How to Make Invisible Ink

BRITISH SCIENCE WEEK

About this activity

Have you ever wanted to send a secret message? Learn how to create invisible ink messages with this simple activity.

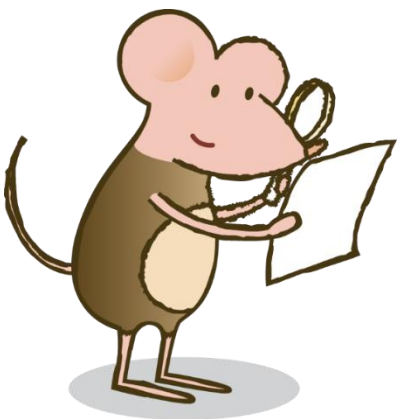
Time
25 minutes

Materials
- Half a lemon
- Iron and ironing board
- Thin paintbrush
- Paper
- Small bowl

Next time
Invisible ink can be made from other citrus fruit. The people involved in the Gunpowder Plot of 1605 used orange juice to send each other secret messages. Next time why not use orange juice to write your secret message?

Instructions

1. Squeeze the lemon juice from the lemon into a bowl. Don't worry about getting pips in the juice.
2. Dip the thin paintbrush into the lemon juice and write a message on a piece of paper. The more lemon juice you use the darker the message will appear!
3. Leave the paper to the side and wait 15-20 minutes for the juice to dry. Try not to move the paper or put anything on top of the paper while the juice dries.



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Instructions continued

4. When you are ready to read your message place your paper on the ironing board.
5. On a high heat, ask your adult to iron the paper until your secret message is revealed, this should take around 15 to 30 seconds.
6. Let the paper cool for 1 minute.

Did you know?
The science behind why heat reveals your secret message is really neat! Lemon juice is organic, which means it's made out of carbon compounds. When you heat the lemon juice the carbon compounds break down, releasing the carbon. The released carbon reacts to oxygen in the air which makes the lemon juice turn a darker colour.

Watch out!
Ask your adult to cut your lemon in half for you. This activity requires the paper to be ironed, ask your adult to do this bit for you.