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Assignment Title: DNA fingerprinting
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Question

Explain the applications of DNA fingerprinting in Medical Biotechnology.

DNA fingerprinting (DNA profiling) is the determining of a person's DNA characteristics.
One of the uses of DNA fingerprinting is paternity determination. Fingerprints of the mother, child and possible father are compared, the DNA matches between the mother and child are then subtracted from the pattern and the remaining DNA is then compared to the DNA of the possible father. DNA tests are 99.99% accurate that's why it's popularly used in paternity disputes.
Results of paternity tests are often used in legal matters that involve child support for example in a custody dispute in which the father refuses to pay child support, DNA results are used to verify that he is the actual father.
DNA testing is used in child custody disputes and is a deciding factor of who will have legal access to the child. Insurance companies also need paternity tests before a child can be added on to a father's insurance policy.
Paternity testing has also been used in Immigration cases to verify if individuals seeking entry to a country is related to the supposed relative in the country.
DNA fingerprinting is also used in DNA forensics. A crime scene can contain biological samples like blood, semen, saliva, skin, urine and hair, from suspects, victims and bystanders that can be processed to provide DNA fingerprints. The DNA fingerprints gotten are used to search existing databases for matches to identify victims or suspects. DNA fingerprinting also helps to prove a person's innocence. It ensures that they aren't sentenced for crimes they were convicted of before DNA fingerprinting was done.
Molecular archaeology is also studied using DNA fingerprinting. Scientists used DNA fingerprinting to study how the human population has evolved over time by extracting DNA samples from skeletons and living people around the world and comparing them to show possible migration patterns of various ancient civilizations.

Scientists also use DNA finger printing to study inherited diseases like Alzheimer's disease. DNA samples are taken from the infected individual's family members and are examined for differences in the chromosome of members of a family that do not have the disease and members who have it. Scientists have hope that studying these differences over time will help determine the cause of the disease.

DNA fingerprinting is also used to monitor wildlife. Scientists collect samples of DNA from animals and check the genetic variation among different populations of a species and if a little genetic variation in the species we know the species is at risk of extinction.

DNA profiling is used to study the population of plants and animals in certain fields like zoology, botany, and agriculture. In food animals, DNA fingerprinting can be used to trace meat to the source animal.