *Paul Bunyan*

**Summary:** This tall tale tells about a fictional larger-than-life character named Paul Bunyan. From the time he was a baby, Paul Bunyan made a big splash. Trekking across North America as a lumberjack, he caused earthquakes, created waterfalls, dug out lakes, and formed mountain ranges.

► **DISCUSS** with your child the various landforms that Paul Bunyan created or changed according to the tall tale.

**Vocabulary** Have your child make flashcards to practice reading and defining these words.

<b>drift</b>	<i>verb</i>	to move because of a current of air or water
<b>cradle</b>	<i>noun</i>	a small bed for a baby, often on rockers
<b>lumberjack</b>	<i>noun</i>	a person who cuts down trees and gets logs ready for the sawmill
<b>towering</b>	<i>adjective</i>	very tall
<b>border</b>	<i>noun</i>	a line where one country or other area ends and another begins; boundary
<b>herculean</b>	<i>adjective</i>	having enormous strength, courage, or size
<b>topple</b>	<i>verb</i>	to fall or cause to fall forward
<b>urge</b>	<i>noun</i>	a strong desire or impulse
<b>ahead</b>	<i>adverb</i>	in front
<b>weep</b>	<i>verb</i>	to show sorrow, joy, or other strong emotion by crying
<b>crack</b>	<i>noun</i>	a break or narrow opening between the parts of something
<b>by chance</b>	<i>adverb phrase</i>	accidentally
<b>stretch</b>	<i>verb</i>	to reach; extend
<b>brief</b>	<i>adjective</i>	short in time

**Spelling** Practice these words with your child.

- |                 |                 |                |
|-----------------|-----------------|----------------|
| 1. activity     | 8. dishonest    | 15. population |
| 2. applauded    | 9. excuse       | 16. rearrange  |
| 3. bargaining   | 10. gratefully  | 17. sighed     |
| 4. breezy       | 11. identifying | 18. successful |
| 5. collision    | 12. identity    | 19. uneventful |
| 6. concentrated | 13. muscle      | 20. worthless  |
| 7. desert       | 14. nondairy    |                |

### Challenge

- |              |              |                |
|--------------|--------------|----------------|
| 1. evacuated | 2. excursion | 3. unconscious |
|--------------|--------------|----------------|

### Language Arts

**Writing:** Your child will learn about the format of a business letter. Then he or she will plan, draft, revise, edit, and publish a business letter.

**Grammar:** Your child will review nouns, verbs, adjectives, adverbs, and pronouns.

► **HAVE** your child look through books or magazines and identify five sentences. Then have your child identify the nouns, verbs, adjectives, adverbs, and pronouns in the sentences.

# Recognizing

## Cause & Effect

the reason for an action,  
event, or decision

what happened as a  
result of the cause

### Look for Cause & Effect key words

as a result of  
because  
because of  
by virtue of  
consequently  
due to

due to the fact  
on account of  
owing to  
resulting in  
seeing that  
since

so  
thanks to  
the reason for  
therefore  
whereas  
which means

### Think about sentence structure

Sometimes, the **Cause** comes first in the sentence.

All of the students ride a bus to school so the bike racks have been removed.

The students made a thousand dollars in their candy sale which means they get to go on their trip.

Sometimes, the **Effect** comes first in the sentence.

The students were given bag lunches because the electricity was out in the cafeteria.

All of the students can eat in the cafeteria thanks to the donation of ten new tables.

# Cause and Effect Quiz

A cause is a reason why something happens.  
An effect is what happens as a result.

Example: The baby began to cry (cause) so mom gave her a bottle. (effect)

\*Choose the correct effect of each cause.

Your email address ([vwill@erieriseacademy.org](mailto:vwill@erieriseacademy.org)) will be recorded when you submit this form. Not you? [Switch account](#)

\* Required

What is your name? \*

Your answer

1. It was raining outside.

1 point

- She won her soccer game.
- We pulled out an umbrella.
- Lance flew his kite.
- She answered it.

2. The boy tripped on the rock.

1 point

- She played in the sand.
- The dog began to bark.
- He had nothing to wear.
- He fell and scraped his knee.
- Other:



3. Mom locked the car door.

1 point

- I shoveled the driveway.
- Flowers began to grow
- We couldn't get in the car.
- He ate dinner.
- Other:

4. All the clothes were dirty.

1 point

- She answered it.
- Lance flew his kite.
- He had nothing to wear.
- He got a belly ache.
- Other:

5. Lee's mom took her to the beach.

1 point

- He ate dinner.
- She won the soccer game.
- Flowers began to grow.
- She played in the sand.



6. Tyler was hungry.

1 point

- He ate dinner.
- The dog began to bark.
- I couldn't cut the grass.
- I shoveled the driveway.
- Other:

7. The phone rang.

1 point

- She played in the sand.
- She answered it.
- We pulled out an umbrella.
- We couldn't get in the car.

8. It snowed outside.

1 point

- Flowers began to grow.
- I shoveled the driveway.
- He fell and scraped his knee.
- She won the soccer game.
- Other:

9. Robert ate too many jellybeans.

1 point

- He got a belly ache.
- She played in the sand.
- I couldn't cut the grass.
- We pulled out an umbrella.



10. Nana plants seeds in the garden.

1 point

- He had nothing to wear.
- Lance flew his kite.
- The dog began to bark.
- Flowers began to grow.

Send me a copy of my responses.

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# Pronouns Quiz

A pronoun is a word that takes the place of a noun.

A personal pronoun is used to substitute the names of people or things that perform actions.

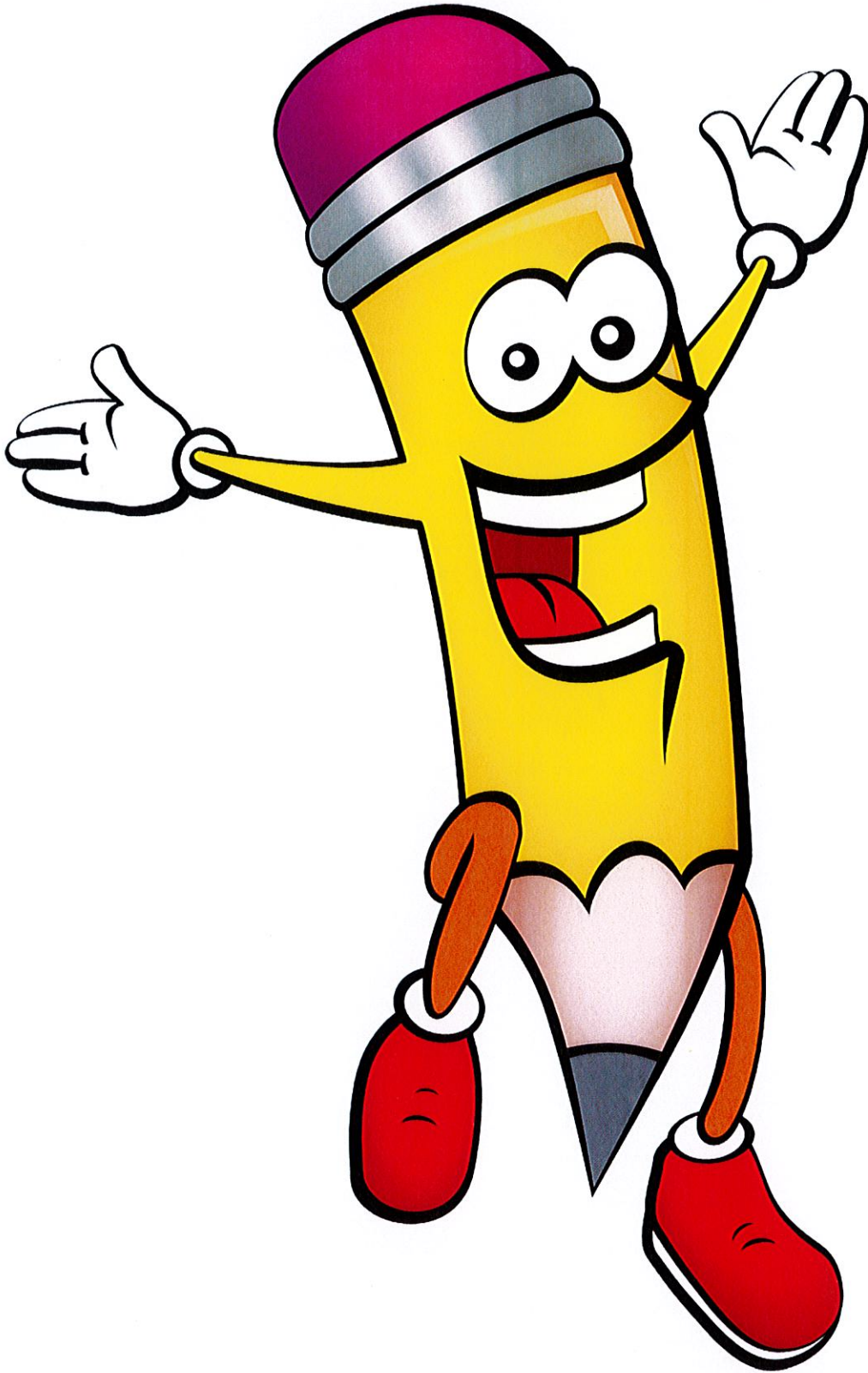
Common Personal Pronouns include: I, me, he, she, it, him, her, you, we, they, them

\* Required





Choose the personal pronoun that best completes each sentence.



What is your name? \*

Your answer

1. Don't forget to tell \_\_\_\_\_ the directions.

1 point

- they
- it
- them

2. \_\_\_\_\_ are very reliable students.

1 point

- them
- her
- they

3. My best friend is Sarah. \_\_\_\_\_ always listens to me.

1 point

- He
- They
- She

4. Mrs. Barger is reading \_\_\_\_\_ book.

1 point

- it
- her
- them



5. I did my homework after school. \_\_\_\_\_ was difficult.

1 point

she

it

him

6. One of the girls forget to bring \_\_\_\_\_ cheer uniform.

1 point

her

him

I

7. The boys played baseball. \_\_\_\_\_ improved a lot.

1 point

he

him

they

8. My family loves to go out for dinner. \_\_\_\_\_ love to go to Taco Bell.

1 point

He

We

She

9. \_\_\_\_\_ are a very fast runner!

1 point

He

Him

You



10. Can you stand next to \_\_\_\_\_ in line?

1 point

- him
- she
- it

11. My brother loves to play football. \_\_\_\_\_ plays everyday.

1 point

- I
- We
- He

12. \_\_\_\_\_ did a great job on my test!

1 point

- He
- Him
- I

13. I can tell \_\_\_\_\_ really enjoyed the movie.

1 point

- you
- her
- him

14. The book was amazing. \_\_\_\_\_ was about aliens.

1 point

- She
- He
- It



15. Do not let \_\_\_\_\_ inside of they building.

1 point

- we
- they
- them
- Other:

16. I know \_\_\_\_\_ are excited to go on a field trip.

1 point

- me
- they
- her

17. \_\_\_\_\_ want to travel around the world.

1 point

- I
- Her
- It

18. Do \_\_\_\_\_ know what time it is?

1 point

- me
- she
- you



19. \_\_\_\_\_ are excited to go back to school.

1 point

She

He

We

20. \_\_\_\_\_ work well together as a team.

1 point

Them

They

Me

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## Measure Area

Side 1: Title

## ESSENTIAL QUESTION

Why is it important to measure perimeter and area?



Side 2: Essential Question

### Problem of the Day

Mario arranges pieces of wood in a straight line with no gaps. The lengths of each piece are 8 inches,  $\frac{1}{2}$  foot, 1 foot, and 4 inches. What is the length of the line in inches?

Side 3: Problem of the Day

### Problem of the Day

Mario arranges pieces of wood in a straight line with no gaps. The lengths of each piece are 8 inches,  $\frac{1}{2}$  foot, 1 foot, and 4 inches. What is the length of the line in inches?

30 inches

Side 4: Problem of the Day Answers

### Quick Check

Solve.

1. Cassandra earned \$19 each day walking her neighbor's dog. How much money did Cassandra earn in 5 days?
2. Jaxon rides his bike  $2\frac{1}{2}$  miles on Friday and twice as far on Sunday. How many total miles did he ride his bike?

Side 5: Quick Check Exercises 1-2

### Quick Check

Solve.

1. Cassandra earned \$19 each day walking her neighbor's dog. How much money did Cassandra earn in 5 days?  
**\$95**
2. Jaxon rides his bike  $2\frac{1}{2}$  miles on Friday and twice as far on Sunday. How many total miles did he ride his bike?  
 **$7\frac{1}{2}$  miles**

Side 6: Quick Check Exercises 1-2 Answers

## Quick Check

Solve.

3. Fluffy and Spotty each eat two cat treats a day. How many total cat treats do they eat in a week?

Side 7: Quick Check Exercise 3

## Quick Check

Solve.

3. Fluffy and Spotty each eat two cat treats a day. How many total cat treats do they eat in a week?

28 cat treats

Side 8: Quick Check Exercise 3 Answers

## Quick Check

4. **Test Practice** Mr. Morel is installing square tiles in his bathroom. He installs 5 rows of 6 tiles. How many tiles did he install altogether?

- A. 20 tiles
- B. 25 tiles
- C. 30 tiles
- D. 36 tiles

Side 9: Quick Check Exercise 4

## Quick Check

4. **Test Practice** Mr. Morel is installing square tiles in his bathroom. He installs 5 rows of 6 tiles. How many tiles did he install altogether?

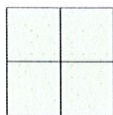
- A. 20 tiles
- B. 25 tiles
- C. 30 tiles
- D. 36 tiles

Side 10: Quick Check Exercise 4 Answers

## INVESTIGATE the Math

Explore

How would you describe how to measure area in your own words?

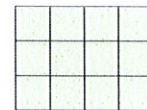


Side 11: Investigate the Math-Explore

## INVESTIGATE the Math

Model

Describe how the formula  $A = l \times w$  relates to counting the number of square units in the figure.



There are \_\_\_\_ square units in the figure.  
The length of the figure is \_\_\_\_ units.  
The width of the figure is \_\_\_\_ units.

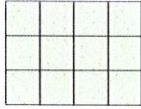
Side 12: Investigate the Math-Model



## INVESTIGATE the Math

**Model**

Describe how the formula  $A = l \times w$  relates to counting the number of square units in the figure.



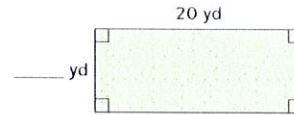
There are 12 square units in the figure.  
 The length of the figure is 4 units.  
 The width of the figure is 3 units.

Side 3: Investigate the Math-Model Answers

## INVESTIGATE the Math

**Extend**

A practice soccer field measures 20 yards in length. The area of the soccer field is 160 square yards. What is the width of the soccer field?

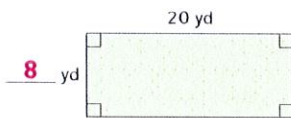


Side 4: Investigate the Math-Extend

## INVESTIGATE the Math

**Extend**

A practice soccer field measures 20 yards in length. The area of the soccer field is 160 square yards. What is the width of the soccer field?



Side 5: Investigate the Math-Extend Answers

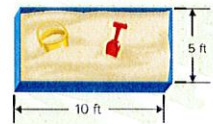
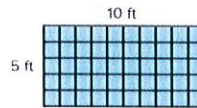
## Math in My World

**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.

So, the area of the sandbox is \_\_\_\_\_ square feet.

Side 6: Math in My World Example 1-One Way

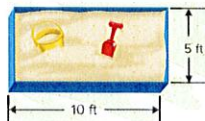
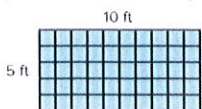
## Math in My World

**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 50 unit squares.

There are 50 square feet.

So, the area of the sandbox is 50 square feet.

Side 7: Math in My World Example 1-One Way Answers

## Math in My World

**Example 1**

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

**Another Way** Multiply.

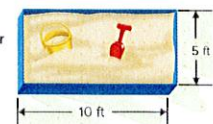
Multiply the length times the width to find the area.

$A = \text{length} \times \text{width}$

$A = l \times w$

$A = 10 \text{ feet} \times 5 \text{ feet}$

$A = \underline{\hspace{2cm}}$  square feet



Side 8: Math in My World Example 1-Another Way



## Math in My World

### Example 1

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

#### Another Way Multiply.

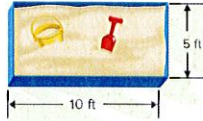
Multiply the length times the width to find the area.

$$A = \text{length} \times \text{width}$$

$$A = \ell \times w$$

$$A = 10 \text{ feet} \times 5 \text{ feet}$$

$$A = \mathbf{50} \text{ square feet}$$



Side 19: Math in My World Example 1-Another Way Answers

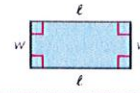


## Math in My World

### Key Concept Area of a Rectangle

**Words** To find the area  $A$  of a rectangle, multiply the length  $\ell$  by the width  $w$ .

**Symbols**  $A = \ell \times w$



Side 20: Math in My World Key Concept 1



## Math in My World

### 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**  $A = s \times s$



Side 21: Math in My World Key Concept 2



## Math in My World

### Example 2

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

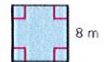
$$A = s \times s \quad \text{Write the formula.}$$

$$64 = 8 \times s$$

Think: 8 times what number equals 64?

$$s = \underline{\hspace{1cm}} \text{ meters}$$

The measure of the missing side is  $\underline{\hspace{1cm}}$  meters.



Area = 64 sq m

Side 22: Math in My World Example 2



## Math in My World

### Example 2

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

$$A = s \times s \quad \text{Write the formula.}$$

$$64 = 8 \times s$$

Think: 8 times what number equals 64?

$$s = \mathbf{8} \text{ meters}$$

The measure of the missing side is  $\mathbf{8}$  meters.

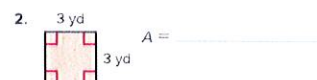
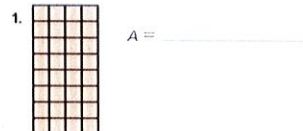


Area = 64 sq m

Side 23: Math in My World Example 2 Answers

## Guided Practice

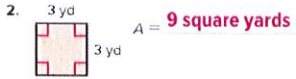
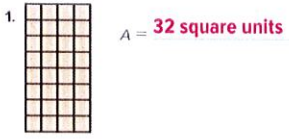
Find the area of each square or rectangle.



Side 24: Guided Practice Exercises 1-2

## Guided Practice

Find the area of each square or rectangle.



Side 25: Guided Practice Exercises 1-2 Answers

## Talk MATH

Describe two ways to find the area of a square.

Side 26: Talk Math

## Independent Practice

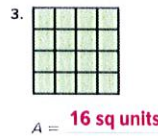
Find the area of each square or rectangle.



Side 27: Independent Practice Exercises 3-4

## Independent Practice

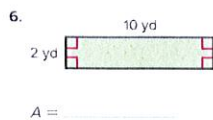
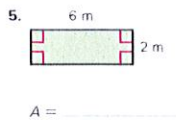
Find the area of each square or rectangle.



Side 28: Independent Practice Exercises 3-4 Answers

## Independent Practice

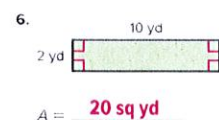
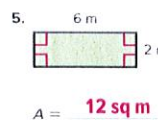
Find the area of each square or rectangle.



Side 29: Independent Practice Exercises 5-6

## Independent Practice

Find the area of each square or rectangle.



Side 30: Independent Practice Exercises 5-6 Answers

## Independent Practice

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



Area = 49 square inches

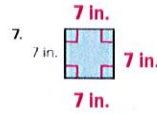


Area = 32 square meters

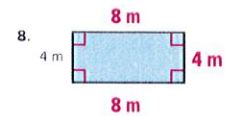
Side 31: Independent Practice Exercises 7-8

## Independent Practice

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



Area = 49 square inches

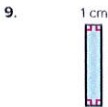


Area = 32 square meters

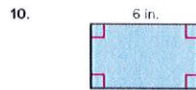
Side 32: Independent Practice Exercises 7-8 Answers

## Independent Practice

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



Area = 5 square centimeters

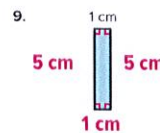


Area = 24 square inches

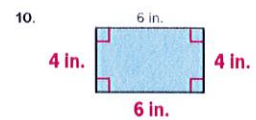
Side 33: Independent Practice Exercises 9-10

## Independent Practice

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



Area = 5 square centimeters



Area = 24 square inches

Side 34: Independent Practice Exercises 9-10 Answers



## Problem Solving

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?



## Problem Solving

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 inches

Side 35: Problem Solving Exercise 11

Side 36: Problem Solving Exercise 11 Answers



## Problem Solving

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?

---

Side 37: Problem Solving Exercise 12



## Problem Solving

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?

**22 sq ft**

Side 38: Problem Solving Exercise 12 Answers



## Problem Solving

- Processes & Practices** **Plan Your Solution** A rectangular playground is 40 meters by 10 meters. Its area will be covered with wood chips. Each bag of wood chips covers 200 square meters and costs \$30. Find the total cost for this project.

---

Side 39: Problem Solving Exercise 13



## Problem Solving

- Processes & Practices** **Plan Your Solution** A rectangular playground is 40 meters by 10 meters. Its area will be covered with wood chips. Each bag of wood chips covers 200 square meters and costs \$30. Find the total cost for this project.

**\$60**

Side 40: Problem Solving Exercise 13 Answers



## Brain Builders

- Processes & Practices** **Reason** If the sides of a square are doubled, will the area also double? Explain.

---



---



---

Side 41: Brain Builders Exercise 14



## Brain Builders

- Processes & Practices** **Reason** If the sides of a square are doubled, will the area also double? Explain.

**Sample answers: 14, 15**

**no; It will quadruple. For example: The area of a square with a side measuring 3 ft is 9 sq ft. Doubling the side length to 6 ft gives an area of 36 sq ft. 36 is 4 times as great as 9.**

Side 42: Brain Builders Exercise 14 Answers

# Brain Builders

15. **Building on the Essential Question** How does finding the area of a rectangle or square with unit squares relate to using the formula to find the area?

---



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# Brain Builders

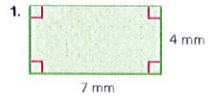
Sample answers: 14, 15

15. **Building on the Essential Question** How does finding the area of a rectangle or square with unit squares relate to using the formula to find the area?

**The total number of unit squares is equal to the number of rows times the number of columns needed to fill the rectangle or square. This is the same thing as multiplying the side lengths to find the area.**

## MY Homework Practice

Find the area of each figure.



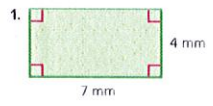
A = \_\_\_\_\_ square millimeters



A = \_\_\_\_\_ square units

## MY Homework Practice

Find the area of each figure.



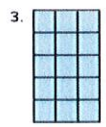
A = **28** square millimeters



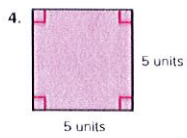
A = **4** square units

## MY Homework Practice

Find the area of each figure.



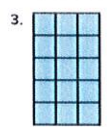
A = \_\_\_\_\_ square units



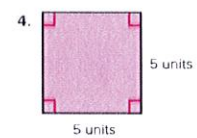
A = \_\_\_\_\_ square units

## MY Homework Practice

Find the area of each figure.



A = **15** square units



A = **25** square units

# MY Homework



5. **Processes & Practices** **Justify Conclusions** One side of a square is 10 units. Which is greater, the number of square units for the area of the square or the number of units for the perimeter? Explain.

---

---

---

Side 49 My Homework Exercise 5

# MY Homework



5. **Processes & Practices** **Justify Conclusions** One side of a square is 10 units. Which is greater, the number of square units for the area of the square or the number of units for the perimeter? Explain.

**Sample answer: The number of square units for the area**

**is greater. The area is 100 square units, and the**

**perimeter is 40 units;  $100 > 40$ .**

Side 50 My Homework Exercise 5 Answers

# MY Homework



6. Eric created a rectangular patio using 1-foot square paving stones, which are sold in batches by the dozen. The patio measures 7 feet by 8 feet. How many batches of paving stones did Eric need? Explain. (Hint: 1 dozen = 12)

---

---

Side 51 My Homework Exercise 6

# MY Homework



6. Eric created a rectangular patio using 1-foot square paving stones, which are sold in batches by the dozen. The patio measures 7 feet by 8 feet. How many batches of paving stones did Eric need? Explain. (Hint: 1 dozen = 12)

**Sample answer: 6**

**5 batches;  $7 \text{ ft} \times 8 \text{ ft} = 56 \text{ sq ft}$ . So, 56 stones are**

**needed.  $56 \div 12 = 4 \text{ R}8$ . So, 5 batches are needed.**

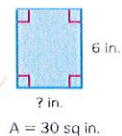
Side 52 My Homework Exercise 6 Answers

# MY Homework



7. **Test Practice** What is the perimeter of the rectangle?

- A 22 inches       C 24 inches  
 B 26 inches       D 28 inches



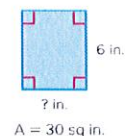
Side 53 My Homework Exercise 7

# MY Homework



7. **Test Practice** What is the perimeter of the rectangle?

- A 22 inches       C 24 inches  
 B 26 inches       D 28 inches



Side 54 My Homework Exercise 7 Answers

Please log into Connected to view this video.



Side 55: (Video) RVE: Area of a Rectangle

Please log into Connected to view this video.



Side 56: (Video) Area of a Rectangle

Name \_\_\_\_\_ Date \_\_\_\_\_

### Lesson 4 Reteach

**Objective:** Area

Use the number of square units needed to cover a region of figure.

You can use these two ways to find the area of a rectangle or square.

- Count the number of square units.  
There are 21 square units.  
The area is 21 square units.
- Multiply the length times the width.  
 $3 \times 7 = 21$   
The area is 21 square units.

**Find the area of each figure.**

1. length: <u>4</u> units width: <u>3</u> units area = <u>12</u> square units	2. length: <u>5</u> units width: <u>3</u> units area = <u>15</u> square units
3. length: <u>4</u> units width: <u>4</u> units area = <u>16</u> square units	4. length: <u>6</u> units width: <u>3</u> units area = <u>18</u> square units

108 Grade 4: Chapter 18: Perimeter and Area

Side 81: Reteach Page 108

Name \_\_\_\_\_ Date \_\_\_\_\_

### Lesson 4 Reteach

**Objective:** Area

Use the number of square units needed to cover a region of figure.

You can use these two ways to find the area of a rectangle or square.

- Count the number of square units.  
There are 21 square units.  
The area is 21 square units.
- Multiply the length times the width.  
 $3 \times 7 = 21$   
The area is 21 square units.

**Find the area of each figure.**

1. length: <u>4</u> units width: <u>3</u> units area = <u>12</u> square units	2. length: <u>5</u> units width: <u>3</u> units area = <u>15</u> square units
3. length: <u>4</u> units width: <u>4</u> units area = <u>16</u> square units	4. length: <u>6</u> units width: <u>3</u> units area = <u>18</u> square units

108 Grade 4: Chapter 18: Perimeter and Area

Side 82: Reteach Page 108 Answers

Name \_\_\_\_\_ Date \_\_\_\_\_

### Lesson 4 Enrich

**Objective:** Area

Arroyo's family has a square swimming pool. A square hot tub is in the middle of one side of the square side to divide the shallow end from the deep end. One side of the pool is 15 feet long.

- What is the perimeter of the swimming pool?
- What is the area of the deep end?
- What is the area of the shallow end?
- What is the perimeter of the shallow end?

Kate's family also has a swimming pool. Her family's pool has a shallow end that is twice as long as the shallow end of Arroyo's pool. Both pools have the same width.

- What is the perimeter of Kate's pool?
- What is the area of Kate's pool?
- What is the perimeter of the shallow end of Kate's pool?

109 Grade 4: Chapter 18: Perimeter and Area

Side E1: Enrich Page 95

Name \_\_\_\_\_ Date \_\_\_\_\_

### Lesson 4 Enrich

**Objective:** Area

Arroyo's family has a square swimming pool. A square hot tub is in the middle of one side of the square side to divide the shallow end from the deep end. One side of the pool is 15 feet long.

- What is the perimeter of the swimming pool?
- What is the area of the deep end?
- What is the area of the shallow end?
- What is the perimeter of the shallow end?

Kate's family also has a swimming pool. Her family's pool has a shallow end that is twice as long as the shallow end of Arroyo's pool. Both pools have the same width.

- What is the perimeter of Kate's pool?
- What is the area of Kate's pool?
- What is the perimeter of the shallow end of Kate's pool?

109 Grade 4: Chapter 18: Perimeter and Area

Side E2: Enrich Page 95 Answers



## 5 Area Assignment

Area is the number of square units needed to cover a region or figure.

You can use these two ways to find the area of a rectangle or square.

- Count the number of square units.
- Multiply the length times the width.  
Area= length x width

Your email address ([vwill@erieriseacademy.org](mailto:vwill@erieriseacademy.org)) will be recorded when you submit this form. Not you? [Switch account](#)

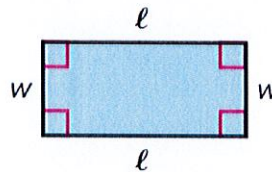
\* Required

Area of a Rectangle

### Key Concept Area of a Rectangle

**Words** To find the area  $A$  of a rectangle, multiply the length  $\ell$  by the width  $w$ .

**Symbols**  $A = \ell \times w$

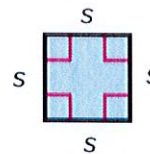


Area of a Square

### 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**  $A = s \times s$

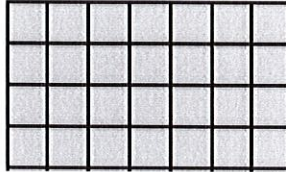


What is your name? \*

Your answer

1.) Find the area of the rectangle. \*

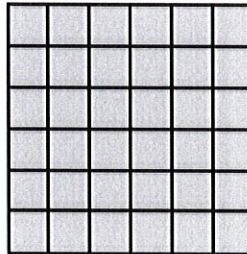
1 point



- 36 square units
- 24 square units
- 28 square units
- 48 square units

2.) Find the area of the square. \*

1 point

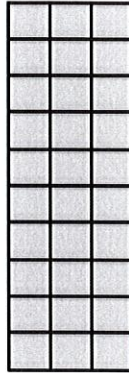


- 24 square units
- 36 square units
- 48 square units
- 72 square units



3.) Find the area of the rectangle. \*

1 point



- 30 square units
- 26 square units
- 45 square units
- 36 square units

4.) A square courtyard has sides that are 7 meters long. What is its area? \* 1 point

- 49 square meters
- 14 square meters
- 28 square meters
- 40 square meters

5.) A rectangular picture on the wall has a width of 8 inches and a length of 11 inches. What is its area? \* 1 point

- 44 square inches
- 38 square inches
- 88 square inches
- 19 square inches

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Chapter 13 Lesson 5

# Relate Area and Perimeter

Slide 1 Title

## ESSENTIAL QUESTION

Why is it important to measure perimeter and area?



Slide 2 Essential Question

### Problem of the Day

Josh and 5 friends bought tickets to a soccer game. Each ticket cost \$15. How much did the group spend for tickets?

Slide 3 Problem of the Day

### Problem of the Day

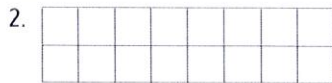
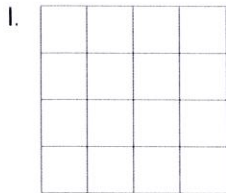
Josh and 5 friends bought tickets to a soccer game. Each ticket cost \$15. How much did the group spend for tickets?

\$90

Slide 4 Problem of the Day Answers

### Quick Check

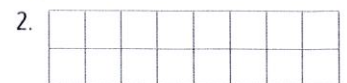
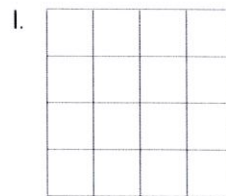
Find the area of each square or rectangle.



Slide 5 Quick Check Exercises 1-2

### Quick Check

Find the area of each square or rectangle.



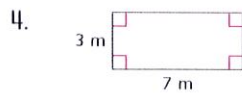
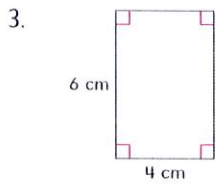
16 sq units

16 sq units

Slide 6 Quick Check Exercises 1-2 Answers

## Quick Check

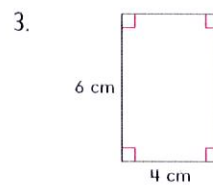
Find the area of each square or rectangle.



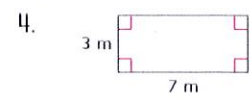
Side 7: Quick Check Exercise 3-4

## Quick Check

Find the area of each square or rectangle.



24 sq cm



21 sq cm

Side 8: Quick Check Exercise 3-4 Answers

## Quick Check

5. **Test Practice** Molly is making a cover for her math book. The front and back each measure 8 in.  $\times$  12 in. The spine measures 2 in.  $\times$  12 in. What is the combined area of the cover?

- A. 96 sq in.
- B. 100 sq in.
- C. 120 sq in.
- D. 216 sq in.

Side 9: Quick Check Exercise 5

## Quick Check

5. **Test Practice** Molly is making a cover for her math book. The front and back each measure 8 in.  $\times$  12 in. The spine measures 2 in.  $\times$  12 in. What is the combined area of the cover?

- A. 96 sq in.
- B. 100 sq in.
- C. 120 sq in.
- D. 216 sq in.

Side 10: Quick Check Exercise 5 Answers

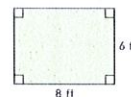
## INVESTIGATE the Math

**Explore** Why can two rectangles have the same perimeter but different areas?

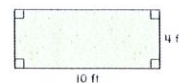
Side 11: Investigate the Math-Explore

## INVESTIGATE the Math

**Model** The dimensions of two rooms are shown below. Find the perimeter of each room. Find the area of each room.



Perimeter = \_\_\_\_ feet  
Area = \_\_\_\_ square feet



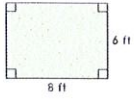
Perimeter = \_\_\_\_ feet  
Area = \_\_\_\_ square feet

Side 12: Investigate the Math-Model

## INVESTIGATE the Math

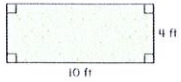
### Model

The dimensions of two rooms are shown below. Find the perimeter of each room. Find the area of each room.



$$\text{Perimeter} = \underline{28} \text{ feet}$$

$$\text{Area} = \underline{48} \text{ square feet}$$



$$\text{Perimeter} = \underline{28} \text{ feet}$$

$$\text{Area} = \underline{40} \text{ square feet}$$

Side 13: Investigate the Math-Model Answers

## INVESTIGATE the Math

### Extend

Leici builds a deck that is 6 feet by 6 feet. Troy builds a deck that is 12 feet by 3 feet. Who needs more railing to surround their deck? Use perimeter to explain. Who needs more flooring to build the deck? Use area to explain.

Side 14: Investigate the Math-Extend

## INVESTIGATE the Math

### Extend

Leici builds a deck that is 6 feet by 6 feet. Troy builds a deck that is 12 feet by 3 feet. Who needs more railing to surround their deck? Use perimeter to explain. Who needs more flooring to build the deck? Use area to explain.

#### Leici's Deck:

$$\text{Perimeter} = (2 \times 6) + (2 \times 6) = 24 \text{ feet}$$

$$\text{Area} = 6 \times 6 = 36 \text{ square feet}$$

#### Troy's Deck:

$$\text{Perimeter} = (2 \times 12) + (2 \times 3) = 30 \text{ feet}$$

$$\text{Area} = 12 \times 3 = 36 \text{ square feet}$$

Troy's deck needs more railing to surround his deck since the perimeter is larger.

The areas of the decks are equal so they both would need the same amount of flooring.

Side 15: Investigate the Math-Extend Answers



## Math in My World

### Example 1

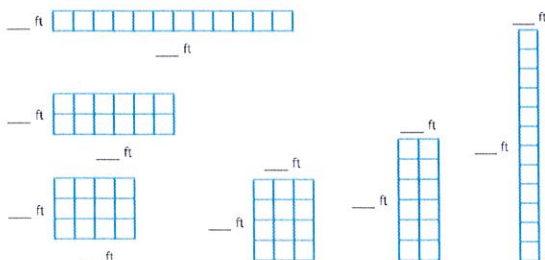
The swim team put its trophy on a table that has an area of 12 square feet. List all of the possible lengths and widths the table could have.

Side 16: Math in My World Example 1



## Math in My World

The models show all of the possible lengths and widths the table could have.

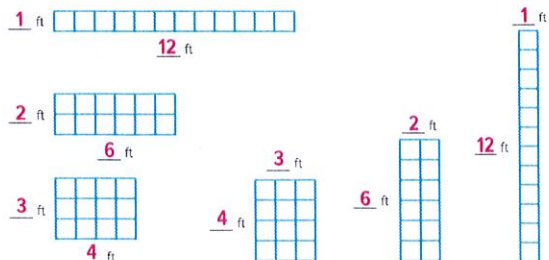


Side 17: Math in My World Example 1-2



## Math in My World

The models show all of the possible lengths and widths the table could have.



Side 18: Math in My World Example 1-2 Answers



## Math in My World

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

$$\begin{array}{l} \text{---} \times \text{---} = 12 \\ \text{---} \times \text{---} = 12 \\ \text{---} \times \text{---} = 12 \end{array} \quad \begin{array}{l} \text{---} \times \text{---} = 12 \\ \text{---} \times \text{---} = 12 \\ \text{---} \times \text{---} = 12 \end{array}$$

Side 19: Math in My World Example 1-3



## Math in My World

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

$$\begin{array}{l} \mathbf{1} \times \mathbf{12} = 12 \\ \mathbf{2} \times \mathbf{6} = 12 \\ \mathbf{3} \times \mathbf{4} = 12 \end{array} \quad \begin{array}{l} \mathbf{12} \times \mathbf{1} = 12 \\ \mathbf{6} \times \mathbf{2} = 12 \\ \mathbf{4} \times \mathbf{3} = 12 \end{array}$$

Side 20: Math in My World Example 1-3 Answers



## Math in My World

### 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
<p><math>1 + 6 + 1 + 6 = 14</math></p>	$1 \times 6$	6 square units
<p><math>2 + 5 + 2 + 5 = 14</math></p>	$2 \times \text{---}$	--- square units
<p><math>3 + 4 + 3 + 4 = 14</math></p>	$3 \times \text{---}$	--- square units

Side 21: Math in My World Example 2-1



## Math in My World

### 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
<p><math>1 + 6 + 1 + 6 = 14</math></p>	$1 \times 6$	6 square units
<p><math>2 + 5 + 2 + 5 = 14</math></p>	$2 \times \mathbf{5}$	$\mathbf{10}$ square units
<p><math>3 + 4 + 3 + 4 = 14</math></p>	$3 \times \mathbf{4}$	$\mathbf{12}$ square units

Side 22: Math in My World Example 2-1 Answers



## Math in My World

### Example 2

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

The greatest area is --- square units.

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

Side 23: Math in My World Example 2-2



## Math in My World

### Example 2

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

The greatest area is  $\mathbf{12}$  square units.

So, the rectangle with the greatest area is  $\mathbf{3}$  units by  $\mathbf{4}$  units. Its area is  $\mathbf{12}$  square units.

Side 24: Math in My World Example 2-2 Answers



## Guided Practice

List all the possible dimensions of rectangles for each area.

1. 9 square units

×  
\_\_\_\_\_  
×  
\_\_\_\_\_  
×  
\_\_\_\_\_

2. 14 square units

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Side 25: Guided Practice Exercises 1-2

## Guided Practice

List all the possible dimensions of rectangles for each area.

1. 9 square units

**1** × **9**  
**3** × **3**  
**9** × **1**

2. 14 square units

**1** × **14**  
**2** × **7**  
**7** × **2**  
**14** × **1**

Side 26: Guided Practice Exercises 1-2 Answers

## Talk MATH

Which rectangle in Example 2 has the least area?

Side 27: Talk Math

## Independent Practice

List all the possible dimensions of rectangles for each area.

3. 16 square units

4. 20 square units

Side 28: Independent Practice Exercises 3-4

## Independent Practice

List all the possible dimensions of rectangles for each area.

3. 16 square units

**1** × **16**  
**2** × **8**  
**4** × **4**  
**8** × **2**  
**16** × **1**

4. 20 square units

**1** × **20**  
**2** × **10**  
**4** × **5**  
**5** × **4**  
**10** × **2**  
**20** × **1**

Side 29: Independent Practice Exercises 3-4 Answers

## Independent Practice

Find the perimeter and area for each square or rectangle.

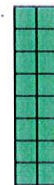
5.



Perimeter: \_\_\_\_\_

Area: \_\_\_\_\_

6.



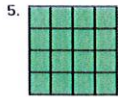
Perimeter: \_\_\_\_\_

Area: \_\_\_\_\_

Side 30: Independent Practice Exercises 5-6

## Independent Practice

Find the perimeter and area for each square or rectangle.



Perimeter: **16 units**

Area: **16 square units**



Perimeter: **20 units**

Area: **5 square units**

Side 31: Independent Practice Exercises 5-6 Answers

## Independent Practice

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

---

---

Side 32: Independent Practice Exercise 7

## Independent Practice


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

**Sample answer: These figures both have the same area,  
but they have different perimeters.**

Side 33: Independent Practice Exercise 7 Answers



## Problem Solving

8. **Processes & Practices**  **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.

---


---

---

Side 34: Problem Solving Exercise 8



## Problem Solving

8. **Processes & Practices**  **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.

**1 ft × 24 ft, 2 ft × 12 ft, 3 ft × 8 ft,**

**4 ft × 6 ft, 6 ft × 4 ft, 8 ft × 3 ft,**

**12 ft × 2 ft, 24 ft × 1 ft**

Side 35: Problem Solving Exercise 8 Answers



## Problem Solving

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

---

Side 36: Problem Solving Exercise 9



## Problem Solving

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

**1 ft × 24 ft or 24 ft × 1 ft**

Side 37 Problem Solving Exercise 9 Answers



## Brain Builders

10. If a rectangle has a greater perimeter than another rectangle, does it also have a greater area? Explain. Include a model to support your answer.

---



---



---

Side 38 Brain Builders Exercise 10



## Brain Builders

10. If a rectangle has a greater perimeter than another rectangle, does it also have a greater area? Explain. Include a model to support your answer.

**Not necessarily. Rectangles can have different perimeters, but their areas can be the same.**

Sample answers: 10-12

See students' models.

Side 39 Brain Builders Exercise 10 Answers



## Brain Builders

11. **Processes & Practices** **Reason** Is it possible to draw a rectangle that has an area of 24 square units and a perimeter of 24 units? Explain.

---



---



---

Side 40 Brain Builders Exercise 11



## Brain Builders

11. **Processes & Practices** **Reason** Is it possible to draw a rectangle that has an area of 24 square units and a perimeter of 24 units? Explain.

**no; There are four possible length and width combinations that have an area of 24 square units. None of these combinations have a perimeter of 24 units.**

Sample answers: 10-12

Side 41 Brain Builders Exercise 11 Answers



## Brain Builders

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

---



---

Side 42 Brain Builders Exercise 12



## Brain Builders

Sample answers: 10-12

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

**Area** measures the number of square units that cover a figure.

**Perimeter** measures the distance around a figure.

Side 43: Brain Builders Exercise 12 Answers

## MY Homework

Practice

Draw two possible rectangles for each perimeter.  
Find the area of each.

1. 20 units 2. 8 units

Side 44: My Homework Exercise 1-2

## MY Homework

Practice

Draw two possible rectangles for each perimeter.  
Find the area of each. **Sample answers: 1, 2**

1. 20 units



$A = 16$  sq units

2. 8 units



$A = 4$  sq units



$A = 21$  sq units



$A = 3$  sq units

Side 45: My Homework Exercise 1-2 Answers

## MY Homework

Brain Builders

3. **Processes & Practices** **Use Number Sense** Tomás drew a rectangle with an area of 6 square centimeters. What is the greatest possible perimeter for this rectangle? Explain.

\_\_\_\_\_

\_\_\_\_\_

Side 46: My Homework Exercise 3

## MY Homework

Brain Builders

Sample answers:

3. **Processes & Practices** **Use Number Sense** Tomás drew a rectangle with an area of 6 square centimeters. What is the greatest possible perimeter for this rectangle? Explain.

**14 cm; The two choices for the dimensions are 1 cm by 6 cm or 2 cm by 3 cm.  $14\text{ cm} > 10\text{ cm}$**

Side 47: My Homework Exercise 3 Answers

## MY Homework

Brain Builders

4. Danica has laid out floor tiles so they form a rectangle with a perimeter of 18 inches. What is the difference between the greatest and least possible areas of the rectangle? Explain.

\_\_\_\_\_

\_\_\_\_\_

Side 48: My Homework Exercise 4

# MY Homework



4. Danica has laid out floor tiles so they form a rectangle with a perimeter of 18 inches. What is the difference between the greatest and least possible areas of the rectangle? Explain.

**12 sq in.; The greatest possible area is 20 sq in. The least possible area is 8 sq in. The difference is 12 sq in.**

Side 49: My Homework Exercise 4 Answers

# MY Homework



5. A rectangle has an area of 30 square meters and a perimeter of 34 meters. What are the dimensions of the rectangle? Explain.

\_\_\_\_\_

\_\_\_\_\_

Side 50: My Homework Exercise 5

# MY Homework



5. A rectangle has an area of 30 square meters and a perimeter of 34 meters. What are the dimensions of the rectangle? Explain.

**2 m by 15 m; Area:  $2\text{ m} \times 15\text{ m} = 30\text{ sq m}$ ,  
Perimeter:  $2 \times (2\text{ m} + 15\text{ m}) = 34\text{ m}$**

Side 51: My Homework Exercise 5 Answers

# MY Homework



6. Test Practice A square has a perimeter of 28 feet. What is its area?

- (A) 45 square feet    (C) 49 square feet  
(B) 48 square feet    (D) 50 square feet

Side 52: My Homework Exercise 4

# MY Homework



6. Test Practice A square has a perimeter of 28 feet. What is its area?

- (A) 45 square feet    (C) 49 square feet  
(B) 48 square feet    (D) 50 square feet

Side 53: My Homework Exercise 6 Answers

Name \_\_\_\_\_ Date \_\_\_\_\_



### Lesson 5 Reteach

**Relate Area and Perimeter**

Lucas has a rectangle drawn. The top of the drawing has a surface area of 6 square feet.

What are the dimensions for the top of Lucas's drawing?

You know that the top of the drawing is a rectangle. So you need to find the possible dimensions for rectangles with a surface area of 6 square feet.

Option A:  Option B: 

Now, suppose you found out that the perimeter of the drawing is 10 feet. Which of the possible dimensions is correct?

Find the perimeter for each option.

Option A:  $1 + 1 + 6 + 6 = 14$  feet    Option B:  $2 + 2 + 3 + 3 = 10$  feet

Option B has a surface area of 6 square feet and a perimeter of 10 feet. So Option B is correct. The dimensions of the drawing top are 2 feet by 3 feet.

---

Draw each rectangle described. Write its dimensions.

1. area = 9 square units    2. area = 4 square units  
perimeter = 12 units    perimeter = 18 units

length = \_\_\_\_\_ units    length = \_\_\_\_\_ units  
width = \_\_\_\_\_ units    width = \_\_\_\_\_ units  
area = \_\_\_\_\_ square units    area = \_\_\_\_\_ square units

Side R1: Reteach Page 109

Name \_\_\_\_\_ Date \_\_\_\_\_



### Lesson 5 Reteach

#### Relate Area and Perimeter

Can you find rectangles for the top of the dress? The top of the dress has a width of 4 square feet.

What are the dimensions for the top of Corinne's dress?

You know that the top of the dress is 4 ft wide but is 10 ft long. So you can find the possible dimensions for rectangles with a total area of 4 square feet.

Option A:  Option B: 

Now, suppose you found out that the perimeter of the dress top is 18 feet. Which of the possible dimensions is correct?


Find the perimeter for each option.


Option A:  $1 + 1 + 4 + 4 = 10$  feet. Option B:  $2 + 2 + 4 + 4 = 12$  feet.

Option B has a width area of 4 square feet and a perimeter of 12 feet, so Option B is correct. The dimensions of the dress top are 2 units by 2 units.

---

Draw each rectangle described. Write its dimensions.

1. area = 8 square units, perimeter = 12 units.  length = 3 units, width = 3 units

2. area = 8 square units, perimeter = 18 units.  length = 1 (or 4) units, width = 4 (or 1) units

Grade 4 • Chapter 10 Perimeter and Area

Name \_\_\_\_\_ Date \_\_\_\_\_

### Lesson 5 Enrich

#### Relate Area and Perimeter

Draw four rectangles with an area of 24 units. Then complete the table.

Figure	Perimeter	Area
Rectangle 1		24 square units
Rectangle 2		24 square units
Rectangle 3		24 square units
Rectangle 4		24 square units

Grade 4 • Chapter 10 Perimeter and Area

Name \_\_\_\_\_ Date \_\_\_\_\_

### Lesson 5 Enrich

#### Relate Area and Perimeter

Draw four rectangles with an area of 24 units. Then complete the table. **See students' work.**

Figure	Perimeter	Area
Rectangle 1	<b>50</b>	24 square units
Rectangle 2	<b>30</b>	24 square units
Rectangle 3	<b>22</b>	24 square units
Rectangle 4	<b>20</b>	24 square units

Grade 4 • Chapter 10 Perimeter and Area

# 8 Relate Area and Perimeter Assignment

Perimeter is the distance around a closed figure. To find the perimeter, add the lengths of all the sides.

Area is the number of square units needed to cover a region or figure.

You can use these two ways to find the area of a rectangle or square.

- Count the number of square units.
- Multiply the length times the width.  
Area= length x width

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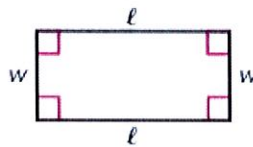
\* Required

Perimeter of a Rectangle

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

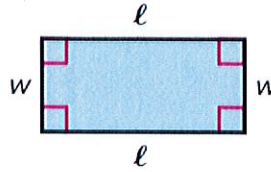


## Area of a Rectangle

**Key Concept** Area of a Rectangle

**Words** To find the area  $A$  of a rectangle, multiply the length  $\ell$  by the width  $w$ .

**Symbols**  $A = \ell \times w$

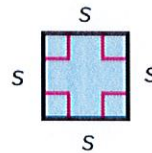


## Area of a Square

**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**  $A = s \times s$



What is your name? \*

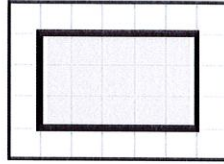
Your answer





1.) Find the perimeter of the shaded figure. \*

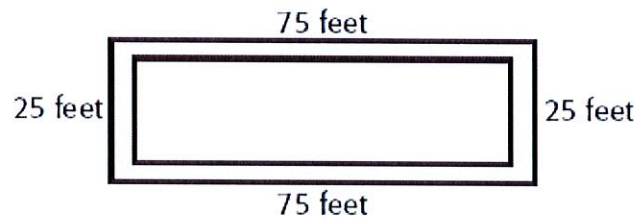
1 point



- 25 units
- 18 units
- 20 units
- 16 units

2.) Kambyre walked around the park on the path shown. How far did Kambyre walk? \*

1 point



- 100 feet
- 150 feet
- 175 feet
- 200 feet

3.) Jean Paul was laying tile in his bathroom. The room measured 10 feet in length and 6 feet in width. What is the area of the bathroom? \*

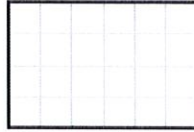
1 point

- 32 ft
- 256 ft
- 120 ft
- 60 ft



4.) Find the perimeter and area for the figure. \*

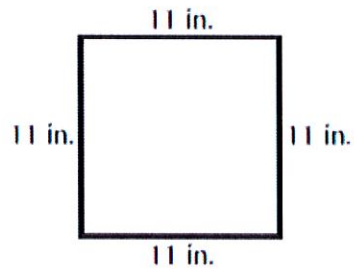
2 points



- Perimeter = 20 units; Area = 24 square units
- Perimeter = 10 units; Area = 36 square units
- Perimeter = 24 units; Area = 20 square units
- Perimeter = 36 units; Area = 10 square units

5.) What is the perimeter of this square? \*

1 point

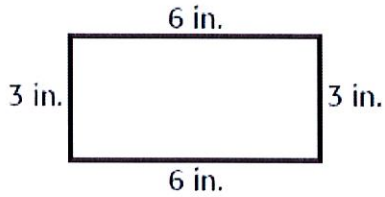


- 120 in.
- 44 in.
- 144 in.
- 55 in.



6.) What is the perimeter of the rectangle? \*

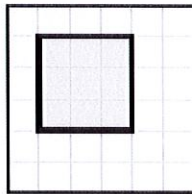
1 point



- 18 in.
- 24 in.
- 36 in.
- 42 in.

7.) What is the area of the shaded figure? \*

1 point

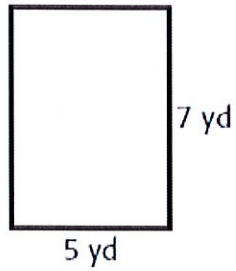


- 6 square units
- 9 square units
- 12 square units
- 3 square units



8.) What is the area of this rectangle? \*

1 point



- 12 sq yd
- 24 sq yd
- 35 sq yd
- 30 sq yd

9.) Find the area of a square with a side measuring 8 ft. \*

1 point

- 64 ft.
- 20 ft.
- 32 ft.
- 16 ft.

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# Earthquakes, Volcanoes, and Landslides

Multiple Choice quiz

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\* Required

What is your name? \* 1 point

Your answer

What is a volcano? \* 1 point

- A tall, cone-shaped rock
- A vent that connects magma in the Earth's crust to the Earth's surface
- A rock that erupted

Can a volcano be under water/ice? \* 1 point

- No
- Yes
- Only on other planets

The largest volcano is on Mars \* 1 point

- True
- False



What causes an earthquake? \*

1 point

- A crack under the Earth
- Erosion
- When tectonic plates hit, bump, or slide past another

Can you always feel when an earthquake is happening? \*

1 point

- Nope
- Of course!

What are the three types of earthquakes? \*

1 point

- Surface, underground, and underwater
- Convergent, divergent, and transform

What is a landslide? \*

1 point

- When the land slides and changes form
- The under mass is dislocated and travels down-slope
- None of the above

Out of all of the reasons, which is the biggest cause of landslides? \*

1 point

- Gravity
- Weather
- Pressure



To avoid dealing with landslides, it is best to live in/build a house on flat land with no hills, mountains, or slopes \* 1 point

True

False

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