

Lesson Summary:

This lesson builds on the idea of distinguishing legend from scientific theory. After watching the teacher demonstrate an experiment, students generate a list of ideas describing why they believe the experiment worked as it did. This list of ideas is revised to create a testable hypothesis. During the second part of the activity, students use the scientific method to conduct their own experiments.

Objectives:

The student will:

- understand the steps in the scientific method;
- write a testable hypothesis;
- write a conclusion based on experimental data;
- understand the importance of a control in an experiment;
- read a Celsius thermometer; and
- record data.

GLEs Addressed:

Science

- [5] SA1.2 The student demonstrates an understanding of the processes of science by using quantitative and qualitative observations to create inferences and predictions.
- [6] SA1.2 The student demonstrates an understanding of the processes of science by collaborating to design and conduct simple repeatable investigations.
- [7] SA1.2 The student demonstrates an understanding of the processes of science by collaborating to design and conduct simple repeatable investigations, in order to record, analyze (i.e., range, mean, median, mode), interpret data, and present findings.
- [8] SA1.2 The student demonstrates an understanding of the processes of science by collaborating to design and conduct repeatable investigations, in order to record, analyze (i.e., range, mean, media, mode), interpret data and present findings.
- [7] SB1.1 The student demonstrates an understanding of the structure and properties of matter by using physical properties (e.g., density, boiling point, freezing point, conductivity) to differentiate among and/or separate materials (i.e., elements, compounds, and mixtures).
- [8] SB1.1 The student demonstrates an understanding of the structure and properties of matter by using physical and chemical properties (i.e., density, boiling point, freezing point, conductivity, flammability) to differentiate among materials (i.e., elements, compounds, and mixtures).

Search Terms:

- scientific method
- hypothesis
- experiment
- data
- Cartesian diver
- theory

