TIPS FOR FAMILIES

KEY CONCEPT OVERVIEW

In Lessons 1 through 5, students convert from one unit of measure to another by using **conversion tables**, and they solve word problems that require converting from a larger unit (or a larger **mixed unit**) to a smaller unit (e.g., feet to inches, pounds and ounces to ounces, gallons to cups) or a smaller unit to a larger unit.

You can expect to see homework that asks your child to do the following:

- Convert larger units of length, weight, **capacity,** and time to smaller units of length, weight, capacity, and time, or vice versa.
- Use the **RDW process** to solve word problems.
- Create word problems based on a given **strip diagram**.

SAMPLE PROBLEM *(From Lesson 5)*

Mary's goal was to finish running a marathon in 4 hours. She completed the marathon in 228 minutes. By how many minutes did Mary beat her goal?

1 hour = 60 minutes
4 hours = 4 × 60 minutes = 240 minutes
240 – 228 = 12

Mary beat her goal by 12 minutes.

HOW YOU CAN HELP AT HOME

- Find packages, cartons, cans, or boxes in your kitchen whose labels show weights or capacities. With your child, convert the measurements to smaller units or larger units. For example, your milk container might have a capacity of 2 quarts. Convert to find out how many cups that is. (2 quarts = 8 cups) Find real-world situations throughout the day that will help your child think about conversions. For example, ask her whether she would have enough milk for a soup recipe requiring 9 cups if she had a 2-quart container full of milk. (No; 2 quarts is only 8 cups.)
- Challenge your child to convert units of length, weight, capacity, and time. For example, ask him to convert 120 inches to feet (120 inches = 10 feet) and then yards (10 feet = 3 yards 1 foot). After he completes each conversion, allow him to check his work online (e.g., search for "How many yards are equal to 120 inches?").

TERMS

Capacity: A property of a container that describes how much the container can hold.

Mixed unit: Expressing a number in terms of more than one unit (e.g., 2 gallons 3 quarts, 2 meters 34 centimeters).

RDW process: A three-step process used in solving word problems that requires students to 1) read the problem for understanding, 2) draw a picture or model, and 3) write an equation and a statement of their answer.

MODELS

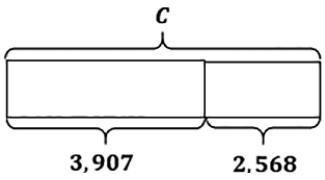
Conversion Table

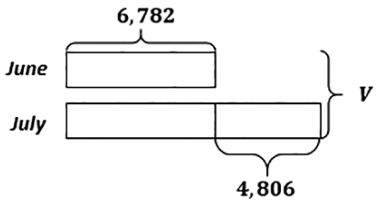
Yards	Feet
1	3
2	6
3	9
4	12

Common Measurement Conversions

1 kilometer	1,000 meters
1 meter	100 centimeters
1 yard	3 feet
1 foot	12 inches
1 pound	16 ounces
1 kilogram	1,000 grams
1 liter	1,000 milliliters
1 gallon	4 quarts
1 quart	2 pints
1 pint	2 cups
1 minute	60 seconds
1 hour	60 minutes
1 day	24 hours
1 week	7 days

Strip Diagrams





TIPS FOR FAMILIES

KEY CONCEPT OVERVIEW

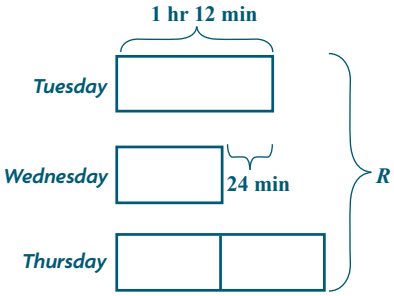
In Lessons 6 through 11, students solve problems involving mixed units of **capacity,** length, weight, and time.

You can expect to see homework that asks your child to do the following:

- Add and subtract mixed measurement units. (See Sample Problem.)
- Use the **RDW process** to solve multi-step measurement word problems.

SAMPLE PROBLEM *(From Lesson 10)*

Jennifer ran for 1 hour 12 minutes on Tuesday. On Wednesday, she ran 24 minutes less than she did on Tuesday. On Thursday, she ran twice as many minutes as she did on Wednesday. How much time did Jennifer spend running during that three-day period?



***Tuesday*: 1 hr 12 min = 60 min + 12 min = 72 min**
***Wednesday*: 72 min – 24 min = 48 min**
***Thursday*: 48 min + 48 min = 96 min**

***R* = 72 min + 48 min + 96 min = 216 min = 3 hr 36 min**

180 min 36 min
3 hr

Jennifer spent 3 hours 36 minutes running during the three-day period.

HOW YOU CAN HELP AT HOME

- When you find yourself working with units of measure during the day, ask your child questions about your activities. For example, you might say, "The directions on the box say to bake this bread for 1 hour 10 minutes. I want to check the bread 15 minutes before the time is up to make sure that it doesn't burn. For how many minutes should I set the timer?" (55 minutes)
- Find a tape measure that measures distances greater than one yard and show it to your child. Pull out the tape and ask him to examine the measurements. Are they metric units (i.e., centimeters) or standard units (i.e., inches)? How can you tell? Next, ask your child to use the tape measure to prove the equivalence of measurements. For example, you might ask him to prove that 1 foot 3 inches is equivalent to 15 inches.

TERMS

Capacity: A property of a container that describes how much the container can hold.

RDW process: A three-step process used in solving word problems that requires students to 1) read the problem for understanding, 2) draw a picture or model, and 3) write an equation and a statement of their answer.

MODELS

Conversion Table

Yards	Feet
1	3
2	6
3	9
4	12

Common Measurement Conversions

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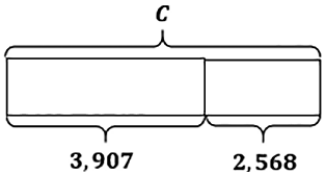
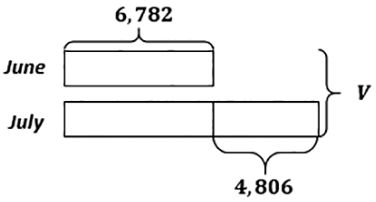
1 kilogram	1,000 grams
1 liter	1,000 milliliters
1 gallon	4 quarts
1 quart	2 pints
1 pint	2 cups
1 minute	60 seconds
1 hour	60 minutes
1 day	24 hours
1 week	7 days

Strip Diagrams





TIPS FOR FAMILIES

KEY CONCEPT OVERVIEW

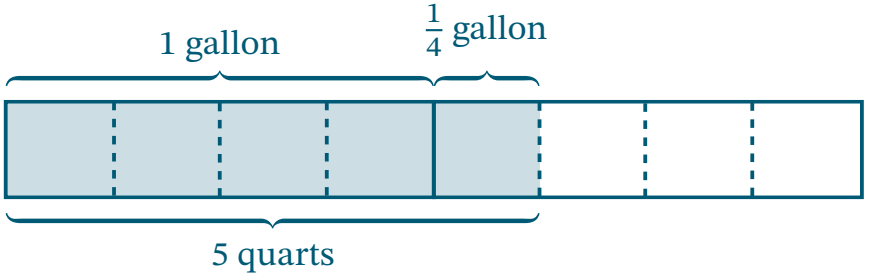
In Lessons 12 through 14, students continue to work with conversions. They convert larger mixed measurement units with fractional parts to smaller units.

You can expect to see homework that asks your child to do the following:

- Draw a strip diagram to show equivalence from one unit of measure to a smaller unit of measure.
- Convert from a larger unit to a smaller unit.
- Use the RDW process to solve multi-step measurement word problems.

SAMPLE PROBLEM *(From Lesson 12)*

Draw a strip diagram to show that $1\frac{1}{4}$ gallons = 5 quarts.



$\frac{1}{4}$ gallon = 1 quart

1 gallon = 4 quarts

HOW YOU CAN HELP AT HOME

- With your child, use index cards or small pieces of paper to make 8 pairs of cards that show equivalent measurements. For example, on one card, write $3\frac{1}{4}$ pounds; on another card, write 52 ounces. Use measures of length, weight, capacity, and time. Reference the **conversion table** in the Models section for examples of units. After you have made the cards, play a memory game with your child.
  1. Place the cards facedown in rows to form a grid.
  2. Player A flips over two cards, keeping the cards in their place. If the cards are a match, Player A keeps them and takes another turn. If the cards are not a match, Player A flips them back over, and Player B takes a turn.
  3. Play continues until all of the matches have been made. The person with the most matches wins.
- Take turns with your child naming measurements. With each turn, have the other person convert the given measurement to smaller units. For example, you say, "$1\frac{1}{2}$ hours," and your child says, "90 minutes."

MODELS

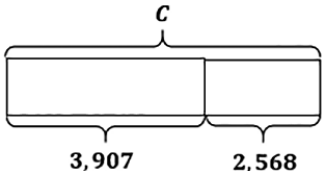
Conversion Table

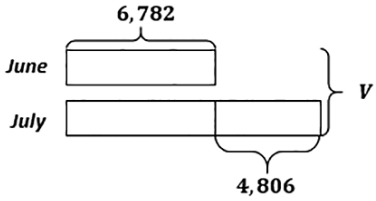
Yards	Feet
1	3
2	6
3	9
4	12

Common Measurement Conversions

1 kilometer	1,000 meters
1 meter	100 centimeters
1 yard	3 feet
1 foot	12 inches
1 pound	16 ounces
1 kilogram	1,000 grams
1 liter	1,000 milliliters
1 gallon	4 quarts
1 quart	2 pints
1 pint	2 cups
1 minute	60 seconds
1 hour	60 minutes
1 day	24 hours
1 week	7 days

Strip Diagrams





TIPS FOR FAMILIES

KEY CONCEPT OVERVIEW

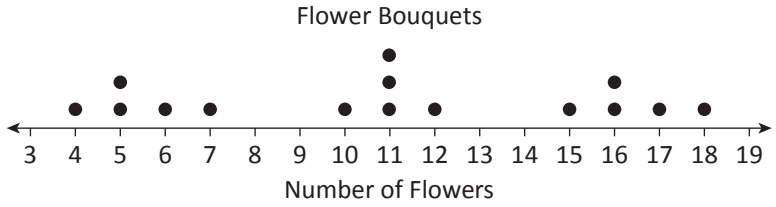
In Lessons 15–17, students focus on data analysis by using graphical representations. Students begin by constructing **frequency tables** and **dot plots**. Then they explore the **stem-and-leaf plot** as an alternative way to display and analyze data. Finally, students solve real-world data analysis problems by interpreting data in the graphical representations. (See Sample Problem.)

You can expect to see homework that asks your child to do the following:

- Use a measurement data set to create frequency tables and dot plots and interpret the data.
- Create a stem-and-leaf plot and interpret the data.
- Use data and graphical representations to solve problems.

SAMPLE PROBLEM *(From Lesson 17)*

A florist sells bouquets with different numbers of flowers. The dot plot shows the number of flowers in each bouquet the florist currently has for sale.



a. Using the dot plot, create a stem-and-leaf plot for the data. Be sure to include a key.

Stem	Leaf
0	4 5 5 6 7
1	0 1 1 1 2 5 6 6 7 8

1|2 means 12 flowers.

b. What do you think is a typical number of flowers in one of these bouquets? Explain your thinking.

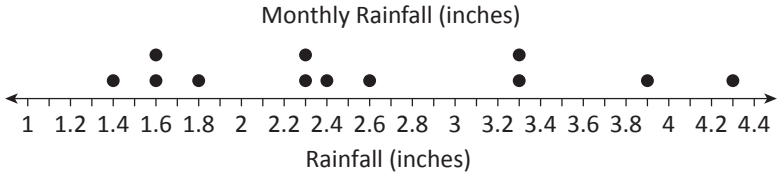
A typical number of flowers is about 11. This value is in the middle of the data set.

HOW YOU CAN HELP AT HOME

- Find data displays in magazines, newspapers, or on the internet and ask your child questions about the data.
- Have your child measure several similar objects and record the measurements. Then have your child display the data by using a dot plot and/or a stem-and-leaf plot. Your child can create a question that can be answered by using the data. For example, if you measure the heights of several pieces of furniture in your home, a possible question is, "What is the difference in height between the tallest and shortest pieces of furniture that were measured?"

MODELS

Dot Plot: A graphical representation showing numerical data as dots along a number line, with each dot representing an occurrence of that data point. For example, two dots above 1.6 indicates that there are two months with 1.6 inches of rainfall.



Frequency Table: A graphical representation showing data in a table. The table lists items or measurements and shows the number of times an item or measurement occurs.

Pencil Length (inches)	Tally	Frequency
3	|	1
$3\frac{1}{2}$	|	1
4	|||	3
$4\frac{1}{2}$	||||	4
5	$\cancel{\text{HH}}$	5
$5\frac{1}{2}$	|||	3
6	|||	3
$6\frac{1}{2}$	||	2
7	|	1
$7\frac{1}{2}$	|	1

Stem-and-Leaf Plot: A graphical representation showing data in a T-chart. The chart splits each value into a stem (i.e., the leading digits) and a leaf (i.e., the last digit).

Lengths of Baby Garter Snakes (cm)

Stem	Leaf
17	9
18	1 3
19	2
20	0
21	6
22	0 0 5
23	0 0
24	5

Key: 17|5 means 17.5

TIPS FOR FAMILIES

KEY CONCEPT OVERVIEW

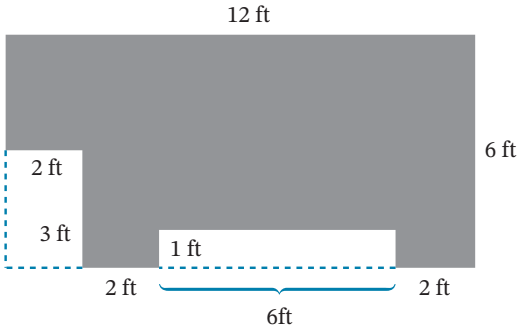
In Lessons 18 through 21, students review math concepts that they have learned throughout the year. They also create a summer folder which will include the Homework pages from Lessons 18 through 20, fluency activity cards from Lesson 20, and vocabulary game ideas from Lesson 21. Each activity in the packet was carefully crafted to provide your child with opportunities to practice math throughout the summer.

You can expect to see homework that asks your child to do the following:

- Find the **area** of a shaded figure. (See Sample Problem.)
- Use a ruler and **protractor** to create a figure, shade part of the figure, and then find the area of the unshaded part.
- Plot and label points on a **number line**.
- Convert numbers written in decimal form to **mixed numbers**, tenths, and hundredths.

SAMPLE PROBLEM *(From Lesson 18)*

Find the area of the shaded figure.



Area of large rectangle: **6 ft × 12 ft = 72 square ft**

Length of bottom center unshaded rectangle:
12 ft – 2 ft – 2 ft – 2 ft = 6 ft

Area of unshaded rectangles:
1 ft × 6 ft = 6 square ft
2 ft × 3 ft = 6 square ft

Area of large rectangle – area of unshaded rectangles:
72 square ft – 6 square ft – 6 square ft = 60 square ft

The area of the shaded figure is 60 square feet.

HOW YOU CAN HELP AT HOME

- Set aside some math time each day and complete the activities contained in the summer folder together. Challenge your child to math contests. Celebrate what your child knows and has learned this year. Congratulate your child on their hard work and perseverance.
- Continue to practice basic facts for addition, subtraction, multiplication, and division. The goal is for your child to remain fluent with the basic facts.

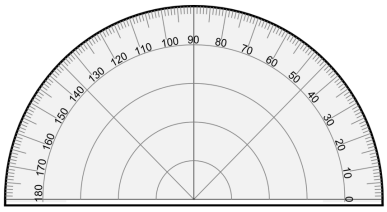
TERMS

Area: The amount of space inside a two-dimensional shape. For example, in rectangles, Area = length × width.

Mixed number: A number made up of a whole number and a fraction (e.g., $13\frac{42}{100}$).

MODELS

180° Protractor



Number Line