



Scientific Inquiry Mixed Bag Lesson

This lesson is recommended for grades 4-8. This lesson takes 35-45 minutes.

Goal: The students are given a simple task of mixing and separating items while applying methods of scientific inquiry and identifying the physical properties of the objects. Lab safety and procedures are stressed. (Based on the Ohio model)

Academic Standards/Benchmarks: Doing Scientific Inquiry

Indicators:

4. Explain the importance of keeping conditions the same in an experiment.
5. Describe how comparisons may not be fair when some conditions are not kept the same between experiments. Gr. 4
6. Explain why results of an experiment are sometimes different (e.g., because of unexpected differences in what is being investigated, unrealized differences in the methods used or in the circumstances in which the investigation was carried out, and because of errors in observations). Gr. 5
1. Explain that there are not fixed procedures for guiding scientific investigations; however, the nature of an investigation determines the procedures needed. Gr. 6
1. Explain that variables and controls can affect the results of an investigation and that ideally one variable should be tested at a time; however it is not always possible to control all the variables. Gr. 7
4. Choose the appropriate tools or instruments and use relevant safety procedures to complete scientific investigation. Gr. 8

Objectives:

Students will identify characteristics of a simple physical change.

Students will describe objects by the physical properties.

Students will formulate instructions and communicate data in a manner that allows others to understand and repeat an investigation.

Students will describe that there are not fixed procedures for guiding scientific investigations.

Students will choose the appropriate tools or instruments and use relevant safety procedures to complete scientific investigations.

Students will describe why it is important to keep clear, thorough and accurate records.

NOTE: It is the responsibility of the district/school to determine which students participate in our programs. This includes, but is not limited to, the district/school identifying students with allergies, those with potential to allergies, and to identify students with special needs who may require personalized accommodations. Prior notification is necessary to develop proper considerations.