

Lesson Summary:

Students learn about the atoms and molecules that make up Earth's atmosphere and interact with particles from the sun to create the aurora.

Objectives:

The student will:

- build molecule models;
- understand the structure of nitrogen and oxygen molecules in Earth's atmosphere; and
- identify auroral colors associated with gases in Earth's atmosphere.

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.
- [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).
- [8] SB3.2 The student demonstrates an understanding of the interactions between matter and energy and the effects of these interactions on systems by exploring through a variety of models (e.g., gumdrops and toothpicks) how atoms may bond together into well-defined molecules or bond together in large arrays.
- [9] SD3.2 The student demonstrates an understanding of cycles influenced by energy from the sun and by Earth's position and motion in our solar system by explaining the phenomena of the aurora.

Search Terms:

- atoms
- molecules
- atmosphere
- solar particles
- aurora
- Northern Lights
- aurora colors
- oxygen
- nitrogen