

Lesson Summary:

The aurora is seen most frequently in cities beneath the aurora oval. Students use a globe and make a graph to demonstrate their ability to visualize the location of the aurora oval in relation to Earth.

Objectives:

The student will:

- use a scale to find distances on a globe;
- make a line graph; and
- draw conclusions from a graph.

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.
- [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.

Math

- [6] MEA-3 The student demonstrates ability to use measurement techniques by using a scaled ruler to an eighth of an inch or millimeter on a map or drawing (M2.2.1 & M2.2.3).
- [7] MEA-3 The student demonstrates understanding of measurement techniques by applying a given scale factor to find missing dimensions of similar figures (M2.3.4).
- [6] E&C-5 The student accurately solves problems (including real-world situations by developing or interpreting scale models (scale factors such as 1 in. = 1 ft.) (L) (M3.2.6).
- [7] S&P-1 The student demonstrates an ability to classify and organize data by [collecting, L] displaying, organizing, or explaining the classification of data in real-world problems (e.g., science or humanities, peers or community), using circle graphs, frequency distributions, stem and leaf, [or scatter plots L] with appropriate scale (M6.3.1).
- [8] S&P-1 The student demonstrates an ability to classify and organize data by [designing, collecting L], organizing, displaying, or explaining the classification of data in real-world problems (e.g., science or humanities, peers or community), using histograms, scatter plots, or box and whisker plots with appropriate scale [or with technology L] (M6.3.1).
- [7] PS-5 The student demonstrates the ability to apply mathematical skills and processes across the content strands by using real-world contexts such as science, humanities, peers, and community (M10.3.1 & M10.3.2).
- [8] PS-5 The student demonstrates the ability to apply mathematical skills and processes across the content strands by using real-world contexts such as science, humanities, peers, community, and careers (M10.3.1 & M10.4.2).

Search Terms:

- aurora oval
- globe
- distance scale
- graph
- aurora
- Northern Lights

