Activity 9: Aurora Artwork

Time: 1-2 class periods (1 class period = 45 min)

Materials:
- Black paper
- Oil or chalk pastels
- Scissors
- Scrap paper
- Lined paper

Standards Addressed:
- NGSS: (standards addressed by this lesson will vary based on class discussion emphasis)
- Alaska Cultural Standards: E.4 (additional standards will vary based on class discussion emphasis)
- Iñupiaq Learning Framework: [B]E.e.3.4 (additional standards will vary based on class discussion emphasis)
- Iñupiaq Cultural Values: Cooperation
- Alaska Science Content Standards: F.2 (additional standards will vary based on class discussion emphasis)
- Alaska English/Language Arts Content Standards:

Background Information:

The northern lights come in a dazzling array of shapes. The shapes often occur in a similar pattern. First a quiet arc stretches like a ribbon across the sky. Next, rayed bands of light curl and buckle. If the aurora is directly overhead, these rayed bands appear as a corona--a starburst of light which can fill the entire sky. As the rayed bands fade, patches of aurora, resembling puffs of smoke or faint clouds light the night. Finally, long aurora rays appear as vertical bars of light, signaling the end of the show.

Assessments:

- Student illustrations, paragraphs and discussion will provide a means of assessing student ability to:
  - Relate ideas about the northern lights from different knowledge systems;
  - Illustrate and describe the northern lights as they occur in the world around them;
  - Understand that some individuals, cultures, and societies use other beliefs and methods in addition to scientific methods to describe and understand the northern lights.

Activity Instructions:

1. Ask students to partner-read or group-read pages 14-15 of the KiuguyatNS / KiugiyaqNP Middle School Guide.

2. Work with the class to create a cumulative concept map about the northern lights on the whiteboard or an easel pad. Title the map: “What have we learned about the northern lights?” Categories of knowledge that emerge might include: cultural knowledge, science processes, vocabulary etc.
3. Distribute a piece of black paper, pastels, scissors and scrap paper to each student. Explain that students will illustrate the northern lights and then write a paragraph about what they have learned about the northern lights to display with their illustration.

4. To create illustrations, demonstrate the following steps:
   - Cut a strip of scrap paper into a large scalloped or zig-zag shape, as though you are illustrating hills or mountains.
   - Select the pastels that you would like to use to illustrate the northern lights. Use them to color the edge of your cut paper.
   - Lay the cut paper on top of your black paper in the area of the paper that you would like to use to illustrate the sky.
   - Holding the cut paper in place with one hand, use a finger on your other hand to smear the pastel from the cut paper upward onto the black paper.
   - Lift the scrap and see the rayed band of northern lights that you have created on the black paper.
   - Illustrate the landscape beneath the northern lights to represent an area and season when you most commonly see the northern lights.

5. Ask students to use their lined paper and the class concept map to write a paragraph about the northern lights. It should include science and cultural information and at least two Iñupiaq terms related to the northern lights.

6. Display student writing and artwork in the classroom or hallway.

Connections and Extensions:
- Create a Comic Strip! Provide students with story starters to help them create a comic strip about the northern lights. Story starters might include:
  Describe the adventures of two brave travelers who find themselves traveling by snow machine beneath the northern lights.
  Write a comic about a gas particle hanging out in Earth's atmosphere when it suddenly encounters an energetic particle from the sun.

- Be the teacher! Invite students to record themselves using a smart board to teach how the northern lights are created, as well as Iñupiaq terminology and cultural information related to the northern lights.