LEARNING AS ONE NATION

Expanded Project

GC1 Q1_5

S H S L E A R N I N G A C T I V I T Y

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: _____

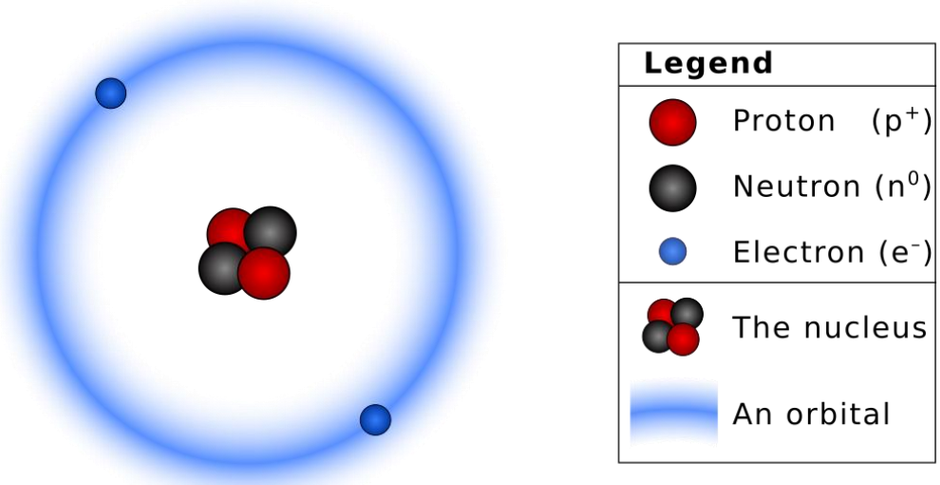
Activity Title: **A-03. Atoms are made of "subatomic" particles**

Learning Target: To illustrate how atoms are made of subatomic particles called protons, electrons, and neutrons

References: *(Author, Title, Pages)*
Brown et al., Chemistry: The Central Science 12th edition. p. 41-44.
V. Sojo and M.D.A.D. Cadeliña, CVIF-DLP Learning Activities

Succeeding experiments led to the discovery of other subatomic particles. Ernest Rutherford discovered the protons in 1919 while James Chadwick discovered the neutrons in 1932. Thus, we know that **atoms consist of subatomic particles: protons, neutrons, and electrons**.

Let us look at a very simplistic model of the atom:



Protons and neutrons are clustered together in the **nucleus**. Electrons are distributed far away in **orbitals**, in ways that we will study later. Protons are positively charged particles while electrons are negatively charged. Neutrons do not have any charge (which is why they have that name). Given with a neutral atom, the number of protons and electrons are equal.

Exercise: Recall your Junior High School Chemistry. What is the product when the number of the following subatomic particles are changed in an element? Write the product only.

- proton
- electron
- neutron