

Homework #4

Study Guide: Scientific Method and Metric Measurement

Given Monday 8/19, due at test time Tuesday 8/20

Name _____

period _____

Learning to study is important. On this assignment I will ask you to learn how to prepare for a science test.

1. Pull out ALL your papers from science. Make a pile of assignments, labs, and homework from our work on the metric system and metric measurement.

2. Open your science notebook (SNB). Number your pages on the top corner, including your splash title page "Science as Inquiry". Make a simple table of contents here. I've done page 1 for you here:

Page #	Topic / Title of notes
1	"Science as Inquiry" cover page

3. Rate your CONFIDENCE on a scale of 1-5 (5 being HIGHEST, 1 being lowest) for each sub-topics. I'm including the source for you so you can think back or look back at it.

Topic	Source	Confidence 1-5
What we can test using the scientific method	Hwk #1	
What is a hypothesis	Penny lab	
How to build a data table	Penny lab / Hwk #2	
Hypothesis supported or refuted	Penny lab	
Manipulated (independent) and responding (dependent) variables	Penny lab Sponge Bob	
The control in the experiment	Penny lab Sponge Bob	
Metric length - tools and units	Metric Length Lab	
Use of King Henry Slide (or bunny hop)	notebook	
Definition of MASS and VOLUME	Metric lab, Hwk 3 And notes	
Difference between mass and weight	Labs, Hwk 3, notes	
Mass measurement	notebook	
Method for calculating volume of a regular solid	Volume work lab	
Method for calculating volume of an irregular solid	Volume work lab	
Method for calculating volume of a liquid	Volume work lab	
Converting - English to Metric units	Hwk#3	
Calculating Density	Notebook	

4. Look for the lowest confidence scores above, any 1, 2, or 3's. Those are the areas you should study first. Look over the papers you have that are sources for those topics. There are several ways to study effectively. Here are a few ideas:

- Reread, recalculate, rewrite your work
- Write the questions on one side of notecards, and put answers on the backside. Get familiar with each question/answer, and then quiz yourself.
- Ask a friend (study-buddy) to work with you to quiz, read, review
- Have an adult go over your work with you, and have them ask you to explain everything.
- Make new problems (especially for conversion problems) and calculate them. Search online for "scientific method study guides" such as www.softschools.com/quizzes/science/the_scientific_method/quiz468.html
- Search online for "metric system conversion problems" such as <http://www.aldenschools.org/webpages/hstotz/files/6thgrade,metric%20review%20book.pdf>

5. If you run into a really big problem that you can't figure out, get in touch with me through email at maggie.kane@prescottschools.com , or come in early Tuesday morning.

OK. Here are a few questions to solve for homework points:

- a) 12.5 mg = _____ g b) 0.0782 km = _____ m c) 341 ml = _____ l
- d) if an irregular solid is placed in an overflow beaker, and it displaces 38 ml of water, how much volume does the irregular solid have? _____ (don't forget your units!)
- e) The manipulated variable is also known as the _____ variable, and the responding variable is also known as the _____ variable.
- f) A data table and a graph are (circle one) the same thing different
- g) 1 inch = 2.54 cm - _____ inches = 16.51 cm h) 30.48 cm = 1 foot - 213.36cm = _____ feet
- i) Define hypothesis:
- Metric tools: j) length _____ k) mass _____
- l) liquid volume _____ m) solid volume _____
- n) Density formula $D = \frac{M}{V}$ o) $M = 40\text{g}, V = 5\text{ cm}^3, D =$ _____
- p) What are the units for expressing density? _____
- q) $M = 62\text{ g}, V = 33\text{ cm}^3, D =$ _____ r) $M = 88\text{g}, V = ???, D = 6.7\text{ g/cm}^3$ $V =$ _____
- s) 2 shoe boxes, one with feathers, and one with bee-bees, are the same volume, but different _____, so their densities are different.