

# Electrophoresis

Once DNA has been extracted from a sample and a section bearing useful code—such as a VNTR or STR (see pages 3 and 4)—is isolated, the next step in DNA fingerprinting is to measure each strand and count the number of repeated sections. To do this, scientists use a technique called gel electrophoresis, which uses an electric current to push strands of DNA through a slab of gel-like material.

Because each bit of DNA is negatively charged and subject to an equal electric force propelling it to the positively-charged side

of the gel, smaller pieces move faster than larger ones. When the current is removed, the gel is photographed to reveal how far each bit has migrated. By comparing the bands produced by the DNA sample of interest with bands produced by “standard” samples whose sizes are already known, the precise length of each DNA fragment can be gauged.

➔ Negatively charged DNA fragments

