

# Fingering Criminals Using DNA Fingerprints

Forensic Science

# Introduction

- Solving crime means finding out whodunit, so forensic scientist have long searched for ways of absolutely identifying individuals from materials left at a crime scene.
- The first discovery that provided positive proof was fingerprints, which are absolutely individual.
- No two people share the same prints, so fingerprinting became and remains an extremely powerful forensic tool.
- However, fingerprints aren't found at every crime scene. Criminals have learned to wear gloves and to wipe their prints from any object they touch.

- Tracking down every bit of biological debris that get left behind, however, is impossible for even the best criminals.
- DNA fingerprinting gives the criminalist a relatively new and extremely accurate tool for using the tiniest bits of genetic material to identify individuals who were present at a crime scene.

# Tracking Down and Preserving DNA

- DNA is found in almost every cell in the human body.
- Skin, hair follicles, semen, saliva and blood are common sources of crime-scene DNA.
- Hair doesn't contain cells, but hair follicles do.
- Saliva does not contain cells, but as it passes through the salivary ducts and washes around the mouth, it picks up cells from the ducts and mouth.
- RBC's have no nuclei, so they contain no DNA. The DNA found when blood is tested comes from the white blood cells
- Using Modern Techniques, each type of fluid or tissue yeilds enough usable DNA for Testing.

## Once identified at the crime scene...

- After the DNA is secured from the crime scene, DNA must be handled carefully to keep it from degrading.
- The best DNA samples are the ones that have been adequately dried and stored in protective containers.
- When drying isn't feasible, wet samples need to be frozen until they're analyzed.

- The bigger the DNA Sample