

# Aurora Borealis

**Developed by:** Erin Montgomery, 2015 Iditarod Teacher on the Trail™

**Discipline:** Science

**Topic:** Northern Lights

**Grade Level:** Middle School - can be modified to use with lower or higher grades

**Resources / References / Materials Teacher Needs:**

1. Internet access
2. Pictures of Aurora Borealis (pictures on reading)
3. Video clip of Aurora Borealis (Jansen Cardy video on Blog post)
4. Aurora PowToon Assignment
5. Aurora Data Chart
6. PowToon - <http://www.powtoon.com/> (free animated video and presentations)

**Lesson Summary:** Students will be observing the Aurora Borealis through pictures and video and collecting data. Students will also be reading an article about the Aurora Borealis and recording data.

**Standard's Addressed:**

S.6–8.ES.4 Essential Concept and/or Skill: *Understand and apply knowledge of the earth's atmospheric properties and how they influence weather and climate.*

**Learning objectives:**

1. Students will be able to analyze pictures and video of aurora borealis and hypothesize what is occurring.
2. Students will be able to design a presentation using PowToon demonstrating their knowledge of the aurora.

**Procedural Activities:**

1. Group work - Students will access the assignment titled Aurora PowToon in their Google Classroom account (see attached)
2. Group work - Students will follow the tasks assigned to them.
3. Group work - Task number 1 requires students to view the pictures that have been attached to the assignment.
4. Group work - Students will complete the data chart as they view the pictures.
5. Group work - Task number 2 - Students will view the video that is attached to the assignment.
6. Group work - Students will complete the data chart as they view the video.
7. Whole Class - The class will discuss what the students viewed in the pictures and video.
8. Individually - Task number 3 - Students will hypothesize what they think is occurring and how it occurs.
9. Group work - Task number 4 - Students will investigate the *Aurora Borealis* reading (see attached). Students will collect data and record it on their data chart.
10. Whole Class - The class will discuss their findings in the reading.
11. Group work - Task number 6 - Share your data using PowToon (<http://www.powtoon.com/>). Students should follow the instructions on their task assignment in Google Classroom.
12. Whole Class - Students will present their PowToon to the class. They will share their PowToon to our class YouTube page and Twitter.
13. Individually - Students will complete the question asked to them in task number 7.

**Materials Students Need:**

1. Materials attached to their Google Classroom assignment - Aurora PowToon
  - a. Aurora pictures
  - b. Aurora video
  - c. Data Chart
  - d. Aurora Reading
2. PowToon - <http://www.powtoon.com/>

**Technology Utilized to Enhance Learning:**

1. PowToon
2. Google Classroom

**Other Information:** My classroom uses Google Classroom to access assignments. If you do not have access, print out the materials that are attached. Instead of the groups watching the video on their own, show the video as a whole class (same with the pictures).

**Modifications for special learners/ Enrichment Opportunities:**

1. Enrichment: Ask students to come up with a way to design their own Aurora Borealis.