Name Key Section _____ Date _____

2 Scientific Measurement
Objectives Worksheet

Chapter Objectives

As you study this chapter, you should be able to do the following:

1. Distinguish between quantitative and qualitative measurements. *2.1*

Quant. - give results in a definite form, usually as #'s

Qual. - give results in a descriptive form

2. Distinguish between the accuracy and precision of a measurement. *2.2*

Accuracy - how close a measurement is to the true value

Precision - reproducibility of a measurement

3. Rewrite measurements in scientific notation. *2.3*

Examples:

a. .000758 7.58×10^{-4}

b. 4 573 217 4.573217×10^{6}

c. .03438 3.438×10^{-2}

4. Identify the number of significant figures in a measurement. *2.4*

Examples:

a. 0.42 L 2

b. 78.00 m 4

c. 320 g 2

5. Apply the rules for significant figures in calculations to round off numbers correctly. *2.5*

Examples:

a. Round off 8670 km to two significant figures 8700 km

b. Round off 0.01025 m to three significant figures .0103m

c. Round off 7.013 g to three significant figures 7.01g

d. Round off 0.003629 mm to three significant figures .00363mm

6. List the SI units of measurement used in chemistry. *2.6*

length (m), mass (kg), time (sec), temp (K)

© Addison-Wesley Publishing Company. All rights reserved.