APPLE MODEL EARTH

OVERVIEW

Lesson Summary:

This lesson introduces students to Earth's atmosphere, where interactions take place that cause the colors of the aurora. Students learn that household items, like apples, can be used as models. The lesson ties together concepts about Earth students have learned in earlier *Aurora Alive* DVD and associated classroom lessons.

Objectives:

The student will:

- examine where Earth's atmosphere exists;
- discover Earth's atmosphere is a mixture of gases that surrounds our planet in a relatively thin layer;
- identify the gases in the lower atmosphere sustain life on Earth;
- determine the gases in the upper atmosphere act as a buffer zone between outer space and the life-sustaining gases near Earth's surface;
- conclude gases in the upper atmosphere produce the colors of the aurora; and
- review and tie together what they have learned about the components of Earth as a system in space in earlier *Aurora Alive* DVD and associated classroom lessons by using the apple model.

GLEs Addressed:

Science

[5-8] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.

[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).

[6] SD2.2 The student demonstrates an understanding of the forces that shape Earth by identifying and describing its layers (i.e., crust, mantle, core).

Search Terms:

- Earth's atmosphere
- gases
- lower atmosphere
- upper atmosphere
- aurora
- Northern Lights