LEARNING AS ONE NATION

Expanded Project

GC1 Q1_13

SHS LEARNING ACTIVITY

Name: _____ **Score/Mark:** _____

Grade and Section: _____ **Date:** _____

Strand: ☑ STEM ☐ ABM ☐ HUMSS ☐ ICT (*TVL Track*)

Subject: *General Chemistry 1*

Type of Activity: ☑ Concept Notes ☐ Skills: Exercise/Drill ☐ Illustration ☐ Performance Task ☐ Essay/Report ☐ Others: _____

Activity Title: **B-01. Significant Figures in Measurements**

Learning Target: To determine the number of significant figures in measurements

References: *(Author, Title, Pages)*
Chang, Chemistry 10th edition, pp. 14-15.
J.A. Sadudaquil, M.D.A.D. Cadeliña, CVIF-DLP Learning Activities

In reporting measurements and analysis of numerical data, it is important to note conventions on how many decimal places shall be considered, and which digits have meaning for contribution to the overall value of the number. These digits are called **significant figures**.

The following are always considered significant:

1) All nonzero digits
   Example: 456 cm has three significant figures.
2) Zeros between nonzero digits
   Example: 560,003 kg has six significant figures.
3) Zeros after the last nonzero digit (trailing zeroes) in numbers that contain decimal points (zeros before the first nonzero digit are not significant)
   Examples: 7.500 mol has four significant figures.
   0.00342 m has three significant figures.
   0.003420 m has four significant figures.

If the given number does not contain a decimal point, the zeros after a significant digit may or may not be significant. This is resolved using scientific notation.

Example: 4500 ms can have two, three or four significant figures, but 4.500×10^4 ms has four significant figures.

Exercises: Write the number of significant figures on the blank provided before each number. The first item is done as an example.

3	a) 405 cm^2	_____	d) 0.00307 m
_____	b) 7.5060×10^{-12} Gs	_____	e) 0.306 m^3
_____	c) 956.7 nmol	_____	f) 100.03067 L