Name: \_\_**Ms. F’s Answer Key**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd: \_\_\_\_\_\_

Scientific Method/Characteristics of Life Quiz

1. A student wonders, “Will this fertilizer make my plants at home grow taller?” What should she do in order to answer this question scientifically? (2 pts)
A) Guess
B) Ask her teacher
**C) Design an experiment**D) Call the fertilizer company and ask them
2. Fill in the blanks (Hint: think about the scientific method!): (3 pts)
A \_**hypothesis**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ predicts the outcome of an experiment. It is like an educated guess. After many experiments have been performed and a lot of evidence has been collected, scientists may be able to make a \_\_\_\_**conclusion**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that explains why something happens. \_\_**Theories**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are statements that are universally true and usually have mathematical formulas.
3. Your friend wonders, “Do squirrels like acorns better or walnuts better?” Answer the following questions:
A) What might his hypothesis be? (2 pts)
**Sample: Squirrels like acorns better than walnuts.**
B) How could he set up his experiment? Be as clear as possible. (3 pts)
**Sample: He could set up two feeders in the same location, one with acorns and one with walnuts. Then he could watch the feeders for a day and count how many acorns are taken and how many walnuts are taken by squirrels.**
4. What is a variable? (1 pt)
**A variable is a condition in an experiment that changes—it does not stay constant.**
5. All organisms are made of small units called \_**cells**\_\_\_\_\_\_\_\_\_\_. (1 pt)
6. List two differences between sexual reproduction and asexual reproduction. (2 pts)
**In sexual reproduction, two organisms must mate to produce offspring, but asexual reproduction only requires one organism. Offspring produced by asexual reproduction are identical to the parent but the offspring produced by sexual reproduction are not identical to either parent.**
7. A plant grows in the direction of light. What characteristic of life is this an example of? (1 pt)
**Response to stimulus**
8. The thermostat in your house keeps the temperature inside consistent. This is similar to what characteristic of life? (1 pt)
**Homeostasis**
9. When does your body break down molecules in order to get energy? (1 pts)
**When you eat food**
10. Where does all of the energy on Earth come from? (2 pts)
**The sun**
11. Give one example of how living things are organized. You must be specific in order to get credit. (2 pts)
**Sample: Groups of cells make up tissues**
12. Are all cells identical? Support your answer with a specific example in order to get credit. (2 pts)
**All cells are not identical. Bacteria cells do not have the same structures as animal and plant cells. Within a human, there are many different kinds of cells, like red blood cells, bone cells, nerve cells, skin cells, etc.**