Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ #\_\_\_\_

Read the following selection, then use the information to complete the task below.   Write your answer on another piece of paper and bring it to school when you return.

**The Scientific Method**

Scientists use the scientific method to plan and carry out experiments.  These are the five steps in the scientific method:

**1.**    **Observe, ask questions.**

a.    Use your senses to make observations.

b.    Record one question that you would like to answer.

c.     Write down what you already know about the topic of your question.

d.    Do research to find more information on your topic.

**2.**    **Form a hypothesis.**

a.    Write a possible answer to your question.  A possible answer to a question is called a hypothesis.  A hypothesis must be a statement that can be tested.

b.    Write your hypothesis in a complete sentence.

**3.**    **Plan an experiment.**

a.    Decide how to conduct a fair test of your hypothesis by controlling variables.  Variables are factors that can affect the outcome of the experiment.

b.    Write down the procedure you will follow to do your test.

c.     List the equipment you will need.

d.    Decide how you will gather and record data.

**4.**    **Conduct an experiment.**

a.    Follow the procedure you wrote down.

b.    Observe and measure carefully

c.     Record everything that happens, including what you measure and observe.

d.    Organize your data so it is easy to understand and interpret.

**5.**    **Draw conclusions, and communicate the results.**

a.    Make charts, tables, or graphs to display your data.

b.    Analyze your observations and data.

c.     Write a conclusion.  Describe the evidence you used to determine whether the experiment supported your hypothesis.

d.    Decide whether your hypothesis was supported or not.

Suppose you follow the steps of the scientific method.  You form a hypothesis, and you experiment supports it, but when you tell other people your results, they don’t believe you.

This is when the scientific method works especially well.  You recorded your procedures.  You have all your observations and data.  All that another person has to do is repeat exactly what you did.  That’s one way scientists can check each other’s experiments.  If another person doesn’t get the same results, you can try to figure out why.  You can ask, “Did I do something differently?  Were there variables I didn’t control?”

Scientists can use the scientific method to repeat experiments of other scientists.  This helps them make sure that their conclusions are correct.

**Task:**

Write a letter to a friend, explaining how he or she could use the scientific method to test a balloon rocket.  Be sure to discuss each step of the scientific method in your explanation.