a WOW Lab BLUEPRINT

Gel Electrophoresis

Introduction

DNA analysis is a key component of investigating a crime scene. The results of gel electrophoresis in a forensics lab can determine the fate of a suspect. In this activity, students will use gel electrophoresis to simulate DNA analysis.

Gel electrophoresis is a technique commonly used in a variety of laboratories to separate fragmented DNA, RNA or protein molecules based on the size of the fragments by applying an electric field to a gel matrix.

In this activity, the matrix is made up of agar, and food colouring is used to represent DNA, RNA and protein molecules. A plastic container is the gel electrophoresis chamber. Batteries are used as a power source to produce an electric current, which separates the food colouring mixture so that distinct colourful bands can be observed.