

Y5/6 – Assembly Plan 1

Who is Sir Alec John Jeffreys?

Background:

Sir Alec John Jeffreys CH FRS (born 9 January 1950) is a British geneticist. He developed techniques for genetic fingerprinting and DNA profiling which are now used worldwide in forensic science. The information helps police detective work and solves paternity and immigration disputes.

Jeffreys is a professor of genetics at the University of Leicester. He became an honorary freeman of the City of Leicester on 26 November 1992. In 1994, he was knighted for services to genetics.

Preparation:

- Gather some images of Sir Alec Jeffreys and a person's DNA and have the means to display them during the assembly.
- Have available the song 'Oxygène' by Jean Michel Jarre and the means to play it at the end of the assembly.

1	Imagine a crime scene – the type made popular by police dramas such as CSI. Uniformed officers secure the area and dogs sniff for clues. Today, however, another image is common: the scientists, carefully analysing every little detail for DNA evidence that can point to a suspect and, hopefully, close the case. The methods these scientists use stem largely from the work of one man – Professor Sir Alec Jeffreys. It was he who developed techniques to use DNA to identify people.
2	Jeffreys was always fascinated by science. As a child, he gave himself a permanent scar after accidentally splashing his face with sulphuric acid. He also liked to dissect small animals. Once he created a foul smell throughout the house by dissecting a dead cat he had found on his way home. He probably shouldn't have done it on the dining room table. Such an interest paid off, though, as he went on to study at Oxford before going on to work at the University of Leicester.
3	At Leicester, he worked in the field of genetics – a very new science in those days. One day, during an experiment, the similarities and differences between the DNA of a lab technician's family were shown. This led him to realize that differences in an individual's DNA could be used to identify them – DNA fingerprinting had been invented. In 1987, the police used his method to build a case against Colin Pitchfork, who, they were able to prove, had raped and murdered two local women. They won the case and Pitchfork confessed. Moreover, an innocent suspect, Richard Buckland, was exonerated because of the DNA evidence. Without it, it is likely that he would have faced life imprisonment and the real killer would still have been at large.

4	4. Another unusual but chilling case also made use of Jeffreys' method. The infamous Nazi scientist Dr Josef Mengele, who performed gruesome experiments on concentration camp prisoners, had fled to South America following the end of the Second World War. He was believed to have died, but in 1992 it was confirmed that the DNA from a bone from his alleged body and DNA from two members of his family were a close match, proving that the body was that of Mengele.
5	5. Yet, Sir Alec's methods were not only used to identify killers but also to reunite families. The first test of the method came in 1985, before the murder case, when DNA was used to confirm the identity of a British boy whose family was from Ghana during an immigration case. The DNA results showed that the boy was a close match to his family and so the family members were reunited.

Reflection

While our genes tell us a great deal about who we are, there is always more to a person than just a series of chemicals. Our DNA can identify us, but so too can our actions.

We are born with a DNA profile, but it is up to us to use the abilities and talent that we are born with well – hopefully for the greater good. Alec was born with a curiosity about and fascination with science and his parents encouraged him to pursue this, despite the dissected animals and burns to his face.

What are your talents and abilities? How could you use these for the greater good of humanity?

Music

'Oxygène' by Jean Michel Jarre