

THE SCIENCE BEHIND

SHERLOCK



Make your own invisible ink @ Home!

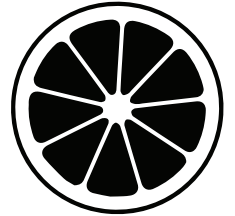
Find and make secret messages like a real detective!

Purpose:

Detectives AND villains often leave clues that they don't want anyone reading! With these simple household items, you too can make and read secret messages and codes written in invisible ink at home, in 5 easy steps.

You will need:

- Half a lemon
- Water
- Spoon
- Bowl
- Cotton bud
- White paper
- Lamp or other light bulb



Ink Prep/Squeeze:

Step 1: Start by squeezing some lemon juice into a bowl, adding a few drops of water.

Step 2: Mix the solution up really well with a spoon.



THE SCIENCE BEHIND SHERLOCK



Write:

Step 3: Dip the cotton bud into the mixture and write a message onto the white paper.

Step 4: Wait for the juice to dry so it becomes completely invisible.

Heat (adult supervision recommended):

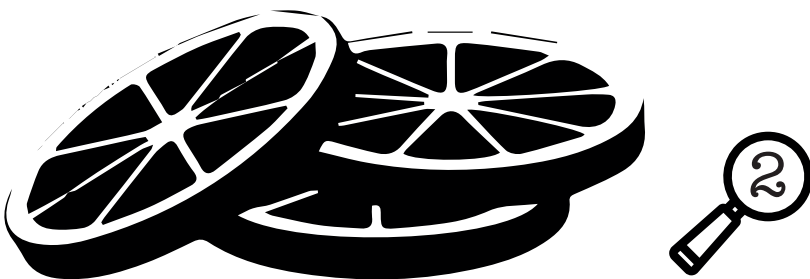
Step 5: When you are ready to read the secret message or show it to someone else, heat the paper by holding the backside close to a light bulb.

Why it works:

Lemon juice is an organic substance that turns brown or **oxidizes** when heated. Diluting the lemon juice in water makes it very hard to notice when you apply it to the paper. No one will see the secret message when it is dry, only once it is heated and the secret message revealed!

Other substances which work in the same way include orange juice, honey, milk, onion juice, and vinegar.

Use the boxes on the following page to practice!



THE
SCIENCE
BEHIND SHERLOCK



Invisible Ink Practice Sheet

[Blank writing area]

[Blank writing area]

[Blank writing area]

#SherlockHolmesDay #SherlockAtHolmes #ComicConMuseum #ComicConMuseumAtHome

