

Make "Secret Messages" with Lemon Juice!

Do you have a budding detective at home? Does your curious first grader have a keen sense of observation? To develop a strong scientific thinking foundation, you'll want to provide opportunities for your child to explore scientific process skills such as using her senses to describe observations.

At school when your child learns about scientific concepts, she makes observations, she is encouraged to experiment with various materials and allow the materials to interact with other thing, and then make note of any changes. These are some of the fundamentals of scientific thinking and the basis for the scientific method, which she'll learn in the years ahead. Here's an exciting experiment you can do with her at home that will continue to reinforce what she is learning at school, while dazzling her with mystery at the same time!



What You Need:

- Lemon juice
- Cup
- Paintbrush
- White bond paper (This is white paper of 24 pound weight usually found at office supply stores.)
- Iron NOTE: Only an adult is allowed to use the iron!
- Newspaper

What You Do:

1. Allow your child to squeeze the juice of one lemon into a cup.
2. Tell your child to think of a secret message that she wants to write to a friend or family member.
3. Then have your child dip the paintbrush in the lemon juice and paint her message on the white bond paper.
4. Allow the paper to dry completely.
5. Once the paper is completely dry, your child will need to place the drawing between several sheets of newspaper. Then iron the paper until your brown design appears.
6. Allow your child to examine the secret message. Allow her to describe how the message looks different after it had been ironed, compared to how it looked before you ironed it. Then let your child deliver her secret message to her friend or family member.

Did You Know?

When the message is painted with lemon juice, it dries in an invisible design. Then when the iron heats the lemon juice markings, the natural sugar in the juice becomes activated and burns, turning into a brown carbon substance. The burned, browned juice then appears as the secret message.