Grade 7 – Science
Lesson 1 - SOLUTIONS
Lesson 2 - SUBSTANCES AND MIXTURES
Lesson 3 - ELEMENTS AND COMPOUNDS
Lesson 4 - ACIDS AND BASES

Lesson 1 - SOLUTIONS

Solutions are homogeneous. They are mixtures consisting of one phase only. The components are so well mixed that all parts of the

solution appear the same. A solution has the same composition and properties

throughout.

The solute cannot be separated from the solvent through filtration because these are so small that they pass through the filter paper or cheesecloth.

Solutions do not scatter light. They do not exhibit Tyndall effect.

The solubility of some solutes decreases as temperature increases. On the other hand, there are solutes that increase their solubility at higher temperatures. For some other solutes, their solubility is not affected by an increase in temperature.

The dependent variable is the factor or condition that is

measured or responding in an experiment

the change or result that occurs due to the independent variable the

"what will happen" in an experiment

The independent variable is the factor or condition that is

changed in an experiment directly caused by the experimenter

manipulated in the experiment

the "what you do" in the experiment

Stirring will increase the movement or allows faster spreading of solute particles in the solvent. This in turn hastens the contact between the surface of the solute and the solvent particles.

The Effect of Temperature

Most solids, like coffee powder, dissolve faster in hot water than in cold

water. At higher temperature, the water particles in move faster and come in contact more

frequently with the solute particles (the coffee powder).

Lesson 2 - SUBSTANCES AND MIXTURES

Characteristics of Mixtures

may be solid, liquid or gas

may be homogeneous or heterogeneous made

up of two or more components

components may be separated/recovered by physical means such as filtration, and distillation amount

of components may vary

Lesson 3 - ELEMENTS AND COMPOUNDS

Compounds are homogeneous which are also made up of components. In this activity, the students will separate components of widely used compound — water. They will learn that water is made up of the element's hydrogen and oxygen. The properties of each of these substances are different from one another.

Components of water are separated through the passage of an electric current; hence the process is termed as **electrolysis.**

All of the elements are systematically **organized** in the periodic table. It was described to be "amazingly" done as varied information about all of the elements are laid out in a single table. Patterns and trends are evident in the arrangement.

Food in itself is a sample of matter and thereby made up of either elements, **compounds or mixtures**. By law, this matter must be written in food labels.

Most of the minerals added to the food are in the form of compounds, for it is more easily absorbed by the body if it is in such form.

Iron in the blood is the **one responsible in carrying oxygen** from the lungs to the rest of the body. For the body to function well, oxygen is critically needed. Health officials had to find ways to ascertain that there is enough iron in the food.