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Plan and conduct an investigation to classify properties of matter as intensive (e.g., density, viscosity, specific heat, melting point, boiling point) or extensive (e.g., mass, volume, heat) and demonstrate how intensive properties can be used to identify a compound.

Density of a Liquid
Thickness of Aluminum Foil
Intensive and Extensive Properties
Extraction and Identification of Dyes (Kool-Aid)
Flame Test
Specific Heat
Melting Points

Obtain and communicate information from historical experiments (e.g., work by Mendeleev and Moseley, Rutherford's gold foil experiment, Thomson's cathode ray experiment, Millikan's oil drop experiment, Bohr's interpretation of bright line spectra) to determine the structure and function of an atom and to analyze the patterns represented in the periodic table.

DEVELOP AND USE

BOND TYPES AND PHYSICAL PROPERTIES
Bond Types and Physical Properties
Topic 10: Bonding and Lewis Structures
Topic 11: Polarity and Polymers

Topic 10: Bonding and Lewis Structures

AMSTI Learning Resources
ACT Sample Questions
9 Assessment Sets (AMSTI)
9 Assessment Sets (AMSTI)

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Plan and conduct investigations to demonstrate different types of simple chemical reactions based on various properties of reactants and determine the mole ratios of reactants and products.

Identify and explain the changes in molecules, atoms, and bonds during a chemical reaction.

Mole Concept
Chemical Change
Chemical Reaction
Empirical Formula
Color of Chemistry
Aluminum Leftovers
Aspirin Synthesis

Mass and Mole Relationships in Reactions
Using Stoichiometry to Identify the Products of a Reaction
Acid Titrations

Ideal Gas Law and Molar Volume

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Appls
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Plan and carry out investigations to explain the behavior of ideal gases in terms of

Pg/

electron arrangements of the reactants and determine the mole ratios of reactants and products in terms of masses,

therefore mass, are conserved

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APPS

- Develop and use models to explain how solutes are dissolved in solvents.
- Analyze and interpret data to explain effects of temperature on the solubility of solid, liquid, and gaseous