

Teacher Information Sheet: Invisible Ink

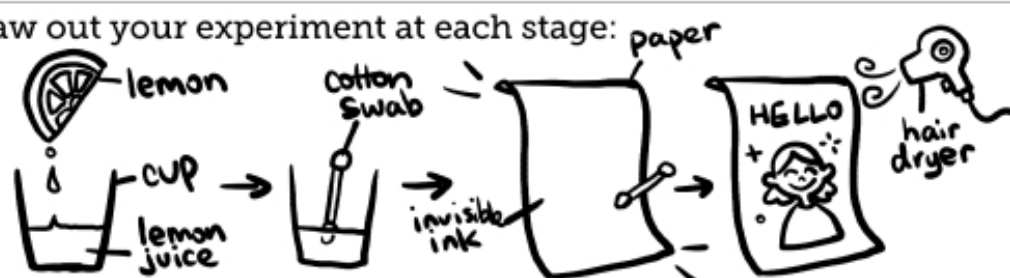
Materials needed:

1 lemon
knife (get an adult to help you!)
cotton swab
bowl
hair dryer

Method:

1. Get an adult to cut the lemon for you
2. Squeeze the lemon juice into the bowl
3. Dip the cotton swab in the lemon juice
4. Write or draw what you want with the lemon juice on paper!
5. Let the lemon juice dry.
6. To see the message, heat the paper with the hair dryer after it dries.

Draw out your experiment at each stage:



Questions to answer:

Can you see what you write before the paper is heated?

What happens when the paper gets heated?

Why do you think this happens?

What other things do you think can be invisible ink?

What works the best?

Learning outcomes/real world applications

Lemon juice is acidic and acid weakens paper. The acid remains in the paper after the juice or milk has dried.

When the paper is held near heat the acidic parts of the paper oxidises or turns brown before the rest of the paper does. This happens to apples if you leave them out for too long!