Measurements and Ratios

CCSS: 6.RP.A.3d: Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

Launch

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As the final bell rings for the day, your teacher changes the countdown days to summer vacation.

At the same time, your friend writes three ways other than days to count down the time in his notebook.

Show what he might have written.

Way 1   **Way 2**   **Way 3**

Reflect Which way would you use to keep track of time left until summer vacation? Explain.

Got It?

PART 1 Got It

A summer camp has a milk dispenser that holds 1,536 fluid ounces. How many cups of milk are in the dispenser?

PART 2 Got It (1 of 2)

One of the rails on the roller coaster needs to be replaced.
The old rail is 250 centimeters long. The new piece is 8 feet long.
Will the new piece fit? Use 1 inch = 2.54 centimeters.

Got It?

How many inches are in one centimeter? Explain.

PART 3 Got It

You have 2 gallons of a bubble solution. About how many liters of bubble solution do you have? Use 1 quart ≈ 0.95 liter.

Close and Check

Focus Question

You can express measurements of time, length, weight, and capacity in many different units. Why would you want to convert measurements? How can rates help you find a common measurement?

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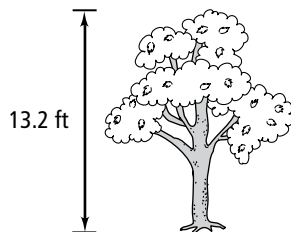
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Do you know HOW?

1. The average dairy cow produces 1,500 gallons of milk per year. The milk-bottling factory puts milk into quart bottles. About how many quarts of milk can it bottle each year from the average dairy cow?

   [ ] quarts

2. There are 1,760 yards in one mile. There are 2.54 centimeters in one inch. How many centimeters are there in one mile?

   [ ] centimeters

3. About how many meters tall is the tree? One inch is approximately 0.025 meter.

   13.2 ft

   [ ] meters

Do you UNDERSTAND?

4. **Error Analysis** Your aunt runs 3 miles in 30 minutes. Your uncle runs 4 kilometers in 30 minutes. He claims he ran farther. Explain why he is incorrect.

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5. **Writing** Your best friend needs 150 centimeters of ribbon for his school project. At the store, he sees that ribbon is sold in spools of 60 inches. Explain how he can decide whether one spool is enough.

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