

# STUDENT WORKSHEET MODULE 4 : FORENSIC FUN!

## FORENSICS AND CRIME:

**Forensic science is a very important science that is becoming used more and more often by police services around the world to catch criminals.**

In module 1 we learned about cells and in module 2 we learned about the DNA material that is contained within these cells. Forensic science uses this DNA material to help identify suspects and to link them to crimes.

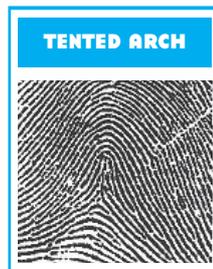
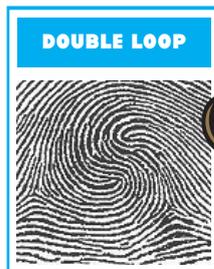
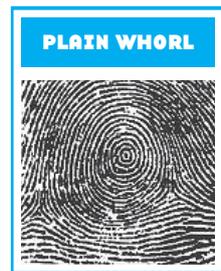
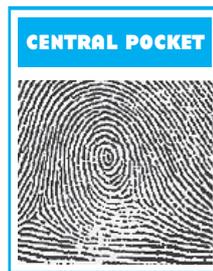
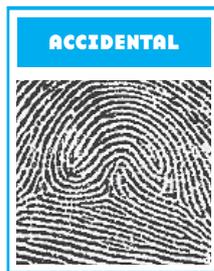
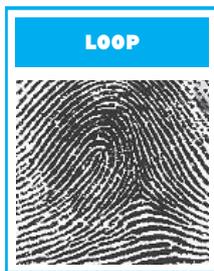
Forensic science teams work with the Gardai to help to establish what happened at the scene of the crime and to identify the person or people who carried out the crime.

A good forensic scientist needs to be really observant. At the scene of any crime, they will examine the area very carefully. They will look for fingerprints, palm prints and sole prints, fibres from clothing or material and for any signs of bodily fluids.

Analysis of fingerprints is probably the most well known use of forensic science. Each fingertip has a pattern of fine skin ridges that are slightly different for every person - even identical twins.

A fingerprint that is left behind at a crime scene is usually composed of grease and dried sweat that are on the top of the criminal's fingers.

Although everyone's fingerprint is unique, they can be "grouped" into fingerprint families. Below you will find pictures of some of these fingerprint families:



DNA fingerprinting is different to normal fingerprinting. As everyone's DNA is different, DNA profiling allows the Gardai to identify an individual in the same way as fingerprints do. DNA can be extracted from any cell that contains a nucleus (blood, saliva, sweat, nasal mucus etc) or from fragments of a body (hair roots, torn skin or flesh).

Forensic scientists work in labs to identify if DNA samples found at the scene of a crime belong to the same people. They are also very often called to court to tell the judge and jury about what they have learned. Forensic science is becoming more and more important in catching the bad guy!



## FUNKY FACT:

**Did you know that the FBI (Federal Bureau of Investigation) in America has over 250 million fingerprint cards on file?** If you stacked them on top of each other they would be 3 times as high as the Empire State Building! That's around 1090 ten-year-old children standing on top of each other!

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## FINGERPRINTS:

Working in pairs and using an inkpad and paper, take a print of each of your fingers and your thumbs.

- 1 To do this, you will need to firmly grasp your classmate's hand.**
- 2 Roll their finger from left to right over the inkpad.**
- 3 Still holding tight, transfer the print to the charts below by placing the left side of the finger on the chart and rolling the finger to the right.**
- 4 Lift your classmate's finger up STRAIGHT to avoid smudging the print.**
- 5 Do this for each of their fingers and thumbs and then swap over and let them do yours.**
- 6 Use the fingerprint charts on the previous page to compare your fingerprint with the 7 fingerprint family types.**

## RIGHT HAND

THUMB	POINTER	MIDDLE	RING	PINKIE

## LEFT HAND

THUMB	POINTER	MIDDLE	RING	PINKIE

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