

Biology Summer Packet

Below is a list of problems that we encourage you to explore over the summer. Your responses will not be graded nor will you have to hand in to your teacher; however, it will help refresh your memories of important scientific knowledge that you learned in the middle school.

Claims- Evidence- Reasoning:

★ Reminder:

- Claim is a statement that answers your question
- Evidence is data to support your claim
- Reasoning- justification of how your evidence supports your claim using a scientific principle.

Try to Create a CER for the following scenarios:

Question: Who is my dad?

Watch [this video](#) and use information gathered from it to write your:

Claim

Evidence

Reasoning

Question: How sunlight affects plant growth?

Michael wanted to see if plants grow better in sunlight. He used 3 fern plants that were the same size and placed them in 3 different locations. Plant #1 was placed in his classroom in the center of the room. Plant #2 was placed inside a cabinet in the classroom, and plant #3 was placed on the windowsill. After 5 days, Michael measured each plant (data is in the table below).

	Height on Day #1	Height on Day #2
Plant #1	10 cm	12 cm
Plant #2	10 cm	11 cm
Plant #3	10 cm	16 cm

Claim

Evidence

Reasoning

Variables:

- Define the following terms:

Independent Variable:

Dependent Variable:

Practice Identifying Variables

- ★ Ms. Jackson wanted to explore how the color of light shined on a plant affected the number of leaves the plant had. She gathered 2 groups of the same species of plants and gave them the same amount of water. She also conducted the test on each plant for the same amount of time. Group #1 were exposed to white light and group #2 was exposed to red light.

- Identify the independent variable:
- Identify the dependent variable:
- List three constants in the experiment:
- Identify the control group:

★ A student wanted to test how the mass of a paper airplane affected the distance it would fly. Paper clips were added before each test flight. As each paper clip was added, the plane was tested to determine how far it would fly.

- Identify the independent variable:
- Identify the dependent variable:
- List three potential constants in the experiment:

★ An experiment was performed to determine how the amount of coffee grounds could affect the taste of coffee. The same kind of coffee, the same percolator, the same amount and type of water, the same perking time, and the same electrical sources were used.

- Identify the independent variable:
- Identify the dependent variable:
- List three potential constants in the experiment: