



MiniOne Systems can be a focal point for teaching **STEM** curriculum through biotechnology. The **MiniOne Electrophoresis System** is a tool for analyzing DNA, but it's more than just biology. The mechanics of DNA separation are a physical and chemical process as well. Although conceptually simple, electrophoresis technology draws insights from many fields of science and engineering. While students engage with real time DNA analysis, educators can use the MiniOne System's engineering to illustrate crosscutting concepts from physics, chemistry, and math!

## PCR / Electrophoresis Package for New Senior Secondary Biology Curriculum

*For a group of two to three students*



### MiniOne<sup>®</sup> PCR/Electrophoresis Package I

Order no. M4011

- One MiniOne PCR System with one validation kit
- One MiniOne Electrophoresis System
- One FREE 2-20ul variable volume micropipette

*For two groups of students*



### MiniOne<sup>®</sup> PCR/Electrophoresis Package II

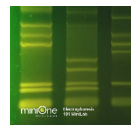
Order no. M4012

- One MiniOne PCR System with one validation kit
- TWO MiniOne Electrophoresis System
- TWO FREE 2-20ul variable volume micropipettes

## MiniOne<sup>®</sup> MiniLabs - well prepared kit for popular applications of electrophoresis

### #M3001 - Electrophoresis 101 MiniLab

Students are introduced to the principles of gel electrophoresis by separating colorful dyes and DNA samples on an agarose gel. Challenge your student's analytical and mathematical skills as they construct a standard curve to determine the sizes of unknown DNA fragments.



### #M3002 - Gel Loading Practice MiniLab

Teach your students how to read, adjust, and use a micropipette. Practice pipetting and loading samples into the wells of a real gel before handling valuable DNA samples.



### #M3004 - DNA Fingerprinting MiniLab

How is DNA used to trace the history and heritage of an individual? Students help scientists identify the father of a baby humpback whale using DNA fingerprinting technology. Engage your students with a real-world application of genetics as they analyze a complex array of DNA bands to arrive at a logical solution.



### #M6002 - PCR 101 MiniLab : Amplification from the Lambda Phage Genome

Students use polymerase chain reaction (PCR) to amplify three segments of the Lambda phage genome. They will look at sequence data, predict the fragment sizes of the PCR products, then compare their predictions to the PCR products they amplify and run on an agarose gel. The amplification can be completed in 17 minutes.



For more package, MiniLab and other accessories, please visit [www.theminione.com](http://www.theminione.com)

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