

Name: _____

Dear 8th grader: The following includes activities to complete throughout the summer. Print this document. All written work should be neatly written on this worksheet. Some additional work will require you to write information on a DOC that should be printed and attached. Be sure to write your name on each paper. Work should reflect 8th grade work: should be neat, grammatically correct and in complete sentences.. ALL work should be brought to school on the first day for your 1st grade in Science.

1. Write a scientific explanation to explain how insects are important to humans.
2. Watch this video about earthworms: https://www.youtube.com/watch?v=l-zc_1vjLnI
3. Research earthworms and arthropods. Collect details about their physical appearance, their movements, and any other behaviors that you discovered. Create a table to compare them. (attach work to this page)

4. ***Claims, Evidence, and Reasoning***

Claim: a statement about the solution to a problem – what you think you know

Evidence: scientific data to support your claim – measureable

Reasoning: justification of how your evidence supports your claim (using scientific principles)

Directions: Find the Claim, Evidence, and Reasoning in the following paragraphs: Underline the Claim; Circle the Evidence; and put a box around the Reasoning.

- a. A common type of asexual reproduction found in nature is called Mitosis. Mitosis requires less energy than sexual reproduction does. Mitosis can occur in seconds and does not require a mate to reproduce. Sexual reproduction requires two compatible parents. It also requires time to produce the egg and sperm cells and then for fertilization to occur. Energy is required to find a compatible mate, produce sex cells, and for fertilization. Therefore Mitosis requires less energy than sexual reproduction does.

b. Cold air weighs more than hot air. When I filled a 9-centimeter diameter balloon with cold air, it weighed 1 gram and when I weighed the same size balloon with hot air, it weighed 0.5 grams. When molecules are cooled, they move closer together and when they are heated up, they move farther apart. Because of this more molecules can fit into a balloon when the air going in is cold than when the air going in is warm.

Directions: Identify your own Claim, Evidence, and Reasoning in items below.

c. Sammy wants to see if plants really do grow better in sunlight. He uses 3 plants of the same type and size in 3 locations. Plant A is placed on Mrs. Shaw's countertop in the center of the room; Plant B is placed inside the cabinet; and Plant C was placed near windowsill. After 5 days, Sammy measures the growth of each plant and documents it in the table to the right.

Claim: _____

Evidence: _____

Reasoning: _____

Scientific Processes

Directions: Read the description for each experiment and use your knowledge of scientific processes to respond to the following questions or scenarios. Type all answers on a DOC, print it out and attach to this paper with your NAME.

1. Flower Power

Mendel loves to garden and wants to grow lots of white flowers for his friend Daisy. He bought a special Flower Power fertilizer to see if it will help plants produce more flowers. He plants two plants of the same size in separate containers with the same amount of potting soil. He places one plant in a sunny window and waters it every day with fertilized water. He places the other plant on a shelf in a closet and waters it with plain water every other day.

A. What (if anything) did Mendel do wrong in this experiment? Explain your answer.

B. What should Mendel do to test the effectiveness of Flower Power fertilizer? Write an experiment.

NAME THAT ELEMENT: This year you will be studying the periodic table. Research the following questions that will get you ready for this unit. Answers can be written on this sheet.

1. Who wrote the very first periodic table?
2. How does today's periodic table differ from the first table?
3. Choose any element on the periodic table. Include all information about that element below:

Name of Element: _____

At room temperature, what state of matter is it? _____

Chemical symbol of element : _____

Uses of the element: Write in complete sentences:
