REVIEW: Converting Metric Units

Name _____

Key Concept and Vocabulary

Length
1 cm = 10 mm
1 m = 100 cm
1 km = 1000 m

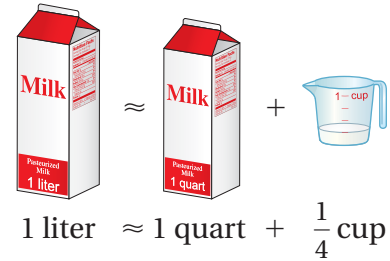**Weight (Mass)**
1 g = 1000 mg
1 kg = 1000 g

Volume
1 L = 1000 mL
1 kL = 1000 L
$1 \text{ cm}^3 = 1 \text{ mL}$
$1 \text{ L} = 1000 \text{ cm}^3$
$1 \text{ m}^3 = 1000 \text{ L}$
$1 \text{ m}^3 = 1{,}000{,}000 \text{ cm}^3$

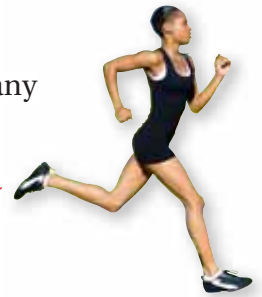Metric Units

Visual Model

1 liter $\approx$ 1 quart + $\frac{1}{4}$ cup

Skill Examples

1. $3 \text{ m} = 3 \text{ m} \cdot \dfrac{100 \text{ cm}}{1 \text{ m}} = 300 \text{ cm}$

2. $0.75 \text{ km} = 0.75 \text{ km} \cdot \dfrac{1000 \text{ m}}{1 \text{ km}} = 750 \text{ m}$

3. $50 \text{ mg} = 50 \text{ mg} \cdot \dfrac{1 \text{ g}}{1000 \text{ mg}} = 0.05 \text{ g}$

4. $750 \text{ mL} = 750 \text{ mL} \cdot \dfrac{1 \text{ L}}{1000 \text{ mL}} = 0.75 \text{ L}$

Application Example

5. A runner is running in a 100 meter dash. How many kilometers is that?

   $100 \text{ m} = 100 \text{ m} \cdot \dfrac{1 \text{ km}}{1000 \text{ m}}$

   $= 0.1 \text{ km}$

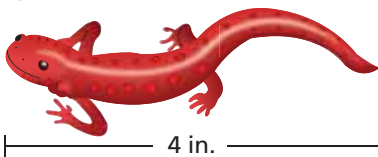   ∴ It is one-tenth of a kilometer.

PRACTICE MAKES *PURR*-FECT™

Check your answers at BigIdeasMath.com.

Complete the unit conversion.

6. 30 cm = _____ m

7. 30 cm = _____ mm

8. 0.5 km = _____ m

9. 2 m = _____ cm

10. 1500 cm = _____ m

11. 1000 mm = _____ m

12. 250 g = _____ kg

13. 0.75 kg = _____ g

14. 500 mg = _____ g

15. 2 L = _____ mL

16. 4000 mL = _____ L

17. 500 cm^3 = _____ mL

METRIC AND CUSTOMARY CONVERSION Use the conversion 1 in. ≈ 2.54 cm.
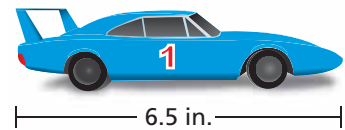
18.

4 in.

Salamander length ≈ _____ cm

19.

8 cm

Flower length ≈ _____ in.

20.

6.5 in.

Toy car length ≈ _____ cm

21. **SPEED** One mile is about 1.6 kilometers. What is the speed limit in kilometers per hour?

   _____

SPEED LIMIT 65 mph

Topic 16.2