

## KEY CONCEPT OVERVIEW

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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).

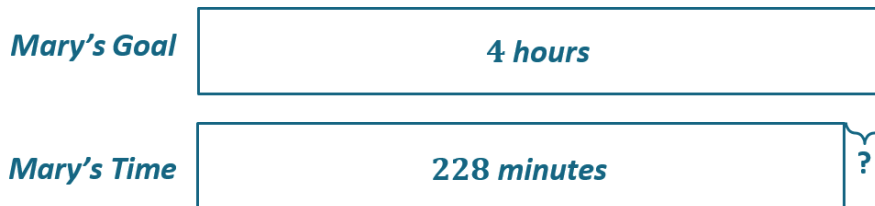
You can expect to see homework that asks your child to do the following:

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

## SAMPLE PROBLEM (From Lesson 5)

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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?



$$1 \text{ hour} = 60 \text{ minutes}$$

$$4 \text{ hours} = 4 \times 60 \text{ minutes} = 240 \text{ minutes}$$

$$240 - 228 = 12$$

**Mary beat her goal by 12 minutes.**

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at [GreatMinds.org](http://GreatMinds.org).

**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. 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 3 yards 1 foot to inches. (120 inches) After he completes each conversion, allow him to check his work online (e.g., search for “How many inches are equal to 3 yards 1 foot?”).

**TERMS**

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

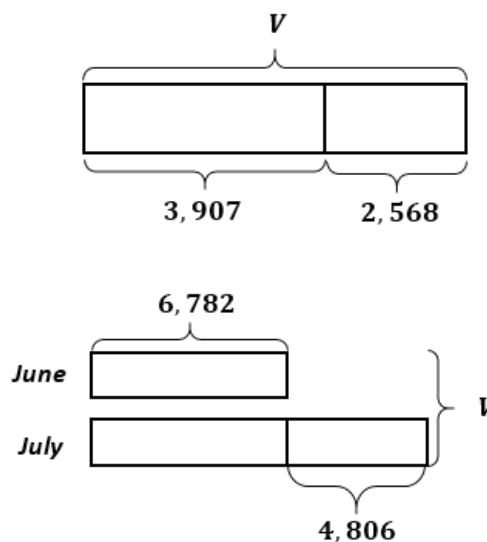
**RDW process:** A three-step process used in solving word problems that requires students to 1) read the problem for understanding, 2) draw a picture or model, and 3) write an equation and a statement of their answer.

**MODELS**

**Conversion Table**

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

**Tape Diagrams**



## KEY CONCEPT OVERVIEW

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

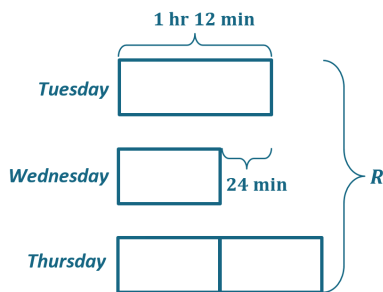
You can expect to see homework that asks your child to do the following:

- 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)

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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**

**$R = 72 \text{ min} + 48 \text{ min} + 96 \text{ min} = 216 \text{ min} = 3 \text{ hr } 36 \text{ min}$**

$$\begin{array}{r} 180 \text{ min} \quad 36 \text{ min} \\ | \\ 3 \text{ hr} \end{array}$$

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

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at [GreatMinds.org](http://GreatMinds.org).

**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 a carpenter might use 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**

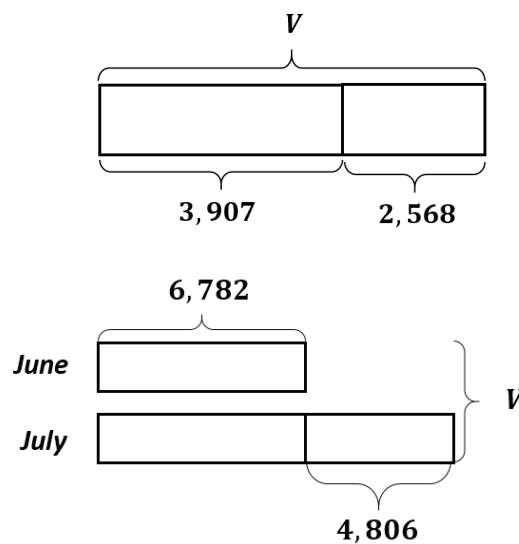
**RDW process:** A three-step process used in solving word problems that requires students to 1) read the problem for understanding, 2) draw a picture or model, and 3) write an equation and a statement of their answer.

**MODELS**

**Conversion Table**

Measurement Conversions	
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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

**Tape Diagrams**



## KEY CONCEPT OVERVIEW

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

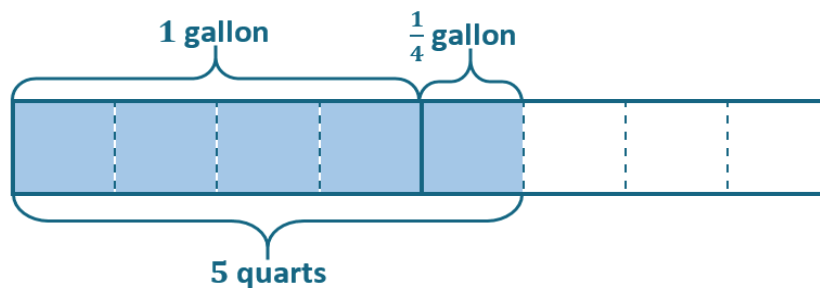
You can expect to see homework that asks your child to do the following:

- Draw a tape 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)*

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



Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at [GreatMinds.org](http://GreatMinds.org).

**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**

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

## KEY CONCEPT OVERVIEW

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In Lessons 15 through 18, students review math concepts that they have learned throughout the year. They also create a summer folder.

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 15)

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Find the area of the shaded figure.

**Area of large rectangle:**  $6 \text{ ft} \times 12 \text{ ft} = 72 \text{ square ft}$

**Length of bottom center unshaded rectangle:**  
 $12 \text{ ft} - 2 \text{ ft} - 2 \text{ ft} - 2 \text{ ft} = 6 \text{ ft}$

**Area of unshaded rectangles:**

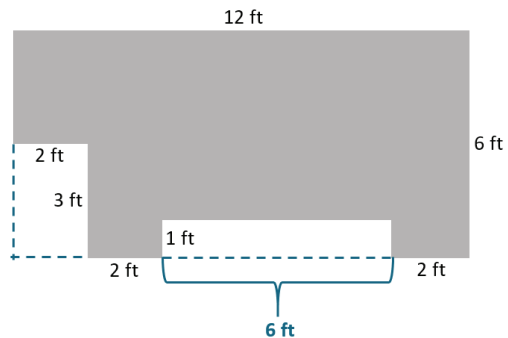
$$1 \text{ ft} \times 6 \text{ ft} = 6 \text{ square ft}$$

$$2 \text{ ft} \times 3 \text{ ft} = 6 \text{ square ft}$$

**Area of large rectangle – area of unshaded rectangles:**

$$72 \text{ square ft} - 6 \text{ square ft} - 6 \text{ square ft} = 60 \text{ square ft}$$

**The area of the shaded figure is 60 square feet.**



Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at [GreatMinds.org](http://GreatMinds.org).

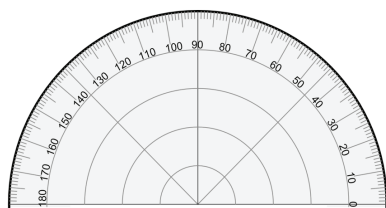
**HOW YOU CAN HELP AT HOME**

- Your child will soon bring home a summer folder. It will include the Homework pages from Lessons 15 through 17, fluency activity cards from Lesson 17, and vocabulary game ideas from Lesson 18. Each activity in the packet was carefully crafted to provide your child with opportunities to practice math throughout the summer. Set aside some math time each day and complete the activities together. Challenge your child to math contests. Celebrate what he knows and what he has learned this year. Congratulate him on his 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  $\times$  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**