

**SKILL**  
**23**

Name \_\_\_\_\_ Date \_\_\_\_\_

## Metric Units of Measure

**M**etric units of length are millimeters, centimeters, meters, and kilometers.

Length
1 centimeter (cm) = 10 millimeters (mm)
1 meter (m) = 100 centimeters
1 meter = 1,000 millimeters
1 kilometer (km) = 1,000 meters
Capacity
1 liter (L) = 1,000 milliliters (mL)
1 kiloliter (kL) = 1,000 liters
Mass
1 gram (g) = 1,000 milligrams (mg)
1 kilogram (kg) = 1,000 grams

Metric units of capacity are milliliters, liters, and kiloliters.

Metric units of mass are milligrams (mg), grams (g), and kilograms (kg).

When changing from a smaller unit to a larger unit, divide.

When changing from a larger unit to a smaller unit, multiply.

**EXAMPLE**

*Change 65 meters to centimeters.*

$65 = 5$  \_\_\_\_ cm     *You are changing from a larger unit (m) to a smaller unit (cm), so multiply.*

$65 \times 100 = 6,500$      *Since 1 meter = 100 centimeters, multiply by 100.*

$65 \text{ m} = 6,500 \text{ cm}$

*Change 500 milliliters to liters.*

$500 \text{ mL} =$  \_\_\_\_ L     *You are changing from a smaller unit (mL) to a larger unit (L), so divide.*

$500 \div 1,000 = 0.5$      *Since 1 liter = 1,000 milliliters, divide by 1,000.*

*Change 4,500 grams to kilograms.*

$4,500 \text{ g} =$  \_\_\_\_ kg     *You are changing from a smaller unit (g) to a larger unit (kg), so divide.*

$4,500 \div 1,000 = 4.5$      *Since 1 kilogram = 1,000 grams, divide by 1,000.*

$4,500 \text{ g} = 4.5 \text{ kg}$

**APPLICATIONS** Choose the best estimate.

- |  |        |       |        |
|--|--------|-------|--------|
| 19. length of a race                     | 5 cm   | 5 m   | 5 km   |
| 20. wingspan of an eagle                 | 2.4 cm | 2.4 m | 2.4 km |
| 21. length of a computer disk            | 90 mm  | 90 cm | 90 m   |
| 22. capacity of can of soft drink        | 355 mL | 355 L | 355 kL |
| 23. capacity of a bathtub                | 80 mL  | 80 L  | 80 kL  |
| 24. amount of vanilla in a cookie recipe | 3 mL   | 3 L   | 3 kL   |
| 25. mass of a nickel                     | 5 mg   | 5 g   | 5 kg   |
| 26. mass of an adult human               | 60 mg  | 60 g  | 60 kg  |
| 27. mass of an apple                     | 0.2 mg | 0.2 g | 0.2 kg |
28. The average shower uses 19 liters of water per minute. If you take a five-minute shower each day, how many kiloliters of water do you use in a 30-day month?
29. Soft drinks are sold in 2 liter containers. How many milliliters of soft drink are in one of these containers?
30. The mass of a collie is 33,000 grams, and the mass of a basset hound is 26 kilograms. Which dog is bigger?