1. Design an experiment to answer the testable question:

*TQ:* "Does fat % (type of milk-whole, 2%, or 1%) in milk affect the time it takes to churn it into vanilla ice cream?"
(Note: fat % is highest in whole milk, next would be 2% milk, then 1% milk. To make ice cream you put milk, sugar and flavoring into a metal cylinder, place the cylinder inside the churn and cover it in ice and add rock salt to the ice, and then turn on the machine. After a certain amount of time has elapsed the ice cream will solidify into ice cream.)

**Prediction and Reason:**

**Independent Variable:**

**Dependent Variable:**

**Controlled Variable:**

**A possible experimental control:**

2. A new cleaning product "Sparkle Clean" advertises that it works better than bleach to whiten clothing. Design an experiment in which you test this claim. Include a testable question, prediction and reason, experiment including variables and controls and logical procedure.

**Design the following portions of your lab below:**

*TQ:*

**Prediction and Reason:**

**Independent Variable:**

**Dependent Variable:**
3. You have just completed an experiment in which you have tested a new diet (food) on your 2 dogs. You were testing a new food to see if it had an effect (either weight gain OR weight loss) on your dog’s weight. In this controlled experiment you gave Zeus 3 cups of this new food (we will call it the Acme brand of food) and Thor 3 cups cup of his regular food once a day for 5 days. Both dogs had the same amount of water, and were encouraged to exercise for 2 hours per day outside at the same time. Here is the data you collected:

<table>
<thead>
<tr>
<th></th>
<th>Zeus</th>
<th>Thor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting Weight</td>
<td>50.0 lb</td>
<td>57.3 lb</td>
</tr>
<tr>
<td>Day 1</td>
<td>50.3 lb</td>
<td>57.4 lb</td>
</tr>
<tr>
<td>Day 2</td>
<td>50.5 lb</td>
<td>57.3 lb</td>
</tr>
<tr>
<td>Day 3</td>
<td>51.0 lb</td>
<td>57.2 lb</td>
</tr>
<tr>
<td>Day 4</td>
<td>51.4 lb</td>
<td>57.2 lb</td>
</tr>
<tr>
<td>Day 5</td>
<td>51.6 lb</td>
<td>57.3 lb</td>
</tr>
</tbody>
</table>

What is the dependent variable?

What is the independent variable?

What are 2 controlled variables?

Write a conclusion for this experiment:
4. You make the initial observation that your bike tires seem to go flat after you leave your bike outside when it is cold, but not when it is warm. Using your Inquiry Science Method Sheet, design around this initial observation. You will need to cover TQ, Background Information, all of the Experiment section. Do this below:

5. Using your book, review pages 16-20. Explain what the 8 characteristics of living things are and give an example of each.

1. 

2. 

3. 

4. 

5. 

6. 

6. If you were measuring distance between cities, what metric unit would you use?

7. If you were measuring the width between your eyes, what metric unit would you use?
8. If you were measuring the width of your fingernail, what metric unit would you use?

9. Convert the following:

10 m = ____________________ mm

150 mm = ____________________ m

100 ml = ____________________ L

10 g = ____________________ Kg

11. A kg is about how many pounds?

12. Read "Analyzing Data" at the top of page 2. Answer the 4 questions in that section below:

1. 

2. 

3. 

4. 