

Interactive Math Journal

Measurement Edition



Journal Entries Included:

- Finding Area
- Finding Perimeter
- Measuring Length
- Customary Conversions
- Elapsed Time
- Liquid Volume

CUSTOMARY CONVERSIONS

You can multiply or divide to same system. You can use \times or \div .

$\div 12$

Liquid Volume

Liquid volume is the measurement of the amount of liquid in a contained space. The basic units of liquid volume in the customary system are gallons, quarts, pints, and cups.

G = Gallon 1 gallon = 4 quarts 8 pints 16 cups	Q = Quart 1 quart = 2 pints 4 cups
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PERIMETER

The perimeter of the shape is the measurement of the distance around the shape.

Measuring Length

There are two different systems for measuring length. You can use the customary system or the metric system. Learning the two systems are important. You cannot use both unless you convert them to appropriate unit of measurement.

AREA

The area of a shape is the total number of square side that shape.

ways to find the area of a shape.

1. You can count the square units in this shape. Area = 12 square units.

2. You can multiply the length times width. You can use the formula $A = L \times W$.

ways to find the area of irregular shapes have to be creative.

can count the square units in this shape. Area = 12 square units. You can use the formula $A = L \times W$ to find the area of the yellow square and red angle and then add them together.

$A = 2 \times 2 = 4$
 $A = 2 \times 4 = 8$
 $8 + 4 = 12$ square units

Elapsed Time

Elapsed time is the amount of time that passes between two events. If you know the start time and the end time of the event then you can find the elapsed time.

There are several strategies you can use to determine elapsed time.

Make a T-Chart

time	hours & mins
7:45	start
8:00	15 minutes
9:00	1 hour
10:00	1 hour
11:00	1 hour
11:30	30 minutes
11:37	7 minutes

Elapsed time = 3 hours and 52 minutes

Make a Z-Chart

time	hours & mins
3:30	start
4:00	30 minutes
4:30	30 minutes
5:00	30 minutes
6:08	8 minutes

Elapsed time = 2 hours and 38 minutes

Make a Number line

Start time = 1:24 pm
End time = 4:46 pm

Elapsed time = 3 hours and 22 minutes

Teacher Tips

It is suggested you teach the skills in the following order:

1. Measuring Length
2. Customary Conversions
3. Liquid Volume
4. Finding Perimeter
5. Finding Area
6. Elapsed Time

Each Skill has 4 different activities/entries, you can include some or all of the activities in your math journal.

Possible Instructional Plan

Day 1 – Introduce the skill with the anchor chart.

Day 2 – Create Foldable and use Extension Activities

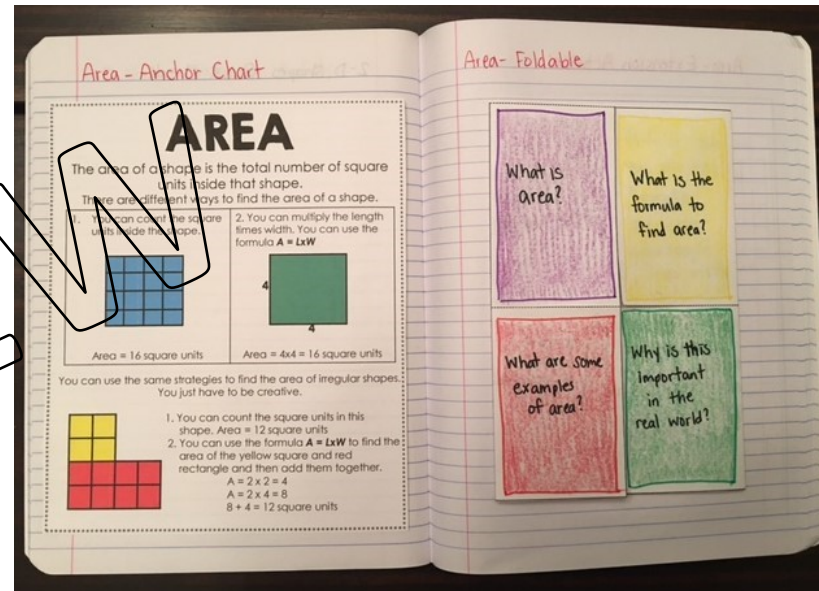
Day 3 – Quick Check

The Extension Activities can be placed in a center or sent home as homework if you don't want to include them in the math journal.

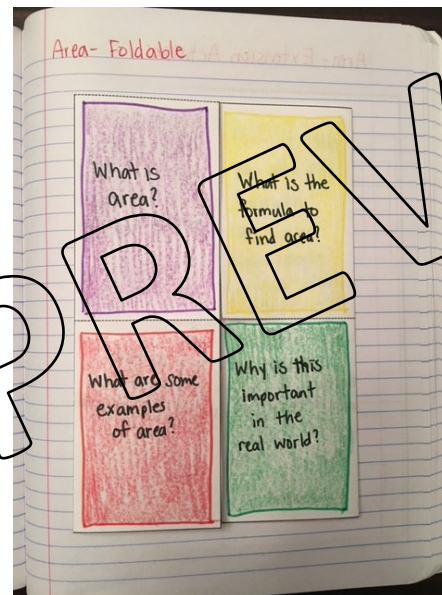
Area – Assembly Notes & Directions

Anchor Chart

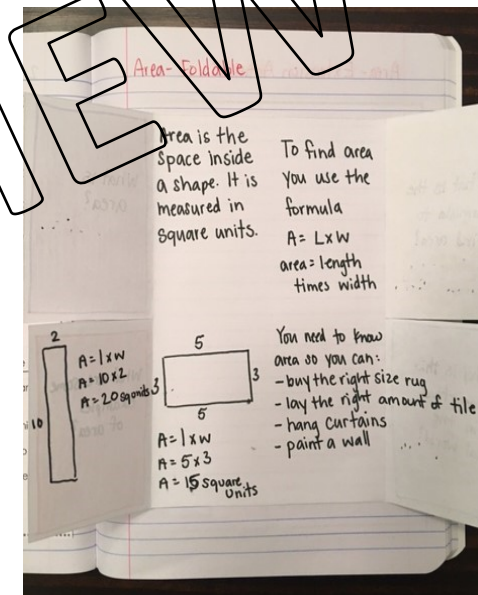
Make enough copies for students. Have students cut and paste in their math journal. Review anchor chart with students as you would a full size anchor chart. Students will be able to reference back to this page if they have questions about area.



Foldable - Outside



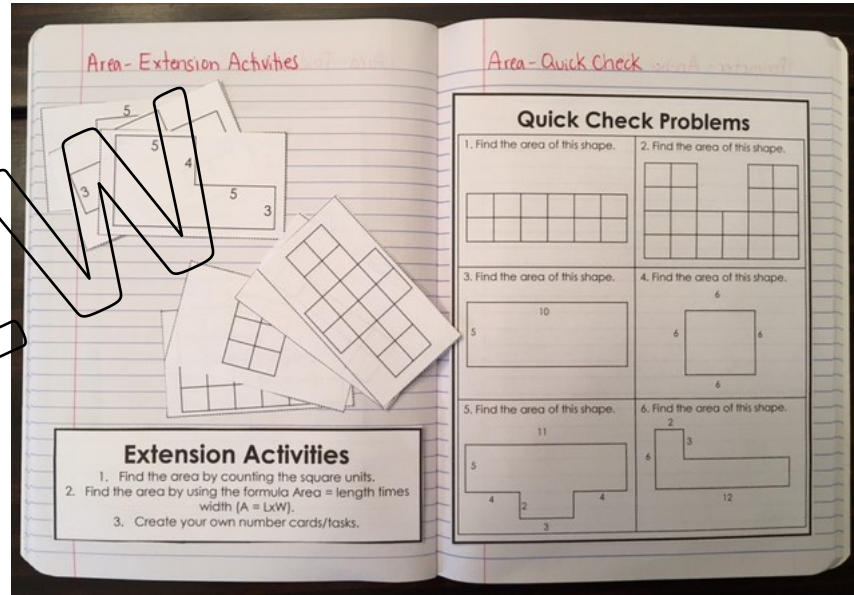
Foldable - Inside



Area – Assembly Notes & Directions

Extension Activities

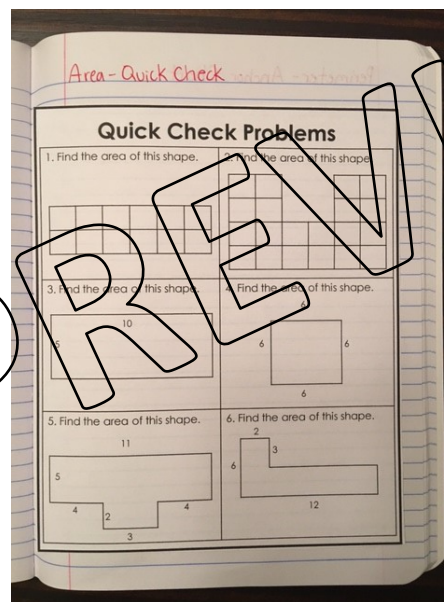
Give each student a copy of the Extension Activities list to place in their journal as well as a copy of the extension cards. Have students glue a small envelope into their math journal to store their extension cards. You can use the extension activities as a math center, early finisher activity, or homework.



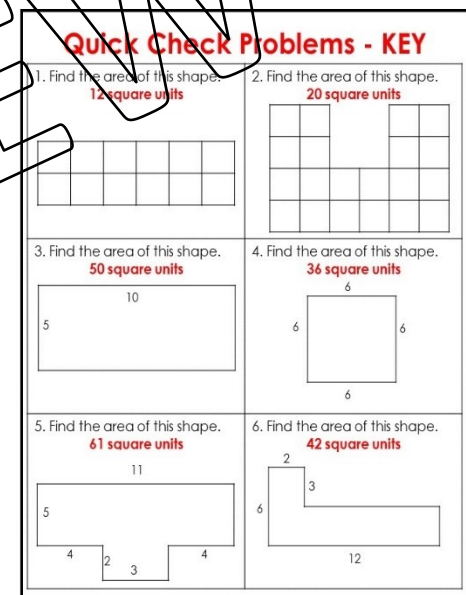
Quick Check

Give each student a copy of the Quick Check sheet. Students can glue them in their math journal as a reference page, or you can collect them. The quick check can be used as a formative assessment to see where your students' level of mastery is after you have spent a few days practicing the skill.

Quick Check



Quick Check - Key

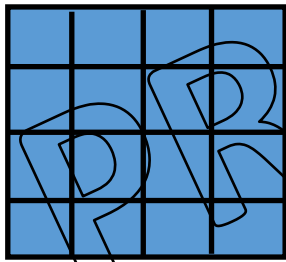


AREA

The area of a shape is the total number of square units inside that shape.

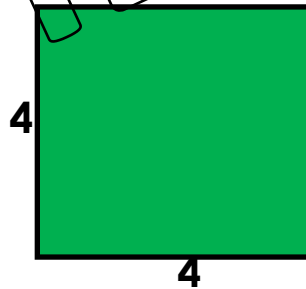
There are different ways to find the area of a shape.

1. You can count the square units inside the shape.



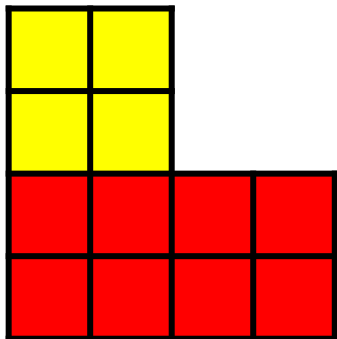
Area = 16 square units

2. You can multiply the length times width. You can use the formula $A = L \times W$



Area = $4 \times 4 = 16$ square units

You can use the same strategies to find the area of irregular shapes. You just have to be creative.



1. You can count the square units in this shape. Area = 12 square units
2. You can use the formula $A = L \times W$ to find the area of the yellow square and red rectangle and then add them together.

$$A = 2 \times 2 = 4$$

$$A = 2 \times 4 = 8$$

$$8 + 4 = 12 \text{ square units}$$

PREVIEW

PREVIEW

Extension Activities

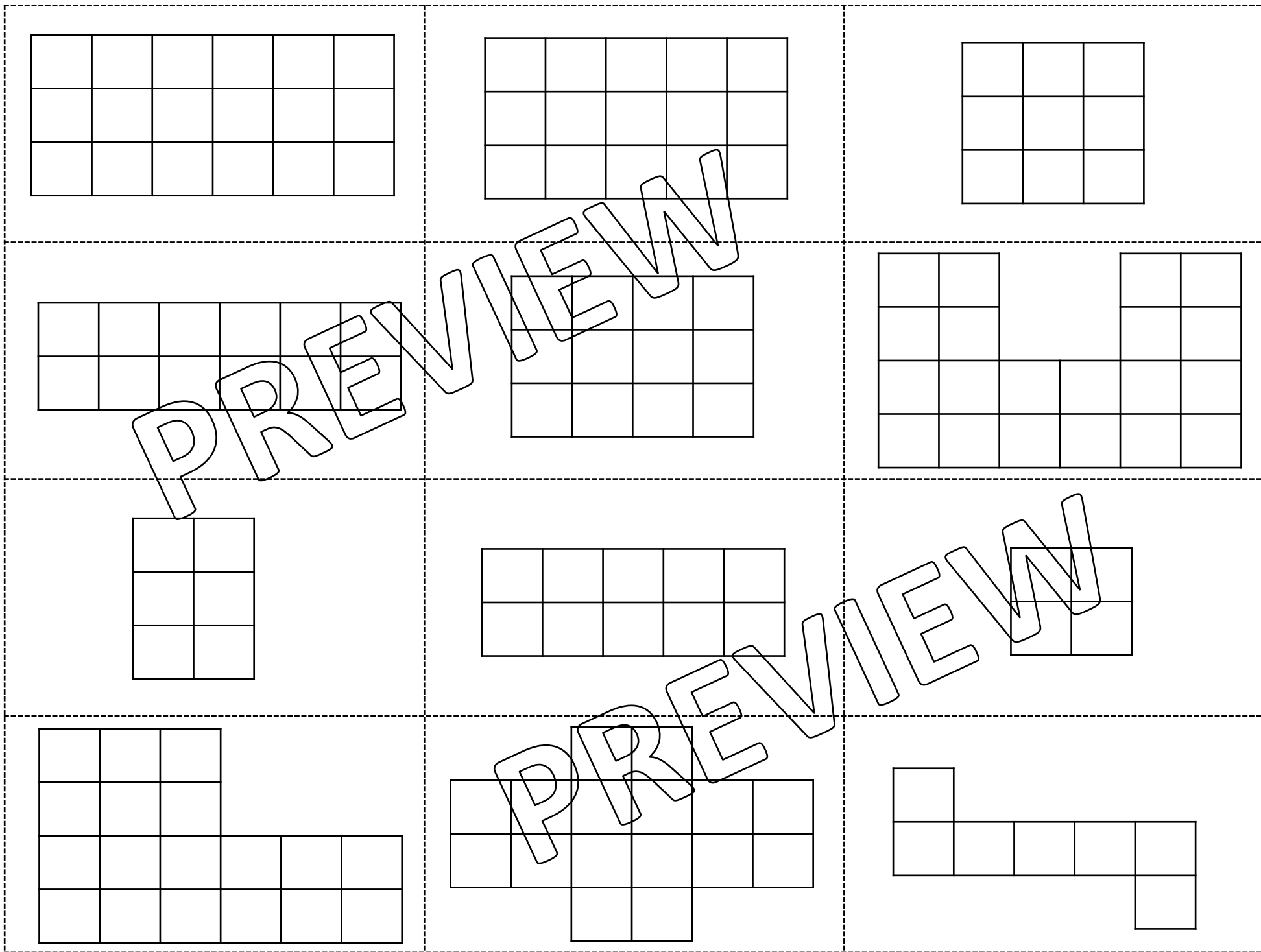
1. Find the area by counting the square units.
2. Find the area by using the formula Area = length times width ($A = L \times W$).
3. Create your own number cards/tasks.

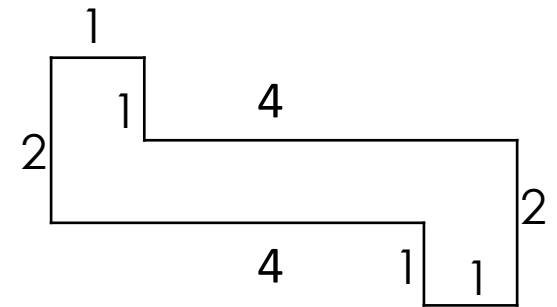
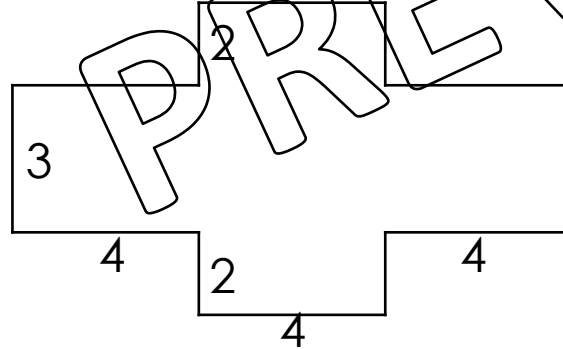
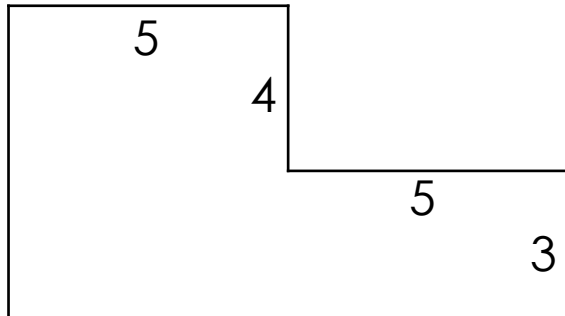
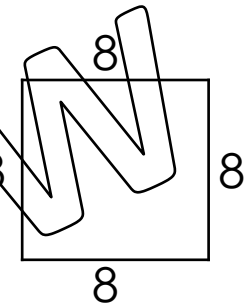
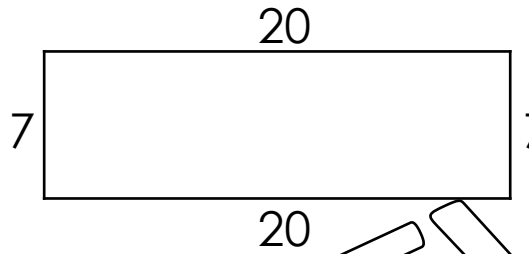
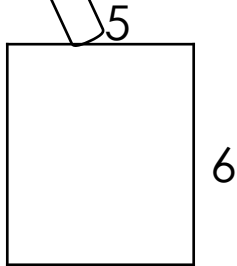
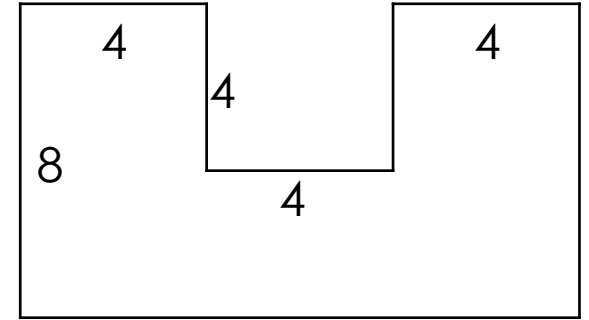
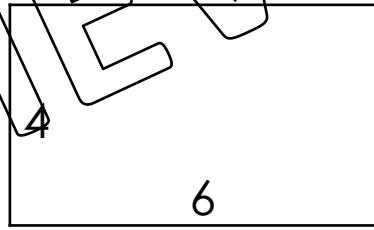
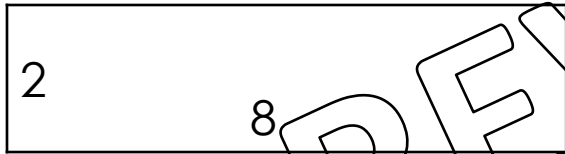
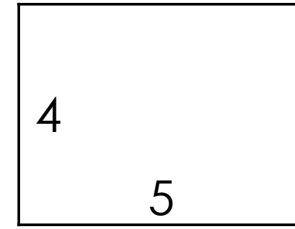
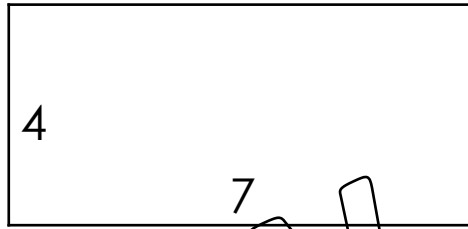
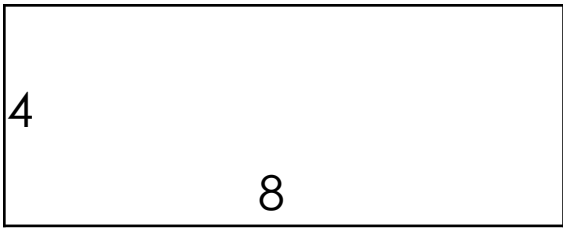
Extension Activities

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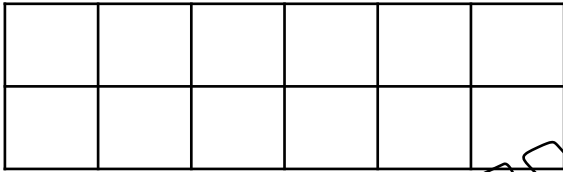


PREVIEW

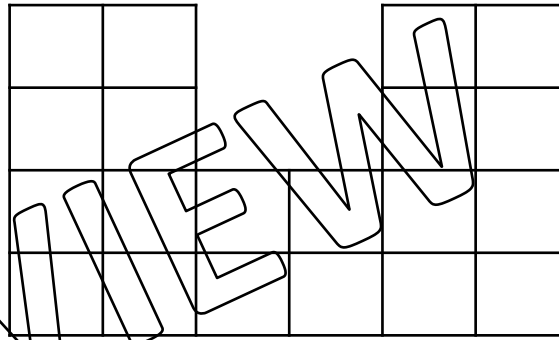
PREVIEW

Quick Check Problems

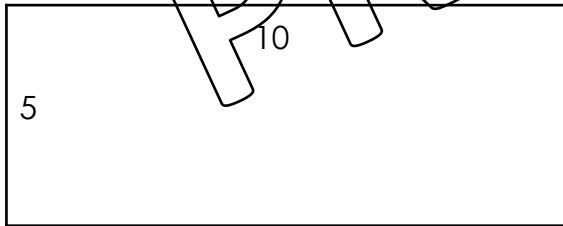
1. Find the area of this shape.



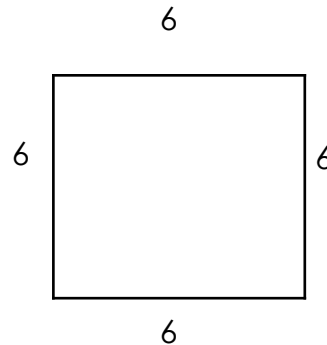
2. Find the area of this shape.



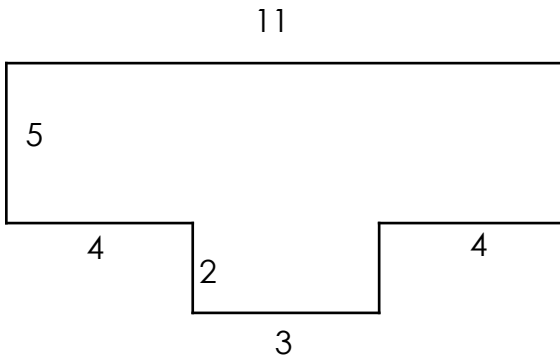
3. Find the area of this shape.



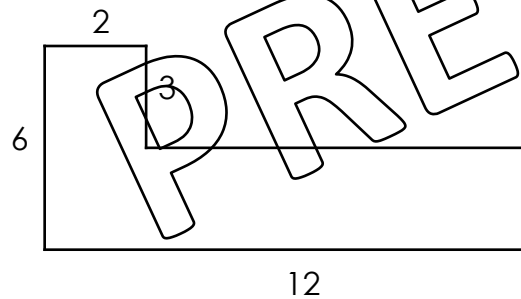
4. Find the area of this shape.



5. Find the area of this shape.



6. Find the area of this shape.



Quick Check Problems - KEY

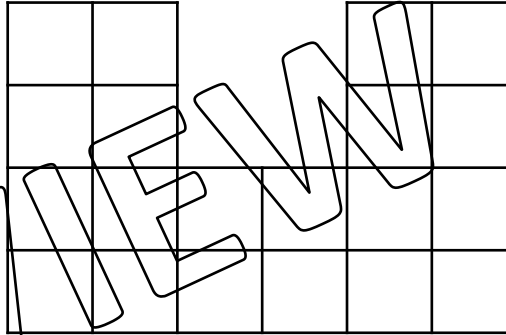
1. Find the area of this shape.

12 square units



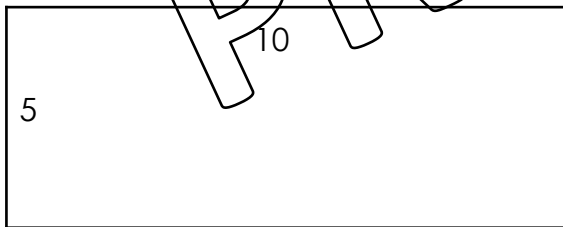
2. Find the area of this shape.

20 square units



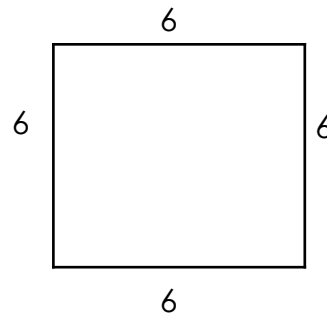
3. Find the area of this shape.

50 square units



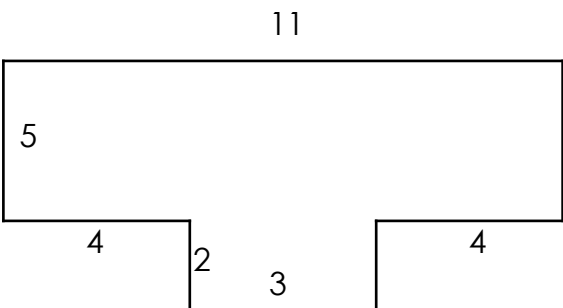
4. Find the area of this shape.

36 square units



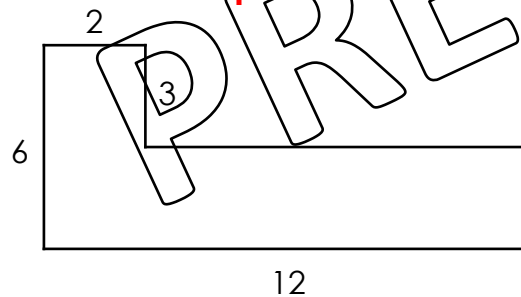
5. Find the area of this shape.

61 square units



6. Find the area of this shape.

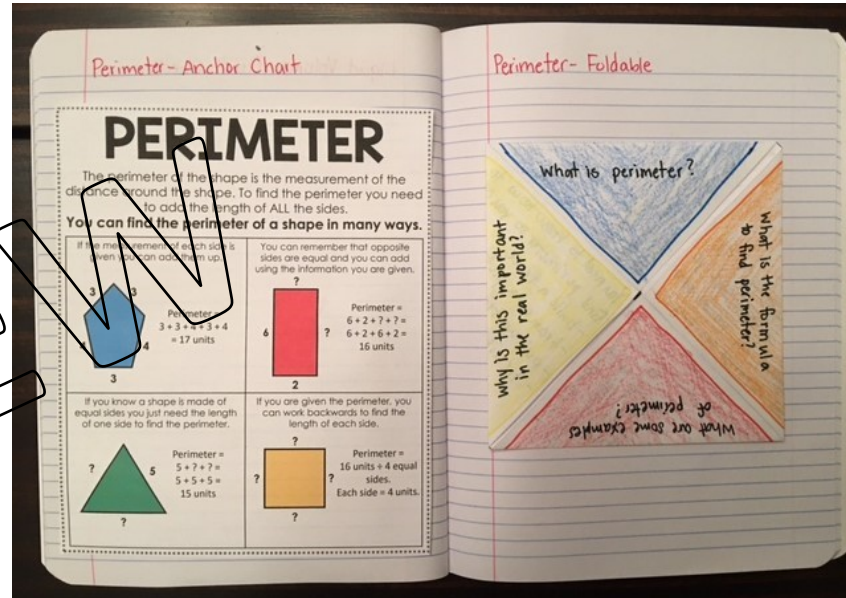
42 square units



Perimeter – Assembly Notes & Directions

Anchor Chart

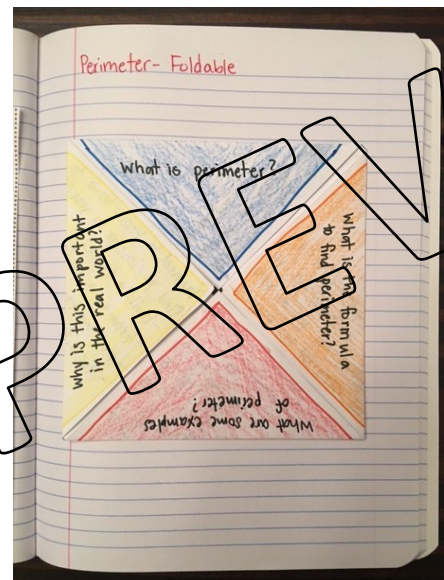
Make enough copies for students. Have students cut and paste in their math journal. Review anchor chart with students as you would a full size anchor chart. Students will be able to reference back to this page if they have questions about perimeter.



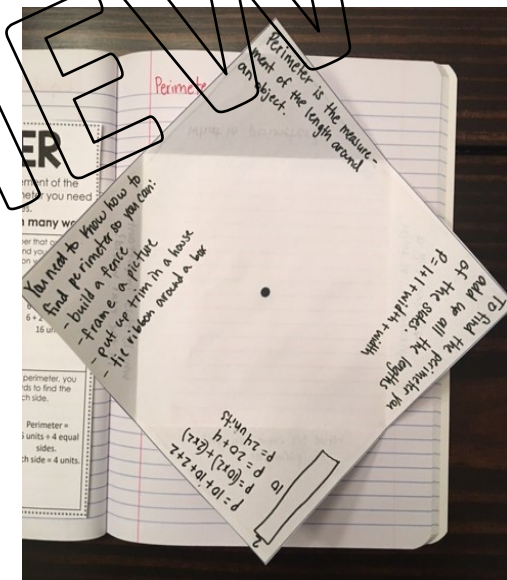
Foldable - Outside

Foldable

See the example provided in the pictures to the right. Create foldable with students. You can modify the examples to meet your students specific learning needs.



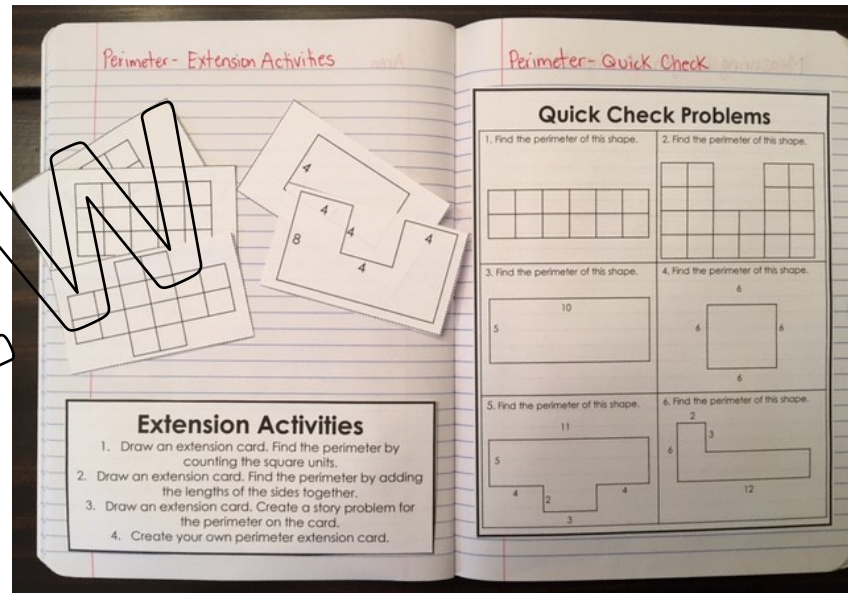
Foldable - Inside



Perimeter – Assembly Notes & Directions

Extension Activities

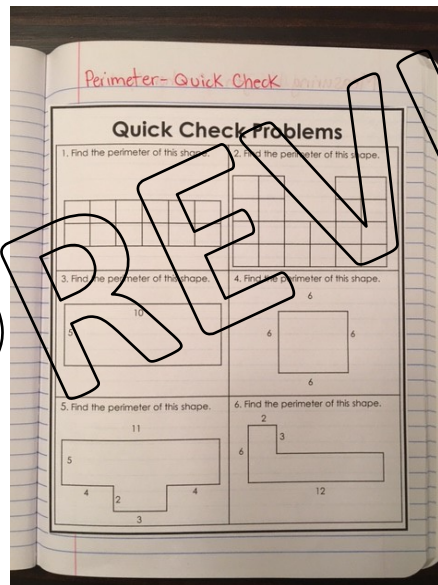
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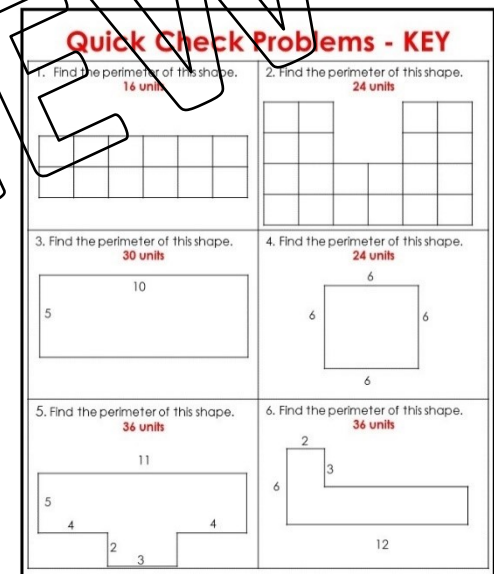
Quick Check

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Quick Check



Quick Check - Key

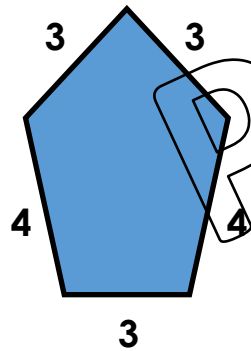


PERIMETER

The perimeter of the shape is the measurement of the distance around the shape. To find the perimeter you need to add the length of ALL the sides.

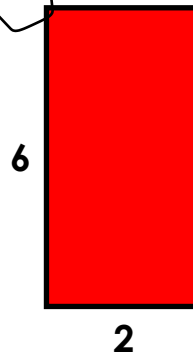
You can find the perimeter of a shape in many ways.

If the measurement of each side is given you can add them up.



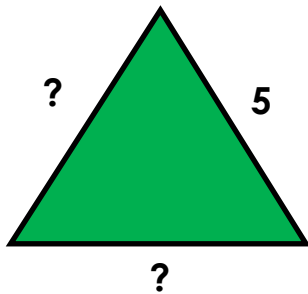
$$\begin{aligned} \text{Perimeter} &= \\ 3 + 3 + 4 + 3 + 4 \\ &= 17 \text{ units} \end{aligned}$$

You can remember that opposite sides are equal and you can add using the information you are given.



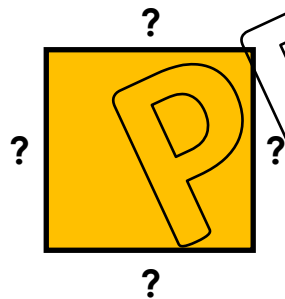
$$\begin{aligned} \text{Perimeter} &= \\ 6 + 2 + ? + ? &= \\ 6 + 2 + 6 + 2 &= \\ 16 \text{ units} \end{aligned}$$

If you know a shape is made of equal sides you just need the length of one side to find the perimeter.



$$\begin{aligned} \text{Perimeter} &= \\ 5 + ? + ? &= \\ 5 + 5 + 5 &= \\ 15 \text{ units} \end{aligned}$$

If you are given the perimeter, you can work backwards to find the length of each side.



$$\begin{aligned} \text{Perimeter} &= \\ 16 \text{ units} \div 4 \text{ equal} & \\ \text{sides.} & \\ \text{Each side} &= 4 \text{ units.} \end{aligned}$$

PREVIEW



PREVIEW

Extension Activities

1. Draw an extension card. Find the perimeter by counting the square units.
2. Draw an extension card. Find the perimeter by adding the lengths of the sides together.
3. Draw an extension card. Create a story problem for the perimeter on the card.
4. Create your own perimeter extension card.

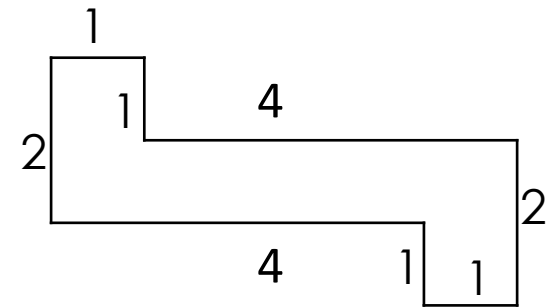
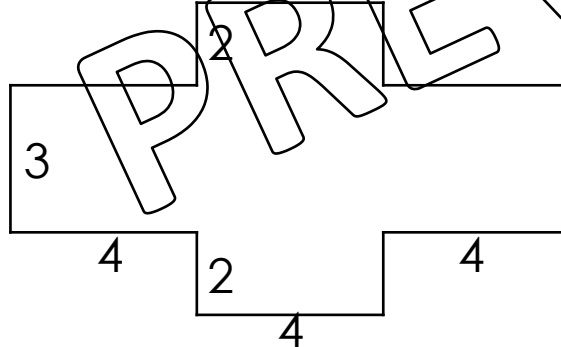
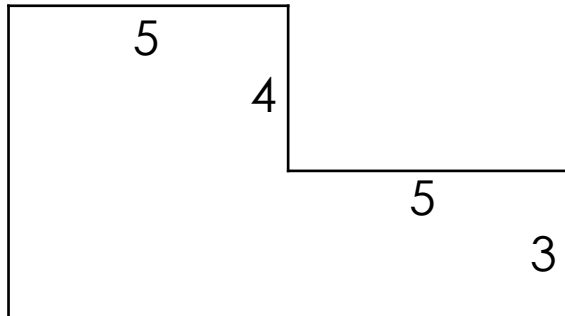
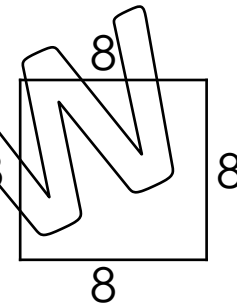
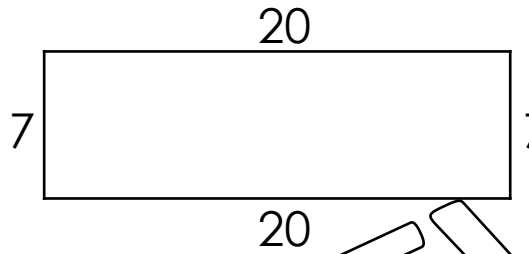
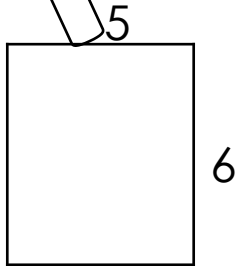
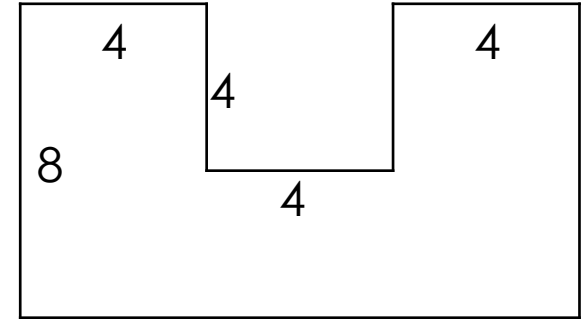
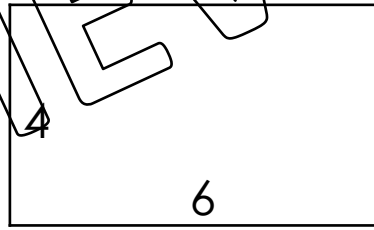
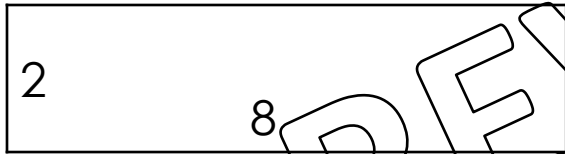
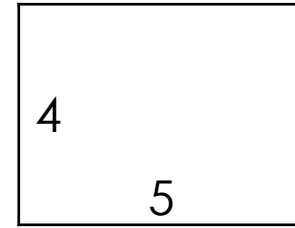
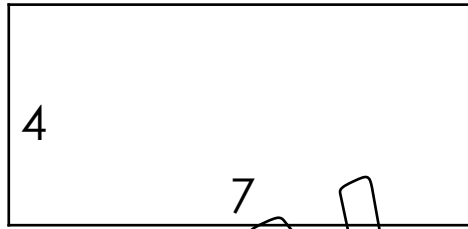
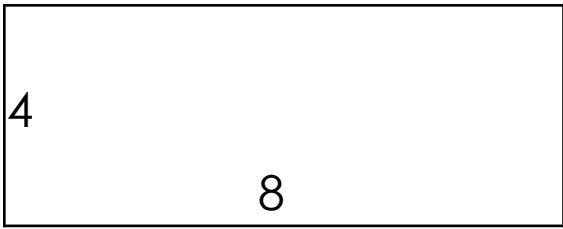
Extension Activities

1. Draw an extension card. Find the perimeter by counting the square units.
2. Draw an extension card. Find the perimeter by adding the lengths of the sides together.
3. Draw an extension card. Create a story problem for the perimeter on the card.
4. Create your own perimeter extension card.

PREVIEW

PREVIEW

PREVIEW

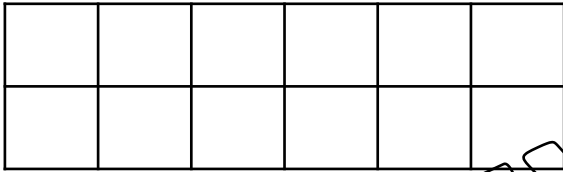


PREVIEW

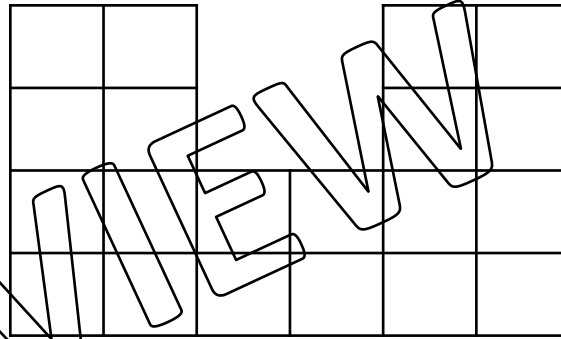
PREVIEW

Quick Check Problems

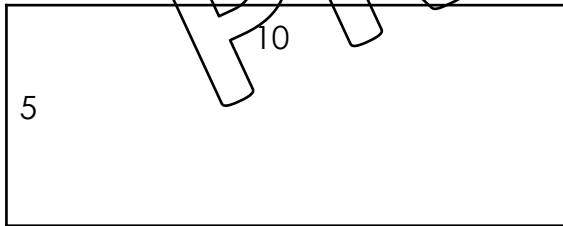
1. Find the perimeter of this shape.



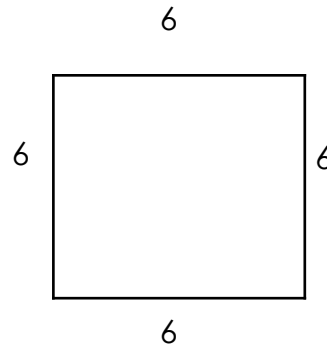
2. Find the perimeter of this shape.



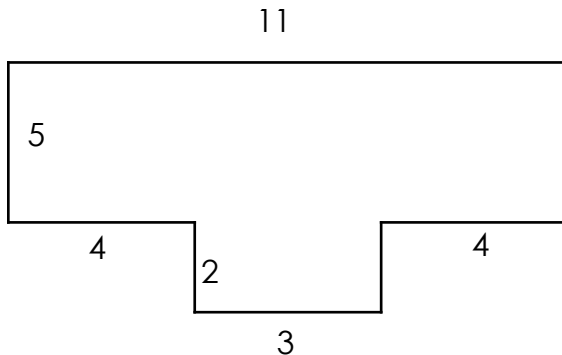
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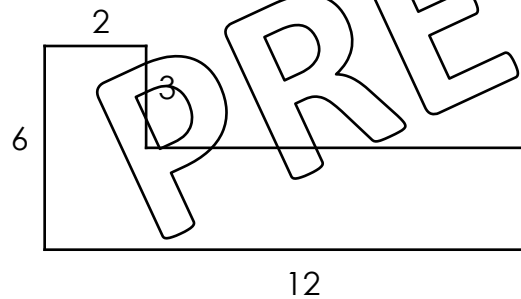
4. Find the perimeter of this shape.



5. Find the perimeter of this shape.



6. Find the perimeter of this shape.



Quick Check Problems - KEY

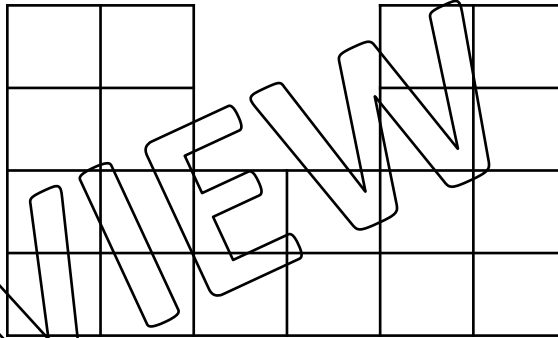
1. Find the perimeter of this shape.

16 units



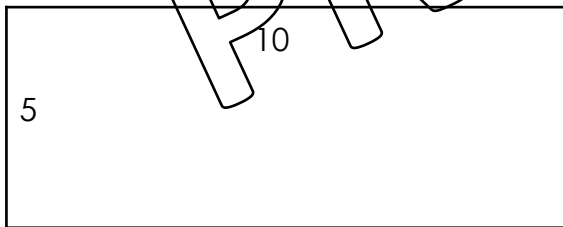
2. Find the perimeter of this shape.

24 units



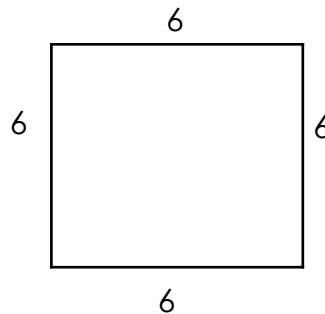
3. Find the perimeter of this shape.

30 units



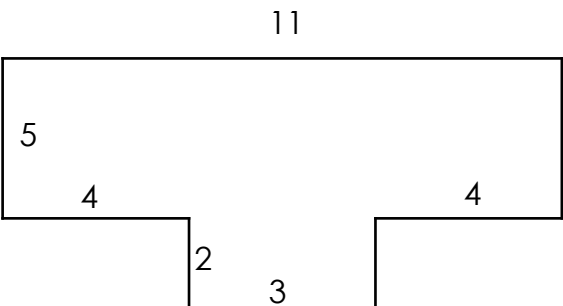
4. Find the perimeter of this shape.

24 units



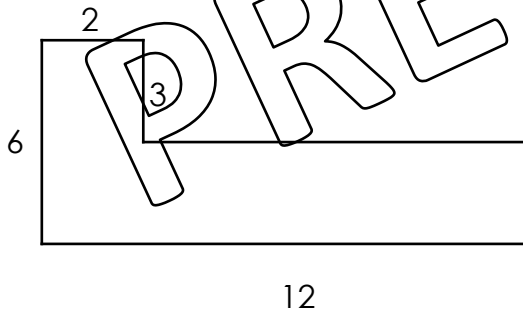
5. Find the perimeter of this shape.

36 units



6. Find the perimeter of this shape.

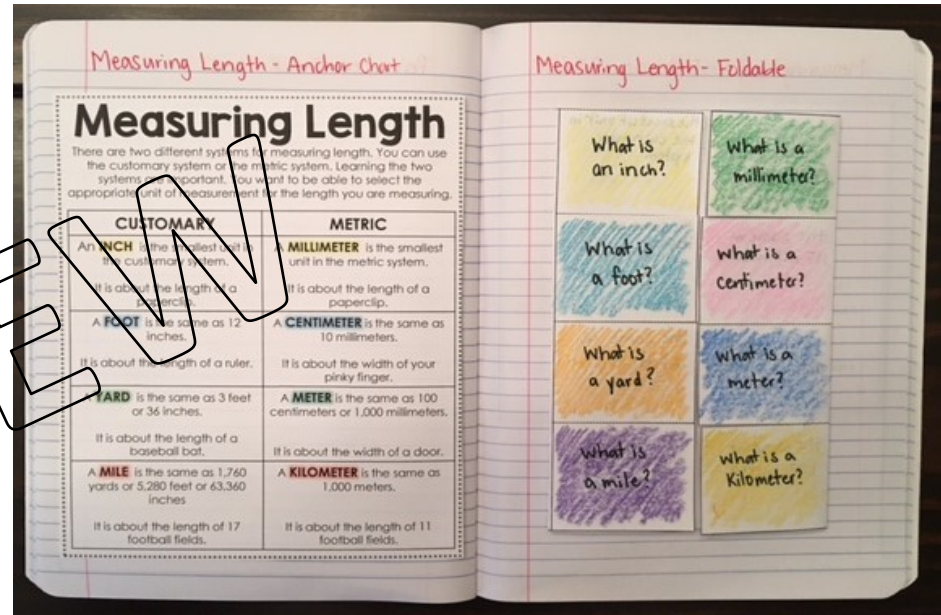
36 units



Measuring Length – Assembly Notes & Directions

Anchor Chart

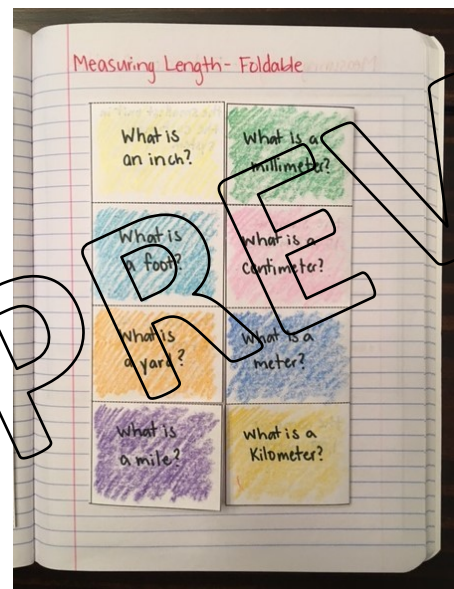
Make enough copies for students. Have students cut and paste in their math journal. Review anchor chart with students as you would a full size anchor chart. Students will be able to reference back to this page if they have questions about measuring length.



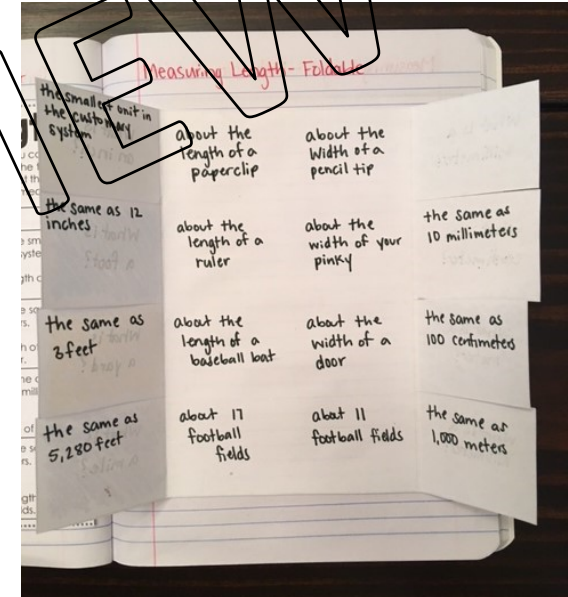
Foldable - Outside

Foldable

See the example provided in the pictures to the right. Create foldable with students. You can modify the examples to meet your students specific learning needs.



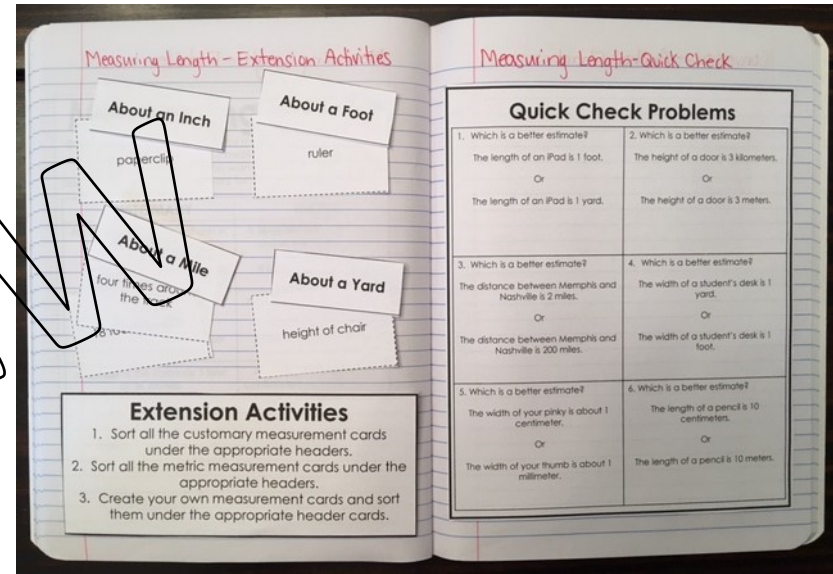
Foldable - Inside



Measuring Length – Assembly Notes & Directions

Extension Activities

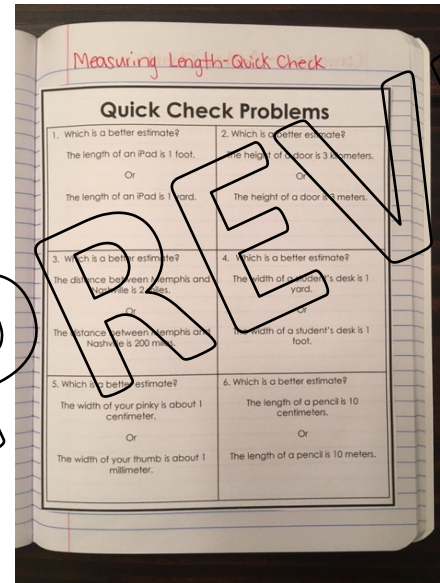
Give each student a copy of the Extension Activities list to place in their journal as well as a copy of the extension cards. Have students glue a small envelope into their math journal to store their extension cards. You can use the extension activities as a math center, early finisher activity, or homework.



Quick Check

Give each student a copy of the Quick Check sheet. Students can glue them in their math journal as a reference page, or you can collect them. The quick check can be used as a formative assessment to see where your students level of mastery is after you have spent a few days practicing the skill.

Quick Check



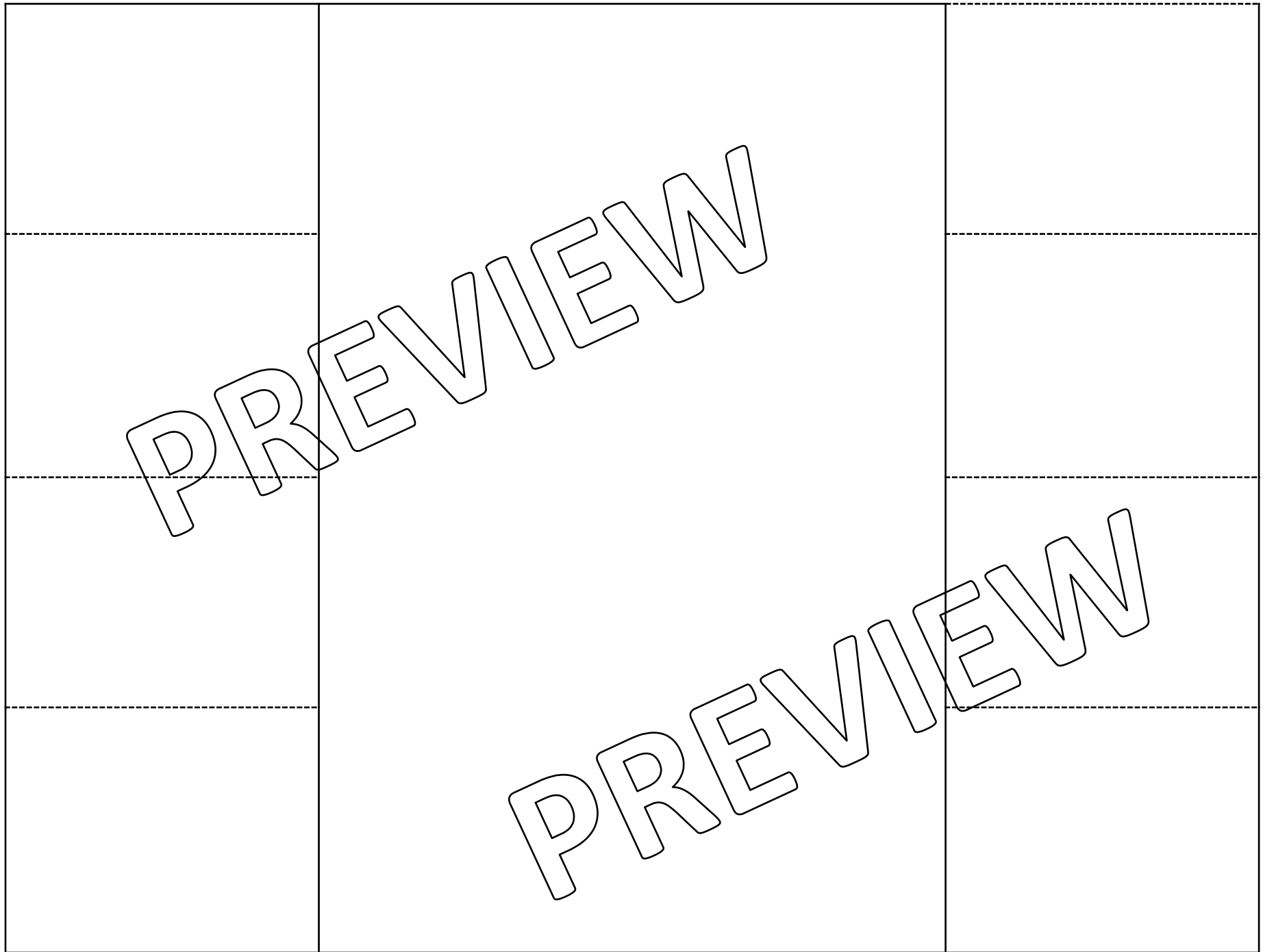
Quick Check - Key

1. Which is a better estimate? The length of an iPad is 1 foot. Or The length of an iPad is 1 yard.	2. Which is a better estimate? The height of a door is 3 kilometers. Or The height of a door is 3 meters.
3. Which is a better estimate? The distance between Memphis and Nashville is 2 miles. Or The distance between Memphis and Nashville is 200 miles.	4. Which is a better estimate? The width of a student's desk is 1 yard. Or The width of a student's desk is 1 foot.
5. Which is a better estimate? The width of your pinky is about 1 centimeter. Or The width of your thumb is about 1 millimeter.	6. Which is a better estimate? The length of a pencil is 10 centimeters. Or The length of a pencil is 10 meters.

Measuring Length

There are two different systems for measuring length. You can use the customary system or the metric system. Learning the two systems are important. You want to be able to select the appropriate unit of measurement for the length you are measuring.

CUSTOMARY	METRIC
<p>An INCH is the smallest unit in the customary system.</p> <p>It is about the length of a paperclip.</p>	<p>A MILLIMETER is the smallest unit in the metric system.</p> <p>It is about the width of a pencil tip.</p>
<p>A FOOT is the same as 12 inches.</p> <p>It is about the length of a ruler.</p>	<p>A CENTIMETER is the same as 10 millimeters.</p> <p>It is about the width of your pinky finger.</p>
<p>A YARD is the same as 3 feet or 36 inches.</p> <p>It is about the length of a baseball bat.</p>	<p>A METER is the same as 100 centimeters or 1,000 millimeters.</p> <p>It is about the width of a door.</p>
<p>A MILE is the same as 1,760 yards or 5,280 feet or 63,360 inches</p> <p>It is about the length of 17 football fields.</p>	<p>A KILOMETER is the same as 1,000 meters.</p> <p>It is about the length of 11 football fields.</p>



Extension Activities

1. Sort all the customary measurement cards under the appropriate headers.
2. Sort all the metric measurement cards under the appropriate headers.
3. Create your own measurement cards and sort them under the appropriate header cards.

Extension Activities

1. Sort all the customary measurement cards under the appropriate headers.
2. Sort all the metric measurement cards under the appropriate headers.
3. Create your own measurement cards and sort them under the appropriate header cards.

About an Inch

About a Foot

About a Yard

About a Mile

paperclip

the distance you
can walk in 20 min

12 city blocks

book

baseball bat

whistle

knuckle

height of chair

clipboard

width of a desk

envelope

the height of a five
year old

four times around
the track

ruler

18 football fields

snap cube

About a Millimeter	About a Centimeter	About a Meter	About a Kilometer
--------------------	--------------------	---------------	-------------------

the length of a guitar	the width of a staple	the length of 10 football fields	the length of a flea
the thickness of a notebook	the height of a kitchen counter	the thickness of a penny	half the width of a penny
the thickness of a drivers license	the distance you can walk in 12 minutes	the width of your pinky	the height of a five year old
a little over half a mile	the width of a ball point pen tip	The width of your refrigerator	the length of 12 city blocks

PREVIEW

PREVIEW

Quick Check Problems

1. Which is a better estimate?

The length of an iPad is 1 foot.

Or

The length of an iPad is 1 yard.

2. Which is a better estimate?

The height of a door is 3 kilometers.

Or

The height of a door is 3 meters.

3. Which is a better estimate?

The distance between Memphis and Nashville is 2 miles.

Or

The distance between Memphis and Nashville is 200 miles.

4. Which is a better estimate?

The width of a student's desk is 1 yard.

Or

The width of a student's desk is 1 foot.

5. Which is a better estimate?

The width of your pinky is about 1 centimeter.

Or

The width of your thumb is about 1 millimeter.

6. Which is a better estimate?

The length of a pencil is 10 centimeters.

Or

The length of a pencil is 10 meters.

Quick Check Problems - KEY

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Or

The length of an iPad is 1 yard.

2. Which is a better estimate?

The height of a door is 3 kilometers.

Or

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3. Which is a better estimate?

The distance between Memphis and Nashville is 2 miles.

Or

The distance between Memphis and Nashville is 200 miles.

4. Which is a better estimate?

The width of a student's desk is 1 yard.

Or

The width of a student's desk is 1 foot.

5. Which is a better estimate?

The width of your pinky is about 1 centimeter.

Or

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6. Which is a better estimate?

The length of a pencil is 10 centimeters.

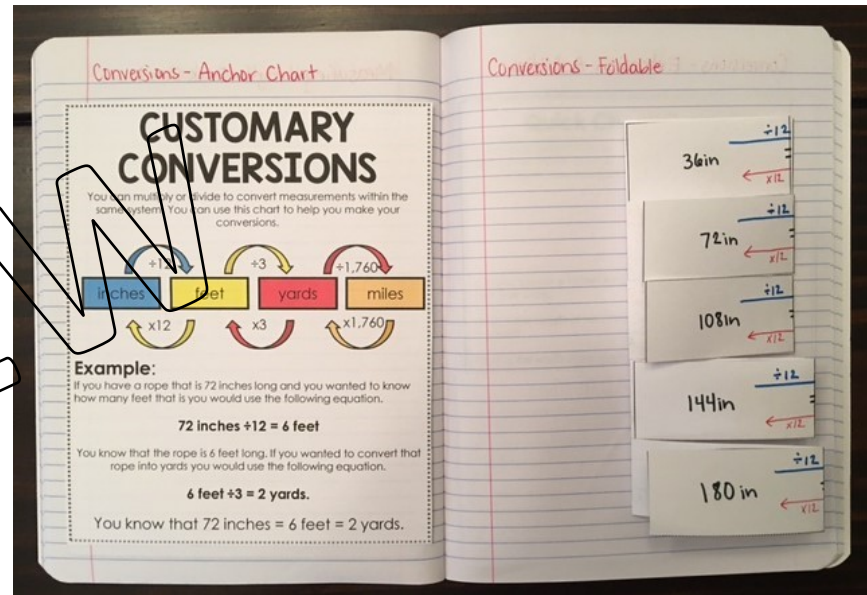
Or

The length of a pencil is 10 meters.

Customary Conversions – Assembly Notes & Directions

Anchor Chart

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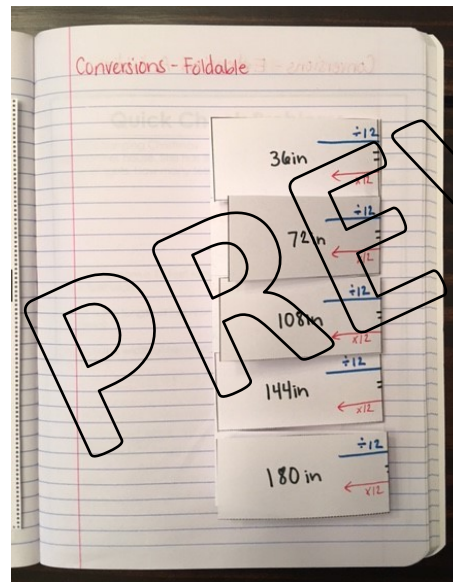


PREVIEW

Foldable - Outside

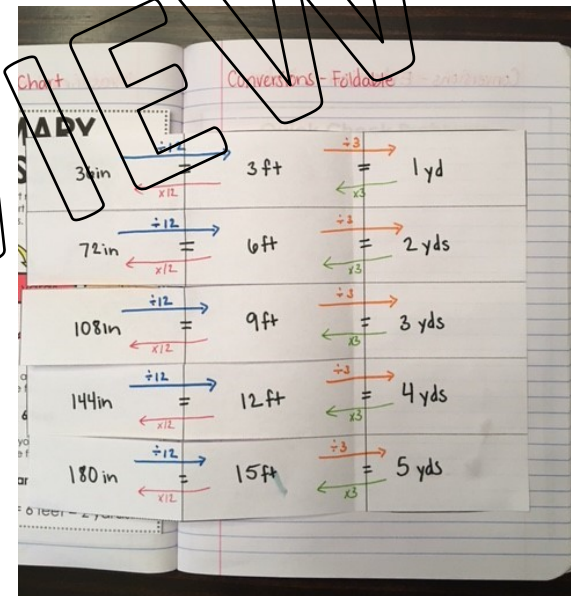
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PREVIEW

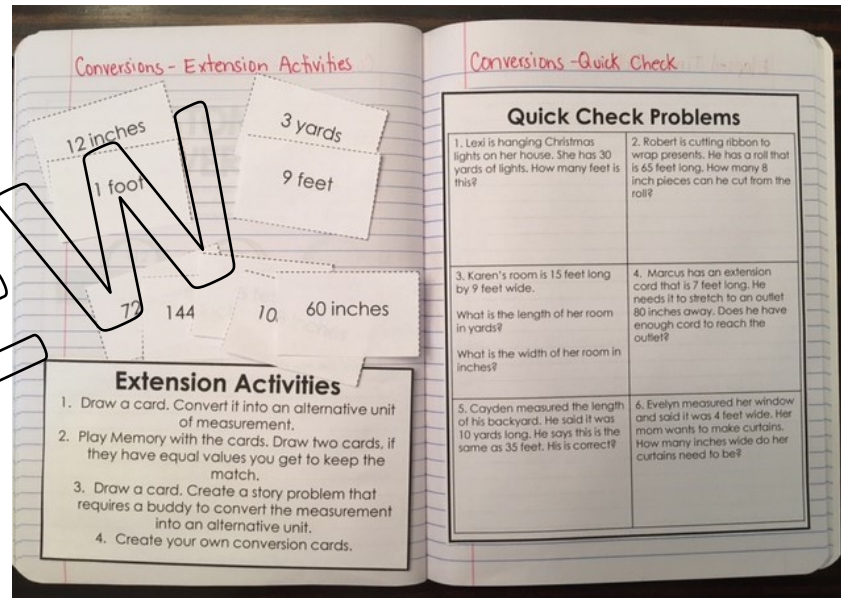
Foldable - Inside



Customary Conversions – Assembly Notes & Directions

Extension Activities

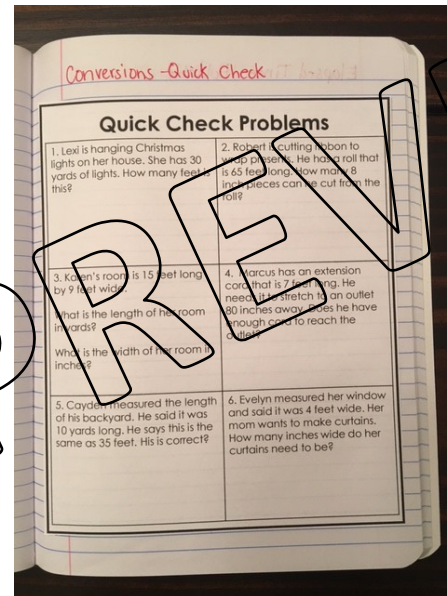
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Quick Check

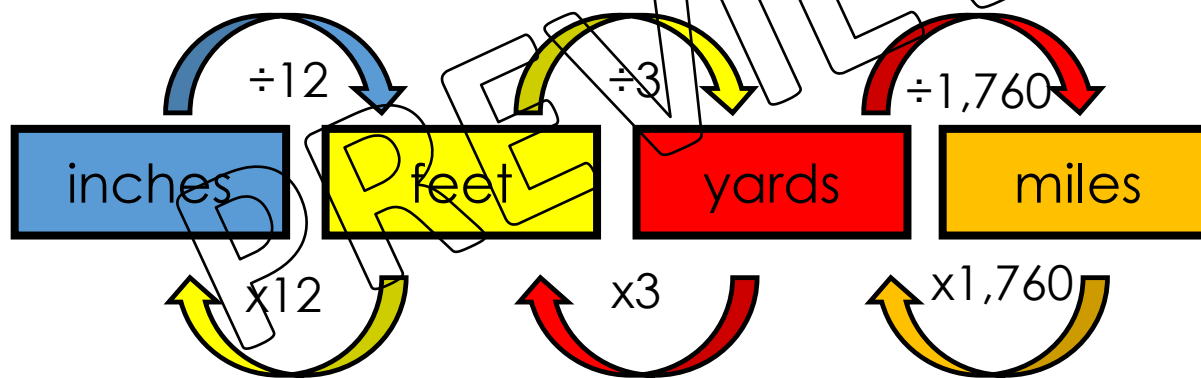


Quick Check - Key

Quick Check Problems - KEY	
1. Lexi is hanging Christmas lights on her house. She has 30 yards of lights. How many feet is this? 90 feet of lights	2. Robert is cutting ribbon to wrap presents. He has a roll that is 12 feet long. How many 8 inch pieces can he cut from the roll? 18 pieces of tape
3. Karen's room is 15 feet long by 9 feet wide. What is the length of her room in yards? 5 yards long What is the width of her room in inches? 108 inches wide	4. Marcus has an extension cord that is 7 feet long. He needs it to stretch to an outlet 80 inches away. Does he have enough cord to reach the outlet? Yes. The cord is 84 inches long.
5. Cayden measured the length of his backyard. He said it was 10 yards long. He says this is the same as 35 feet. His is correct? 90 feet of lights	6. Evelyn measured her window and said it was 4 feet wide. Her mom wants to make curtains. How many inches wide do her curtains need to be? 36 inches wide

CUSTOMARY CONVERSIONS

You can multiply or divide to convert measurements within the same system. You can use this chart to help you make your conversions.



Example:

If you have a rope that is 72 inches long and you wanted to know how many feet that is you would use the following equation.

$$72 \text{ inches} \div 12 = 6 \text{ feet}$$

You know that the rope is 6 feet long. If you wanted to convert that rope into yards you would use the following equation.

$$6 \text{ feet} \div 3 = 2 \text{ yards.}$$

You know that 72 inches = 6 feet = 2 yards.

PREVIEW

PREVIEW

Extension Activities

1. Draw a card. Convert it into an alternative unit of measurement.
2. Play Memory with the cards. Draw two cards, if they have equal values you get to keep the match.
3. Draw a card. Create a story problem that requires a buddy to convert the measurement into an alternative unit.
4. Create your own conversion cards.

Extension Activities

1. Draw a card. Convert it into an alternative unit of measurement.
2. Play Memory with the cards. Draw two cards, if they have equal values you get to keep the match.
3. Draw a card. Create a story problem that requires a buddy to convert the measurement into an alternative unit.
4. Create your own conversion cards.

1 yard

6 feet

24 inches

2 feet

36 inches

3 yards

48 inches

4 feet

3 feet

108 inches

5 feet

60 inches

2 yards

9 feet

4 yards

12 feet

72 inches

144 inches

1 foot

12 inches

PREVIEW

PREVIEW

PREVIEW

Quick Check Problems

1. Lexi is hanging Christmas lights on her house. She has 30 yards of lights. How many feet is this?

2. Robert is cutting ribbon to wrap presents. He has a roll that is 65 feet long. How many 8 inch pieces can he cut from the roll?

3. Karen's room is 15 feet long by 9 feet wide.

What is the length of her room in yards?

What is the width of her room in inches?

4. Marcus has an extension cord that is 7 feet long. He needs it to stretch to an outlet 80 inches away. Does he have enough cord to reach the outlet?

5. Cayden measured the length of his backyard. He said it was 10 yards long. He says this is the same as 35 feet. His is correct?

6. Evelyn measured her window and said it was 4 feet wide. Her mom wants to make curtains. How many inches wide do her curtains need to be?

Quick Check Problems - KEY

1. Lexi is hanging Christmas lights on her house. She has 30 yards of lights. How many feet is this?

90 feet of lights

2. Robert is cutting ribbon to wrap presents. He has a roll that is 12 feet long. How many 8 inch pieces can he cut from the roll?

18 pieces of tape

3. Karen's room is 15 feet long by 9 feet wide.

What is the length of her room in yards? **5 yards long**

What is the width of her room in inches? **108 inches wide**

4. Marcus has an extension cord that is 7 feet long. He needs it to stretch to an outlet 80 inches away. Does he have enough cord to reach the outlet?

Yes. The cord is 84 inches long.

5. Cayden measured the length of his backyard. He said it was 10 yards long. He says this is the same as 35 feet. His is correct?

90 feet of lights

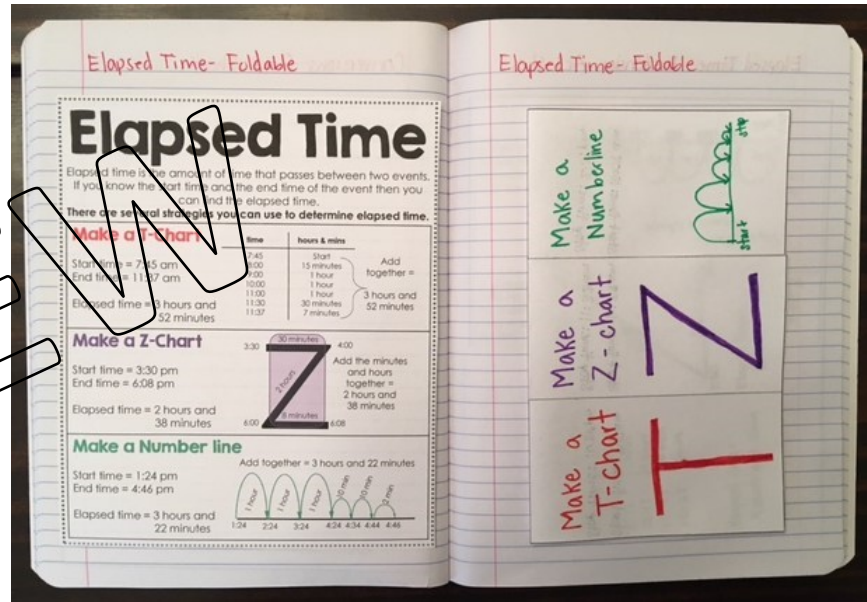
6. Evelyn measured her window and said it was 4 feet wide. Her mom wants to make curtains. How many inches wide do her curtains need to be?

36 inches wide

Elapsed Time – Assembly Notes & Directions

Anchor Chart

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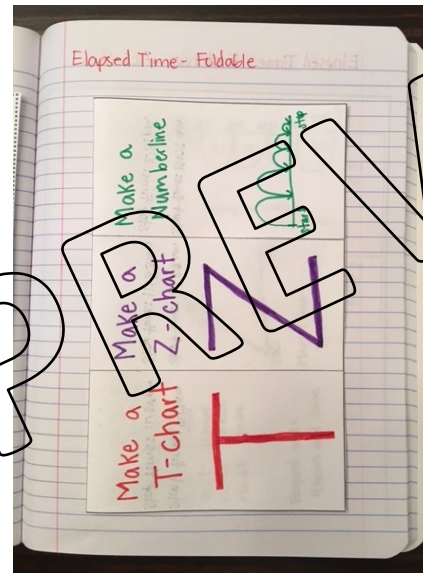


PREVIEW

Foldable - Outside

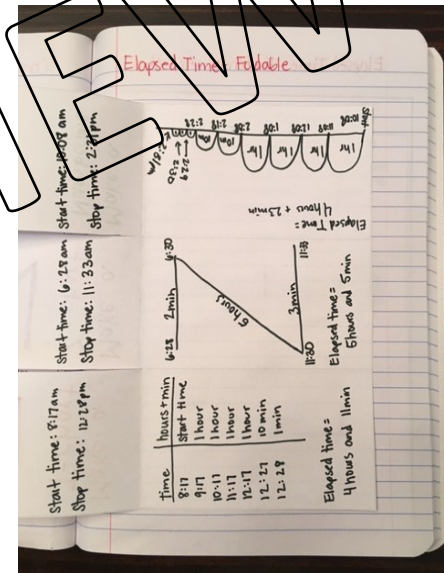
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PREVIEW

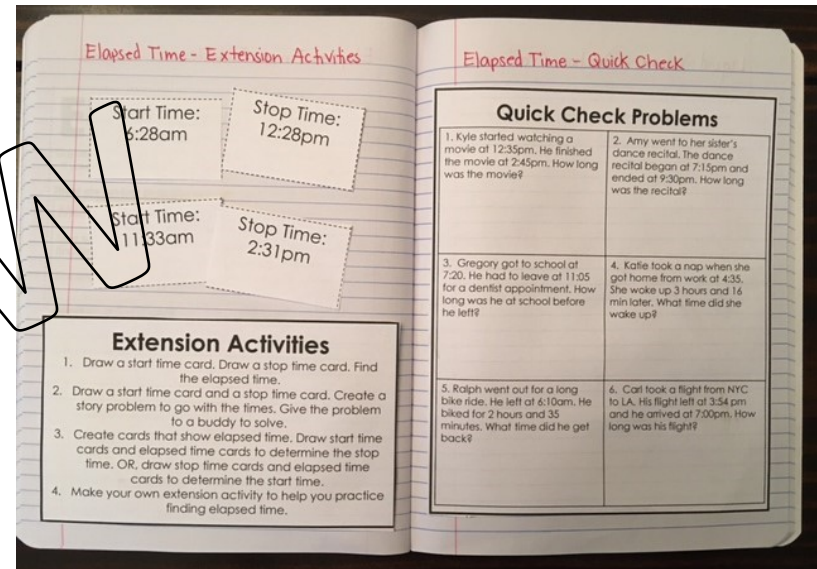
Foldable - Inside



Elapsed Time – Assembly Notes & Directions

Extension Activities

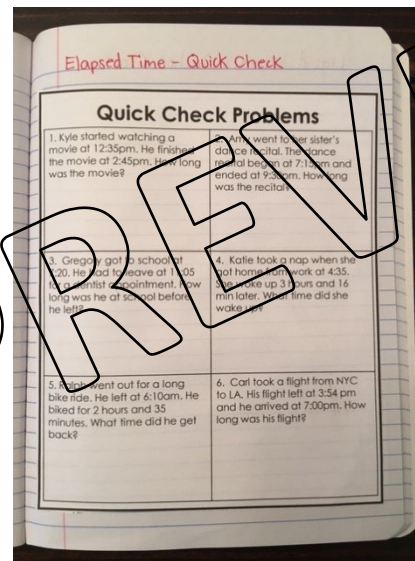
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Quick Check



Quick Check - Key

Quick Check Problems - KEY	
1. Kyle started watching a movie at 12:35pm. He finished the movie at 2:45pm. How long was the movie? 2 hours and 10 minutes	2. Amy went to her sister's dance recital. The dance recital began at 7:15pm and ended at 9:30pm. How long was the recital? 2 hours and 15 minutes
3. Gregory got to school at 7:20. He had to leave at 11:05 for a dentist appointment. How long was he at school before he left? 4 hours and 45 minutes	4. Katie took a nap when she got home from work at 4:35pm. She woke up 3 hours and 16 min later. What time did she wake up? 7:51 pm
5. Ralph went out for a long bike ride. He left at 6:10am. He biked for 2 hours and 35 minutes. What time did he get back? 8:45am	6. Carl took a flight from NYC to LA. His flight left at 3:54 pm and he arrived at 7:00pm. How long was his flight? 3 hours and 6 minutes

Elapsed Time

Elapsed time is the amount of time that passes between two events.
If you know the start time and the end time of the event then you can find the elapsed time.

There are several strategies you can use to determine elapsed time.

Make a T-Chart

Start time = 7:45 am

End time = 11:37 am

Elapsed time = 3 hours and 52 minutes

time	hours & mins
7:45	Start
8:00	15 minutes
9:00	1 hour
10:00	1 hour
11:00	1 hour
11:30	30 minutes
11:37	7 minutes

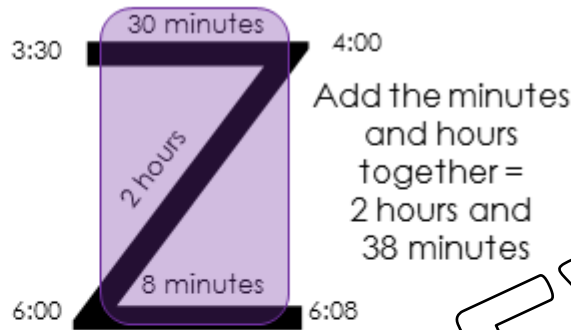
Add together = 3 hours and 52 minutes

Make a Z-Chart

Start time = 3:30 pm

End time = 6:08 pm

Elapsed time = 2 hours and 38 minutes

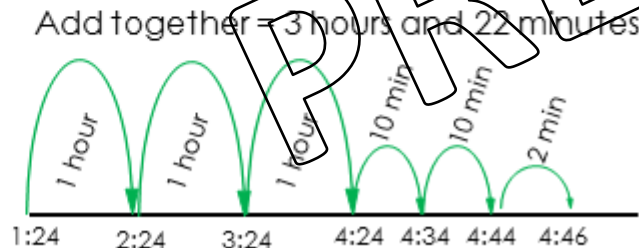


Make a Number line

Start time = 1:24 pm

End time = 4:46 pm

Elapsed time = 3 hours and 22 minutes



PREVIEW

PREVIEW

Extension Activities

1. Draw a start time card. Draw a stop time card. Find the elapsed time.
2. Draw a start time card and a stop time card. Create a story problem to go with the times. Give the problem to a buddy to solve.
3. Create cards that show elapsed time. Draw start time cards and elapsed time cards to determine the stop time. OR, draw stop time cards and elapsed time cards to determine the start time.
4. Make your own extension activity to help you practice finding elapsed time.

Extension Activities

1. Draw a start time card. Draw a stop time card. Find the elapsed time.
2. Draw a start time card and a stop time card. Create a story problem to go with the times. Give the problem to a buddy to solve.
3. Create cards that show elapsed time. Draw start time cards and elapsed time cards to determine the stop time. OR, draw stop time cards and elapsed time cards to determine the start time.
4. Make your own extension activity to help you practice finding elapsed time.

Start Time:
7:00 am

Start Time:
8:00am

Start Time:
9:00am

Start Time:
10:00am

Start Time:
7:10am

Start Time:
8:05am

Start Time:
9:15am

Start Time:
10:20am

Start Time:
6:30am

Start Time:
11:40am

Start Time:
5:50am

Start Time:
8:20am

Start Time:
7:36am

Start Time:
8:17am

Start Time:
9:55am

Start Time:
10:08am

Start Time:
6:28am

Start Time:
11:33am

Start Time:
5:45am

Start Time:
9:34

Stop Time:
12:00pm

Stop Time:
1:00pm

Stop Time:
2:00pm

Stop Time:
3:00pm

Stop Time:
4:00pm

Stop Time:
12:30pm

Stop Time:
1:15pm

Stop Time:
2:45pm

Stop Time:
3:10pm

Stop Time:
4:40pm

Stop Time:
12:55pm

Stop Time:
1:25pm

Stop Time:
2:06pm

Stop Time:
3:47pm

Stop Time:
12:53pm

Stop Time:
4:18pm

Stop Time:
12:28pm

Stop Time:
2:31pm

Stop Time:
3:56pm

Stop Time:
1:04pm

PREVIEW

PREVIEW

Quick Check Problems

1. Kyle started watching a movie at 12:35pm. He finished the movie at 2:45pm. How long was the movie?

2. Amy went to her sister's dance recital. The dance recital began at 7:15pm and ended at 9:30pm. How long was the recital?

3. Gregory got to school at 7:20. He had to leave at 11:05 for a dentist appointment. How long was he at school before he left?

4. Katie took a nap when she got home from work at 4:35. She woke up 3 hours and 16 min later. What time did she wake up?

5. Ralph went out for a long bike ride. He left at 6:10am. He biked for 2 hours and 35 minutes. What time did he get back?

6. Carl took a flight from NYC to LA. His flight left at 3:54 pm and he arrived at 7:00pm. How long was his flight?

Quick Check Problems - KEY

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2 hours and 10 minutes

2. Amy went to her sister's dance recital. The dance recital began at 7:15pm and ended at 9:30pm. How long was the recital?

2 hours and 15 minutes

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4 hours and 45 minutes

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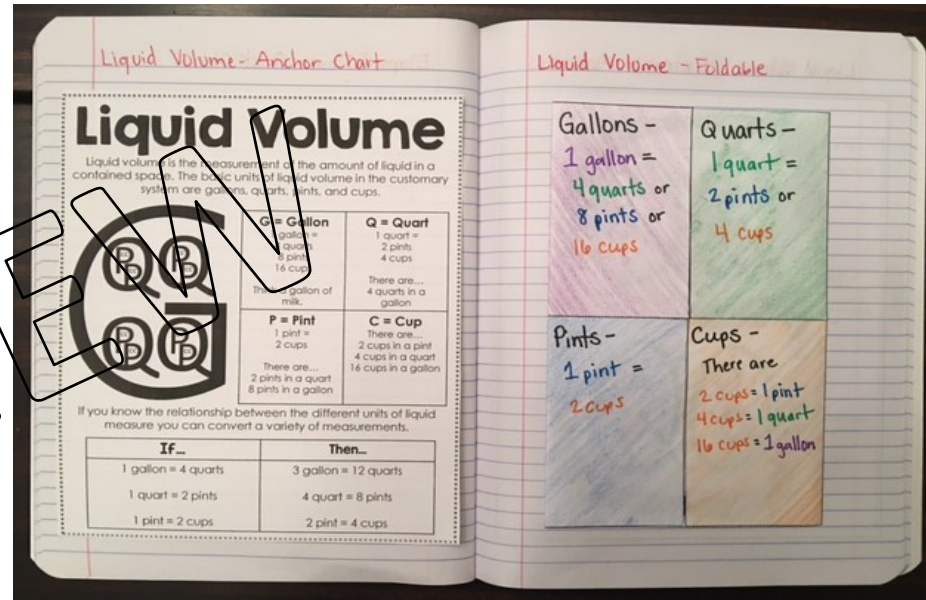
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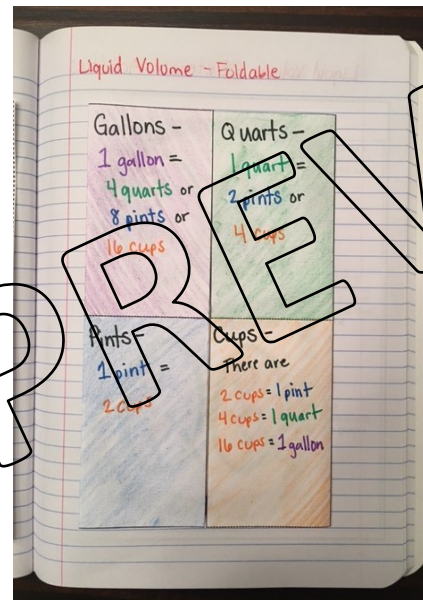
Liquid Volume – Assembly Notes & Directions

Anchor Chart

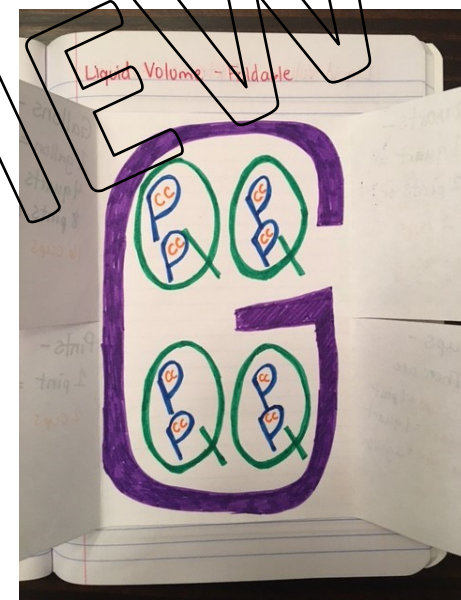
Make enough copies for students. Have students cut and paste in their math journal. Review anchor chart with students as you would a full size anchor chart. Students will be able to reference back to this page if they have questions about liquid volume.



Foldable - Outside



Foldable - Inside



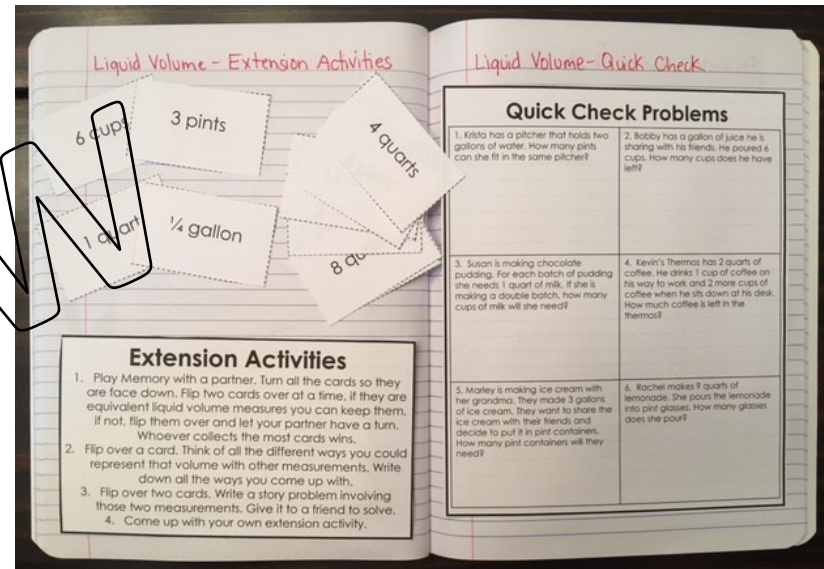
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Liquid Volume – Assembly Notes & Directions

Extension Activities

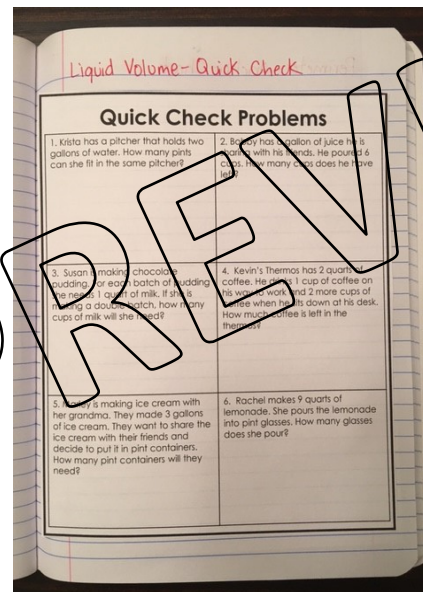
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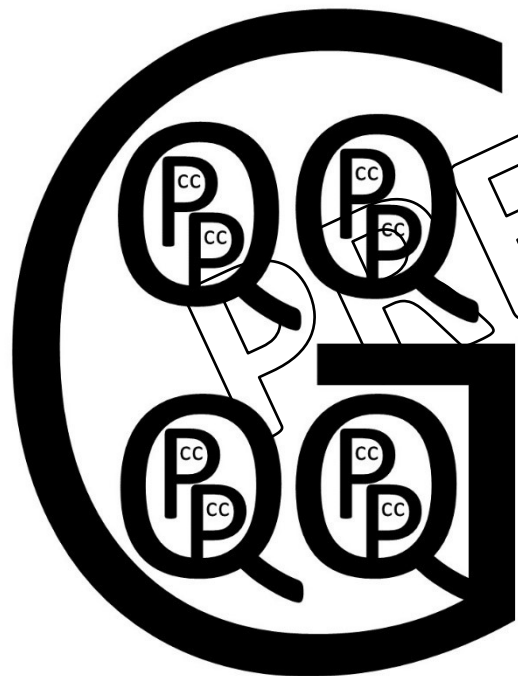


Quick Check - Key

Quick Check Problems - KEY	
1. Krista has a pitcher that holds two gallons of water. How many pints can she fit in the same pitcher?	2. Bobby has a gallon of juice he is sharing with his friends. He poured 6 cups. How many cups does he have left?
16 pints	10 cups left
3. Susan is making chocolate pudding. For each batch of pudding she needs 1 quart of milk. If she is making a double batch, how many cups of milk will she need?	4. Kevin's Thermos has 2 quarts of coffee. He drinks 1 cup of coffee on his way to work and 2 more cups of coffee when he sits down at his desk. How much coffee is left in the thermos?
12 cups of milk	5 cups of coffee left
5. Marley is making ice cream with her grandma. They made 3 gallons of ice cream. They want to share the ice cream with their friends and decide to put it in pint containers. How many pint containers will they need?	6. Rachel makes 9 quarts of lemonade. She pours the lemonade into pint glasses. How many glasses does she pour?
24 pint containers	18 pint glasses

Liquid Volume

Liquid volume is the measurement of the amount of liquid in a contained space. The basic units of liquid volume in the customary system are gallons, quarts, pints, and cups.



<p>G = Gallon 1 gallon = 4 quarts 8 pints 16 cups</p> <p>Think a gallon of milk.</p>	<p>Q = Quart 1 quart = 2 pints 4 cups</p> <p>There are... 4 quarts in a gallon</p>
<p>P = Pint 1 pint = 2 cups</p> <p>There are... 2 pints in a quart 8 pints in a gallon</p>	<p>C = Cup There are... 2 cups in a pint 4 cups in a quart 16 cups in a gallon</p>

If you know the relationship between the different units of liquid measure you can convert a variety of measurements.

If...	Then..
1 gallon = 4 quarts	3 gallon = 12 quarts
1 quart = 2 pints	4 quart = 8 pints
1 pint = 2 cups	2 pint = 4 cups

PREVIEW

PREVIEW

Extension Activities

1. Play Memory with a partner. Turn all the cards so they are face down. Flip two cards over at a time, if they are equivalent liquid volume measures you can keep them, if not, flip them over and let your partner have a turn.
Whoever collects the most cards wins.
2. Flip over a card. Think of all the different ways you could represent that volume with other measurements. Write down all the ways you came up with.
3. Flip over two cards. Write a story problem involving those two measurements. Give it to a friend to solve.
4. Come up with your own extension activity.

Extension Activities

1. Play Memory with a partner. Turn all the cards so they are face down. Flip two cards over at a time, if they are equivalent liquid volume measures you can keep them, if not, flip them over and let your partner have a turn.
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4. Come up with your own extension activity.

1 gallon

4 quarts

8 pints

16 cups

2 gallons

8 quarts

16 pints

32 cups

$\frac{1}{2}$ gallon

2 quarts

4 pints

8 cups

$\frac{1}{4}$ gallon

1 quart

2 pints

4 cups

3 pints

6 cups

3 quarts

6 pints

PREVIEW

PREVIEW

PREVIEW

Quick Check Problems

1. Krista has a pitcher that holds two gallons of water. How many pints can she fit in the same pitcher?

2. Bobby has a gallon of juice he is sharing with his friends. He poured 6 cups. How many cups does he have left?

3. Susan is making chocolate pudding. For each batch of pudding she needs 1 quart of milk. If she is making a double batch how many cups of milk will she need?

4. Kevin's Thermos has 2 quarts of coffee. He drinks 1 cup of coffee on his way to work and 2 more cups of coffee when he sits down at his desk. How much coffee is left in the thermos?

5. Marley is making ice cream with her grandma. They made 3 gallons of ice cream. They want to share the ice cream with their friends and decide to put it in pint containers. How many pint containers will they need?

6. Rachel makes 9 quarts of lemonade. She pours the lemonade into pint glasses. How many glasses does she pour?

Quick Check Problems - KEY

1. Krista has a pitcher that holds two gallons of water. How many pints can she fit in the same pitcher?

16 pints

2. Bobby has a gallon of juice he is sharing with his friends. He poured 6 cups. How many cups does he have left?

10 cups left

3. Susan is making chocolate pudding. For each batch of pudding she needs 1 quart of milk. If she is making a double batch how many cups of milk will she need?

12 cups of milk

4. Kevin's Thermos has 2 quarts of coffee. He drinks 1 cup of coffee on his way to work and 2 more cups of coffee when he sits down at his desk. How much coffee is left in the thermos?

5 cups of coffee left

5. Marley is making ice cream with her grandma. They made 3 gallons of ice cream. They want to share the ice cream with their friends and decide to put it in pint containers. How many pint containers will they need?

24 pint containers

6. Rachel makes 9 quarts of lemonade. She pours the lemonade into pint glasses. How many glasses does she pour?

18 pint glasses

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