



Grade 7

Dr. Faletra

Weeks of September 12 & 19, 2016

In Class

- We begin by reviewing the metric system and covering the chemical nature of life systems.
- We begin an experiment on milk and the chemical properties of both milk and water.

Some concepts/facts

- Atoms of given element can combine to form molecules
- Atoms of a molecule are held together by a chemical bond most often represented in a diagram of a molecule by a solid line
- The chemical bond is a sharing of electrons between or among atoms
- The element carbon is the basic building block of all biological molecules partly because it can make 4 bonds at one time
- The periodic chart orders element based on increasing numbers of protons
- Most of the elements of life are in the first 3 periods (horizontal lines) of the periodic chart
- Carbon (C), Hydrogen (H), Oxygen (O), Nitrogen (N), Phosphorus (P), and Sulfur (S) are often noted as the 6 elements found in all life on Earth
- Surface tension in water is caused by the attractive forces (hydrogen bonds) among water molecules
- Water is a polar molecule
- lipids are generally non-polar
- Fatty acids have a long polar tail and a small polar head
- Micelles form when fatty acids or detergent molecules are placed in water

HOMEWORK for the next two weeks

- Copy notes from classes each night
- Take notes on the following instructional lessons:

Water Chemistry

Metric System

Basic Chemistry of Atoms

Basic Chemistry of Atoms

Save all quizzes by taping them into your notebook.

MAKE SURE TO COPY OVER CLASS NOTES ON THE NIGHT OF THE DAY YOU TAKE THE NOTES !!!!

Grade 8
Dr. Faletra
Weeks of September 12 & 19, 2016

The Atomic Nature of Matter

This week we will be reviewing the metric and SI systems, the nature of the atom, what atoms are composed of, how atoms are different from element to element, how atoms are ordered on the periodic chart, how the periodic chart can be used as a guide to understanding matter, and the physical and chemical properties of atoms/elements. This is foundational information and all branches of science depend on a solid understanding of the atomic nature of matter.

We will perform some basic measurements and experiments over the next two weeks. You will need to understand the instructional lesson material to get the most out of the in class work.

WE MIGHT HAVE A SHORT QUIZ ON the Instructional lesson material

Some concepts/facts

- Atoms are extremely small and the world of atoms is largely understood not by direct observation of individual atoms but by how they behave under a variety of circumstances
- Atoms are the building blocks of matter → if it takes up space, it is made of matter, → if it is made of matter, it is made of atoms or parts of atoms
- Atoms are made of “subatomic particles” the most important for us are: protons, neutrons and electrons
- Protons and neutrons are typically found in the nucleus of an atom
- Electrons are typically found in a space or cloud around an atom’s nucleus
- Atoms of the same number of protons make up a given element...all atoms of the element hydrogen have only 1 proton, all atoms of the element helium have 2 protons
- Atoms are always moving
- Atoms are mostly space
- Atoms can combine to form molecules
- Atoms of a molecule are held together by a chemical bond
- The chemical bond is a sharing of electrons between or among atoms
- The periodic chart orders element based on increasing numbers of protons

HOMEWORK

- Copy Notes
- Take notes on the following instructional lessons:
Atomism Part 1A
Basic Chemistry of Atoms
Organic Molecules Part 2

MAKE SURE TO COPY OVER CLASS NOTES ON THE NIGHT OF THE DAY YOU TAKE THE NOTES !!!!