



Unit 2 Chemical Reactions

Grade 7 Science

Unit Length and Description:

5 instructional weeks

Students will continue to build depth of knowledge on properties of substances, and apply this understanding to using models that describe conservation of matter in chemical reactions. Students will also construct scientific explanations of photosynthesis and cellular respiration in the cycling of matter and energy into and out of organisms.

Science Standards:

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| 7-MS-PS1-2 | Analyze and interpret data on properties of substances before and after substances interact to determine if a chemical reaction has occurred. |
| 7-MS-PS1-4 | Develop and use a model that predicts and describes changes in particle motion, temperature, and the state of a pure substance when thermal energy is added or removed. |
| 7-MS-PS1-5 | Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample. |
| 7-MS-LS1-6 | Construct a scientific explanation based on evidence for the role of photosynthesis and cellular respiration in the cycling of matter and flow of energy into and out of organisms. |

Enduring Understandings- Unit Anchor Phenomenon:

Corpse flowers are the world's largest flowers and can reach approximately 10 to 15 feet in height. When the flowers bloom, they emit an odor that is similar to rotting meat or a decaying corpse.

Essential Questions- Reflective Summaries:

- Describe how substances change before and after substances are mixed together.
- Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.
- Develop a model that describes changes in particle motion, temperature, and the state of a pure substance when thermal energy is produced by a corpse plant. How does this impact pollinators' ability to be attracted to this plant?
- Develop a model to describe how the

total number of atoms are conserved during the processes of photosynthesis and cellular respiration.

- Construct a scientific explanation based on evidence for the role of photosynthesis and cellular respiration in the cycling of matter and flow of energy into and out of organisms.