a WOW Lab BLUEPRINT

Gel Electrophoresis

Lesson Logistics

Learning Outcomes

Grade 10
Chemical reactions

Class Organization

Divide the students into groups of five.

Ensure that each group has a *Student Handout*, a gel electrophoresis set-up, a ruler and pencil crayons (red, yellow and blue).

Notes

Access to a microwave is required for this activity.

Do not touch the opposite terminals attached to the batteries together as this will complete the circuit and cause a shock. It is recommended to use new 9 V batteries for this activity as old batteries will results in less visible separation of the colours in the gel.

It is suggested to use one class period to make the agar gel and prepare the materials, while using a second class period to run the gel and analyze the results. The agar gel can be stored in the fridge for up to a week if sprinkled with a small amount of water and completely covered with plastic wrap pressed up against the gel. Note that mold may grow on the gel if left for too long.

During the activity, the positive terminal wire (bottom wire) might start to oxidize, which means that a cloudy blue-green substance will leak from the bottom wire and start to circulate in the buffer solution. This will not disrupt the movement of the samples in the agar gel.

Further Exploration

Change the colour concentrations outlined in the *Prep Instructions* in order to have different sample colours.