Curiosity Guide #703
Wax Science
Accompanies Curious Crew, Season 7, Episode 3 (#703)

Handy Wax
Investigation #7

Description
This hand-y investigation will delight you!

Materials
- 2-pound paraffin block
- Crayon pieces
- Double boiler
- Wooden dowel, one-eighths inch in diameter
- Tall cylindrical container
- Bucket of cold water
- Lotion
- Drop cloth
- Thermometer
- Stove
- Plastic knife or Popsicle stick
- Paper towels
- Straight pin

Procedure
1) Add water to the base of the double boiler.
2) Place the paraffin and two peeled crayons of the same color into the top of the double boiler.
3) Melt the wax over medium high heat and stir with the wooden dowel.
4) Place the bucket of water and cylinder on a drop cloth on the table.
5) Pour the melted wax into the cylinder.
6) Check the temperature of the wax. When the temperature goes down to 105 degrees Fahrenheit, roll up your shirt sleeve.
7) Generously coat your hand with lotion. Your hand should be thick with lotion and should look white, not the color of your skin.
8) Submerge the hand coated with lotion in the bucket of water.
9) Make a shape with your hand. Dip your hand into the hot wax, up to your wrist.
10) Pull your hand out. Submerge your hand again.
11) Repeat numerous times to make a thicker coat.
12) Submerge your wax-coated hand into the cold water to help the wax cure and harden.
13) To begin removal, carefully insert a plastic knife or stick into the waxed hand from the top of your wrist.
14) Slowly move the stick around the wrist, peeling the molded wax away from the skin.
15) While holding the molded wax with one hand, carefully begin pulling your hand out.
16) It may be necessary to pierce the ends of the wax fingers with a pin to create a small air hole, so the finger doesn’t collapse.
17) If there are tears on removal, submerge that area of the molded hand back in the wax and smooth the crack over carefully with your finger.
18) Trim the top of the wrist with scissors so the hand can stand up.
19) Place the molded hand on the wax paper to dry and harden.

My Results
Explanation
Because wax has a low melting point, you can easily turn the solid paraffin and crayons into liquid wax when heated. Applying lotion to the skin will prevent the wax from sticking to the skin or any hair on the hands. Each dip adds to the thickness of the wax hand as the layers adhere to one another. Submerging the hand in the cold water solidifies the wax. This is an example of a physical change. The temperature was hot enough to melt the wax without burning it, and then the wax solidified when the temperature cooled enough.

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