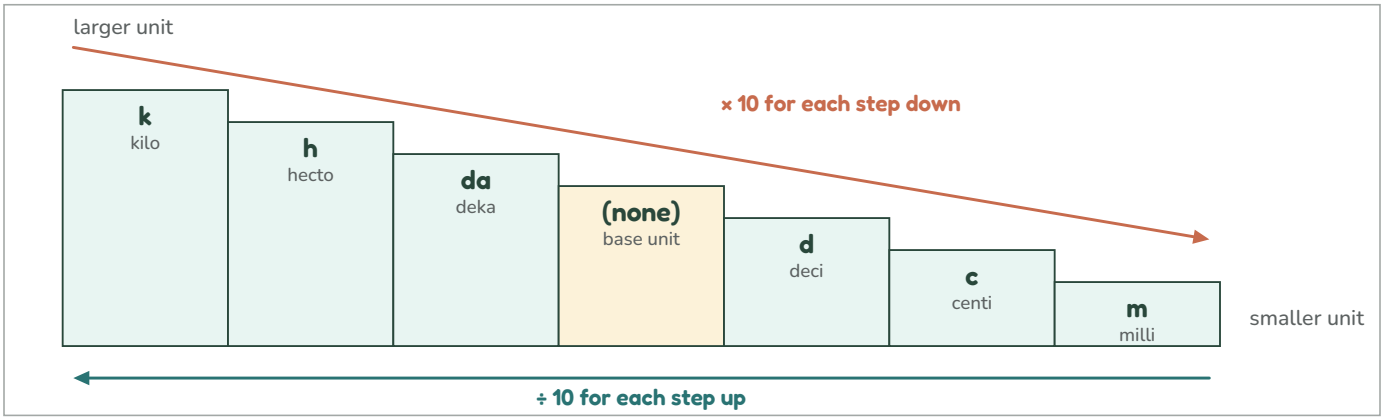
Metric Conversions: Move the Decimal

Grades 6-8

Name _____ Date _____

Directions: Use the prefix ladder. Count how many steps separate the two units, then move the decimal point that many places: right when you go down to a smaller unit, left when you go up to a larger unit. Write each answer with its unit. Item 8 also asks you to explain.



The ladder is the same for meters, liters and grams: kilo always means one thousand of the base unit, centi one hundredth, and milli one thousandth.

1. A hiking trail is 3.5 km long. How many meters is that? _____
2. A desk is 140 cm wide. Write the width in meters. _____
3. A beetle measures 18 mm from head to tail. How long is it in centimeters? _____
4. A juice box contains 0.2 L. Write that volume in milliliters. _____
5. The balance reads 2,250 g for a bag of rice. Write the mass in kilograms. _____
6. A kitten weighs in at 1.6 kg at the vet. Write its mass in grams. _____
7. A fish tank is filled with 45,000 mL. Write that volume in liters. _____
8. A school hallway measures 18.6 m. Jordan writes the length as 186 cm. Is Jordan right? If not, write the correct number of centimeters and explain which way the decimal point should move, and how far.

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Answer key

One point per item for the correct number with its unit; item 8 earns a second point for the explanation.

1. **3,500 m**
   3 steps down: shift the decimal right by 3 places (× 1,000).

2. **1.4 m**
   2 steps up: shift the decimal left by 2 places (÷ 100).

3. **1.8 cm**
   1 step up: shift the decimal left by 1 place (÷ 10).

4. **200 mL**
   3 steps down: shift the decimal right by 3 places (× 1,000).

5. **2.25 kg**
   3 steps up: shift the decimal left by 3 places (÷ 1,000).

6. **1,600 g**
   3 steps down: shift the decimal right by 3 places (× 1,000).

7. **45 L**
   3 steps up: shift the decimal left by 3 places (÷ 1,000).

8. **No. 18.6 m = 1,860 cm.**
   Meters to centimeters is 2 steps down the ladder, so the decimal shifts right by 2 places (× 100). Jordan moved it only one place.