

## Northern Lights

<b>Grade Level</b>	K	<b>Workable grades</b>	K,1,2,3
<b>Recommended Time</b>	1 hour		
<b>Curriculum Alignment</b>	ENVIRONMENT AND COMMUNITY AWARENESS  General learning outcome 2 : The child explores familiar places and things in the environment and community		

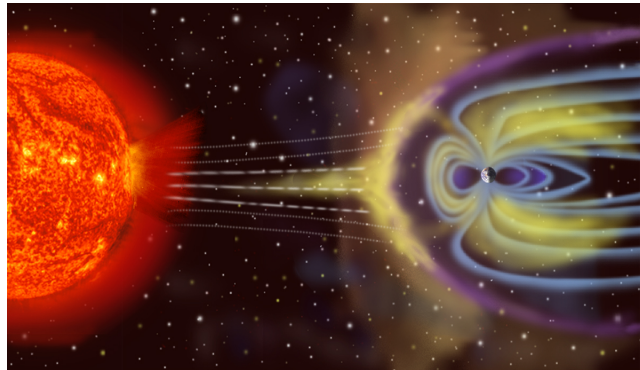
### Background Information (Science required for the lesson) :

Where do the Northern Lights occur?

- The Northern Lights specifically occur in the Northern Hemisphere, however the Aurora occurs at both poles, but in the south the northern lights are called the Southern Lights or Aurora Australis. They are essentially the same, they just occur in different areas.

What causes the Aurora?

- Solar flares eject particles (photons) which travel through space. The particles travel all the way to Earth and other planets. The Earth has a magnetic field, just like the magnets on your fridge, and so the Earth acts like a huge magnet which has a force field. The particles travel along the force field to the north pole and south poles where they get excited as they enter the earth's atmosphere. We see these excited photons in the form of the Auroras.



What causes the different colours?

- Photons react with the elements in our atmosphere. Air is oxygen, which when the photons react with it, it's green. Nitrogen creates purplish-red lights.

<b>Explanation of Activity:</b>	<b>Notes:</b>
<ol style="list-style-type: none"> <li>1. Have an educational outreach member or the teacher go around a tape a page in front of each student during the presentation.</li> </ol>	

2. Handout materials they will need.
3. Put some pictures of the northern lights on the projector for students to look at.
  - Students may fold the cardstock in half to make cards
4. Show students video (Northern Lights from Space)
5. Tell students to be sure to fill the page
6. Show examples - leave within view throughout the session.
7. Allow time for questions and then tell students to start.

**Materials Required (INCLUDE ALL MATERIALS NEEDED EVEN PEN AND PAPER)**

- Cardstock, 1 per student
- Paintbrushes, 1 per students
- Paint sets or watercolour pencils, 1 per four students
- Other: pencils, pencil crayons, markers, etc

**Changes to the activity for COVID-19**

- Make sure teachers have required material and have AlbertaSat members present remotely