

OBSERVATIONS OF A BURNING CANDLE

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1. MATERIALS NEEDED:

a potato
Brazil nut or pecan
lemon juice
knife
cork borer, about 3/4 inch diameter
cup

2. SAFETY PRECAUTIONS:

Wear safety goggles or glasses

This experiment presents a fire risk. A fire extinguisher should be available.

3. DISPOSAL:

There are no disposal hazards in this experiment.

4. PROCEDURE:

Prepare ahead: Using the cork borer, cut a few sections from a potato. Put the cylindrical pieces of potato in lemon juice to prevent discoloration. Obtain some Brazil nuts. Using a sharp knife, carve the nut into a thin sliver about the size of a candle wick. Remove a potato section from the lemon juice, dry it, and cut the ends square. Make a small slit or hole in one end and insert the Brazil nut sliver. Use a match to blacken the piece of nut.

Put the "candle" on a clean table top. Light the wick. Ask the audience to record observations on the object on the from table (do not call it a candle). As the flame starts to decrease in size (after 1-2 minutes), blow out the flame and ask the audience to continue making observations.

Quiz the audience, collecting the observations which may be written on a chalkboard or an acetate overhead transparency.

As the session ends, remind the group that "things are not always what they appear to be" and EAT THE CANDLE. Walk out of the room.

5. EXPLANATION:

This works well if it follows other experiments that have used a candle in the same session. However, once the word gets out, the surprise aspect is lost. This should only be done on an occasional basis, not as a regular demonstration.

A Brazil nut contains sufficient oil to burn for about two minutes.

I have had people tell me that they have seen the wax melt and drip down the sides.

I never refer to this experiment again in class.

6. UTILIZATION AND VARIATIONS:

Other kinds of nuts have been used successfully by others. Candles have also been made from apples, bananas, and other fruit.

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