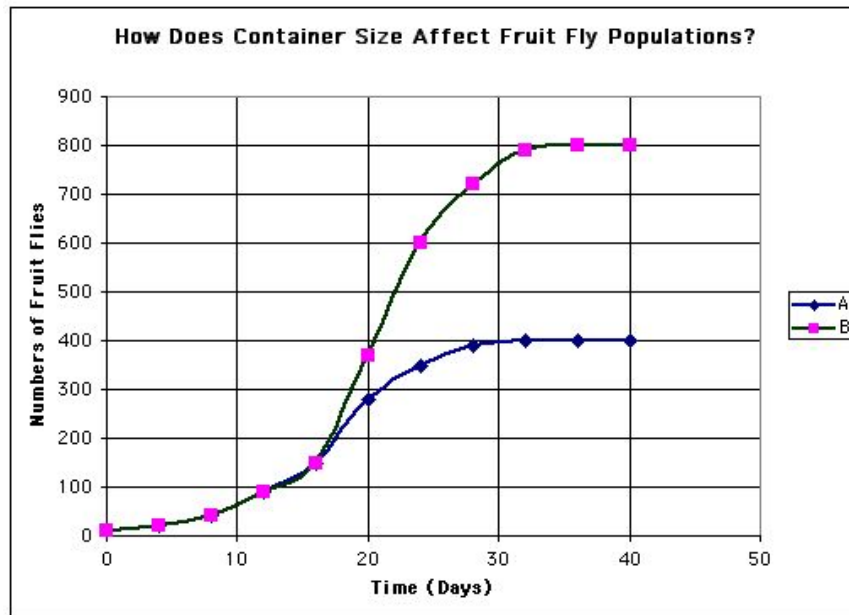Unit 1 Quiz

1. A researcher wanted to test the effect of different water pH levels on the growth of plants. The plants were watered weekly for five weeks with a different water pH (3, 5, 7, 9, 11). The growth was measured weekly. What is the independent variable for this experiment?
   a. Plant growth (cm)
   b. Plant watered with pH 7 (neutral) water
   c. Water pH
   d. Type of plant and same amount of water used

2. The statement "the worm is 2 cm long" is a(an) _____.
   a. Inference
   b. Hypothesis
   c. Quantitative observation
   d. Qualitative observation

3. The process by which organisms keep their internal conditions relatively stable is called _____.
   a. Asexual reproduction
   b. Homeostasis
   c. Development
   d. Evolution

4. To be useful in science a hypothesis must be _____.
   a. Testable
   b. Testable and measurable
   c. Correct
   d. Measurable

5. A researcher investigated two groups of fruit flies. Population A was kept in a 0.5mL container. Population B was kept in a 1L container. The graph below shows the results.

How Does Container Size Affect Fruit Fly Populations?
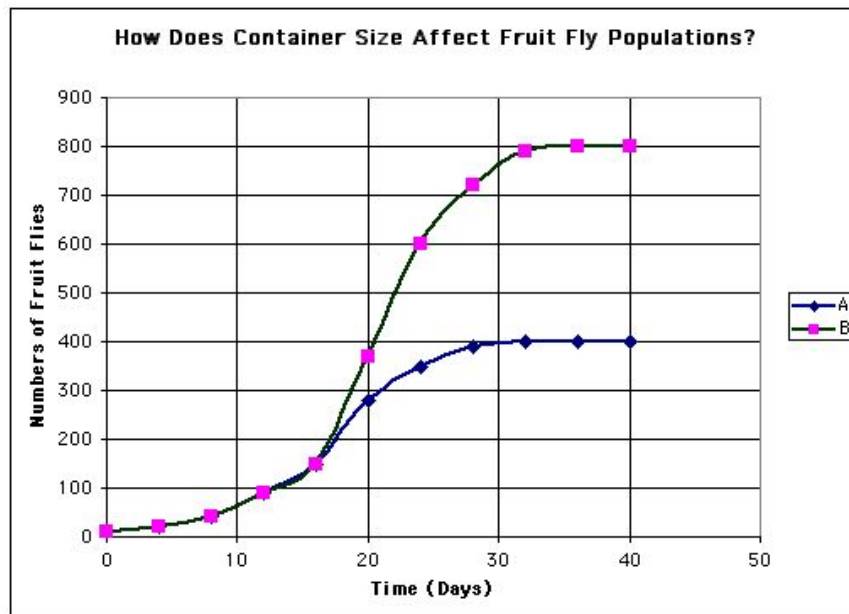
What is the responding (dependent) variable?
   a. Number of flies
   b. Number of groups studied
   c. Size of the container
   d. Time in days

6. Response to stimuli is a characteristic of life. If I touch a hot stove and pull my hand away quickly, what is the stimulus in this scenario?
    a. Hot stove
    b. Touch
    c. Fever
    d. My hand

7. A researcher investigated two groups of fruit flies. Population A was kept in a 0.5mL container. Population B was kept in a 1L container. The graph below shows the results.

On Day 30, how many fruit flies were in each container?
    a. A - 760, B - 400
    b. A - 800, B - 400
    c. A - 400, B - 760
    d. A - 400, B - 800

8. Which of the following statements about a controlled experiment is true?
    a. Controlled experiments cannot be performed on living things.
    b. It is best to have many variables.
    c. All the variables must be kept the same.
    d. Only one variable is tested at a time.

9. A researcher wanted to test the effect of different water pH levels on the growth of plants. The plants were watered weekly for five weeks with a different water pH (3, 5, 7, 9, 11). The growth was measured weekly. What is the dependent variable for this experiment?
    a. Type of plant and amount of water given.
    b. Plant watered with pH 7 (neutral) water
    c. Plant growth (cm)
    d. Water pH

10. An inference is _____.
    a. The same as an observation.
    b. A way to avoid bias.
    c. A logical interpretation of an observation.
    d. A statement involving numbers.

11. A researcher wanted to test the effect of different water pH levels on the growth of plants. The plants were watered weekly for five weeks with a different water pH (3, 5, 7, 9, 11). The growth was measured weekly. What is/are the standardized variable(s) for this experiment?
    a. Plant growth (cm)
    b. Water pH
    c. Plant watered with pH 7 (neutral) water
    d. Type of plant and amount of water given.

12. A researcher wanted to test the effect of different water pH levels on the growth of plants. The plants were watered weekly for five weeks with a different water pH (3, 5, 7, 9, 11). The growth was measured weekly. What is the control for this experiment?
    a. Plant watered with pH 7 (neutral) water
    b. Plant growth (cm)
    c. Type of plant and amount of water given.
    d. Water pH

13. Which of the following statements about the image shown below is NOT an observation?

    a. The frog has two legs on the left side.
    b. The frog has a pattern on its back.
    c. The frog is yellow and black.
    d. The frog's pattern shows that it is poisonous.

14. All of the following are characteristics of life EXCEPT _____.
    a. Movement
    b. Response to stimuli
    c. Growth
    d. Obtain energy

15. A scientific theory is _____.
    a. The same as the conclusion of an experiment.
    b. The first step in a controlled experiment.
    c. A well tested explanation that has a lot of data supporting it.
    d. Another word for a hypothesis.