

CURIOSITY AT HOME

MOCK DNA PROFILE

DNA (deoxyribonucleic acid) is a large molecule that humans and other organisms have in their cells. This material is sometimes described as the blueprint for living organisms as it organizes us into what we are.

Many traits that you possess are genetic traits that you inherited from your parents' DNA. Traits like eye and hair color are examples of genetic or DNA-inherited traits. DNA can serve as a way to identify people in much the same way that fingerprints are used to identify people. Our DNA can be just as unique as our fingerprints. Law enforcement agencies can use some crime scene evidence as a source of DNA.

If DNA can be collected and processed, it can be formed into patterns and these patterns, sometimes called profiles, are generally unique from person to person. However, if the strands of recovered DNA are too short, the chances of another person sharing the same patterns are substantial. If a long strand of DNA is recovered the chances of the resulting pattern matching that of another person are extremely low. Try the model below to illustrate this concept.

MATERIALS

- Pencils
- Copies of Mock DNA Profiles

PROCEDURE

- Discuss the above paragraph with participants.
- Have them fill in the appropriate rectangles in the Mock DNA Profile #1. This represents a short strand of DNA.
- Let them compare the resulting pattern with other participants. Those with matching patterns should stand together. There will probably be lots of matches. Discuss outcome with participants.
- Have them fill in Mock DNA Profile #2. This represents a long strand of DNA. Let them compare patterns again and discuss.
- Calculate the probability of a match in both cases and the implications this might have in criminal cases involving the use of DNA evidence.

MOCK DNA PROFILE #1

Name: _____

- Female Right-handed
 Male Left-handed

MOCK DNA PROFILE #2

- Female Right-handed
 Male Left-handed
- Brown Hair Curly/Wavy Hair
 Black Hair Straight Hair
- Brown Eyes Can "roll" tongue
 Blue Eyes Can't "roll" tongue
 Green Eyes
 Hazel Eyes
 _____ Eyes

Number of participants: _____

Matching profiles for #1: _____

Matching profiles for #2: _____



Show us how you're being curious! Share your results with us.

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