Steps to a DNA Fingerprint

1. Collect your DNA. Cheek, Blood, Semen, Hair cells.

2. Extract the DNA.

3. Use PCR (Polymerase Chain Reaction) to amplify your DNA (make a lot of copies),
   - Copying a region that is highly variable in humans.

4. Add restriction enzymes to cut the DNA strands at specific palindrome sequences.
   - Ex: EcoR1 enzyme cuts at GAATTC

   Ex: Word Palindrome: RACE CAR

   DNA Palindrome:
   
   \[
   \begin{align*}
   &\text{GAATTC} \\
   &\leftrightarrow \\
   &\text{TTAAAG}
   \end{align*}
   \]

   \[
   \begin{align*}
   &\text{G} \\
   \leftrightarrow &\text{TTAA} \\
   \hspace{2cm} \text{sticky ends}
   \end{align*}
   \]
Example DNA Digest

Me | Cole
---|---

Restriction sites

- A
- B
- C
- D
- E

Me | Cole | CS
---|---|---

B

D

E

no match
but may be related to Mr. Coke