

Name: _____

Converting within the Metric System

Ratios can be used to help convert from one metric measurement to another. However, you need to know the conversion rates.

Example: How many centimeters are in 3 meters?

$$3 \text{ meters} \times 100\text{cm}/1 \text{ meter} = 300 \text{ cm}$$

Notice that we want the common units to cancel out so that we are just left with centimeters.

Length	Capacity	Mass
1cm = 10mm	1L = 1,000 mL	1g = 1,000 mg
1m = 100 cm	1kL = 1,000L	1kg = 1,000g
1km = 1,000m		

Convert the following using ratios:

1. How many liters are in 37 kiloliters? _____
2. How many kilograms are in 4,500 grams? _____
3. How many centimeters are in 4 kilometers? _____
4. How many kilograms are in 43,800 milligrams? _____
5. How many liters are in 32,560 kiloliters? _____
6. How many meters are in 32 millimeters? _____
7. Which is longer: 36 meters or 3,800 centimeters? _____

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Convert the following using ratios:

1. How many liters are in 37 kiloliters? 37,000 L

2. How many kilograms are in 4,500 grams? 4.5 kg

3. How many centimeters are in 4 kilometers? 400,000 cm

4. How many kilograms are in 43,800 milligrams? 0.0438 kg

5. How many liters are in 32,560 kiloliters? 32,560,000 L

6. How many meters are in 32 millimeters? 0.032 m

7. Which is longer: 36 meters or 3,800 centimeters? 3800 centimeters