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