CAUSE AND EFFECT

OVERVIEW

Lesson Summary:

The aurora acts like a huge generator that produces up to 10 million megawatts of electrical power. This power can disrupt our systems on Earth and in space. (As a result of this lesson, students may consider the aurora harmful. Pay careful attention to misconceptions and questions that arise as a result of the effects of the aurora.)

Objectives:

The student will:

- review the terms "cause" and "effect;"
- discuss how the aurora affects the environment; and
- examine basic risk analysis.

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.

[10] SB4.2 The student demonstrates an understanding of motions, forces, their characteristics, relationships, and effects by explaining that different kinds of materials respond to electric and magnetic forces (i.e., conductors, insulators, magnetic, and non-magnetic materials).

[11] 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 exploring causes and effects related to phenomena (e.g., the aurora, solar winds, Coriolis Effect).

Search Terms:

- generator
- electricity
- ionosphere
- radio waves
- Earth's atmosphere
- satellites
- radar
- electric current
- trans-Alaska pipeline
- aurora
- Northern Lights