
QUESTIONS

1. Place the layers and features from Figure 1-2 in order of oldest to youngest by letter.
2. Based on what you know about your candy bar, **draw and label** what you expect a cross section of the candy bar to look like. In other words, what do you think the layers of the candy bar would look like if you were to slice it in half?
3. Using your sketch, come up with a sampling strategy to “core” your candy bar with a straw to verify your hypothesis regarding the candy bar layers. Do you need just one core, two, three? How many cores are necessary to verify what the internal structure of the candy bar looks like?
4. Either core your candy bar or make several slices. Sketch and label a diagram that illustrates where your samples came from and describe what you see when you either core or slice your candy bar.

5. Using the principles of relative dating and your sample sketches, describe the relationships between the layers and features in each of your drawings. In other words, which layers are “older” and which ones are “younger”? Also list which principle you used to justify your interpretation.

6. How closely did the actual layers match your initial expectations?

3 Activity

You have been given several materials and are unsure of what will happen when these substances are combined. These substances are:

- 250 mL of milk
- 60 mL of vinegar
- Food coloring
- Strainer/sieve
- Coffee filter/cookie cutter/mold

Before doing anything with these materials, **answer questions 1 and 2.**

QUESTIONS

1. Make four observations about the materials before they are combined. Observations should be based on what you see, smell, feel, etc.

2. Form a hypothesis regarding what will occur when the materials are combined. Remember that a hypothesis is a testable statement.

Heat the milk and food coloring in a 400 mL beaker on a hot plate until hot but not boiling. Add the vinegar and stir. Pour the mixture through the coffee filter in a strainer into a bucket. Rinse with cold water at the sink and collect the materials on the strainer. Once cool enough, shape the materials and form into a mold. Allow the new material to cool and harden before you continue.

3. What occurs when the materials are combined? Was your hypothesis correct?
4. Describe the new material you created. Were the results surprising?
5. Now do some of your own experiments using the resulting substance. Come up with two questions, hypotheses, and results.
 - a. Question 1:

Hypothesis 1:

Result:
 - b. Question 2:

Hypothesis 2:

Result:
6. Was this a good method for creating your product? How is this product prepared commercially?

7. Scientists have been able to identify and explain many aspects of our world by using the scientific method. Name three important scientists and their contribution to environmental science.