**Unit NOS Study Guide with Answers**

**Test will be Thursday 9/24/15**

**This is a list of topics that you should know or be familiar with for the Test.**

* Be familiar with the lab safety rules that we went over in the beginning of the school year.
  + Tell your teacher about an emergency such as, fire, injury, breakages, or spills.
  + Read and follow all directions in the order they are written
  + Keep your lab area clean and neat.
  + Wear safety goggles when told to and for the entire experiment.
  + Never taste, smell, or touch a chemical unless you are told to do so.
  + Check glassware for cracks, chips, or scratches before use.
  + Never lean over or reach across a flame. Use tongs or mitts to handle hot objects.
  + Wash hands after working with chemicals.
* Review the lab tools discussed in class and their uses (graduated cylinder, balance, meter stick etc…).
  + Electronic/standard balance- measure the mass of an object
  + Graduated cylinder- precisely measures liquid volume
  + Meter stick- used to measure the length of objects
* Know how to convert in the SI system (just like you did on the quiz)

**Kilo Hecto Deka Meter Deci Centi Milli**

**1,000 100 10 Liter .1 .01 .001**

**Gram**

**0 (Base Unit)**

* Know the standard SI base units for Mass, Time, Length, and Temperature.
  + Mass= Kilogram
  + Time= Second
  + Length= Meter
  + Temperature= Kelvin
* Know the steps of the Scientific Method.
  + Ask questions
  + Hypothesize and predict- a testable educated guess
  + Test hypothesis
  + Analyze results
  + Draw conclusions
  + Communicate results
* Know what you should do if your hypothesis is right or wrong.
  + Retest your data (a few times) to confirm
  + Start over if data is inconclusive- modify or revise the original hypothesis
* Know what Physical Science is.
  + Physical science is the study of matter and energy
* Know the difference between observations and inferences.
  + Observations- using your senses to gather information
  + Inferences- a logical explanation of an observation based upon past experience
* Know the difference between a theory and a law.
  + Theory- a explanation based on knowledge gained from many observations, but can be proven wrong
  + Law- a rule that describes a repeatable pattern in nature
* Know the difference between independent and dependent variables.
  + Independent- The variable that is changed by the investigator in an experiment
  + Dependent- the variable that is being measured or observed during an experiment
* Know the difference between the control and the experimental groups.
  + Control group- The group in an experiment where the independent variable does NOT change.
  + Experimental group- the group in an experiment that receives the variable being tested.
* Know the difference between qualitative and quantitative data.
  + Qualitative- has to do with WORDS
  + Quantitative-has to do with NUMBERS (quantity)
* Be able to pick the independent/dependent variables, constants and control/experimental groups out of a given experiment.

**Unit Nos Study Guide without answers**

**This is a list of topics that you should know or be familiar with for the Test.**

* Be familiar with the lab safety rules that we went over in the beginning of the school year.
* Review the lab tools discussed in class and their uses (graduated cylinder, balance, meter stick etc…).
* Know how to convert in the SI system (just like you did on the quiz)
* Know the standard SI base units for Mass, Time, Length, and Temperature.
* Know the steps of the Scientific Method.
* Know what you should do if your hypothesis is right or wrong.
* Know what Physical Science is.
* Know the difference between observations and inferences.
* Know the difference between a theory and a law.
* Know the difference between independent and dependent variables.
* Know the difference between the control and the experimental groups.
* Know the difference between qualitative and quantitative data.
* Be able to pick the independent/dependent variables, constants and control/experimental groups out of a given experiment.