

Subject: Science

Grade: Eleventh - Chemistry

Standard: #3 The Physical Setting

Key Concept: Atoms are made of a positive nucleus surrounded by negative electrons.

Generalization: Every atom has a unique number of protons and electrons.

Background:

Students have begun their study of chemistry. They have reviewed states of matter and scientific measurement. In their unit on atomic structure, they have covered protons, neutrons, and electrons. This lesson serves as preparation for discussing the Periodic Table.

This lesson is tiered in *product* according to *interest*.

Students may work individually or in small groups to complete the lesson. Each group or individual will choose one of the tiers listed below. The choice of atom should also be left up to the student. However, you may want to control choices by giving students a list from which to make their choice. Another idea would be to have each group/individual choose a different atom so there is no repetition.

Rubrics to assess each type of product should be provided to students before they start the lesson.

Tier I: *3-D Model*

Tier II: *Mobile*

Tier III: *Quilt/Wall Hanging*

Tier IV: *Pop-Up Card*

Assessment:

Teacher observation and student interviews during the investigation will serve as formative assessments. Completed rubrics will serve as summative assessment. Students should present their products to the class. You may wish to use a peer-evaluated rubric focusing on presentation skills for this.