



Unit 2 Chemical Compounds and Reactions

High School Physical Science

Unit Length and Description:

7 Instructional Weeks

Students will construct and review an explanation for the outcome of a simple chemical reaction on the valence electron, periodic table trends, and patterns of chemical properties. They will also use mathematical representations in balancing chemical equations to support the claim of Conservation of Mass/Matter. Students will also use models to illustrate that energy can be accounted as a combination of energy associated with the motions and position of objects.

Science Standards:

- HS-PS1-2** Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.
- HS-PS1-7** Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.
- HS-PS3-2** Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles and/or objects and energy associated with the relative positions of particles and/or objects.

Enduring Understandings- Unit Anchor Phenomenon:

Rocks spontaneously combust and cause a woman's pants to catch fire.

Essential Questions- Reflective Summaries:

- Construct an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.
- Make a claim supported by evidence that atoms, and therefore mass, are conserved during a chemical reaction.
- Create a model to illustrate that energy at the microscopic scale can be accounted for as energy associated with the motions of particles and energy associated with the relative positions of particles.