Activity: Dusting For Prints

What Do You Need?

- newspaper to protect tables or benches
- fine carbon powder
- fine talcum powder
- a soft paint or make-up brush
- a variety of surfaces - pink and black paper
  - clear and coloured glass or perspex
  - plastic lids
  - masonite squares
  - glossy magazines
  - crucible lids
- sticky tape

How Do You Do It?

1 Lay some newspaper on the bench to catch excess powder.
2 Press your fingers firmly on one of the available surfaces to make a good print.
3 Depending on the colour of the surface that has been fingerprinted, different coloured powders can be used to develop fingerprints. Talc could be used for dark surfaces and carbon for light surfaces. Sprinkle a small amount of powder over the area of the print.
4 ***Very gently*** brush off the excess powder using the flat side of the brush, or by gently shaking the object. A fingerprint should be visible.
5 Place a piece of sticky tape over the fingerprint. Lift the tape and place it on light or dark paper, depending on the colour powder you used. You should have a preserved fingerprint.
6 Repeat steps 2-5 for the other surfaces provided.

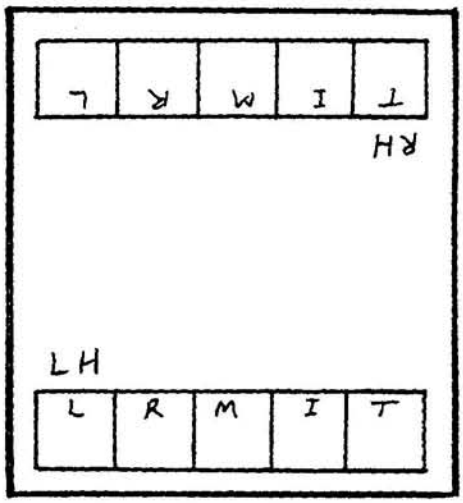
What Did You Discover?

1 Which surfaces provided the best fingerprints?
2 Why were you unable to lift prints from rough surfaces?

Tasks: Fingerprint Identifications

1 Why are fingerprints good evidence for a forensic scientist?
2 Why do fingers leave prints?
3 List places where fingerprints are most likely to be found.
4 What do fingerprints found at the scene of a crime tell the police?
5 Why is it difficult to obtain clear fingerprints for use as evidence?
6 Explain why and how fingerprints are classified into groups.
7 Why is the study of minutiae important in analysing fingerprints?

Activity: Making Fingerprints



What Do You Need?

- ink pad
- A4 white paper
- hand lens
- soap

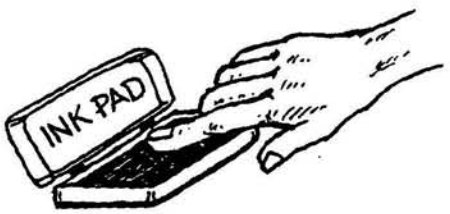
How Do You Do It?

1 On a piece of A4 white paper, prepare two larger copies of a fingerprint chart, like that shown in the table below and in the figure opposite.
Each fingerprint box should be large enough to fit one fingerprint (about 4 cm wide by 5 cm long).

2 Examine your fingers using a hand lens. On one of the charts, sketch the pattern that you see.

Left Hand

Little	Ring	Middle	Index	Thumb



Right Hand

Thumb	Index	Middle	Ring	Little

3 Place the ink pad and your fingerprint chart on the edge of the table. Gently roll your left thumb on the ink pad, then carefully *without pressing too firmly*, roll it over the left thumb square on the second chart.

4 Repeat the procedure for all fingers on both hands.

5 Wash your hands with soap.

6 Use a hand lens to examine the prints and compare them with your sketches.

What Did You Discover?

1 Are any of your fingerprints the same?

2 Using the figure on the previous page as a guide, try to classify your fingerprints. Look for details and other identification points.

3 Which, if any, of your prints are in the same category?

4 Compare the right thumb prints of everyone in the class, looking for similarities. Do any two people have the same pattern of ridges, or are any similar in some ways?

Issues

1 Should all suspects in a crime have to give their fingerprints to the police? Present arguments for and against.
2 Should all of us have fingerprints on a national filing system? Present arguments for and against.

Extension Activities

1 Some forensic scientists say that lip prints can be used to identify people as well as fingerprints. Develop a research investigation to check whether students in your class have different lip prints. What would you use to obtain prints instead of ink? Where would you look for lip prints at the scene of a crime? Would lip prints be as easily available as fingerprints?
2 Use library resources to find out about laser fingerprinting, chemically treated fingerprinting and genetic fingerprinting.