Nature of Science Study Guide

***Test is on Tuesday, September 16th ***

Objective: Demonstrate safe practices and use proper safety equipment during investigations.

Know the science safety rules. Study the following pages glued in science notebook: Hands-On Safe Science, Science Safety Rules, and Outdoor Classroom Rules.

Know science safety vocabulary words- hazard, precaution, safety equipment- written in science notebook.

Use "Where's Safe-T Activity glued in notebook to study examples of safe science practices.

Objective: Use scientific methods and processes during investigations.

Review over Scientific Method and Science Process Skills sheets glued in notes-but do not need to memorize as we have just begun to learn and will develop these skills throughout the year.

Be able to plan a simple investigation testing one variable while keeping all other constants the same. For example, to find out whether sunlight affects plant growth you might put two identical plants and put one in the sunlight and one in the dark. The variable (the factor that changes in the experiment and what you are testing) is the amount of sunlight. All other things like the type of plant, the pot, the amount of water, etc… stay the same.

Objective: Identify, collect, and record information using tools.

Know the scientific equipment and tools and what each is used for- see sheet glued in notes and additional notes. Also refer to science tools stations to review.

Be able to collect and record measurements using a ruler, graduated cylinder, triple-beam balance, and thermometer.

Know that in science we use the metric system of measurement and be able to identify the metric units of measurement for length, mass, volume, and temperature. See page glued in science notebook.

Know that using precision and accuracy while experimenting means taking careful measurements that are exact so your data and results are reliable.

Objective: Identify the difference between observing and inferring and be able to make observations and inferences.

Know the difference between observing and inferring and be able to identify and make observations and inferences. Study Observations vs. Inferences Notes in science notebook. Also, review "The Boy in the Water Activity" for examples of observations and inferences.

Be able to make a reasonable inference to explain why something happens in an experiment. For example, if you leave a glass of water in a sunny window and check on it a week later, you might infer the water evaporated because that is a reasonable scientific explanation.

Understand that a good scientific explanation is backed by scientific evidence not just an opinion.