

Name: _____

Date: _____

Period _____

Bioskills: WebQuest

Part 1: The Everyday Metric System

Go to <http://lamar.colostate.edu/~hillger/everyday.htm>

Read over the page & answer the following questions

1. How many millimeters in a meter? _____ meters in kilometer? _____.
2. How many milligrams in a gram? _____ grams in a kilogram? _____
3. What do you think the prefix milli- stands for? _____ the prefix kilo- ? _____
4. What does the prefix centi- stand for? _____ micro- ? _____
mega- ? _____
5. What is the volume of 1 milliliter (volume is in cubic units)? _____
6. The mass of one milliliter of water? _____

Part 2: Dimensional Analysis

go to

http://www2.wwnorton.com/college/chemistry/gilbert/tutorials/interface.asp?chapter=chapter_01&folder=dimensional_analysis

1. Work your way through the activity. Be sure to show the conversion factors used!

- 66 in = ? ft

solve and show set up - _____

- 5280 ft = ? km

solve and show set up _____

- Read through the density of a baseball bat problem. Then write down the equation you would use to solve the questions 1 - 5 in Sections 7 - 11

Question 1: _____ Question 2: _____

Question 3: _____ Question 4: _____

Question 5: _____

2. Read the "Two-Step Metric Conversion Problems" sample. Set up the following practice problems found below the sample - (remember to show the conversion factors used!)

3.8 km = ? cm

solve and show set up _____

.000076 kg = ? mg

solve and show set up _____

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Click on "Hard Centimeters"

Do 5 questions & record your answer below. Next calculate your answers in millimeters & record.

- | | | | |
|----------|----|-------|----|
| 1. _____ | cm | _____ | mm |
| 2. _____ | cm | _____ | mm |
| 3. _____ | cm | _____ | mm |
| 4. _____ | cm | _____ | mm |
| 5. _____ | cm | _____ | mm |

Part 5: Graphing

go to <http://misterguch.brinkster.net/graph.html>

In all your science classes you will be held responsible for good graphs. Summarize the 6 rules for good graphing from this web site on the lines provided below.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Scroll down to a "bad graph". What are 4 things wrong with this graph.

1. _____
2. _____
3. _____
4. _____

Part 6: Scientific Method

Go to http://www.sciencebuddies.org/mentoring/project_scientific_method.shtml

Read through the steps of the Scientific Method. Copy the diagram of the various steps in the space provided.

1. The Scientific Method starts with an individual's curiosity about a problem that in turn leads to a question that needs to be answered. Acquiring best scientific answers usually involves using the appropriate tools (like meter sticks and scales that allow the experimenter to carefully _____). The data obtained can then be carefully analyzed.

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2. Why is it worthwhile to do some serious background research prior to starting an experiment?

3. Outline the steps involved in creating a hypothesis:

4. An experiment tests the hypothesis. It will be either _____ or _____. A fair test means that the experimenter tests on one _____ or variable at a time.

5. What happens when an experiment tests FALSE? _____

6. What happens when an experiment tests TRUE? _____

7. What is the **iterative process** and why is it important?
