

CHEMISTRY STANDARDS OF PROFICIENCY

Course Standards

STRUCTURES AND PROPERTIES (recursive)

ATOMIC STRUCTURE

- Describe the structure of atoms in terms of neutrons, protons, and electrons and the role of the atomic structure in determining chemical properties.
- Use a periodic table to predict the relative properties of elements based on patterns of electrons in the outermost energy level of atoms.

PROPERTIES OF GAS

- Describe the relationship between volume, temperature, and pressure in terms of the actions of atoms, molecules, and ions.
- Explain atmospheric chemistry and the impacts of various inputs (carbon dioxide, methane, sulfur, etc.) into the atmosphere.

CHEMICAL REACTIONS (recursive)

- Support claims that atoms, and therefore mass, are conserved during a chemical reaction.
- Describe how the number and arrangement of atoms in a molecule determines a molecule's properties, including the types of bonds it makes with other molecules and its mass.
- Provide an explanation about the effects of changing the temperature and concentration of reacting particles on the rate at which the reaction occurs.

FUNDAMENTAL SKILLS I, II, III (not recursive, ie. specific to each Trimester)

- Demonstrate the fundamental skills of chemistry, including metric conversions, scientific notation, significant figures, lab equipment identification and usage.

Graduation Standards

ASKING QUESTIONS AND DEFINING PROBLEMS (recursive)

- Ask questions that arise from observed phenomena in order to seek additional information.
- Construct questions to determine or clarify cause/effect relationships, models, phenomenon, prior knowledge or data.

DEVELOPING AND USING MODELS (recursive)

- Evaluate or refine models from the natural or designed world.

PLANNING AND CARRYING OUT INVESTIGATIONS (recursive)

- Can successfully and safely follow appropriate protocols during an investigation.

OBTAINING, EVALUATING, AND COMMUNICATING INFORMATION (recursive)

- Critically read scientific literature to determine the central ideas or conclusions.
- Communicate scientific or technical information and/or ideas in multiple formats (orally, visually, textually, graphically, etc).

H.O.W.L. focus areas

- Engagement
 - I can complete work asked of me in class.
 - I can provide evidence for my learning.
- Preparedness
 - I come prepared to class.
 - I meet deadlines.
 - I can complete my homework.

** These areas will be assessed and reported out on approximately every week to two weeks.