

ACTIVITY SUMMARIES—QUARTER 1

ACTIVITY 1—The Density of Liquids

Students learn about density. First they calculate density mathematically after measuring the volume and mass of three liquids. Then they observe density visually by comparing the ability of the three liquids to keep an object afloat.

ACTIVITY 2—Pressure and Volume of a Gas

Students explore the inverse relationship between the pressure and volume of a gas. They use the data they obtain from measuring the volume of gas at varying pressures to illustrate this relationship on a graph.

ACTIVITIES 3 & 4—Solutions and Suspensions

Students investigate two kinds of mixtures—solutions and suspensions. Students use filtration and evaporation techniques to separate the components of a heterogeneous mixture.

ACTIVITY 5—Atomic Structure

Students learn about the structure of an atom; the properties of protons, neutrons, and electrons; and the concept of an isotope. They interpret information on the Periodic Table and construct three-dimensional models of atoms.

ACTIVITY 6—Making Molecules

Students are introduced to the concept of molecules. They learn that molecules form through the covalent bonding of atoms. After learning about the activity of electrons in covalent bonding, students make models to demonstrate the three-dimensional structure of molecules.

ACTIVITY 7—Chemical Equations

Students learn how chemical equations are used to describe chemical reactions. Students use three-dimensional models to simulate some chemical reactions and then balance the chemical equations that describe those reactions.

ACTIVITIES 8 & 9—Oxidation

Students observe an oxidation reaction in the form of rusting. They conduct a controlled experiment in order to determine the factors necessary for oxidation to occur.

ACTIVITY 10—Plant and Animal Cells

Students observe pictures, transparencies, and microslide images of plant and animal cells and identify their major parts. They note similarities and differences and speculate as to the function of cell walls and chloroplasts.