

# Measurements and Units

- All measurements consist of two parts: a \_\_\_\_\_ followed by a \_\_\_\_\_.
- List the SI base unit of measurement for each of the following quantities.
  - Time
  - Temperature
  - Length
  - Amount of substance
  - Mass
- List the six prefixes used with metric base units to produce multiples of the base unit. What is the mnemonic that can be used to help you remember these prefixes?
- Copy the following problems, and complete the conversions.
  - $2.73 \text{ m} = \text{_____ cm}$
  - $380 \text{ cg} = \text{_____ g}$
  - $123.88 \text{ km} = \text{_____ m}$
  - $79,560 \text{ L} = \text{_____ kL}$
  - $1,582 \text{ mm} = \text{_____ cm}$
  - $6.95 \text{ cm} = \text{_____ mm}$
  - $0.684 \text{ g} = \text{_____ mg}$
  - $457 \text{ mL} = \text{_____ L}$
  - $6,115 \text{ mm} = \text{_____ m}$
  - $8.81 \text{ kg} = \text{_____ g}$
  - $765 \text{ mm} = \text{_____ m}$
  - $50,440 \text{ kg} = \text{_____ mg}$
  - $16.1 \text{ L} = \text{_____ mL}$
  - $23,440 \text{ g} = \text{_____ hg}$
  - $0.125 \text{ km} = \text{_____ m}$
  - $61.15 \text{ mm} = \text{_____ dam}$
  - $1.12 \text{ dL} = \text{_____ L}$
  - $4.73 \text{ km} = \text{_____ hm}$
  - $8,340 \text{ cL} = \text{_____ daL}$
  - $4,620 \text{ mg} = \text{_____ hg}$
  - $765 \text{ cg} = \text{_____ kg}$
  - $312.63 \text{ hL} = \text{_____ L}$
  - $5.22 \text{ km} = \text{_____ cm}$
  - $0.2795 \text{ g} = \text{_____ kg}$
  - $3.95 \times 10^3 \text{ g} = \text{_____ mg}$
  - $1.7 \times 10^4 \text{ cm} = \text{_____ m}$
- Express each number in scientific notation.
  - 725,000,000
  - 0.00975
  - 0.00009805
  - 37,700
  - 200
  - 197,200
- Express each number in regular or ordinary notation.
  - $3.68 \times 10^5$
  - $7.6 \times 10^{-4}$
  - $4 \times 10^{-1}$
  - $2.389 \times 10^7$
  - $9.3 \times 10^2$
  - $3.495 \times 10^{-7}$