
Scientist: _____

Date: _____ - _____ - _____ HR: _____

QPOEE Quiz #1 Review

Success Criteria

1. Identify and explain the steps of the scientific method (knowledge probe and prediction).
2. Write a prediction that answers the investigation question and provide reasoning for the prediction using scientific knowledge.
3. Identify the independent variable and the dependent variable when given a scientifically testable question.

1. What are some things you should consider when coming up with a testable question?

Testable questions should be:

1. _____ -Is it worth your time?
2. _____, _____, _____ question that ends with a question mark.
3. not based on _____ or _____
4. a question you can make a _____ from.
5. _____ & _____. - Can you answer it with a scientific investigation?
6. _____ / _____ to investigate.
7. _____. (sparks your attention)

Other considerations: Are the _____ available/accessible?

2. Decide whether the following questions are testable or non-testable. Write T or NT.

- a. _____ How does changing the amount of water affect the growth of a watermelon?
- b. _____ What makes grass grow greener?
- c. _____ How do kites work?
- d. _____ How does changing the shape of a kite affect its ability to fly?
- e. _____ What types of fertilizer will make grass grow greener?
- f. _____ Does Pepsi have more carbonation than coke?
- g. _____ What makes something sink or float?
- h. _____ Are socks or slippers more comfortable?

3. Write a prediction for the following questions.

a. How does changing the type of fruit affect its ability to float? (Apple, grape, watermelon)

If I put an apple in the water,

then..._____.

b. Does changing the wing shape affect how far a paper airplane will fly?

If I make the wings small and triangular,

then..._____.

4. A student waters three sunflower plants with salt water. Each plant receives a different amount of salt in its water. A fourth plant receives pure water with no salt. After two weeks, the heights are measured.

a. What is the independent variable? _____

b. What is the dependent variable? _____

c. What are the controls? _____

d. Write a prediction for this investigation. If I water sunflower plants with amounts of salt water, then... _____

_____.

5. Rose bushes are grown in a different lighted areas in a classroom for two months. The number of roses on each bush is counted at the end of the investigation.

a. What is the independent variable? _____

b. What is the dependent variable? _____

c. What are the controls? _____

d. Write a prediction for this investigation. If... _____

_____.

then..._____.

6. Explain the following pieces of the QPOEE Method.

a. question:

b. prediction:

c. independent variable

d. dependent variable

e. control

f. scientific method

g. Knowledge probe