

Guilty or not guilty

Should we or shouldn't we?

DNA from an unusual source provided crucial evidence for police investigating the murder of a 66-year old widow.

The man who killed the pensioner was caught after advances in DNA technology identified him from a blood sample found at the scene of the crime.

Experts from the Forensic Science Service (FSS) used cutting-edge DNA fingerprinting techniques to obtain a full DNA fingerprint from the tiny DNA sample obtained from the blood – this was not previously possible. When the fingerprint was checked against The National DNA Database it was matched with a man, whose DNA had been taken as a result of a previous offence.

The National DNA Database currently holds 1.5 million DNA fingerprints, some of which are from people who have not been convicted. It is hoped to increase it to 3 million by April 2004 from DNA fingerprint data obtained from people who have either been charged or convicted. Police forces are now expanding its use to track down burglars and car thieves.

Dilemma

Should people be convicted solely on DNA fingerprint evidence obtained from the scene of a crime?

You will debate this question and come to a decision. Our experts will help you consider all the issues involved:

Science

... the techniques used and how they work

Ethics

... thinking about rights and wrongs, benefits and costs

Law

... what are the laws in this area

The Science

Sir Alec Jeffries at the University of Leicester developed the technique of DNA fingerprinting in 1984.

Jeffries found that portions of DNA contain regions that are made up of an unusual sequence of 10 to 15 DNA bases (called a core sequence), repeated several times. These repeated sequences, called 'hypervariable regions', seem to be harmless bits of DNA, with no purpose. Jeffries discovered that these hypervariable regions were repeated many times in different parts of the DNA and that the pattern of these hypervariable regions is different in every individual.

This provides the DNA fingerprint.

Only identical twins have the same number of hypervariable core sequences.

