

EXPONENTIAL GROWTH AND THE AURORA

Lesson Summary:

Students compare the atmospheric molecular density to the appearance of the aurora and identify the lower limit of the aurora.

Objectives:

The student will:

- compare the density of gas molecules in the atmosphere to the appearance of the aurora; and
- identify the lower altitude limit of the aurora.

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] S&P-2 The student demonstrates an ability to analyze data (comparing, explaining, interpreting, evaluating; drawing or justifying conclusions) by using information from a variety of displays (tables, bar graphs, line graphs, circle graphs, or Venn diagrams) (M6.2.2).
- [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).
- [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:

- atmosphere
- molecules
- exponential growth
- density
- aurora
- Northern Lights