

# LATITUDE AND DISTANCE

## Lesson Summary:

Students use a circumpolar map to determine the latitude and longitude of cities in areas where aurora legends originated. Students use a scale to determine the distance between each area and the geographic North Pole.

## Objectives:

The student will:

- locate cities in areas where aurora legends originated on a circumpolar map;
- identify the latitude and longitude of cities on a circumpolar map; and
- calculate the distance from a city to the geographic North Pole.

## 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] SF1.1-SF3.1 The student demonstrates an understanding of the dynamic relationships among scientific, cultural, social, and personal perspectives by investigating the basis of local knowledge (e.g., describing and predicting weather) and sharing that information.
- [8] SF1.1-SF3.1 The student demonstrates an understanding of the dynamic relationships among scientific, cultural, social, and personal perspectives by describing how local knowledge, culture, and the technologies of various activities (e.g., hunting, fishing, subsistence) influence the development of scientific knowledge.

Math

- [8] N-8 The student demonstrates conceptual understanding of number theory by applying the rules for order of operations to rational numbers (M.1.3.5).
- [7] F&R-2 The student demonstrates conceptual understanding of functions, patterns, or sequences including those represented in real-world situations by generalizing relationships (linear) using a table of ordered pairs, a function, or an equation (M4.3.4).
- [8] F&R-2 The student demonstrates conceptual understanding of functions, patterns, or sequences including those represented in real-world situations by generalizing relationships (linear) using a table of ordered pairs, a graph, or an equation (M4.3.4).
- [5] PS-5 The student demonstrates the ability to apply mathematical skills and processes across the content strands by using real-world contexts such as social studies, friends, and school (M10.2.1 & M10.2.2).
- [6] PS-5 The student demonstrates the ability to apply mathematical skills and processes across the content strands by using real-world contexts such as social studies, friends, school and community (M10.2.1, M10.2.2, & M10.3.2).
- [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:

- circumpolar map
- longitude
- mathematics
- geographic North Pole
- Northern Lights
- latitude
- Northern Hemisphere
- equation
- aurora

