

The metric system in which you can convert measurements by multiplying or dividing by powers of ten. The chart shows the relationships of the prefixes used to name metric units.

thousands	hundreds	tens	ones	tenths	hundredths	thousandths
1 <u>k</u> = 1000 m	1 <u>h</u> = 100 m	1 <u>d</u> = 10 m	no prefix 1	1 <u>t</u> = 0.1 m	1 <u>h</u> = 0.01 m	1 <u>th</u> = 0.001 m
1 kg = 1000 g	1 hg = 100 g	1 dag = 10 g		1 dg = 0.1 g	1 cg = 0.01 g	1 mg = 0.001 g
1 kL = 1000 L	1 hL = 100 L	1 daL = 10 L		1 dL = 0.1 L	1 cL = 0.01 L	1 mL = 0.001 L

★ To convert from a larger unit to a smaller unit, multiply (move decimal point to the right) by the appropriate power of ten. To convert from a smaller unit to a larger unit, use division (move decimal point to the left) by the appropriate power of ten. ★

Example 1

$1\text{ m} = 100\text{ cm}$ $1\text{ m} = 10\text{ dm}$
 $1\text{ m} = 1000\text{ mm}$

Complete.

- a. $10\text{ m} = \underline{\quad? \quad}\text{ cm}$
- b. $2\text{ m} = \underline{\quad? \quad}\text{ mm}$
- c. $40\text{ cm} = \underline{\quad? \quad}\text{ m}$
- d. $3500\text{ mm} = \underline{\quad? \quad}\text{ m}$

Solution

- a. $10\text{ m} = 10 \cdot 100\text{ cm} = 1000\text{ cm}$
- c. $40\text{ cm} = 40 \div 100\text{ m} = 0.4\text{ m}$
- b. $2\text{ m} = 2 \cdot 1000\text{ mm} = 2000\text{ mm}$
- d. $3500\text{ mm} = 3500 \div 1000\text{ m} = 3.5\text{ m}$

3. $5\text{ L} = \underline{5000}\text{ mL}$ p.3
 $1\text{ m} = 1000\text{ mm}$ KHDBDCM.
 $1\text{ L} = 1000\text{ mL}$ 5.000
 5(1000)

8. $0.6\text{ m} = \underline{60}\text{ cm}$ 9. $7\text{ g} = \underline{7000}\text{ mg}$
 $1\text{ m} = 100\text{ cm}$ KHDBDCM $1\text{ g} = 1000\text{ mg}$
 .6(100) 0.60 7(1000)

10. $80\text{ m} = \underline{.08}\text{ km}$ 13. $2400\text{ L} = \underline{2.4}\text{ kL}$
 Smaller \rightarrow bigger \div smaller \rightarrow bigger
 $1\text{ km} = 1000\text{ m}$ $\frac{80}{1000}$ $2400 \div 1000$
KHDBDCM 0.80 $1\text{ kL} = 1000\text{ L}$

14. $4.2\text{ km} = \underline{4200}\text{ m}$ 16. $1.8\text{ m} = \underline{1800}\text{ mm}$
 $4.2 * 1000 =$ $1\text{ m} = 1000\text{ mm}$
KHDBDCM bigger \rightarrow smaller
4.200 $1.8(1000)$

Move to "Understanding Grams" Wkst p.64

1. 35 mg = .035 g KHDBDCM
.035.
2. 6 km = 6000 m KHDBDCM
3. 21.5 mL = .0215 L KHDBDCM
6000.
4. 4.9 mm = .49 cm KHDBDCM
4.9 ÷ 10
.0215
5. 5.35 kL = 5350000 mL KHDBDCM
5.35 * 1000000
6. 32.1 mg = .0000321 kg KHDBDCM
32.1 ÷ 1000000
.49
7. 156.4 m = .1564 km KHDBDCM
1 km = 1000 m
156.4 ÷ 1000
.1564
KHDBDCM
5350000
.0000321

8. 25 mg = _____ cg
9. 17.5 L = _____ mL
10. 4.2 g = _____ kg
11. 0.06 daL = 6 dL KHDBDCM
.06 (100) deka deci
0x06.
12. 0.417 kg = _____ cg
13. 18.2 cL = _____ L
14. 81.2 dm = _____ cm

- 15. 72.3 cm = _____ m
- 16. 0.003 kL = _____ L
- 17. 5.06 g = _____ mg
- 18. 1.058 mL = _____ cL
- 19. 43 hm = _____ km
- 20. 2.057 m = _____ cm
- 21. 564.3 g = _____ kg

Using Conversions to Simplify. ★ Ch 2 Packet - p.3 ★

convert to mm

28. 8 cm + 6 mm = 86 mm
80mm + 6mm

29. 60 g × 8 = .06(8) = .48 kg
60g = ? kg
60 ÷ 1000 = .06

30. 3.5 kg + 200 g = 3.7 kg
200 ÷ 1000
3.5 kg + .2 kg

31. 8 × 25 mm = 20 cm
8 (2.5 cm)
25 mm ÷ 10 =

32. 2.4 L ÷ 6 = _____ mL

KHDBDCM. 8.0.

KHDBDCM .060.

KHDBDCM. 25.

$$33. 2 \text{ m} - 100 \text{ mm} = \underline{\hspace{2cm}} \text{ cm}$$

$$34. 400 \text{ mg} \div 5 = \underline{\hspace{2cm}} \text{ g}$$

$$35. 60 \text{ mL} \cdot 6 = \underline{\hspace{2cm}} \text{ L}$$

$$36. 1 \text{ km} - 60 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$$

$$37. 1 \text{ kL} \div 5 = \underline{\hspace{2cm}} \text{ L}$$

p.4

Complete.

$$9. 3.5 \text{ kg} + 500 \text{ g} = \underline{\hspace{1cm}} \text{ kg}$$

$$10. 1.8 \text{ L} \div 5 = \underline{\hspace{1cm}} \text{ mL}$$

$$11. 2.75 \text{ cm} \cdot 12 = \underline{\hspace{1cm}} \text{ mm}$$

$$12. 6 \text{ m} - 350 \text{ cm} = \underline{\hspace{1cm}} \text{ cm}$$