

FIBRE ANALYSIS

Try this activity to see how fibre analysis helps police gather evidence at a crime scene.

What you need

- 3 fabric samples e.g. wool, cotton, silk
- sharp scissors
- 2 non-plastic dishes
- vinegar
- nail polish remover containing acetone
- rubber gloves
- tweezers
- paper towels
- marker pen

What to do

1. Cut each fabric sample into two pieces (about 2 cm x 2 cm). Get an adult to help you if needed.
2. Put one piece of each fabric into each dish.
3. Write 'V' for vinegar on a piece of paper towel and "N" for nail polish remover on another piece of paper towel.
4. Place one dish on each piece of paper towel.
5. Put on the rubber gloves and pour the vinegar on the pieces of cloth in the dish marked "V".
6. Pour the nail polish remover on the pieces of cloth in the dish marked "N".
7. Let the cloth samples soak for five minutes.
8. Use tweezers to remove the cloth samples from the vinegar dish.
9. Rinse the cloth samples in water and put them on the piece of paper towel marked "V" to dry.
10. Repeat Steps 8 and 9 for the cloth samples in the nail polish remover dish and put them on the piece of paper towel marked "N" to dry.

Observation

- Look closely for changes in the fabrics.
- Did the fabrics shrink?
- Did the colours change?

Why?

Fibres react differently to different chemicals. Detectives identify fibres found at a crime scene by testing how the fibres react to different chemicals.

Fibres may come from clothing, car upholstery or even rope!

Three chemicals that are commonly used in fibre analysis are acetone (nail polish remover), vinegar and bleach.

Did you know?

Like fibre analysis, DNA analysis is an important component of forensic science. DNA is the genetic material found in the cells of all living things. DNA stands for deoxyribonucleic (wow!) acid.

Scientists can study the insects on bodies to determine the time of death at a crime scene. This is called forensic entomology.

Other important forensic science techniques include fingerprint identification and handwriting analysis.

Web sites

Surf this site to learn about the latest forensic science techniques, including forensic entomology and DNA fingerprinting. <http://whyfiles.news.wisc.edu/014forensic/index.html>

Check out the fingerprint activity and scienceworks. www.wonderville.ca

The CIA's kids' pages have a great code breaking activity, information about spies and lots more. <http://www.odci.gov/cia/ciakids/index.html>

