

Section 3-Scientific Measurement

Review

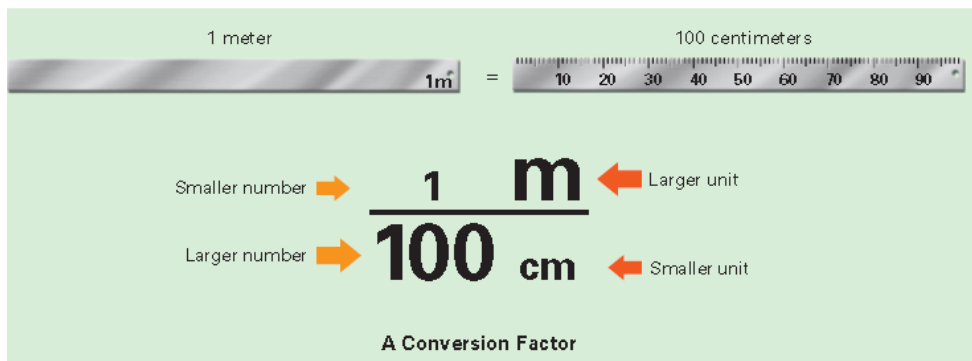
- Scientific Notation
- Accuracy, Precision and Error
- Significant Figures
- Metric System and Prefixes

Section 3.3-Unit Conversion Problems

Conversion Factors

- any units that are equivalent can be divided by each other and the value is always equal to 1

For example,



Dimensional Analysis

- a way to analyse and solve problems using the units of the measurements

Examples

How many seconds are in a workday that lasts 8 hours?

$$8\cancel{\text{h}} \times \frac{60\cancel{\text{min}}}{1\cancel{\text{h}}} \times \frac{60\cancel{\text{sec}}}{1\cancel{\text{min}}} = 8 \times 60 \times 60 = 28800 \text{ sec}$$

Practice Problems p. 82 - #28, 29

Converting Between Metric Units

Express 750dg in grams

$$750\cancel{\text{dg}} \times \frac{1\cancel{\text{g}}}{10\cancel{\text{dg}}} = \frac{750}{10} \text{ g} = 7.5 \text{ g}$$

Practice Problems
p. 84 - #30,32
p. 85 - #34,35

Try p. 86, # 34,35
See Sample Problem 3.9 on p. 86