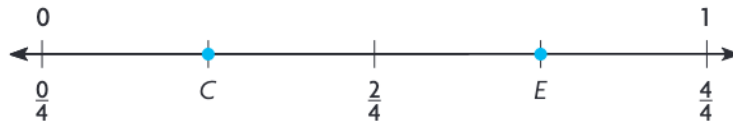


Measurement



Show What You Know

► **Represent Fractions** Write the fraction that names the point.



1.

point C _____ inch.

2.

point E _____ inch.

► **Skip Count by Fours**

Skip count by fours. Write the missing numbers.

3. 4, 8, _____, 16, _____, 24, _____ 4. 40, 44, _____, _____, 56, _____, 64

► **Inches** Use a ruler to measure the length to the nearest inch.

5.



about _____ inches

6.



about _____ inch

MATH in the



Anna takes her brother to the park to play. It takes them 2 minutes to walk to the park. Is the park 1 centimeter, 1 meter, or 100 meters from Anna's house?



Name _____

Use Fractions to Measure Length

I Can measure to the nearest half and fourth inch.

CONNECT You have learned how to measure length to the nearest inch. Sometimes the length of an object is not a whole unit. For example, a paper clip is more than 1 inch but less than 2 inches.

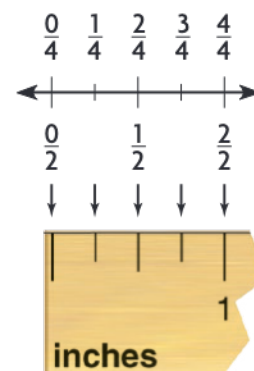
You can measure length to the nearest half inch or fourth inch. The half-inch markings on a ruler divide each inch into two equal parts. The fourth-inch markings divide each inch into four equal parts.

Florida's B.E.S.T.

- Measurement 3.M.1.1
- Fractions 3.FR.2.1
- Mathematical Thinking & Reasoning
MTR.1.1, MTR.2.1, MTR.3.1, MTR.4.1, MTR.6.1

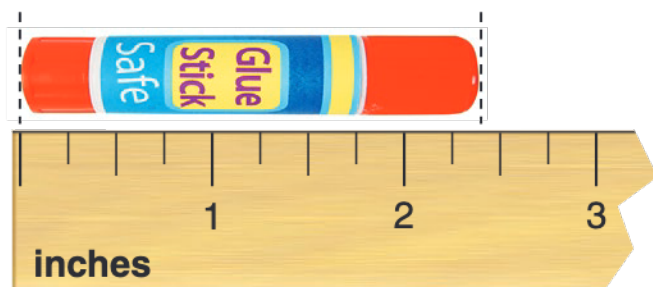
Math Idea

A ruler is like a number line.



UNLOCK the Problem Real World

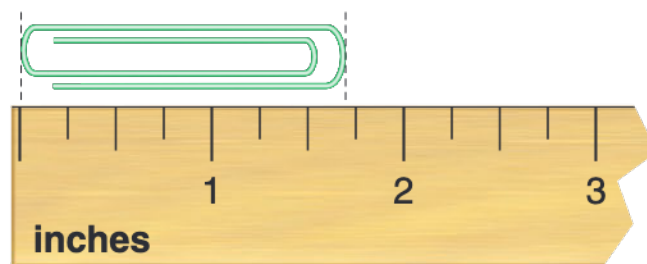
Example 1 Use a ruler to measure the glue stick to the nearest half inch.



- Line up the left end of the glue stick with the zero mark on the ruler.
- The right end of the glue stick is between the half-inch marks for _____ and _____.
- The mark that is closest to the right end of the glue stick is for _____ inches.

So, the length of the glue stick to the nearest half inch is _____ inches.

Example 2 Use a ruler to measure the paper clip to the nearest fourth inch.



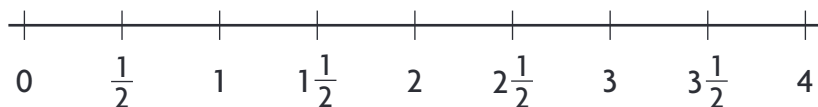
- Line up the left end of the paper clip with the zero mark on the ruler.
- The right end of the paper clip is between the fourth-inch marks for _____ and _____.
- The mark that is closest to the right end of the paper clip is for _____ inches.

So, the length of the paper clip to the nearest fourth inch is _____ inches.

Activity Make a line plot to show measurement data. A **line plot** uses marks to display each piece of data above a number line.

Materials ■ inch ruler ■ 10 crayons

Measure the length of 10 crayons that are different lengths to the nearest half inch. Complete the line plot. Draw an *X* for the length of each crayon.



Length of Crayons Measured to the Nearest Half Inch

Think: a measurement of $3\frac{1}{2}$ means an object measured 3 whole inches plus $\frac{1}{2}$ inch.

- Describe any patterns you see in your line plot.

Try This! Gather a variety of erasers. Measure the length of each eraser to the nearest fourth inch. Complete the line plot. Draw an *X* for the length of each eraser.

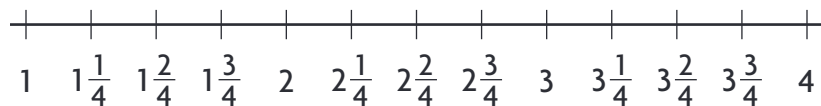
Math Talk

TR

4.1

Engage in discussions on mathematical thinking.

How does a line plot help you organize the lengths of the objects measured?



Length of Erasers Measured to the Nearest Fourth Inch

Share and Show

Math Board

- Measure the length to the nearest half inch. Is the key closest to $1\frac{1}{2}$ inches, 2 inches, or $2\frac{1}{2}$ inches?

_____ inches



Measure the length to the nearest fourth inch.



On Your Own

Use the lines for Problems 3 and 4.



3. Measure the length of the lines to the nearest half inch. Add missing labels, then use the line plot to show the length for each line.



Length of Lines Measured to the Nearest Half Inch

4. Measure the length of the lines to the nearest fourth inch. Add missing labels, then use the line plot to show the length for each line.

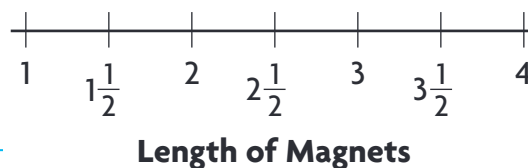


Length of Lines Measured to the Nearest Fourth Inch

Problem Solving · Applications

Use the line plot for 5–7.

5. Tara has a magnet collection from places she visited. She measures the length of the magnets to the nearest half inch and records the data in a line plot. If she gets 1 new magnet that is $1\frac{1}{2}$ inches long, how can she show it on the line plot?



6. How many magnets measure a whole number of inches? How many magnets have a length between two whole numbers?



7. **TR** Explain why you think the line plot starts at 1 and stops at 4.

8. What is the length of the pencil to the nearest half inch?



Explain how you measured the pencil.

Name _____

Estimate and Measure Customary Units for Capacity

Florida's B.E.S.T.

● Measurement 3.M.1.2, 3.M.1.1

● Mathematical Thinking & Reasoning

MTR.3.1, MTR.4.1, MTR.6.1

I Can understand how cups, pints, quarts, and gallons are related.



UNLOCK the Problem Real World

Capacity is the amount a container will hold. Customary units used to measure capacity are **cup (c)**, **pint (pt)**, **quart (qt)**, and **gallon (gal)**.



Materials ■ cup, pint, quart, and gallon containers ■ water

Number of Cups			
	Number of cups in a pint	Number of cups in a quart	Number of cups in a gallon
Estimate			
Capacity			

Math Talk

MTR 7.1 Apply mathematics to real-world contexts.

What types of liquids are sold by the gallon?

- Estimate the number of cups it will take to fill the pint container. Record your estimate.
- Fill a cup and pour it into the pint container. Repeat until the pint container is full.
- Record the number of cups it took to fill the pint container.
- Repeat Steps A to C for the quart and gallon containers.

Write the containers in order from greatest capacity to least capacity.

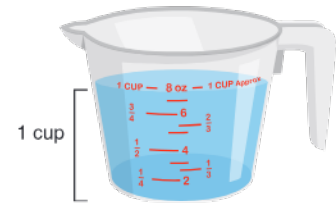
Try This! The word *cup* has more than one meaning.

In math, science, and cooking, 1 *cup* (c) is an exact measurement. A transparent measuring cup with a line is often used to measure 1 cup.

In everyday speech, *one cup* is any container for a drink. Cups have no exact capacity. They are all shapes and sizes.

Write a sentence that uses the word *cup* as an exact amount.

Write a sentence that uses the word *cup* to describe a container with no exact size.



Think: A cup is used as a measurement for cooking and to describe how much food or drink there is in a package.



Share and Show

Math Board

Choose the unit you would most likely use to measure the capacity.

Write *cup*, *pint*, *quart*, or *gallon*.









5. Janet is serving lemonade. Each glass contains 1 pint. If Janet serves 16 glasses, how many pints will she serve?

6. Conner says that cups are the best unit to measure the amount of liquid in a fish tank. Is he correct? Explain.

On Your Own

7. Mr. Trey bought 1 pint of yogurt, 1 quart of milk, and 1 cup of salt at the supermarket. Write the items that he bought in order from least amount to greatest amount.

8. The next time, Mr. Trey bought 3 times as much yogurt, milk, and salt. He bought 3 quarts of milk, 3 pints of yogurt, and 3 cups of salt. Write the items that he bought in order from least amount to greatest amount.

9. For a cookout, Ms. Kelly brought a number of pints of juice to serve the guests. Mr. Gat also brought some gallons of juice. Mr. Gat's son said that his father must have brought more juice than Ms. Kelly because gallons are larger than pints. Could his son be wrong? Explain.

10. Which is more, $\frac{1}{2}$ quart or $\frac{1}{4}$ quart?

11. Chen places a large pot on the stove to cook spaghetti. Choose the amount that Chen's pot could hold if it were full.

- | | |
|---------------|------------|
| (A) 8 gallons | (C) 2 cups |
| (B) 3 quarts | (D) 1 pint |

**Math
Talk****MTR**
4.1 Engage in discussions on mathematical thinking.

Why do people use a small measure like cups or pints instead of gallons when measuring a small amount of salt, flour, or liquid?

Problem Solving • Applications

Fill in the bubble for the correct answer choice.


Use the table for Problems 12 and 13.

12. Ms. Lorenzo needs to fill her car's gas tank with 12 gallons of gasoline. How much will 12 gallons cost at Fill and Fix? How much will 12 gallons cost at Lee's Station?

Station Name	Price per Gallon	Special Deals
Fill and Fix	\$4	none
Lee's Station	\$3	none
Quick Stop	\$4	last gallon is free

13. How much will 12 gallons cost at Quick Stop? Explain.

14. Derek collected 10 different cups from his kitchen and filled them with soil. He wrote the total amount of soil as *10 cups*. What was his mistake? How could he be sure to measure the amount that he wrote?

15.  *ath* Name one item that is usually measured with each unit: gallon, quart, pint, and cup.

16. Emily enjoys drinking cocoa before she goes to bed at night. Choose the amount that her mug could hold.

- ☐ A 4 gallons
 ☐ C 2 cups
☐ B 2 quarts
 ☐ D 4 pint



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Name _____

Estimate and Measure Metric Units for Liquid Volume

Florida's B.E.S.T.

● Measurement 3.M.1.2, 3.M.1.1

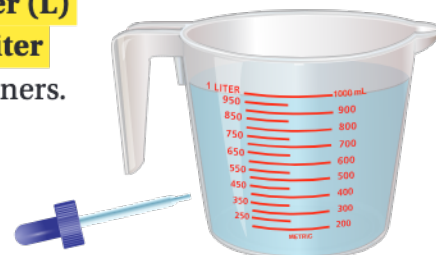
● Mathematical Thinking & Reasoning
MTR.1.1, MTR.2.1, MTR.4.1

I Can measure liquid volume in metric units.



UNLOCK the Problem Real World

Liquid volume is the amount of liquid in a container. The **liter (L)** is the basic metric unit for measuring liquid volume. A **milliliter (mL)** is the metric unit to measure liquid in very small containers.



Activity

Materials ■ 1-L beaker ■ a bottle cap ■ 1-mL dropper
■ 2 containers ■ water ■ tape

STEP 1 Fill a 1-liter beaker with water to the 1-liter mark.

STEP 2 Pour 1 liter of water to fill a container. Mark the level of the water with a piece of tape. Draw the container below and name the container. Write if the container holds less than a liter, a liter, or more than a liter.

STEP 3 Repeat Steps 1 and 2 with a different-sized container.

Container 1

Container 2

Math Talk

MTR 4.1 Engage in discussions on mathematical thinking.

What can you say about the amount of liquid in each container?

STEP 4 Use the 1-mL dropper filled with water to fill the bottle cap.

How many times did you fill the dropper? _____

Does the bottle cap hold less than a milliliter, a milliliter, or more than a milliliter? _____

● Name a container that will hold a liter of water. _____

Will the container hold 50 bottle caps of water? Justify.



A dropper holds about 1 mL.



A full glass holds about 250 mL.



A sports bottle holds about 1,000 mL or 1 L.

- Suppose you drank a glass of orange juice. Did you drink about 4 mL or 300 mL of orange juice? Explain.

Share and Show

Math Board

Choose the unit you would use to measure each container's capacity. Write *milliliter* or *liter*.

1.



Think: I will use a small unit to measure small amounts.

✓ 2.



✓ 3.



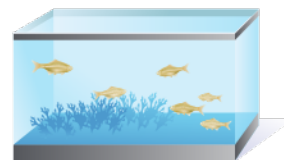
4.



5.



6.



Ginger pours punch into three 1-L bottles. Label each bottle with 1 liter, half liter, or quarter liter.

7.



8.




9.



On Your Own

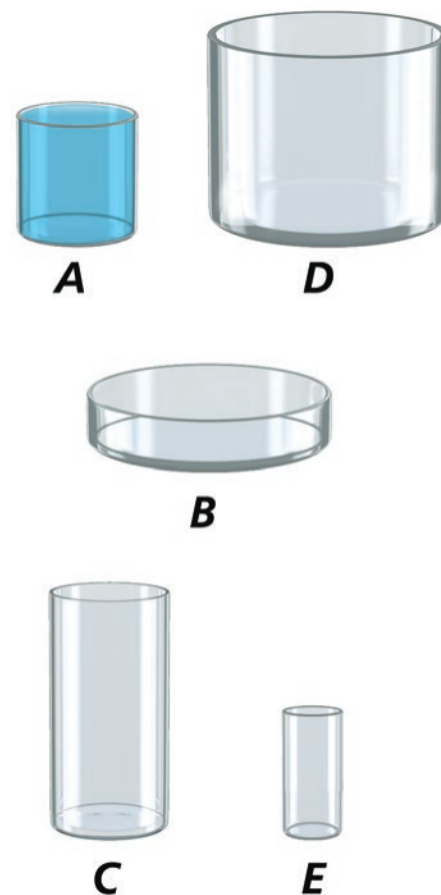
Use the containers for 10–13. Container *A* is full when 1 liter of water is poured into it.

10.  **WRITE** *Math* What if you poured 1 liter of water into Container *B*? Describe the way the water fills the container. Explain how you know.

11. Bryson filled 2 containers full with water. One container held 2 liters and the other container held 250 milliliters. Which two containers did he fill? Explain.

12. Name two containers that will be filled with about the same number of liters of water. Explain.

13. Samuel says that you can pour more liters of water into Container *B* than into Container *D*. Is he correct? Explain.



Problem Solving • Applications

Fill in the bubble for the correct answer choice.

14. For which container would you use milliliters to measure the amount of liquid?

(A)



(C)



(B)



(D)



15. A cow drinks about 35 liters of water a day. How much water can a cow drink in 3 days?

(E)

35 liters

(G)

105 liter

(F)

70 liters

(H)

140 liters

16. Which two bottles have the least combined liquid volume?

(A)

C and D

(C)

A and C

(B)

A and B

(D)

B and D



A



B



C



D

17. The bottles of tea are all liter bottles. Which bottle has $\frac{3}{4}$ liter of tea?

(A)

Bottle J

(C)

Bottle L

(B)

Bottle K

(D)

Bottle M



J



K



L



M

Name _____

Estimate and Measure Customary Units for Weight

Florida's B.E.S.T.

- Measurement 3.M.1.2
- Mathematical Thinking & Reasoning
MTR.1.1, MTR.2.1, MTR.4.1, MTR.6.1

I Can estimate and measure weight with ounces and pounds.



UNLOCK the Problem



Weight is the measure of how heavy an object is. Customary units for weight include **ounce (oz)** and **pound (lb)**.

Circle the correct word to complete the sentences.



One slice of bread weighs

about 1 ounce.
 pound.



One loaf of bread weighs

about 1 ounce.
 pound.

Try This!

A loaf of bread has 16 slices. Each slice of bread weighs 1 ounce. Finish the drawing of slices of bread to show how many ounces are in 1 loaf of bread.



_____ ounces in _____ loaf

Math Talk

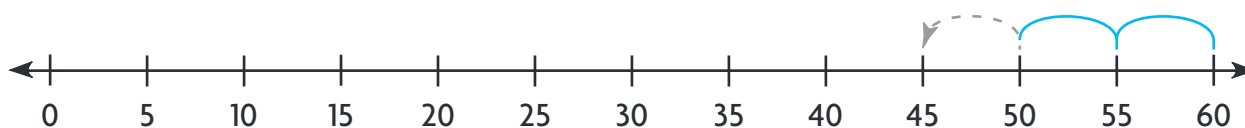
MTR 4.1

Engage in discussions on mathematical thinking.

Suppose you weigh a bag of potatoes in pounds, and then in ounces. Which number would be greater, the number of ounces or the number of pounds? Explain.

Try This! Use a number line to solve.

A library bookshelf can hold a total weight of 60 pounds. One book weighs 5 pounds. How many books can the bookshelf hold?



Remember

Remember to include the units when writing your final answer.

_____ ○ _____ = _____

Share and Show

Math
Board

1. A strawberry weighs about 1

ounce.
pound.



Choose the unit you would use to measure the weight.

Write *ounce* or *pound*.

2.



3.



4.



✓ 5.

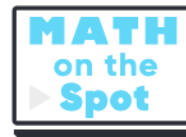


Find an object in the classroom to match the description.

Draw and label the object.

6. greater than 1 pound

- ✓ 7. less than 1 pound

On Your Own 

8. Jared has a canister that has 48 ounces of homemade trail mix. He wants to package the mix in bags that each hold 16 ounces of mix. How many bags can Jared fill?

- a. What do you need to find? _____
- b. What operation can you use to find the answer? Explain.

- c. Show the steps you can use to solve the problem.

- d. Each bag holds _____ ounces of mix.

48 ounces can be held by _____ bags of _____ ounces.

So, Jared can fill _____ bags with 16 ounces of trail mix each.

9. Hank says that 32 ounces is the same as 3 groups of 16 ounces. Does this statement make sense? Explain.

Problem Solving • Applications

Fill in the bubble for the correct answer choice.

10. A watermelon weighs 6 pounds. Which would be about the same weight as the watermelon?
- (A) a package of straws
 - (B) 8 slices of cheese pizza
 - (C) 6 erasers
 - (D) 480 quarters
11. Guinevere is building a doghouse. Each board weighs about 10 ounces. She lifts 8 boards at a time. About how much weight does Guinevere lift?
- (A) 18 oz
 - (B) 40 oz
 - (C) 80 oz
 - (D) 100 oz
12. Haley and Richelle baked 2 cakes. They cut both cakes into 8 equal slices. Each slice weighs about 2 ounces. Which is the combined weight of the cakes?
- (A) 4 oz
 - (B) 32 oz
 - (C) 16 oz
 - (D) 12 oz
13. There are 4 baseball caps at a store. Each cap weighs 8 ounces. How much do the caps weigh in all?
- (A) 8 oz
 - (B) 12 oz
 - (C) 32 oz
 - (D) 64 oz



Name _____

Estimate and Measure Metric Units for Mass

Florida's B.E.S.T.

- Measurement 3.M.1.2
- Mathematical Thinking & Reasoning
MTR.2.1, MTR.4.1, MTR.7.1

I Can estimate and measure mass in metric units.



UNLOCK the Problem Real World

Pedro has a dollar bill in his pocket. Should Pedro measure the mass of the dollar bill in grams or kilograms?

The **gram (g)** is the basic metric unit for measuring **mass** or the amount of matter in an object. Mass can also be measured by using the metric unit **kilogram (kg)**.



A small paper clip has a mass of about 1 gram.



A box of 1,000 paper clips has a mass of about 1 kilogram.

Think: The mass of a dollar bill is closer to the mass of a small paper clip than it is to a box of 1,000 paper clips.

So, Pedro should measure the mass of the dollar bill in _____.

Activity

Materials ■ pan balance ■ gram and kilogram masses

You can use a pan balance to measure mass.

Do 10 grams have the same mass as 1 kilogram?

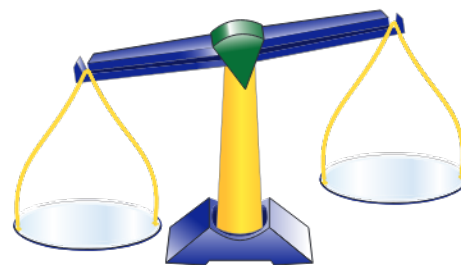
- Place 10 gram masses on one side of the balance.
- Place a 1-kilogram mass on the other side of the balance.

Think: If it is balanced, then the objects have the same mass. If it is not balanced, the objects do not have the same mass.

- Complete the picture of the balance above by drawing masses to show your balance.

The pan balance is _____.

So, 10 grams and 1 kilogram _____ the same mass.



Math Talk

MTR 4.1 Engage in discussions on mathematical thinking.

How do you tell from the balance which side has greater mass?

Try This! Use a bar model to solve.

Mrs. Smith ordered school supplies for her class. If all of the items ship in one box, what is the total mass of the items in the box?

Mass	
Object	Mass
marker	45 grams
small notepad	75 grams
scissors	115 grams

_____ g	_____ g	_____ g
---------	---------	---------

_____ g

_____ ○ _____ ○ _____ = _____

So, the total mass of the items in the shipping box is _____ grams.

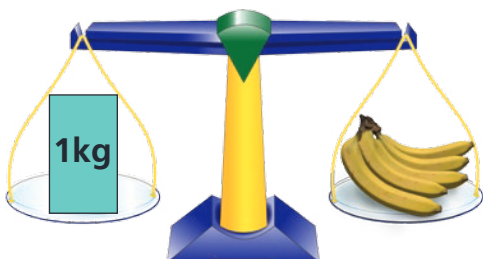


▲ 189 marbles have a mass of 1 kilogram.

Share and Show

- According to the balance shown, five bananas have a mass of about _____.

Think: The pan balance is balanced, so the objects on both sides have the same mass.



Choose the unit you would use to measure the mass.

Write *gram* or *kilogram*.

2. strawberry



3. dog



**Math
Talk**

MTR 4.1 Engage in discussions on mathematical thinking.

How do you decide which unit to use when measuring the mass of different objects?

Compare the masses of the objects. Write *is less than*, *is the same as*, or *is more than*.

4.



The mass of the bowling pin _____
the mass of the chess piece.

5.



The mass of the erasers _____
the mass of the clips.

On Your Own

Choose the unit you would use to measure the mass.

Write *gram* or *kilogram*.

6. chair



7. sunglasses



8. watermelon



Compare the masses of the objects. Write *is less than*, *is the same as*, or *is more than*.

9.



The mass of the pen _____
the mass of the paper clips.

10.



The mass of the straws _____
the mass of the blocks.

Problem Solving • Applications

11. Put the sports balls shown at the right in order from greatest mass to least mass.

12. **MTR** Choose two objects that have about the same mass. Draw a balance with one of these objects on each side.

13. **MTR** Choose two objects that have different masses. Draw a balance with one of these objects on each side.

14. Write a problem about the objects you chose in Exercise 13. Then solve your problem.

15. Amber is buying produce at the grocery store. She says that a Fuji apple and a green bell pepper would have the same mass because they are the same size. Does her statement make sense? Explain.



Golf ball



Table tennis ball



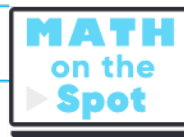
Baseball



Bowling ball



Tennis ball



16. Select the objects with a mass greater than 1 kilogram. Mark all that apply.

A skateboard

D egg

B laptop computer

E desk

C cell phone

F pencil

Name _____

Estimate and Measure Temperature

I Can estimate and measure temperature in degrees Fahrenheit and degrees Celsius.

Florida's B.E.S.T.

- Measurement 3.M.1.2, 3.M.1.1
- Mathematical Thinking & Reasoning MTR.1.1, MTR.2.1, MTR.5.1, MTR.7.1

Investigate

Materials ■ thermometers, °F and °C ■ 3 containers ■ water ■ ice cubes

Temperature is measured in degrees with a thermometer.

Fahrenheit (°F) is the customary temperature scale.

Celsius (°C) is the metric temperature scale.

Dairy farming is a major industry in Wisconsin. Dairy products such as milk, ice cream, and butter must be kept colder than room temperature. What is considered room temperature?

- Gather and label three containers 1–3.
- Put water and ice in the first container. Put tap water in the second container. Put warm water in the third container.
- Measure the temperature of the water in each container. Record the temperature in degrees Fahrenheit and in degrees Celsius in the table below.

TEMPERATURE						
	Original temperature		Temperature after 15 minutes		Temperature after 30 minutes	
	°F	°C	°F	°C	°F	°C
1						
2						
3						

- After 15 minutes, measure the temperature of the water in each container again. Record the results.
- After another 15 minutes, measure the temperature of the water in each container again. Record the results.



▲ Cheese, milk, yogurt, and cottage cheese are all dairy products.

Read Math

The symbol ° represents degrees. 30° is read "30 degrees."



Draw Conclusions

1. Describe what happened to the temperature of the water in each container. What do you notice?

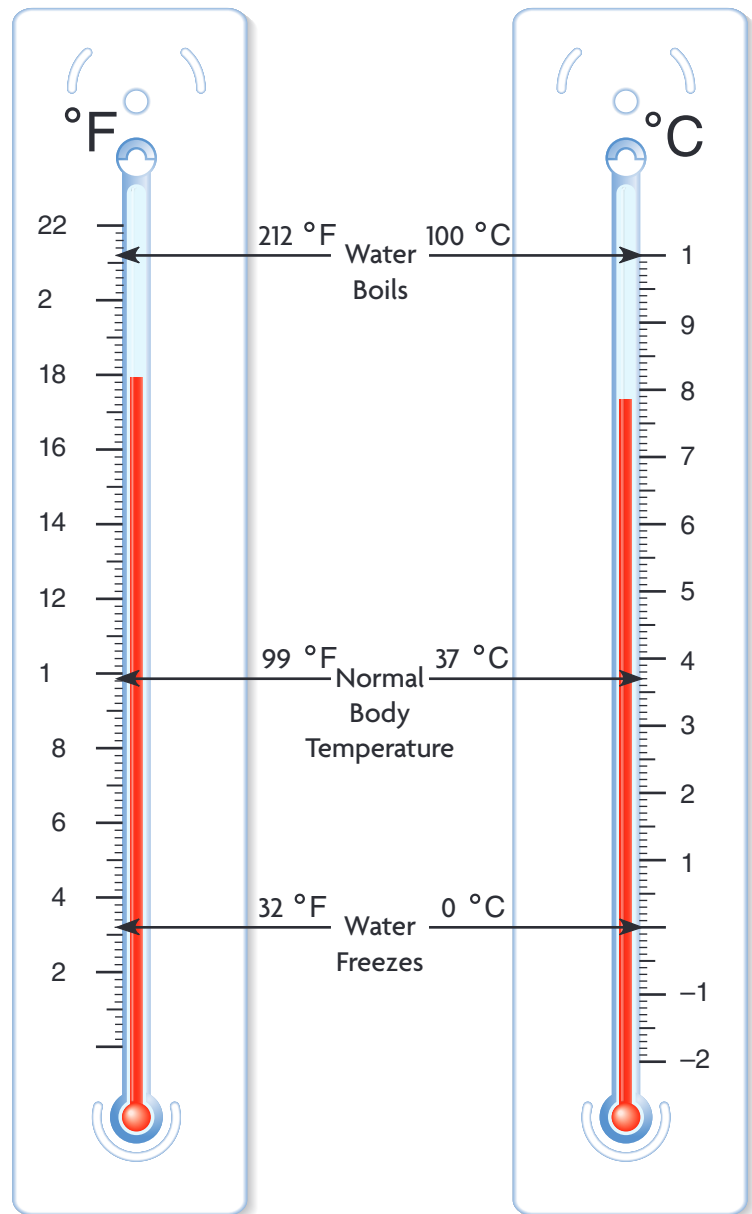
2. Based on your results, estimate your classroom's temperature in °F.

3. Measure your classroom's actual temperature in °F. How does your measurement compare with your estimate?

Make Connections

Look at the Celsius scale. Water freezes at 0 °C and boils at 100 °C. These benchmarks help you to know that 30 °C is too warm for ice skating.

Explain why the water in the container with the ice was warmer than 0 °C.



**Math
Talk**

TR Use patterns and structure.

Explain how the scale on a thermometer is similar to a number line.

Look at the Fahrenheit scale. Water freezes at 32 °F and boils at 212 °F.

Explain how you can use these benchmarks to decide if 27 °F is cold enough for storing ice cream.

Share and Show**Math Board****Circle the best estimate of the temperature.**

1.



20 °C 40 °C 100 °C

2.



21 °F 37 °F 72 °F

3.



17 °F 64 °F 99 °F

4.



2 °C 40 °C 102 °C

5. Which temperature is warmer, 20 °F or 20 °C? How do you know?

6. Dipak was heating water for a science experiment. He noticed that the temperature was 108 °F. He told his teacher his thermometer must be broken because the water wasn't boiling yet, and it should have boiled at 100 °F. What's wrong?

7. Sometimes a thermometer will show different temperatures for different parts of the same room. Explain why this might be true.

8. **WRITE** *Math* On a thermometer, there are 9 tick marks equally spaced between 30° and 40°. What temperature is it when the thermometer reading is the sixth tick mark up from 30°? Explain.

On Your Own

9. At sunset, the temperature was 83°F . This was 4°F lower than the noon temperature. The noon temperature was 13°F higher than the temperature at sunrise. What was the temperature at sunrise?

- (A) 66°F (C) 87°F
(B) 74°F (D) 92°F

- a. What information do you need to use?

- b. What do you need to find?

- c. Use the diagram of the thermometer to help you.

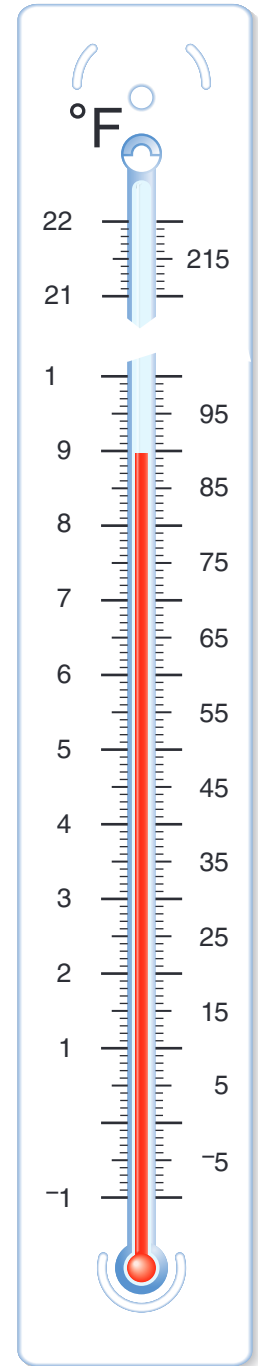
Locate the temperature at sunset. Label it *sunset*.

Locate the temperature that is 4°F warmer than at sunset. Label it *noon*.

Locate the temperature that is 13°F cooler than at noon. Label it *sunrise*.

- d. What is the temperature at sunrise?

- e. Fill in the bubble for the correct answer choice above.



10. Which temperature is considered a normal body temperature?

- (A) 25°C (C) 99°C
(B) 37°C (D) 100°C

11. At which temperature would a stick of butter be soft but not melted?

- (A) 0°F (C) 35°F
(B) 25°F (D) 77°F

Name _____

Solve Measurement Problems

I Can use models to solve measurement problems.

Florida's B.E.S.T.

- Measurement 3.M.1.2
- Mathematical Thinking & Reasoning
MTR.1.1, MTR.2.1, MTR.4.1, MTR.7.1



UNLOCK the Problem



A restaurant serves iced tea from a large container that can hold 11 cups. Sadie will fill the container with the pitchers of tea shown below. Each pitcher holds 3 cups. Will Sadie have tea left over after filling the container?

Example Solve a problem about liquid volume.

_____ c



_____ c



_____ c



_____ c

Since there are _____ equal groups of _____ cups, you can multiply.

$$\underline{\hspace{1cm}} \bigcirc \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

Circle the correct words to complete the sentences.

_____ cups is *greater than* / *less than* 11 cups.

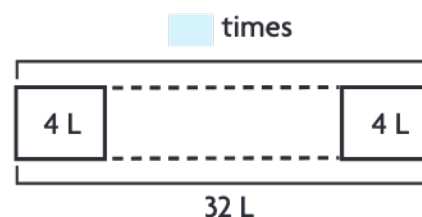
So, Sadie *will* / *will not* have tea left over.

**Try This!** Use a bar model to solve.

Raul's fish tank contains 32 liters of water. He empties it with a bucket that holds 4 liters of water. How many times will Raul have to fill the bucket?

$$\underline{\hspace{1cm}} \bigcirc \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

So, Raul will have to fill the bucket _____ times.



Activity Solve a problem about mass.

Materials ■ pan balance ■ glue stick ■ gram masses

Jeff has a glue stick and a 20-gram mass on one side of a balance and gram masses on the other side. The pan balance is balanced. What is the mass of the glue stick?

STEP 1 Place a glue stick and a 20-gram mass on one side of the balance.

STEP 2 Place gram masses on the other side until the pans are balanced.

STEP 3 To find the mass of the glue stick, remove 20 grams from each side.

Think: I can remove 20 grams from both sides and the pan balance will still be balanced.

STEP 4 Then add the measures of the gram masses on the balance.

The gram masses have a measure of _____ grams.

So, the glue stick has a mass of _____.



Math Talk

TR 4.1 Engage in discussions on mathematical thinking.

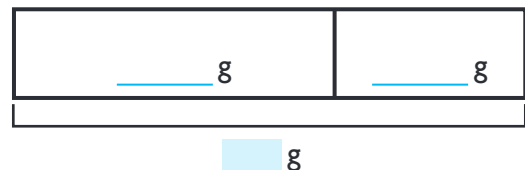
What equation can you write to find the mass of the glue stick? Explain.

Try This! Use a bar model to solve.

A bag of peas has a mass of 432 grams.
A bag of carrots has a mass of 263 grams.
What is the total mass of both bags?

_____ ○ _____ = _____

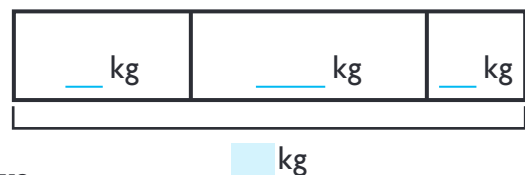
So, both bags have a total mass of _____ grams.



Share and Show

Math Board

- Marvel's Delivery Service delivered three packages to Ms. Wilson. The packages have masses of 9 kilograms, 12 kilograms, and 5 kilograms. What is the total mass of the three packages? Use the bar model to help you solve.



Write an equation and solve the problem.

- ✓ 2. Ariel's recipe calls for 64 grams of apples and 86 grams of oranges. How many more grams of oranges than apples does the recipe call for?

_____ ○ _____ = _____

- ✓ 3. Nazaire's Clams restaurant sold 45 liters of lemonade. If it sold the same amount each hour for 9 hours, how many liters of lemonade did Nazaire's Clams sell each hour?

_____ ○ _____ = _____

**Math
Talk**

MTR 4.1 Engage in discussions on mathematical thinking.

How could you use a model to solve Problem 2?

On Your Own

MTR Write an equation and solve the problem.

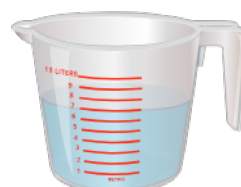
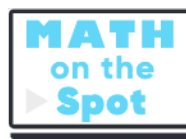
4. Leala's box weighs 4 pounds. Jonathon's box weighs 29 pounds. Together how much do the boxes weigh?

_____ ○ _____ = _____

5. Jesper has 6 buckets for cleaning a restaurant. He fills each bucket with 4 gallons of water. How many gallons of water are in the buckets?

_____ ○ _____ = _____

6. Ellen will pour water into Pitcher B until it has 1 more liter of water than Pitcher A. How many liters of water will she pour into Pitcher B? Explain how you found your answer.



Pitcher A



Pitcher B

7. A deli makes its own salad dressing. A small jar has 3 grams of spices. A large jar has 5 grams of spices. Will 25 grams of spices be enough to make 3 small jars and 3 large jars? Show your work.

Problem Solving · Applications

8. Ken's Café serves fruit smoothies. Each smoothie has 4 ounces of fresh strawberries. How many ounces of strawberries are in 8 smoothies?

- a. What do you need to find? _____
- b. What operation will you use to find the answer? _____
- c. **TR** Draw a diagram to solve the problem.

- d. Complete the sentences.

There are _____ smoothies with _____ ounces of strawberries in each.

Since each smoothie is an _____ group, you can _____.

_____ ○ _____ = _____

So, there are _____ ounces of strawberries in 8 smoothies.

9. Before school the thermometer read 46 °F. During school the temperature increased 17 °F. What is the temperature when school ends?
- _____

10. Use the pictures to write a problem. Then solve your problem.

