2nd Grade NTI Packet Day 21



Read the history article. Then answer the questions that follow.

Flying Po-Dreams

by Emiliana Gutierrez

- For thousands of years, people have dreamed of flying. That dream finally came true on December 17, 1903. The Wright brothers flew an airplane powered by a motor.
- Other inventors had tried and failed. They could not control the plane. When it lost its **balance**, the plane would tip, roll, spin, or dive. How did the Wright brothers solve this problem? They watched things closely. They learned lessons from what they saw. Then they put those lessons to work.

Bike Riders and Birds

- The brothers learned their lessons from bike riders and birds. They saw how riders **bank**, or lean, when they make a turn. When riders turn left, they lean left. When they turn right, they lean right. The brothers saw that pilots must also bank into turns.
- Birds also bank when they make a turn. They also bend the tips of their wings. The wings of an airplane must bend, too.

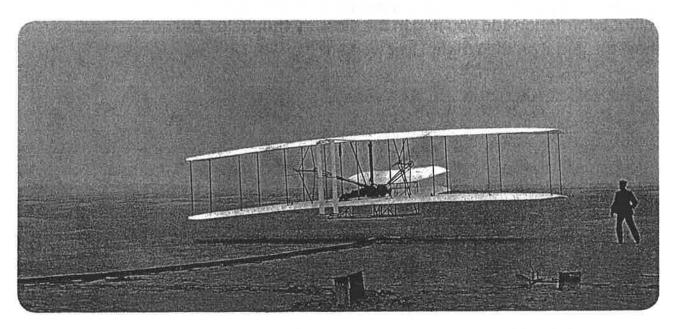
Banking and Bending

6

Banking into turns was not a problem. The pilot could lean left or right, just like a bike rider. But how could the pilot bend the tips of the wings? The brothers solved this problem. They made wings of soft cloth on a wooden frame. The pilot pushed a **pedal** connected to **control wires**. The wires pulled on the wings. The wings bent, just like a bird's wings.

That first successful powered flight
happened on a windy beach in North Carolina.
It lasted only 12 seconds and covered only
127 feet. But nothing like it had ever happened
before. History had been made!

Glossary
balance: being able to
move or keep still
without falling
bank: to lean sideways
in making a turn
control wires: wires
connected to the pedal
and to the wings of the
plane to bend the wings
pedal: a lever pushed
by the pilot's foot to
make the wings of the
plane bend



This photo shows the first flight of the Wright Flyer. Orville Wright is lying on the lower wing at the controls.

▶ Think

Read paragraph 2 of the passage.

Other inventors had tried and failed. They could not control the plane. When it lost its balance, the plane would tip, roll, spin, or dive. How did the Wright brothers solve this control problem? They watched things closely. They learned lessons from what they saw. Then they put those lessons to work.

What does the word "inventor" mean?

- A someone who sells something new
- **B** someone who teaches something
- **C** someone who creates something new
- D someone who tells about something
- Read the sentences from the passage.

The pilot pushed a pedal connected to control wires. The wires pulled on the wings.

What information can you find in the glossary that helps you understand how the pedal on the Wright Flyer worked?

- What is the author's main purpose for writing "Flying Dreams"?
 - A to describe how pilots can make airplanes spin, roll, and dive
 - B to show what the Wright brothers learned about making airplane motors
 - C to explain what makes airplanes move like birds in flight
 - D to tell how the Wright brothers solved problems to help them fly a plane

- What do you learn from the caption under the photo on page 217?
 - A which Wright brother built the plane
 - **B** which Wright brother flew the plane
 - c where the Wright brothers' plane is now
 - **D** why the Wright brothers flew their plane
- Which facts are found under each subheading in the passage? Write the letter of the fact in the correct box in the chart.
 - A The brothers' first flight was just 12 seconds long.
 - B The brothers studied how bike riders turn.
 - C The brothers decided that pilots should bank to turn.
 - D The brothers used a pedal to bend the plane's wings.
 - E The brothers used cloth for their plane's wings.
 - F The brothers realized that the wings should bend.

Bike Riders and Birds

Banking and Bending

6 Read paragraph 6 from the passage.

That first successful powered flight happened on a windy beach in North Carolina. It lasted only 12 seconds and covered only 127 feet. But nothing like it had ever happened before. History had been made!

Underline the sentence that **best** tells what the word "successful" means in this paragraph.

Three-Dimensional Shapes

Essential Question What objects match three-dimensional shapes?

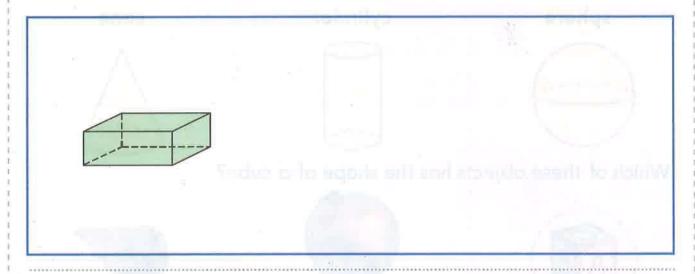
Geometry-2.G.A.1

MATHEMATICAL PRACTICES

MP3, MP6

Listen and Draw (Real world)

Draw a picture of an object with the same shape shown.



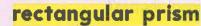




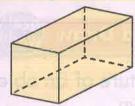
MATHEMATICAL PRACTICES

FOR THE TEACHER • Have children look at the first shape and name some real objects that have this shape, such as a cereal box. Have each child draw a picture of a real-life object that has the same shape. Repeat for the second shape.

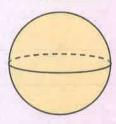
Apply Describe how the shapes are alike. Describe how they are different.



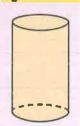




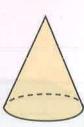








cone



Which of these objects has the shape of a cube?







Share and Show



Circle the objects that match the shape name.









€2. cube







On Your Own

Circle the objects that match the shape name.

3. cylinder







4. rectangular prism







5. cone







5. Julio used cardboard squares as the flat surfaces of a cube. How many squares did he use?

squares

7. Circle the shapes that have a curved surface.

Draw an X on the shapes that do not have a curved surface.











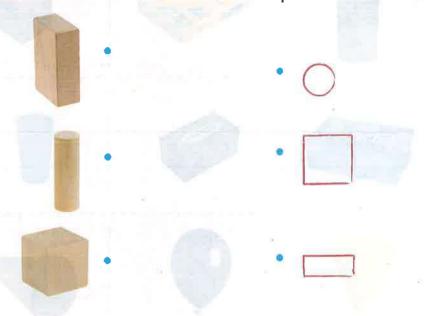
Problem Solving • Applications (Regulations



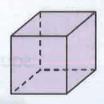


8. Make Connections and adopt the solid and accord

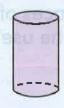
Reba traced around the bottom of each block. Match each block with the shape Reba drew.



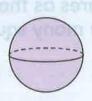
9. Match the shapes. https://doi.org/10.1001/1







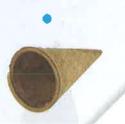
times its Circle the shapes that have a cut ved surface.













TAKE HOME ACTIVITY • Ask your child to name an object that has the shape of a cube.

Three-Dimensional Shapes

Circle the objects that match the shape name.

I. cube







2. cone







3. rectangular prism







Problem Solving



4. Lisa draws a circle by tracing around the bottom of a block. Which could be the shape of Lisa's block? Circle the name of the shape.

cone

cube

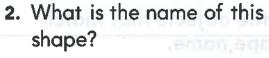
rectangular prism

5. Describe one way that a cube and a cylinder are alike.

Describe one way they are different.

Lesson Check (2.G.A.1)

I. What is the name of this shape?

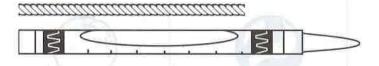






Spiral Review (2.MD.A.3, 2.MD.C.7, 2.MD.C.8)

3. The string is about 6 centimeters long. Circle the best estimate for the length of the crayon.



3 centimeters

9 centimeters

14 centimeters

4. What is the total value of this group of coins?



5. What time is shown on this clock?



a cube and a cylinder are alike.

Describe one way they are different.

2nd Grade NTI Packet Day 22



Read the science article. Then answer the questions that follow.

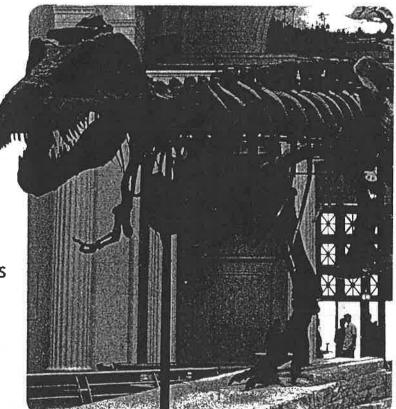
Sue the Dinosaur

by Richard T. Banks

Very long ago, a *T. rex*dinosaur died. Sand and
mud covered its body.
Slowly, the bones turned to
rock. They became fossils.
The bones stayed covered
for a long time. Then wind
and water slowly ate away
at the earth. Some of the bones
poked out of the ground.

How Sue Was Found

In 1990, fossil hunters were working in South Dakota. One of the women found small pieces of bone on the ground. Then she



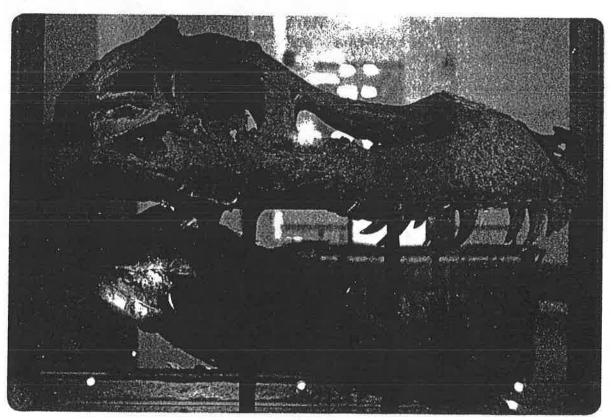
Sue is a *T. rex.* The skeleton can be seen at the Field Museum in Chicago.

saw even bigger bones on the cliff above her. When she climbed up the cliff, she saw that the bones were huge!

The team all rushed to look. The bones were from a T. rex! They named the dinosaur Sue after the woman who had found her.

Why Sue Is Special

- Other *T. rex* skeletons had been found before. But Sue's skeleton was one of the biggest and the best. More than 200 of Sue's bones were found.
- Scientists worked for years to clean and reconstruct the skeleton. Finally, they finished putting all the bones together. Now everyone could see what Sue had looked like.



Sue's head is 600 pounds! It's too heavy to put on the skeleton, so it's inside a glass case in the museum. The head you see on Sue's skeleton is made of plastic.

Think

This question has two parts. First, answer Part A. Then answer Part B.

Part A

What does the word "reconstruct" mean under the subheading "Why Sue Is Special"?

- A to clean something old
- **B** to work hard
- C to find again
- **D** to put back together

Part B

Underline **one** sentence in the paragraphs below that **best** supports the answer in Part A.

Other *T. rex* skeletons had been found before. But Sue's skeleton was one of the biggest and the best. More than 200 of Sue's bones were found.

Scientists worked for years to clean and reconstruct the skeleton. Finally, they finished putting all the bones together. Now everyone could see what Sue had looked like.

- 8 Choose **three** facts that are found under the subheading "Why Sue Is Special."
 - A the number of bones in Sue's skeleton
 - B how Sue's bones turned into fossils
 - C what scientists did with the skeleton
 - D where fossil hunters found Sue
 - E how Sue the dinosaur got her name
 - **F** how Sue is different than other *T. rex* skeletons

Look at the index below from a book about dinosaurs.

Index

```
Baby dinosaurs
colors, 6
eggs, 5
nests, 5-7
size, 8
How fossils form, 9
North America
dinosaur fossils, 10-15
fossil hunters, 11
```

Which page would most likely tell you more about the person who found Sue?

- A page 5
- B page 6
- C page 8
- D page 11
- This question has two parts. First, answer Part A. Then answer Part B.

Part A

Why did the author write "Sue the Dinosaur"?

- **A** to tell about the famous skeleton of a *T. rex*
- B to explain why fossil hunters were in South Dakota
- **C** to tell how the bones of a dinosaur are put together
- D to describe how fossils are made and where to find them

Part B

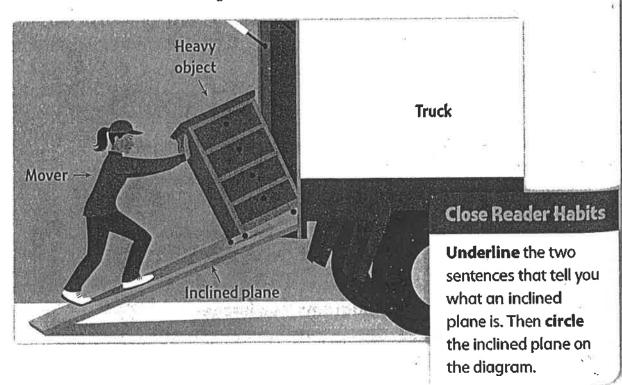
Underline the sentence below that best tells about the answer in Part A.

Other *T. rex* skeletons had been found before. But Sue's skeleton was one of the biggest and the best. More than 200 of Sue's bones were found.

2nd Grade NTI Packet Day 23

The Inclined Plane by Sondia Brown by Sandra Brody

- Many years ago, people had a problem. How could they easily move heavy objects without lifting them? The answer to the problem was the inclined plane.
- An inclined plane is a flat surface that creates a ramp. 2 This ramp makes a smooth climb from a lower place to a higher place. Inclined planes let people move heavy objects more easily. They can push the objects instead of lifting them.
- Today, we use inclined planes all the time. Wheelchair 3 ramps are one example. Loading ramps for moving trucks are another. Boat ramps are another.



How does the diagram of an inclined plane help you better understand the information in the article?



Read the article again. Fill in the chart to show how the text and the diagram work together.

As I reread the text, I will look at the diagram to help me understand.

What the Text Tells

What the Diagram Shows

Reread paragraph 3. What are inclined planes used for? What other reasons can you think of for using an inclined plane?

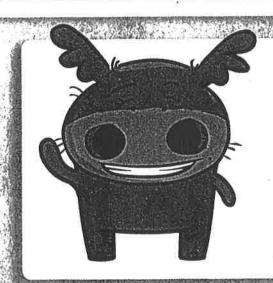
Short Response Look again at the diagram. How does it help you understand how an inclined plane works? Write your answer in the space on page 302.

HINT How does the diagram show what you read about in paragraph 2? Use the space below to write your answer to the question on page 299.

The Inclined Plane

3	Short Response Look again at the diagram. How do	oe:
	t help you understand how an inclined plane works?	

HINT How does the diagram show what you read about in paragraph 2?



Don't forget to check your writing.



Name

Attributes of Three-Dimensional Shapes

Essential Question How would you describe the faces of a rectangular prism and the faces of a cube?

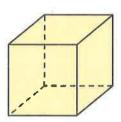


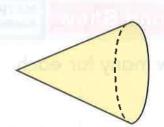
Geometry-2.G.A.1

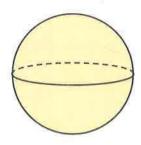
MATHEMATICAL PRACTICES MP1, MP5, MP6

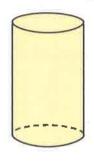
Listen and Draw

Circle the cones. Draw an X on the sphere.

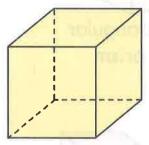












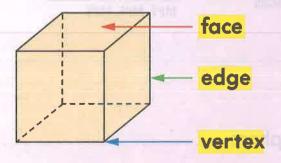
Math Talk

MATHEMATICAL PRACTICES

Name the other shapes on this page. **Describe** how they are different.

HOME CONNECTION • Your child identified the shapes on this page to review some of the different kinds of three-dimensional shapes.

The faces of a cube are squares.



The **vertices** are the corner points of the cube.

tributes of Three-

Share and Show



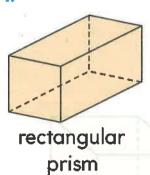
Write how many for each.

faces

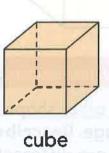
edges

vertices

Ø .



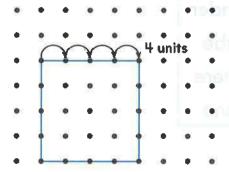
Ø2.



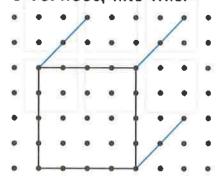
On Your Own

3. Use dot paper.
Follow these steps to draw a cube.

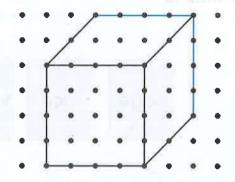
Step I Draw a square. Make each side 4 units long.



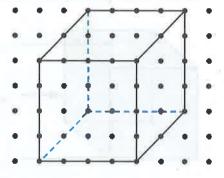
Step 2 Draw edges from 3 vertices, like this.



Step 3 Draw 2 more edges.



Step 4 Draw 3 dashed edges to show the faces that are not seen.



4. Trace all the faces of a rectangular prism on a sheet of paper. Write to tell about the shapes that you drew.

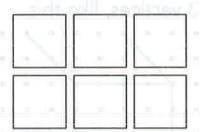


Problem Solving • Applications world



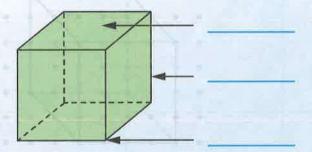


traced around the faces of a three-dimensional shape. Circle the name of the shape he used.



cylinder cube sphere cone

6. Use the words on the tiles to label the parts of the cube.



edge face vertex

Describe the faces of a cube.

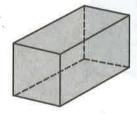


TAKE HOME ACTIVITY • Have your child tell you about the faces on a cereal box or another kind of box.

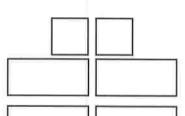
Attributes of Three-Dimensional Shapes

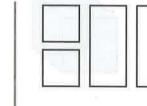
Circle the set of shapes that are the faces of the three-dimensional shape.

l.

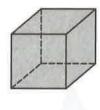


rectangular prism

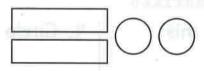


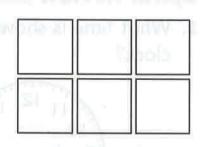


2.



cube





Problem Solving



3. Kevin keeps his marbles in a container that has the shape of a cube. He wants to paint each face a different color. How many different paint colors does he need?

different paint colors

4. Describe a cube. Use the words faces, edges, and vertices in your description.

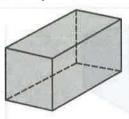
Lesson Check (2.G.A.1)

I. How many faces does a cube have?



faces

2. How many faces does a rectangular prism have?



faces

Spiral Review (2.MD.C.7, 2.MD.D.9, 2.G.A.1)

3. What time is shown on this clock?



4. Circle the cone.





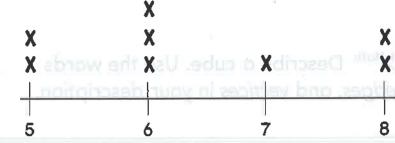




5. Use the line plot. How many books are 8 inches long?

e wonts to paint each

books



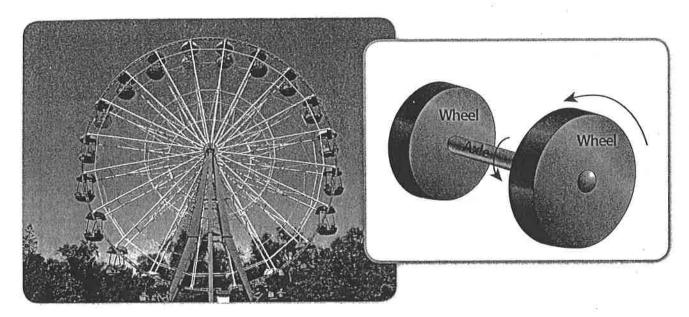
face a different color, How many different point colors

Lengths of Books in Inches

2nd Grade NTI Packet Day 24



Wheels and Axles by Ed Green



- A simple machine has few or no moving parts.

 One kind of simple machine is a wheel and axle.

 A wheel and axle can help move people or objects from one place to another.
- Wheels and axles are all around you. Cars and bicycles have wheels and axles. A skateboard has them. Even a Ferris wheel is really just a big wheel and axle!
- This simple machine has a large wheel. It also has a rod, called an axle. The axle goes through the center of the wheel. When the axle is turned, the wheel also turns.

Close Reader Habits

How does a wheel and axle work? **Put a box** around the paragraph that tells how it works. **Circle** labels on the diagram that show the two parts of this machine.

- Which sentence from the passage does the diagram help to explain?
 - "A wheel and axle can help move people or objects from Α one place to another."
 - "Wheels and axles are all around you."
 - "Cars and bicycles have wheels and axles." C
 - "The axle goes through the center of the wheel." D
- How does the diagram add to what the author tells us?
 - It shows that the machine can have two or more axles. A
 - It shows that the axle must be long and heavy.
 - It shows that wheels and axles turn in the same direction.
 - It shows that many things around us have wheels and axles.

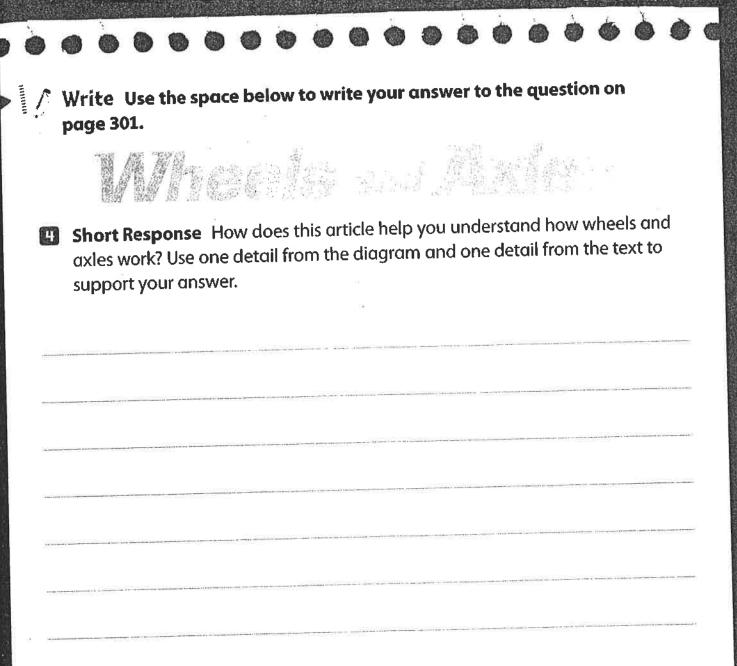


After I reread the text, I'll look at the diagram. It will tell me more about what I've read.

The article says that wheels and axles can help move people or objects from place to place. What does this mean?

HINT Look at the article for examples of things that use wheels and axles.

Short Response How does this article help you understand how wheels and axles work? Use one detail from the diagram and one detail from the text to support your answer. Write your answer in the space on page 303.



Check Your Writing

	Did	vou	read	the	question	carefully?
--	-----	-----	------	-----	----------	------------

- ☐ Can you say the question in your own words?
- ☐ Did you use proof from the text in your answer?
- ☐ Are your ideas in a good, clear order?
- ☐ Did you answer in full sentences?
- ☐ Did you check your spelling, capital letters, and periods?

HANDS ON Lesson 11.3

Build Three-Dimensional Shapes

Essential Question How can you build a rectangular prism?



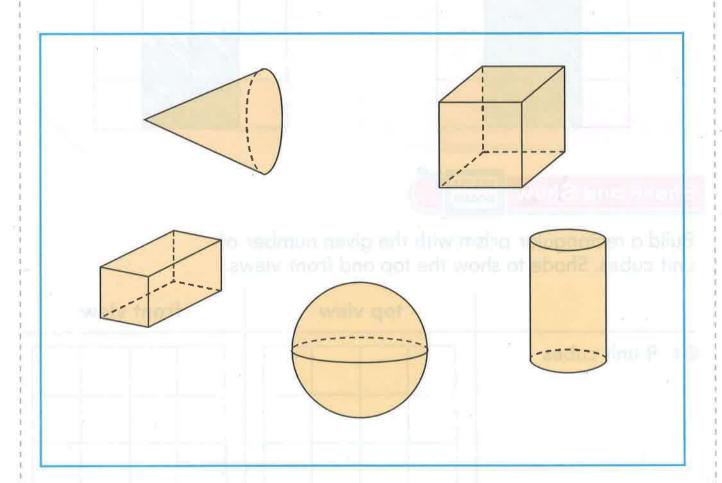
Geometry—2.G.A.1

MATHEMATICAL PRACTICES MP1, MP3, MP4, MP7

Listen and Draw Real



Circle the shapes with curved surfaces. Draw an X on the shapes with flat surfaces.



Math Talk

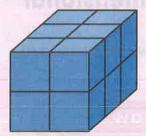
MATHEMATICAL PRACTICES

Name the shapes you drew an X on. **Describe** how they are different.



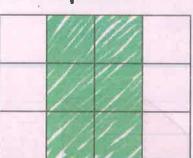
HOME CONNECTION • Your child sorted the shapes on this page using the attributes of the shapes.

Build this rectangular prism using 12 unit cubes.



The shading shows the top and front views.

top view



front view



front view

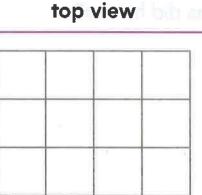
Share and Show



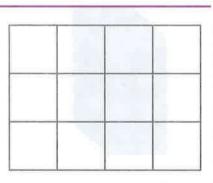
Build a rectangular prism with the given number of unit cubes. Shade to show the top and front views.

∅1. 9 unit cubes						
1 1 1 1	30)	-				
	2 -	77	· F			
∅2. I6 unit cubes	116					

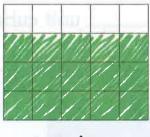
top view



ble and front view



4. The top, side, and front views of a rectangular prism are shown. Build the prism. How many unit cubes are used to build the solid?







top view

front view

side view

unit cubes

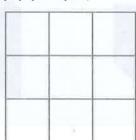
Analyze Jen uses 18 unit cubes to build a rectangular prism. The top and front views are shown. Shade to show the side view.



top view



front view



side view

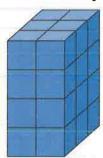
Problem Solving • Applications World





Solve. Write or draw to explain.

6. GODEEPER Tomas built this rectangular prism. How many unit cubes did he use?



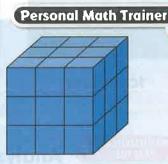
____ unit cubes

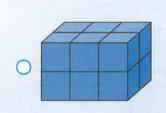
7. MATHEMATICAL D Look for Structure

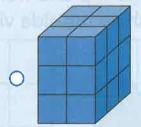
Theo builds the first layer of a rectangular prism using 4 unit cubes. He adds 3 more layers of 4 unit cubes each. How many unit cubes does he use for the prism?

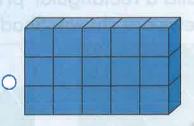
____ unit cubes

Tyler built this rectangular prism using unit cubes. Then he took it apart and used all of the cubes to build two new prisms. Fill in the bubble next to the two prisms he built.











TAKE HOME ACTIVITY • Ask your child to show how he or she solved a problem in the lesson.

Build Three-Dimensional Shapes

Common COMMON CORE STANDARD—2.G.A.1
Reason with shapes and their attributes.

Build a rectangular prism with the given number of unit cubes. Shade to show the top and front views.

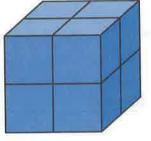
1 marie	top view				front view				
I. 12 unit cubes					abs	dup th	714		
								I WAS TO	ente
os 56 bagds. Charles	Liloolk	Ш		10.	150	128.0	5 937	ob a	Port
secule. Have many more to be a Mark that the secule of the	Ho eur			C Trace	(12)=() (12)=2)	ob s	meb	nad i	BOD
	PATON				1	L			

Problem Solving



Solve. Write or draw to explain.

2. Rosie built this rectangular prism. How many unit cubes did she use?



unit cubes

3. Build a rectangular prism using cubes. Then, draw in your journal the top, side, and bottom views of your prism.



Lesson Check (2.G.A.1)

1. Milt builds the first layer of a rectangular prism using 3 unit cubes. He adds 2 more layers of 3 unit cubes each. How many unit cubes are used for the prism?

unit cubes

2. Thea builds the first layer of a rectangular prism using 4 unit cubes. Raj adds 4 more layers of 4 unit cubes each. How many unit cubes are used for the prism?

unit cubes

Spiral Review (2.NBT.5, 2.MD.C.7, 2.MD.D.10)

- 3. Patti's dance class starts at quarter past 4. At what time does her dance class start?
- 4. Nicole has 56 beads. Charles has 34 beads. How many more beads does Nicole have than Charles?

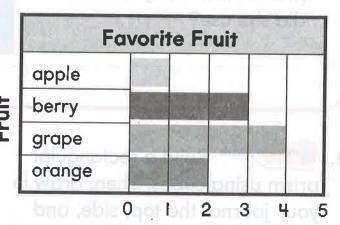
more beads

2. Kosie bijilt this recrangular

Use the bar graph.

- 5. Which fruit got the fewest votes?
- 6. How many more votes did grape get than apple?

more votes



Number of Votes

Two-Dimensional Shapes

Essential Question What shapes can you name just by knowing the number of sides and vertices?

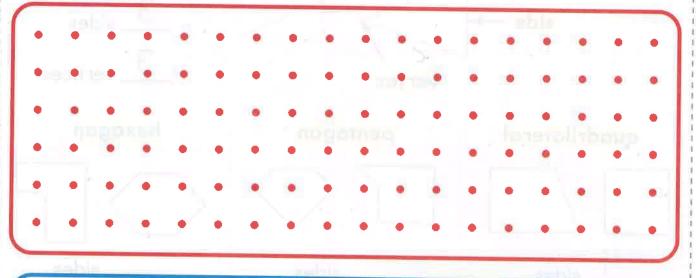
Geometry-2.G.A.1

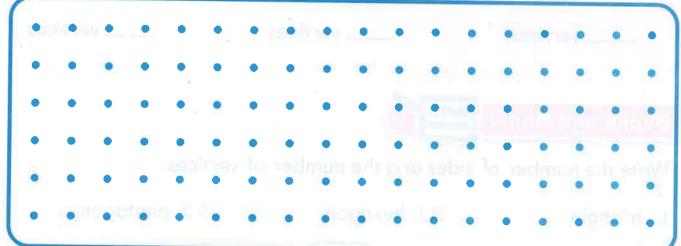
MATHEMATICAL PRACTICES MP4, MP7

Listen and Draw



Use a ruler. Draw a shape with 3 straight sides. Then draw a shape with 4 straight sides.







MATHEMATICAL PRACTICES

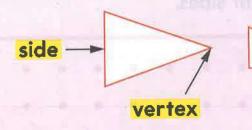
FOR THE TEACHER • Have children use rulers as straight edges for drawing the sides of shapes. Have children draw a two-dimensional shape with 3 sides and then a two-dimensional shape with 4 sides.

Describe how your shapes are different from the shapes a classmate drew.

You can count sides and vertices to name two-dimensional shapes. Look at how many sides and vertices each shape has.



triangle



sides



vertices

sides

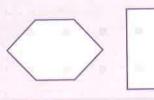
pentagon



sides

___ vertices

hexagon



_ sides

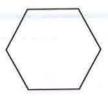
____ vertices

Share and Show



Write the number of sides and the number of vertices.





sides

vertices





____ vertices

___ sides

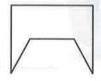
vertices

On Your Own

Write the number of sides and the number of vertices. Then write the name of the shape.

pentagon triangle hexagon quadrilateral

4.



sides

. vertices

5.



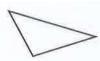
sides



_ sides

vertices vertices

7.



sides

vertices

8.



sides

vertices

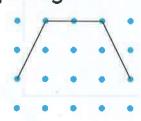


__ sides

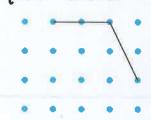
vertices

Draw more sides to make the shape.

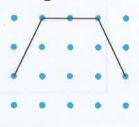
10. pentagon



II. quadrilateral



12. hexagon



Problem Solving • Applications





Solve. Draw or write to explain.

hexagon and two pentagons.
How many sides does Alex draw altogether?



sides

14. MATHEMATICAL U Use Diagrams

Ed draws a shape that has 4 sides. It is not a square. It is not a rectangle. Draw a shape that could be Ed's shape.

of each two-dimensional shape. Draw each shape where it belongs in the chart.



Quadrilateral	Hexagon	Triangle
(22 hexagon	1) ayadrilateral	negotre
	1	
	7:11:	- 7



TAKE HOME ACTIVITY • Ask your child to draw a shape that is a quadrilateral.

Two-Dimensional Shapes

Write the number of sides and the number of vertices. Then write the name of the shape.

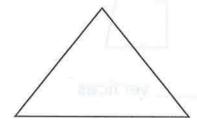
pentagon

triangle

hexagon

quadrilateral

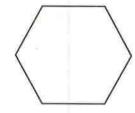
I.



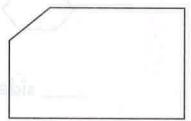
_ sides

vertices

2.



3.



___ sides

vertices

____ sides

___ vertices

Problem Solving



Solve. Draw or write to explain.

4. Oscar is drawing a picture of a house.
He draws a pentagon shape for a window.
How many sides does his window have?

sides

5. WRITE Math Draw and label a pentagon and a quadrilateral.

Processe and Homewark

Lesson Check (2.G.A.1)

I. How many sides does a hexagon have?



____ sides

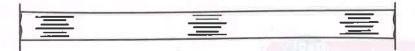
2. How many vertices does a quadrilateral have?



___ vertices

Spiral Review (2.MD.A.1, 2.MD.D.10)

3. Use a centimeter ruler. What is the length of the ribbon to the nearest centimeter?



____ centimeters

4. Look at the picture graph. How many more children chose apples than oranges?

___ more children

Favorite Fruit						
apples	\odot	()	0	0		
oranges	0	0		mild at 1		
grapes	0	0	0	nogo	tneq	
peaches	()	0				

4. Oscar is drawing a picture of a house

Key: Each 😊 stands for 1 child.

2nd Grade NTI Packet Day 25



Lesson 10 Unfamiliar Words



Figuring out the meanings of important words in a text will help you better understand the topic.

Property Readers have many ways to figure out a new word.

One way is to look for clues in the words and phrases around the new word. You can also ask yourself what you may already know about the subject or topic.

Look at the photo and read the sentences below it. Then find clues about the meaning of the word "extinguish."



Firefighters work together to extinguish a fire. After they put out the fire, they search for hot spots.

Taking Flight on a



by Kathryn Thomas

- Airplanes carry people all over the world. Flying safely from place to place is a big job. It takes a whole team of people to do it. The team is called an aircrew. It is headed by a captain.
- The captain of an airplane is also the pilot. The pilot controls how high and fast the plane flies. The first officer is the co-pilot. That person takes over if the captain needs to rest. There is also a flight engineer who controls the engines to make sure everything is working.
- Passengers ride in the cabin of the plane. The cabin crew is made up of flight attendants. Their main job is to help passengers travel safely. They show passengers what to do if there is trouble with the plane. They help passengers store their baggage. They also serve passengers food and drinks.
- Aircrews take people on thousands of flights each day. Though passengers may not notice, the crews are always hard at work.

Close Reader Habits

Underline key sentences that help you understand the meaning of the word "aircrew."

> Think

Read this sentence from the article.

They were deep below the earth's surface.

What is the meaning of "earth's surface" in this sentence?

- A body of water
- **B** highest point
- C deep tunnel
- D outside part
- In paragraph 2, what is the meaning of the word "tasks"?
 - A rest
 - **B** jobs
 - C turns
 - D days



If I don't know a word, I look for clues in the words around it. This helps me figure out what the word means.

Talk

Talk with a partner about how the men "supported" each other.
Use clues from the passage in your discussion.

Short Response In paragraph 3, the author says that "the 33 miners from Chile supported each other to the end." Write a sentence from the article that gives a clue about the meaning of the word "supported." Now tell what the word "supported" means. Write your answer in the space on page 167.

HINT Review the passage to find the text clues for the word "supported."



Angles in Two-Dimensional Shapes

Essential Question How do you find and count angles in two-dimensional shapes?



Geometry-2.G.A.1

MATHEMATICAL PRACTICES

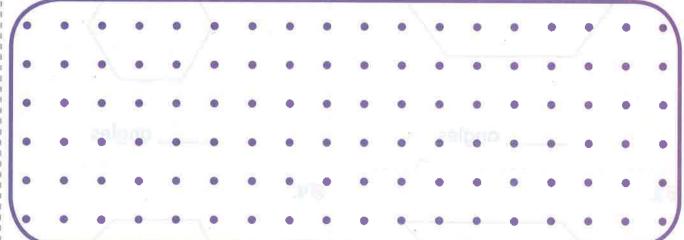
MP1, MP4, MP7

Listen and Draw



Use a ruler. Draw two different triangles. Then draw two different rectangles.







MATHEMATICAL PRACTICES

Chapter II

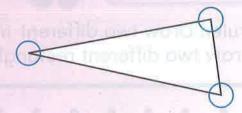
FOR THE TEACHER • Have children use pencils and rulers (or other straight edges) to draw the shapes. Have them draw two different triangles in the green box and two different rectangles in the purple box.

Describe a triangle and a rectangle. Tell about their sides and vertices.

When two sides of a shape meet, they form an **angle**.



This shape has 3 angles.

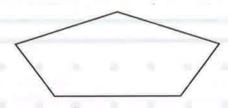


Share and Show

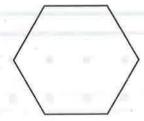


Circle the angles in each shape. Write how many.

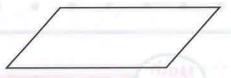






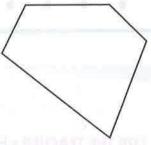






__ angles



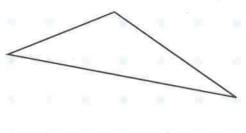


__ angles

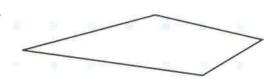
On Your Own

Circle the angles in each shape. Write how many.

5.

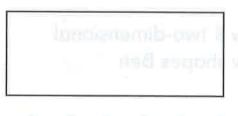


__ angles

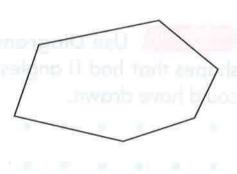


____ angles

7.



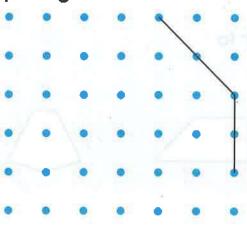
_ angles



9. THINKSMARTER Draw more sides to make the shape. Write how many angles.

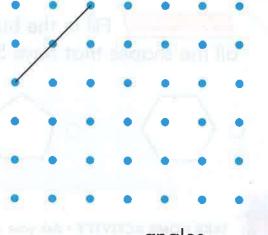


pentagon



angles

quadrilateral



_ angles

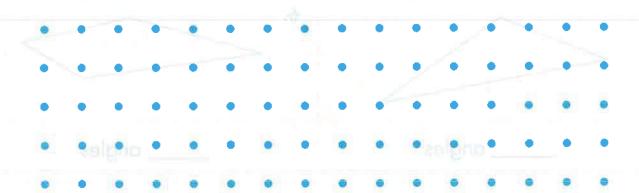


Problem Solving • Applications (World

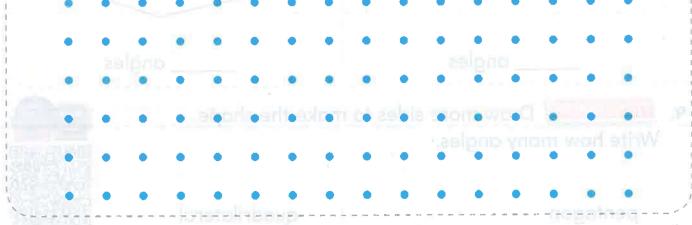




10. Draw two shapes that have 7 angles in all.



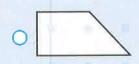
WATHEMATICAL U Use Diagrams Ben drew 3 two-dimensional shapes that had II angles in all. Draw shapes Ben could have drawn.



THINKSMARTER Fill in the bubble next to 12. all the shapes that have 5 angles.











TAKE HOME ACTIVITY • Ask your child to draw a shape with 4 sides and 4 angles.

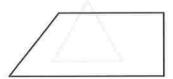
Angles in Two-Dimensional Shapes

Common Core

COMMON CORE STANDARD—2.G.A.1
Reason with shapes and their attributes.

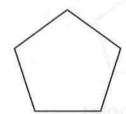
Circle the angles in each shape. Write how many.

I.



____ angles

2.

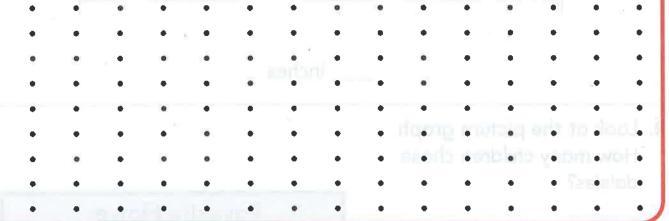


____ angles

Problem Solving (Real



3. Logan drew 2 two-dimensional shapes that had 8 angles in all. Draw shapes Logan could have drawn.

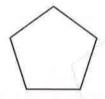


shape with 4 angles. Circle the angles. Write the name of the two-dimensional shape you drew.



Lesson Check (2.G.A.1)

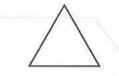
I. How many angles does this shape have?



____ angles

2. How many angles does this shape have?

Apgles in Two-Dimensional



____ angles

Spiral Review (2.MD.A.1, 2.MD.D.10)

3. Use an inch ruler. What is the length of the string to the nearest inch?



____ inches

4. Look at the picture graph. How many children chose daisies?

____ children

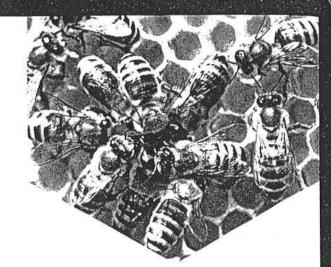
	Favo	rite	Flo	wer		
roses	0	0	0	0		
tulips	0	0	0	TI ,44	NAL CO	ur vel
daisies	0	0	0	0	0	511
lillies	0	©	den	diam	mib	OW

Key: Each 🕥 stands for I child.

2nd Grade NTI Packet Day 26



Soldier Bees



by Melissa Maron

- We could learn a lot about working together from honeybees. There are three types of bees in a hive. They all do different jobs to help make their hive a home. The queen bee lays eggs. Drones are the fathers. And worker bees do everything else. They clean the hive, feed the young, and find nectar. In South America, some honeybees have added a new kind of worker: the soldier bee.
- Soldier bees stay at the opening of the hive to protect it from robber bees. Robber bees like to steal the honey from other hives. In most hives, the worker bees stand guard for only one or two days. Then they fly off to do other jobs. But soldier bees are different. They spend their whole lives defending the hive from other insects. They are very good at keeping the other bees safe. The soldier bees are some of nature's tiny heroes.

Close Reader Habits

What is the key point in paragraph 1 and paragraph 2?
Underline the key point in each paragraph.

Describing How Authors Use Reasons to Support Their Ideas Lesson 19

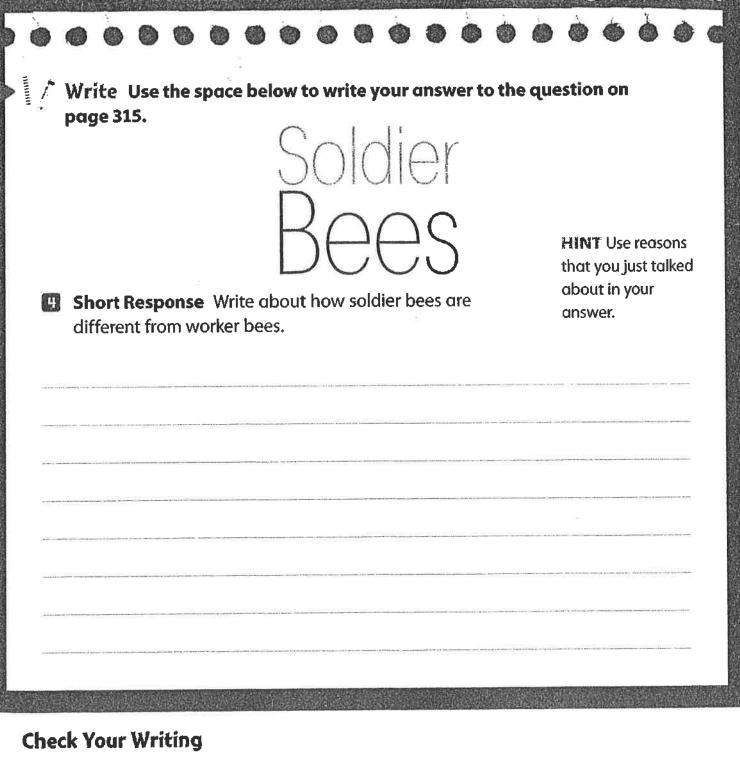
- - What key point does the author make about honeybees in paragraph 1?
 - A All the bees work to make their hive a home.
 - **B** The three types of bees are queen, drone, and worker.
 - **C** Robber bees like to steal honey from other bees.
 - **D** Soldier bees are a special kind of worker bee.
- What reason does the author give to explain the key point she makes about honeybees in paragraph 1?
 - A Robber bees like to steal honey from hives.
 - **B** Each type of bee in a hive does a different job.
 - C Some bees have added a new kind of worker.
 - **D** Soldier bees are different from worker bees.



I'm going to look for details that support the key point I underlined.

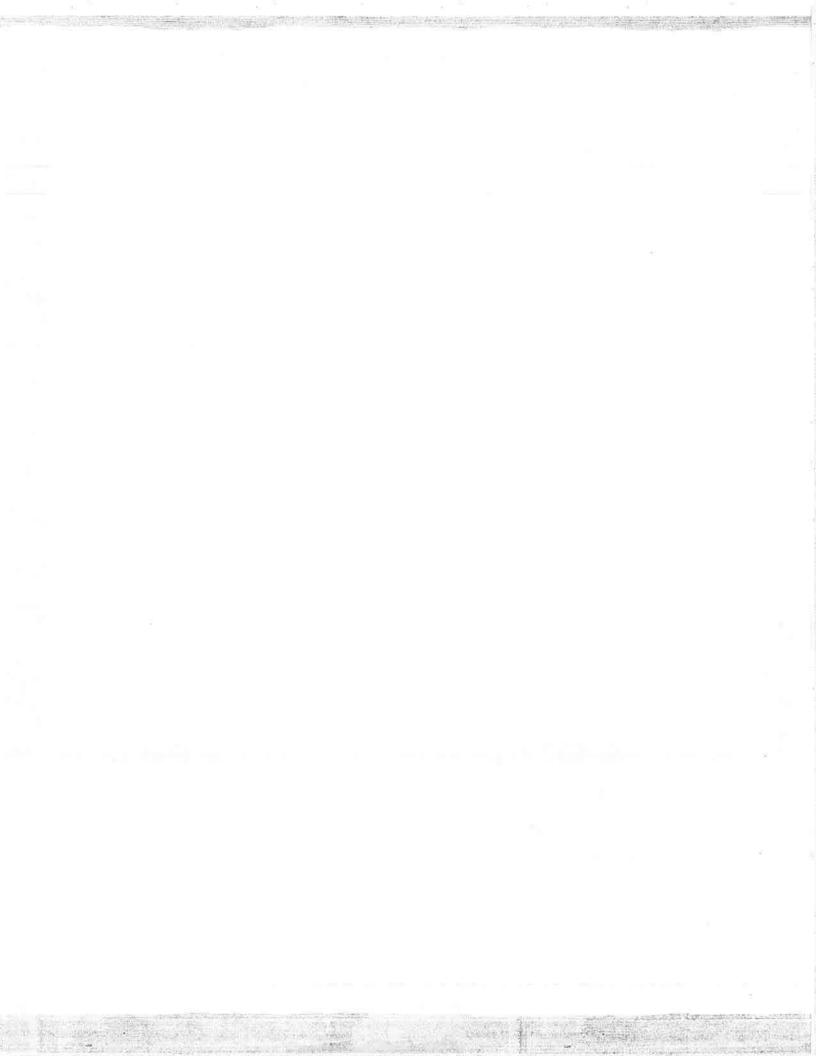
- The author makes the key point that soldier bees are different from worker bees. What are two reasons from the passage that support this point?
- Short Response Write about how soldier bees are different from worker bees. Write your answer in the space on page 317.

HINT Use reasons that you just talked about in your answer.



□ Did you read the question caref	ılly	?
-----------------------------------	------	---

- ☐ Can you say the question in your own words?
- ☐ Did you use proof from the text in your answer?
- ☐ Are your ideas in a good, clear order?
- ☐ Did you answer in full sentences?
- ☐ Did you check your spelling, capital letters, and periods?



Sort Two-Dimensional Shapes

Essential Question How do you use the number of sides and angles to sort two-dimensional shapes?

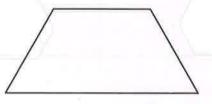
MP4. MP6

Listen and Draw

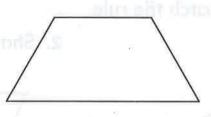


Make the shape with pattern blocks. Draw and color the blocks you used.

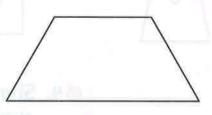
Use one block.



Use two blocks.



Use three blocks.



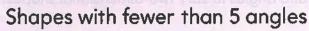
MATHEMATICAL PRACTICES

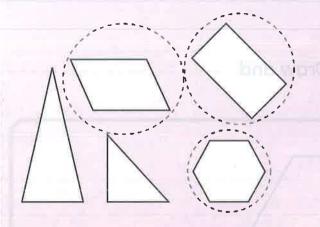
Describe how you could FOR THE TEACHER • Tell children that the shape sort the blocks you used.

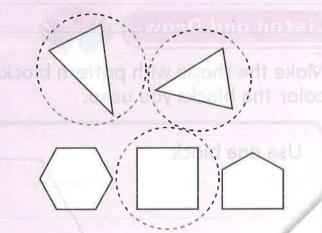
.li moseal

Model and Draw

Which shapes match the rule?
Shapes with more than 3 sides





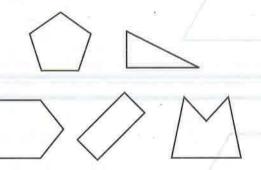


Share and Show

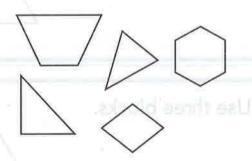


Circle the shapes that match the rule.

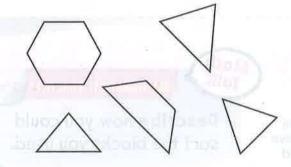
I. Shapes with 5 sides

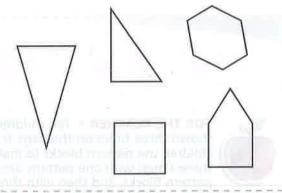


2. Shapes with more than 3 angles



Shapes with fewer than 4 angles

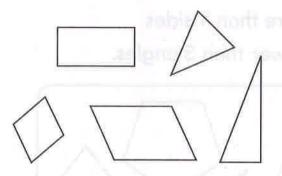




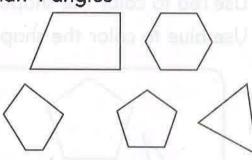
On Your Own

Circle the shapes that match the rule.

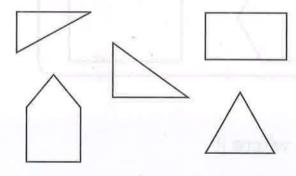
5. Shapes with 4 sides



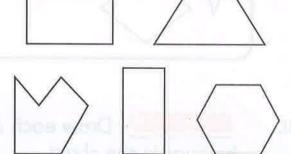
6. Shapes with more than 4 angles



Shapes with fewer than 4 angles



8. Shapes with fewer than 5 sides



9. Draw three shapes that match the rule. Circle them. Then draw two shapes that do not match the rule.



Shapes with fewer than 5 angles



Problem Solving • Applications work



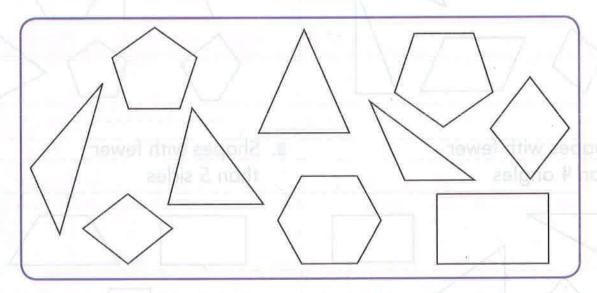




Make Connections of the Art Art and the English and the Englis

Sort the shapes. The shapes of the shapes of

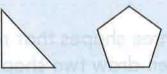
- Use red to color the shapes with more than 4 sides.
- Use blue to color the shapes with fewer than 5 angles.



Draw each shape where it belongs in the chart.







Shapes with fewer than 5 sides	Shapes with more than 4 sides
8401)[[[]]	



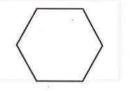
TAKE HOME ACTIVITY • Ask your child to draw some shapes that each have 4 angles.

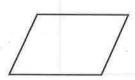
Sort Two-Dimensional Shapes

COMMON CORE STANDARD—2.G.A.1
Reason with shapes and their attributes.

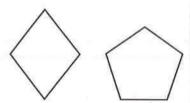
Circle the shapes that match the rule.

I. Shapes with fewer than 5 sides

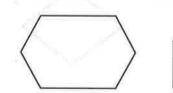




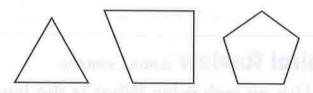




2. Shapes with more than 4 sides







Problem Solving (Real



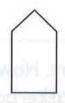
Circle the correct shape.

3. Tammy drew a shape with more than 3 angles. It is not a hexagon. Which shape did Tammy draw?



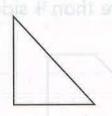


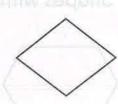


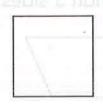


4. Praw three shapes that match the rule.
Shapes with more than 3 angles.

I. Which shape has fewer than 4 sides?









Spiral Review (2.MD.A.1, 2.MD.D.10)

2. Use an inch ruler. What is the length of the pencil to the nearest inch?



lammy drew a shape with more than 3 angles.
It is not a hexagon. Which shah and Tammy draw?

3. Use the tally chart. How many children chose basketball as their favorite sport?

___ children

Favorite	Sport
Sport	Tally
soccer	HH .
basketball	HH 11
football	1111
baseball	IIII



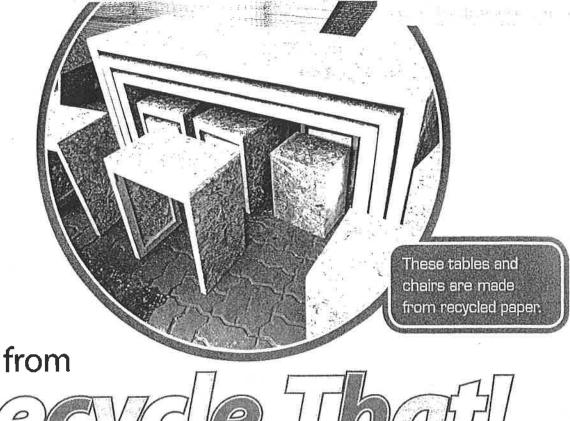
2nd Grade NTI Packet Day 27



WORDS TO KNOW

As you read, look inside, around, and beyond these words to figure out what they mean.

- trash
- landfills
- recycle



by Fay Robinson

- Bottles, cans, mail, magazines, boxes, bags. We throw out a lot of trash! Everything we throw away came from somewhere. The paper products we use are made from trees. Thousands and thousands of trees are cut down each day to make the paper we use.
- Fields and hills are dug up to get sand to make glass, and metals to make cans. The plastics we use are made with oil pumped from deep inside the earth.
- Each time we take something from the earth, we change the earth. The ways we change it are not always good for us, or for wild animals.

- And where does all our trash go? Most of it goes into land set aside just for trash. But we throw out so much trash that our landfills are filling up. Soon there won't be any more room!
- By using and throwing away so many things, we have created a big problem. What can you do to help? Recycle!
- When something is recycled, all or part of it is used again. Many towns and cities have special programs for recycling. Each home gets a special container for items to be recycled.
- Often, cans, bottles, and newspapers can be recycled. In some places, magazines and plastic bottles can be recycled, too.
- Can you see why it's smart to recycle? Things that would have been wasted can be made into something useful instead! Each time you recycle one can, bottle, or newspaper, you help the earth a little bit.





WORDS TO KNOW

As you read, look inside, around, and beyond these words to figure out what they mean.

- waste
- scraps
- cycle

- When was the last time you threw away a banana peel? An apple core? A piece of paper? Maybe you could have recycled them instead.
- When we recycle things, we turn them into new things to use again. From old newspapers, we make new paper. From old cans and empty bottles, we make new ones. Recycling can keep our landfills from getting too full. If we aren't careful, we may run out of room.
- Composting is another way to recycle. It is a great way to turn food and yard waste into good, rich soil. The soil helps grow new things.
- To make compost, you need fruit and vegetable scraps. You also need leaves, grass, and soil. Put all these things in a big wooden box. Then add some water and stir. Finally, cover the box.
- After a few weeks, everything in the compost box starts to rot and break down. The tiniest living things in nature help break them down.
- After a few more weeks, everything will have turned into rich soil.

 People use compost in their gardens to help plants and flowers grow.
- Composting shows us how nature is a cycle. Things grow. Then they die. Finally, they become soil and help new things grow.
- By recycling things we no longer need, we create new things. We also take better care of the earth.

- Use what you learned by reading the articles to respond to the following questions.
 - This question has two parts. First, answer Part A. Then answer Part B.

Part A

Based on both articles, which sentence about landfills is true?

- A Landfills are a good solution to the trash problem.
- **B** Landfills will never get too full.
- C Landfills are safe places to dispose of trash.
- **D** Landfills are not the best way to get rid of trash.

Part B

Write a sentence from each article that helped you find the answer to Part A.

Sentence from "Turning Trash into Treasure"		

**************************************		n jamu nten hene
Sentence from Recycle That!		

Read these sentences from Recycle That!

Many towns and cities have special programs for recycling. Each home gets a special container for items to be recycled.

Which of the following means the same as "container"?

- A plan thinking of how to do something before you do it
- **B** box something that holds things inside of it
- C area an open place or space
- **D** direction something you follow or a way to go



Compare and contrast the most important points in the articles. What points are the same? What are two ways the information about recycling in "Turning Trash into Treasure" is different from the information in "from Recycle That!"?

- Plan Your Response Reread the two articles. What important points does each writer include about recycling? Underline these important points in both articles. Then make a Venn diagram to compare and contrast them.
- Write an Extended Response Compare and contrast the most important points in the articles. What points are the same? What are two ways the information about recycling in "Turning Trash into Treasure" is different from the information in "from Recycle That!"?



HANDS ON Lesson 11.7

Partition Rectangles

Essential Question How do you find the total number of same-size squares that will cover a rectangle?

Common Core

Geometry-2.G.A.2 Also 2.0A.C.4

MATHEMATICAL PRACTICES MP3, MP5, MP8

Listen and Draw



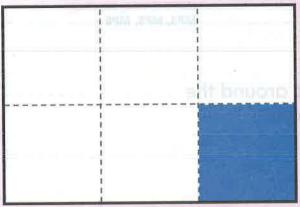
Put several color tiles together. Trace around the shape to draw a two-dimensional shape.

MATHEMATICAL PRACTICES

Is there a different shape that can be made with the same number of tiles? Explain.

HOME CONNECTION • After putting together tiles, your child traced around them to draw a two-dimensional shape. This activity is an introduction to partitioning a rectangle into several same-size squares.

Trace around color tiles. How many square tiles cover this rectangle?



Number of rows: 2

Number of columns: 3

Total: ____ square tiles

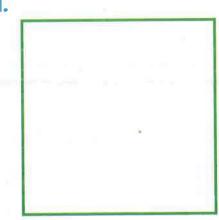
Share and Show



Use color tiles to cover the rectangle.

Trace around the square tiles. Write how many.

Ø 1.

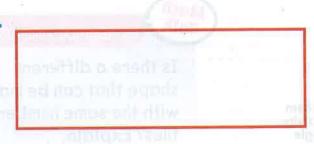


Number of rows: _____

Number of columns: _____

Total: ____ square tiles

₫2.



Number of rows: _____

Number of columns: _____

Total: ____ square tiles

Use color tiles to cover the rectangle. Trace around the square tiles. Write how many.

3.



Number of rows: ____

Number of columns:

Total: ____ square tiles

4.

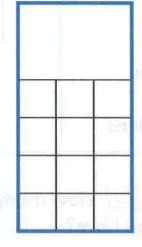


Number of rows: ____

Number of columns:

Total: ____ square tiles

5. THINKSMARTER Mary started to cover this rectangle with ones blocks. **Explain** how you would estimate the number of ones blocks that would cover the whole rectangle.







TAKE HOME ACTIVITY • Have your child describe what he or she did in this lesson.

Name



Mid-Chapter Checkpoint



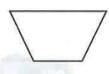
Concepts and Skills

Circle the objects that match the shape name. (2.G.A.1)

I. cylinder samula			
2. cube	AB		3 6

Write the number of sides and the number of vertices. (2.G.A.1)

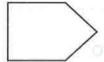
3. quadrilateral



sides

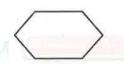
vertices

4. pentagon



vertices

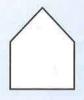
5. hexagon



sides

vertices

How many angles does this shape have? (2.G.A.1)



angles

HANDS ON **Lesson 11.7**

Partition Rectangles

Essential Question How do you find the total number of same-size squares that will cover a rectangle?



Geometry—2.G.A.2 Also 2.OA.C.4

MATHEMATICAL PRACTICES

MP3, MP5, MP8

Listen and Draw



Put several color tiles together. Trace around the shape to draw a two-dimensional shape.

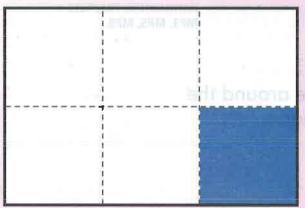
MATHEMATICAL PRACTICES

Is there a different shape that can be made with the same number of tiles? Explain.

HOME CONNECTION • After putting together tiles, your child traced around them to draw a two-dimensional shape. This activity is an introduction to partitioning a rectangle into several same-size squares.

Model and Draw

Trace around color tiles. How many many and the state of square tiles cover this rectangle?



Number of rows: 2

Number of columns: 3

Total: ____ square tiles

Share and Show



Use color tiles to cover the rectangle. Trace around the square tiles. Write how many.



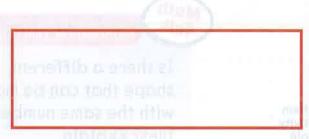


Number of rows:

Number of columns:

Total: ____ square tiles

Ø2.



Number of rows:

Number of columns: __

Total: ____ square tiles

3.



Number of rows:

Number of columns:

Total: ____ square tiles

4.

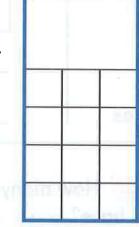


Number of rows: ____

Number of columns:

Total: ____ square tiles

5. Mary started to cover this rectangle with ones blocks. **Explain** how you would estimate the number of ones blocks that would cover the whole rectangle.







TAKE HOME ACTIVITY • Have your child describe what he or she did in this lesson.

Name



Mid-Chapter Checkpoint



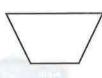
Concepts and Skills

Circle the objects that match the shape name. (2.G.A.1)

I. cylinder 2. cube

Write the number of sides and the number of vertices. (2.G.A.1)

3. quadrilateral



sides

vertices

4. pentagon



5. hexagon



How many angles does this shape have? (2.G.A.1)



angles

Partition Rectangles

Use color tiles to cover the rectangle. Trace around the square tiles. Write how many.

COMMON CORE STANDARD-2.G.A.2 Reason with shapes and their attributes.

١.

Number of rows: Number of columns: Total: ____ square tiles

2.

Number of rows: Number of columns: Total: ____ square tiles

Problem Solving (Red

Solve. Write or draw to explain.

3. Nina wants to put color tiles on a square. 3 color tiles fit across the top of the square. How many rows and columns of tiles will Nina need? How many square tiles will she use in all?

Number of rows: _____ Number of columns:

Total: ____ square tiles

WRITE Math Look at Exercise I above. Is there a different rectangle that you could cover with 6 color tiles? Explain.

Lesson Check (2.G.A.2)

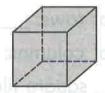
I. Gina uses color tiles to cover the rectangle. How many square tiles does she use?

Use color liles to cover the rectangle.

____ square tiles

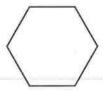
Spiral Review (2.MD.D.10, 2.G.A.1)

2. How many faces does a cube have?



faces

3. How many angles does this shape have?



___ angles

4. Use the tally chart. How many more children chose art than reading?

____ more children

Favorite Subject		
Subject	Tally	
reading	111 1111	
math	HH IIII	
science	HH _	
art loo à d	HH HH	

2nd Grade NTI Packet Day 28



Read

Read the science articles. Then answer the questions that follow.



- What can you see at Space
 Center Houston? Why, exhibits of
 course! My favorite is the
 Astronaut Gallery. It shows the
 spacesuits that astronauts wear.
 Why must they wear them?
 - These space travelers must wear a spacesuit when they go outside the ship. The astronauts test new equipment and do experiments. There is no oxygen in outer space. The suit gives them air to breathe.

Priculum Associates, LC Cocided For M.

lights

backpack
with air
hard
outer layer

gloves

boots

helmet

Spacesuit

It also protects them from the heat and cold. In the sunlight, it can be as hot as 250 degrees! In shadow, it can be as cold as minus 250 degrees! A spacesuit is like a little spaceship. It keeps the astronaut safe.

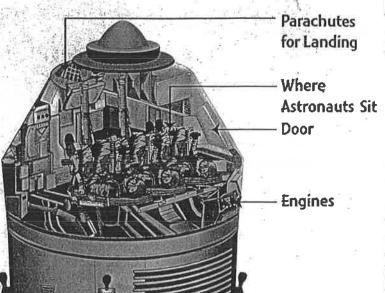
Now let's take a look at the Apollo 17 command module. This is part of the ship that carried three astronauts to the Moon and back in 1972. One of them stayed inside it, circling the Moon. The other two flew down to explore the Moon's surface.

Notice that the diagram on this page shows a place at the top for parachutes. When the ship returned to Earth, the parachutes helped slow it down. It landed in the ocean with the crew safe and sound.

Finally, Space Center Houston has a Saturn Five rocket in Rocket Park. The ship is set down on its side, so that you can walk all around it. The rocket is as long as a football field. It weighs more than six million pounds. A rocket just like it took the Apollo 17 astronauts up into space, and then fell back to Earth.

There's lots more to see at the Space Center. And there's lots more to learn.

Apollo 17 Command Module





by Emily Paul

- Have you ever dreamed of being an astronaut? If so, you might want to plan a trip to Houston, Texas. You can visit Space Center Houston and the Johnson Space Center. Start your visit at the Blast Off Theater. Here, you can see and feel what it is like to lift off into space!
- Not far away is the Johnson Space Center. This is where people work on space flights. You might get to see the room where men and women help the astronauts in space. Maybe you will see some astronauts getting ready for a flight.
- Be sure to look for the Astronaut Gallery. This big room is filled with real spacesuits. The walls have pictures of people who have flown in space. Part of the Gallery is called Living in Space. It shows how astronauts work, eat, and sleep in space.

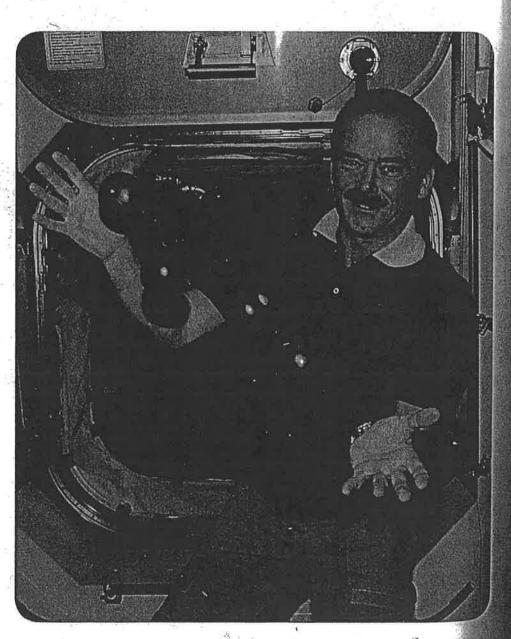


This astronaut is training underwater at the Johnson Space Center.

- Moving around in space is very different from the way we move on Earth. Astronauts can float inside the space station. They must learn how to safely move without bumping into things.
- Even eating and sleeping are different on a space station. Astronauts need to hang on to what they are eating or it will float away! Most space food is kept in plastic containers. Drinks come in sealed pouches and are sipped with a straw. When it's time to go to bed, astronauts climb into small sleeping bags and tie themselves in. This is so they don't float around while they are sleeping!

Before you leave, don't forget to visit the Kids' Space Place. It is a giant inside playground. You can pretend you are flying the space shuttle. Or you can imagine that you live on the space station. It is the perfect way to end your busy day.

Astronaut Chris
Hadfield is juggling
some tomatoes on the
International Space
Station. Can you guess
why they are floating?



Think

- Look at the diagram of the Apollo 17 command module on page 341. Which sentence from "Spacesuits and Spaceships" tells more about this diagram?
 - A "The astronauts test new equipment and do experiments."
 - B "This is part of the ship that carried three astronauts to the Moon and back in 1972."
 - C Finally, Space Center Houston has a Saturn Five rocket in Rocket Park."
 - D : "The ship is set down on its side, so that you can walk all around it."
- What does the diagram on page 341 show that is **not** told about in the article?
 - A It shows that the command module had parachutes for landing.
 - B It shows that the astronauts floated inside the command module.
 - C It shows that the command module had its own engines.
 - D It shows that the astronauts were spacesuits outside the command module.
- In paragraph 3 of "Spacesuits and Spaceships," the author makes the point that a spacesuit is like a little spaceship. What reason from the article **best** explains this point?
 - A "Why must they wear them?"
 - B "It also protects them from the heat and cold."
 - C "In the sunlight, it can be as hot as 250 degrees!"
 - D "In shadow, it can be as cold as minus 250 degrees!"
 - Choose **two** sentences from "Spacesuits and Spaceships" that the diagram of a spacesuit on page 340 helps to explain.
 - A "These space travelers must wear a spacesuit when they go outside the ship."
 - B "The astronauts test new equipment and do experiments."
 - C "There is no oxygen in outer space."
 - D "The suit gives them air to breathe."
 - **E** "In the sunlight, it can be as hot as 250 degrees!"

Underline the sentence below that **best** explains what is happening in the picture on page 344.

Even eating and sleeping are different on a space station. Astronauts need to hang on to what they are eating or it will float away! Most space food is kept in plastic containers. Drinks come in sealed pouches and are sipped with a straw. When it's time to go to bed, astronauts climb into small sleeping bags and tie themselves in. This is so they don't float around while they are sleeping!

6 This question has two parts. First, answer Part A. Then answer Part B.

Part A

In paragraphs 4 and 5 of "Space Center Houston," what key point does the author make about floating inside the space station?

- A Astronauts must learn to move safely.
- **B** Astronauts must always wear a spacesuit.
- C Astronauts must drink from a straw.
- D Astronauts must sleep in sleeping bags.

Part B

What reason does the author give to explain	n the key point she makes about
floating inside the space station?	

- In "Space Center Houston," the author makes the point that readers should visit the Astronaut Gallery. Choose **two** details from the article that support this point.
 - A The gallery is filled with food and drink.
 - **B** The gallery lets you pretend to fly a space shuttle.
 - C The gallery shows how astronauts work.
 - **D** The gallery tells how to get to the space station.
 - E The gallery has real spacesuits.
- Read the sentences from "Space Center Houston" below.

Most space food is kept in plastic containers. Drinks come in sealed pouches and are sipped with a straw.

Which choice best tells what "sealed pouches" are?

- A .covered drinking glasses
- B stightly closed bags
- C holes for straws
- D large pockets
- Which important point is in "Space Center Houston" but **not** in "Spacesuits and Spaceships"?
 - A People work on real space flights at the Johnson Space Center.
 - **B** Astronauts went to the Moon in the Apollo 17 command module.
 - C Astronauts do experiments when they go outside the ship.
 - D The Saturn Five rocket in Rocket Park is as long as a football field.
- Which important point is in **both** articles?
 - A Parachutes help slow down a returning spaceship.
 - **B** Real spacesuits can be found in the Astronaut Gallery.
 - C The Saturn Five rocket weighs more than six million pounds.
 - D Space can be as cold as minus 250 degrees.



Write

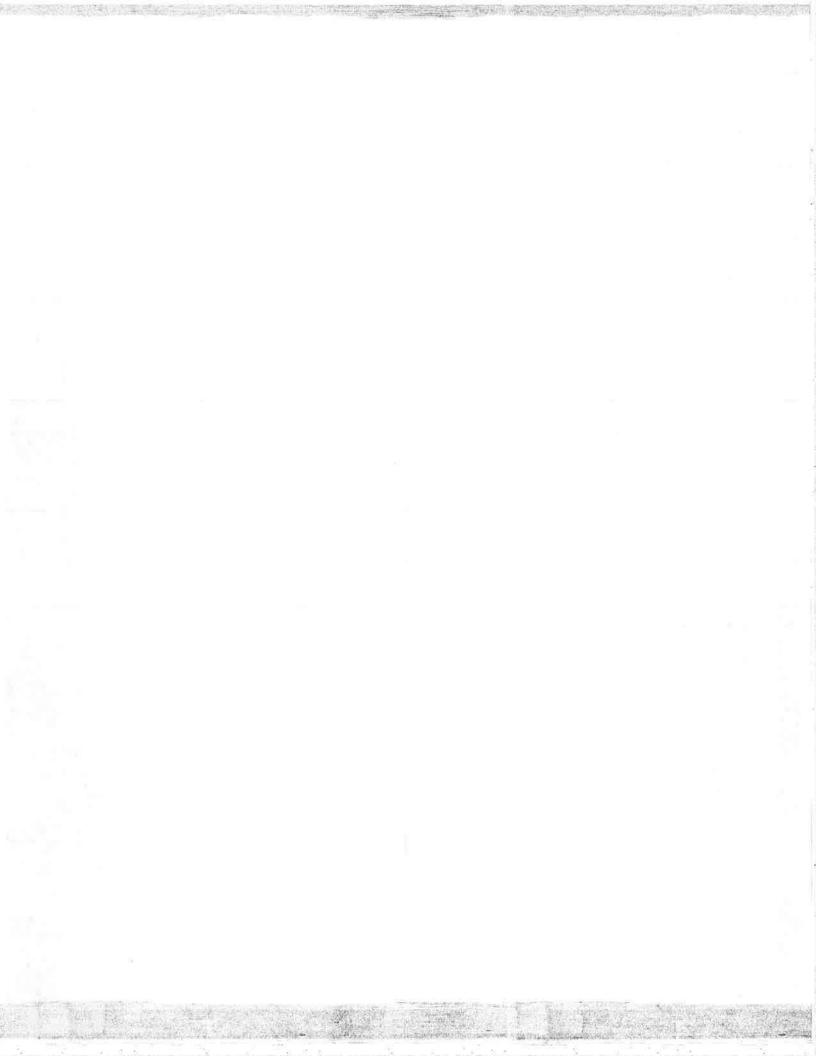
Extended Response Compare and contrast the **most** important points in the articles about living in space. What points are the same? What are ways the information about living in space in "Spacesuits and Spaceships" is **different** from the information in "Space Center Houston"?

11

Plan Your Response Reread the two articles. What important points does each writer include about living in space? Underline these important points in both articles. Then fill in the chart below to compare and contrast them.

Important Points About the Way Astronauts Live in Space

	cesuits and Spaceships	Space Center Houston	
Point 1:		Point 1:	
		and the second of the second o	
(A			
Point 2:		Point 2:	
	2 0 1		
Point 3:	* ***	Point 3:	
	× 1, *		



Equal Parts

Essential Question What are halves, thirds, and fourths of a whole?



Geometry-2.G.A.3

MATHEMATICAL PRACTICES
MP3, MP6, MP8

Listen and Draw



Put pattern blocks together to match the -- shape of the hexagon. Trace the shape you made.

MARIN TOTAL S

te how many equal parts there are in the whole te holves, thirds, or fourths to name the equa

mag laupa arma l



MATHEMATICAL PRACTICES



FOR THE TEACHER • Have children place a yellow hexagon pattern block on the workspace and make the same shape by using any combination of pattern blocks. Discuss how they know if the outline of the blocks they used is the same shape as the yellow hexagon.

Compare models

Describe how the shapes you used are different from the shapes a classmate used.

Model and Draw

The green rectangle is the whole. It can be divided into equal parts.





There are 2 halves. Each part is a half.



There are 3 thirds. Each part is a third.

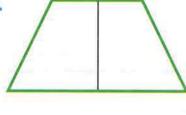


There are 4 fourths. Each part is a fourth.

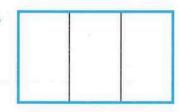
Share and Show



Write how many equal parts there are in the whole. Write halves, thirds, or fourths to name the equal parts.

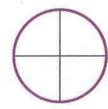


equal parts



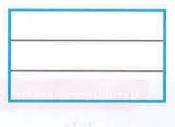
equal parts

3.



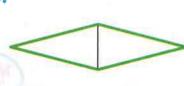
equal parts

4.



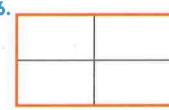
equal parts

₫ 5.



equal parts

₫ 6.

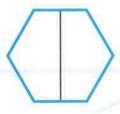


_ equal parts

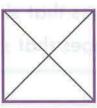
On Your Own

Write how many equal parts there are in the whole. Write halves, thirds, or fourths to name the equal parts. equal parts

7.



equal parts



equal parts

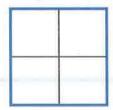


equal parts

10.



11.



equal parts equal parts

12.



_____equal parts

13. THINKSMARTER Draw to show halves. Explain how you know that the parts are halves.

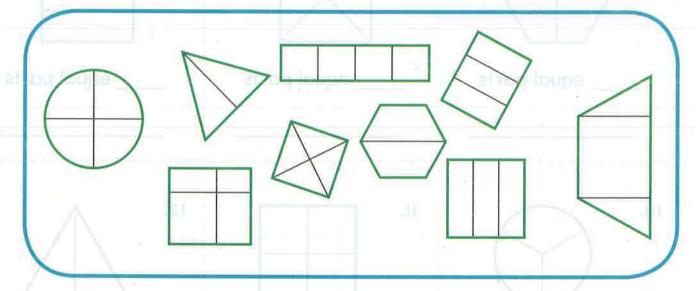


Problem Solving • Applications work



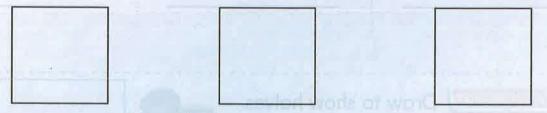


- Make Connections Sort the shapes.
 - Draw an X on shapes that do not show equal parts.
 - Use red to color the shapes that show thirds.
 - Use blue to color the shapes that show fourths.



Personal Math Trainer

Draw lines to show fourths three 15. different ways.



Explain how you know that the parts are fourths.



TAKE HOME ACTIVITY • Ask your child to fold one sheet of paper into halves and another sheet of paper into fourths.

Equal Parts

Write how many equal parts there are in the whole. Write halves, thirds, or fourths to name the equal parts.

١.



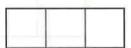
____ equal parts

2



___ equal parts

2



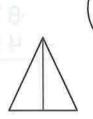
____ equal parts

Problem Solving World



- 4. Sort the shapes.
 - Draw an X on the shapes that do not show equal parts.
 - Circle the shapes that show halves.



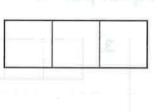




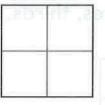


Lesson Check (2.G.A.3)

I. What are the 3 equal parts of the shape called?



2. What are the 4 equal parts of the shape called?



Spiral Review (2.NBT.B.5, 2.G.A.1)

3. What is the sum?



4. What is the difference?

Circle the shoots that

5. Circle the quadrilateral.





alling lawns





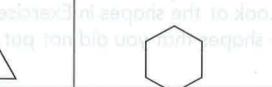
6. Circle the hexagon.













2nd Grade NTI Packet Day 29



WORDS TO KNOW

As you read, look inside, around, and beyond these words to figure out what they mean.

- temperature
- heartbeat
- operation
- medicine



Who Works in a Hospital?

→//

by Tiffany Gibson



A hospital is a busy place! It may even seem confusing at first. Many patients, the people who need to see a doctor, come in every day. Visitors come to see their sick family member or friend. Doctors, nurses, and other hospital workers move calmly from job to job. They know just what to do. They want to give sick or hurt patients the care they need.



- The hospital medical staff is made up of teams of doctors and nurses. Doctors must examine patients to find the best way to make them better. They check each patient's temperature and heartbeat. They also ask lots of questions. Then doctors think up plans to make each patient better. Some patients will need special medicine. Other patients may need to have an operation. A person who is sick or hurt must stay in the hospital for a few days.
- Nurses take care of patients who are in the hospital. Some nurses help doctors with operations or special tests. They make sure patients improve each day. They check that the patients are getting better with the right medicine.
- There are other workers who help the hospital run smoothly. Some workers give X-rays to find out if someone has a broken bone. Others carry out tests to find out why a patient is sick. Some workers make healthy meals or keep hospital rooms clean.

Hospital workers do many different jobs, but they all work together. And they work hard! Their goal is to give all patients the care they need to get better.

- Using what you learned by reading "Who Works in a Hospital?," respond to the following questions.
 - What is the meaning of the word "patients"? Write what "patients" means based on the clues in the sentence.

Many patients, the people who need to see a doctor, come in every day.

- What is the meaning of the phrase "medical staff" in paragraph 2?
 - A people who keep files of plans
 - B people who treat the sick
 - C people who keep things clean
 - **D** people who prepare meals
- Read these sentences from paragraph 2 of the passage.

Doctors must examine patients to find the best way to make them better. They check each patient's temperature and heartbeat. They also ask lots of questions.

What does the word "examine" mean?

- A make plans for
- B do surgery on
- **C** give medicine to
- **D** check over carefully

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

Part A

Use the chart to write the clues for the phrase "hospital workers." Write the phrase in the first box. After you write the clues, write what you think the phrase means.

Phrase:

Clue

Meaning

Part B

What is the goal of all the hospital workers?

- A to check that the patients are getting better
- **B** to give the patients the care they need to get better
- **C** to check each patient's temperature and heartbeat
- **D** to keep files about the doctors' plans

5	In paragraph 3, the author says, "They make sure patients improve each day." What does the word "improve" mean? Write a sentence from the passage that gives a clue about the meaning of the word "improve."			
	Write what you think the w	ord "improve" means.		
11111111111 6				
		in the second		
	Clue One	Clue Two	Clue Three	
7	Write an Extended Respo you found to tell why a hos	nse Write about the information pital is a busy place.		



Show Equal Parts of a Whole

Essential Question How do you know if a shape shows halves, thirds, or fourths?

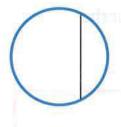
MATHEMATICAL PRACTICES MP5, MP6

Listen and Draw

Circle the shapes that show equal parts.



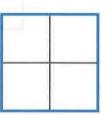


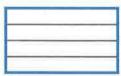














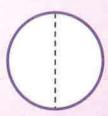
HOME CONNECTION • Your child completed this sorting activity with shapes to review the concept of equal parts.



MATHEMATICAL PRACTICES 6

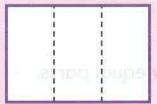
Does the triangle show halves? Explain.

halves 2 equal parts



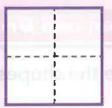
There are 2 halves in a whole.

thirds 3 equal parts



There are 3 thirds in a whole.

fourths 4 equal parts



There are 4 fourths in a whole.

Share and Show



Draw to show equal parts.

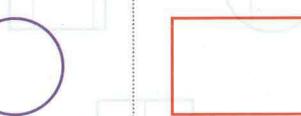
I. thirds



2. halves



3. fourths



4. halves





6. thirds



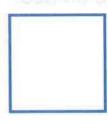
7. halves



8. fourths



blunde bes 9 9. thirds work bt



10. thirds



II. halves



12. fourths



13. halves

Chapter II • Lesson 9



14. thirds



15. fourths



16. Does this shape show thirds? Explain.



Problem Solving • Applications (Wor





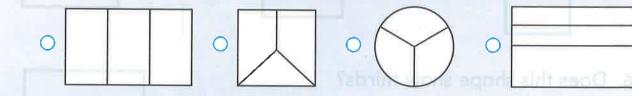
17. Colton and three friends want to share a pizza equally. Draw to show how the pizza should be divided.



18. There are two square pizzas. Each pizza is cut into fourths. How many pieces of pizza are there?

_____ pieces

Fill in the bubble next to the shapes that show thirds. Explain your answer.





TAKE HOME ACTIVITY • Have your child describe how to show equal parts of a shape.

Show Equal Parts of a Whole

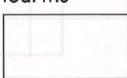
COMMON CORE STANDARD-2.G.A.3 Reason with shapes and their attributes.

Draw to show equal parts.

I. halves



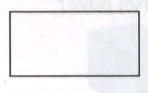
2. fourths



3. thirds



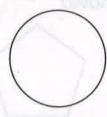
4. thirds



5. halves



6. fourths



Problem Solving (Real World



Solve. Write or draw to explain.

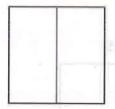
7. Joe has one sandwich. He cuts the sandwich into fourths. How many pieces of sandwich does he have?

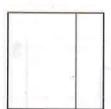
pieces

Draw three rectangles. Then draw to show halves, thirds, and fourths. Write about each whole that you have drawn.

Lesson Check (2.G.A.3)

1. Circle the shape divided into fourths.



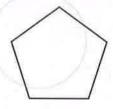






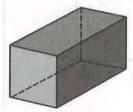
Spiral Review (2.MD.A.4, 2.G.A.1)

2. How many angles does this shape have?



____ angles

3. How many faces does a rectangular prism have?

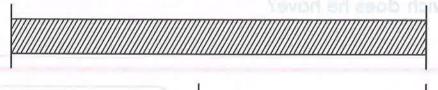


faces

Then draw to show halves, thirds

4. Use a centimeter ruler. Measure the length of each object.

How much longer is the ribbon than the string?



____ centimeters longer _____ avoid upy to the

Show Equal Parts of a Whole

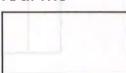
COMMON CORE STANDARD—2.G.A.3Reason with shapes and their attributes.

Draw to show equal parts.

I. halves



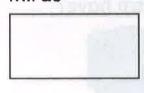
2. fourths



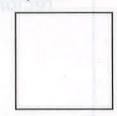
3. thirds



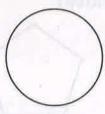
4. thirds



5. halves



6. fourths



Problem Solving



Solve. Write or draw to explain.

7. Joe has one sandwich. He cuts the sandwich into fourths. How many pieces of sandwich does he have?

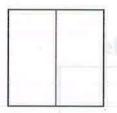
_ pieces

8. Draw three rectangles.
Then draw to show halves, thirds,
and fourths. Write about each whole
that you have drawn.



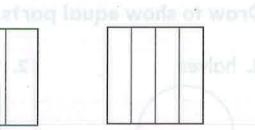
Lesson Check (2.G.A.3)

1. Circle the shape divided into fourths.



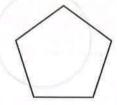






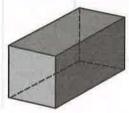
Spiral Review (2,MD.A.4, 2.G.A.1)

2. How many angles does this shape have?



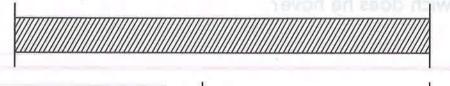
angles

3. How many faces does a rectangular prism have?



faces

4. Use a centimeter ruler. Measure the length of each object. How much longer is the ribbon than the string?



centimeters longer

2nd Grade NTI Packet Day 30



WORDS TO KNOW

As you read, look inside, around, and beyond these words to figure out what they mean.

- motor
- seesaw

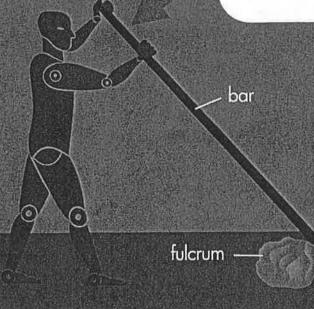
by Julian Green

What is a machine? You might think it's something 1 that has a motor. But a machine is any tool that helps us move things. Two simple machines are levers and pulleys.

Seesaw bar load fulcrum

Using a Lever

A lever is made of a solid bar and a fulcrum. The fulcrum is the spot that the bar rests on. It is close to the object you are lifting. When one end of the bar goes down, the other end goes up, like a seesaw. If one end of the bar is longer than the other, it can be used to lift an object. The object is called the load. With a long, strong lever, you can lift really heavy loads.



Lesson 18 Explaining How Images Support Text

load

- A pulley is another kind of machine. It can also be used to lift a load. It is made of a rope and a wheel. The rope passes over the wheel. When you pull down on one end of the rope, the other goes up. If something is tied to the rope, it goes up, too. You might have window blinds that work this way.
- Machines like these have been used for thousands of years. Many of today's biggest machines are still based on levers and pulleys.

rope

Using a Pulley

wheel

- Think Use what you learned from reading "Levers and Pulleys" to respond to these questions.
 - This question has two parts. Answer Part A. Then answer Part B.

Part A

Which of the following **best** tells what a "machine" is?

- A anything that has a motor
- B a tool that helps us move things
- C tools made with wheels and fulcrums
- D anything used to lift heavy loads

Part B

Write the words that name two simple machines.

motor lever fulcrum pulley load pivot

- Look at the the diagram of the seesaw on page 304.
 What does the bar rest on?
 - A a wheel
 - **B** the load
 - C the fulcrum
 - **D** the ground

- What do the diagrams of a lever and a pulley in the article show?
 - A how to make objects easier to move
 - B how to have fun with a simple machine
 - C how to use a rope to lift something
 - D how to use a bar to move something
- Look carefully at the diagram showing a person moving a rock.
 What does it show about using a lever to lift something?
 - A The center of the bar should rest on the fulcrum.
 - **B** The bar should be long and very heavy.
 - **C** The fulcrum should be closer to the person.
 - **D** The fulcrum should be closer to the load.
- How do the text and the diagrams help you understand the meaning of "load"?

- How does the diagram of the pulley help you understand how to use a pulley?
 - **A** It shows how to attach the object to the rope.
 - **B** It shows how pulling down on the rope lifts the object.
 - **C** It shows how fast the wheel has to turn.
 - **D** It shows how hard a person needs to pull.

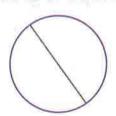
scribe Equal Parts

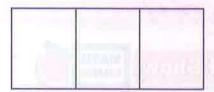
sential Question How do you find a half of, third of, or a fourth of a whole?

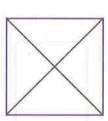
MP3, MP4, MP6

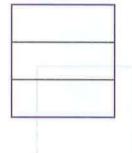
Listen and Draw

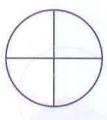
Find shapes that show fourths and color them green. Find shapes that show halves and color them red.

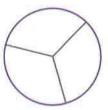


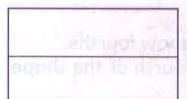














MATHEMATICAL PRACTICES

Describe how the thirds in the unshaded shapes compare to each other.

HOME CONNECTION • Your child identified the number of equal parts in shapes to review describing equal parts of a whole.

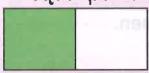
Model and Draw

These are some ways to show and describe an equal part of a whole.

I of 4 equal parts is called a **quarter of** that shape.

SHOUDS DOING

2 equal parts



A **half of** the shape is green.

3 equal parts

A **third of** the shape is green.

4 equal parts

A **fourth of** the shape is green.

Share and Show

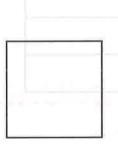


Draw to show thirds.
Color a third of the shape.

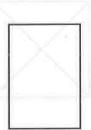
ı.



2.

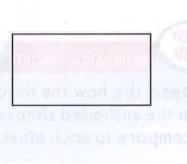


₫3.

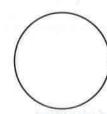


Draw to show fourths.
Color a fourth of the shape.

4.



5.



€6.

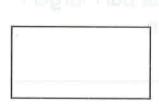


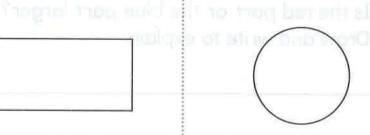
On Your Own



Draw to show halves. Color a half of the shape.







Draw to show thirds. Color a third of the shape.

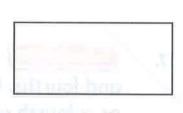
10.



II.



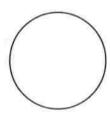
12.



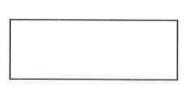
Draw to show fourths. Color a fourth of the shape.

13.

O Houghton Mifflin Harcourt Publishing Company • Image Credits: @Matthew, Cole/Shutterstock



14.



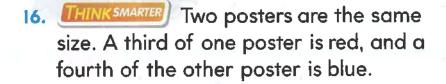
15.



Problem Solving • Applications (Real



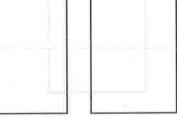




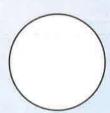


Is the red part or the blue part larger? Draw and write to explain.





Draw to show halves, thirds, and fourths. Color a half of, a third of, or a fourth of the shape.









TAKE HOME ACTIVITY • Draw a square. Have your child draw to show thirds and color a third of the square.

Describe Equal Parts

Draw to show halves. It experts not to him plan Color a half of the shape.

I.



2.



Draw to show thirds. Color a third of the shape.

3.



4.

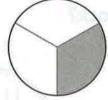


Problem Solving



5. Circle all the shapes that have a third of the shape shaded.







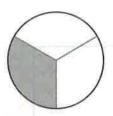


- WRITE Math Draw pictures to show a third of a whole and a fourth of a whole. Label each picture.

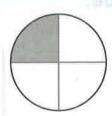


Lesson Check (2.G.A.3)

1. Circle the shape that has a half of the shape shaded.



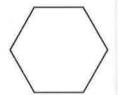






Spiral Review (2.Md.A.1, 2.Md.C.7, 2.G.A.1)

2. What is the name of this shape?



3. Use a centimeter ruler. What is the length of the string to the nearest centimeter?



___ centimeters

4. The clock shows the time Chris finished his homework. Write the time. Then circle a.m. or p.m.



a.m.

p.m.

5. What time is shown on this clock?



whole. Label each picture

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