

Aurora Shapes

Overview:

Students use literature and art to describe four aurora shapes as they occur throughout the night. They also prepare individual illustrated books containing art and written descriptions of each aurora shape. Through partner reading, students communicate ideas and reinforce essential science vocabulary and ideas about aurora shapes.

Objectives:

The student will:

- study the four aurora shapes through literature and art;
- examine the order in which aurora shapes occur throughout the night;
- create aurora shape art;
- write a summary of aurora shapes using descriptive words;
- create a booklet containing art and written descriptions for each aurora shape; and
- share their work and ideas with peers to reinforce essential science vocabulary and ideas about aurora shapes.

Materials:

- Black construction paper (8" x 11")
- White construction paper (8" x 11")
- White lined paper (7" x 2")
- Glue
- Glitter glue
- Sponges
- Pillow stuffing
- Spaghetti noodles
- White pigment ink stamp pad
- Rulers and pencils
- STUDENT WORKSHEET: "Aurora Shapes"
- Watercolors
- Chalk
- Craypas
- Tempera paint (green, purple, red)
- Black permanent markers
- Alphabet stamps (wooden/rubber)
- VISUAL AID: "Quiet Arcs"
- VISUAL AID: "Rayed Bands"
- VISUAL AID: "Patches"
- VISUAL AID: "Long Aurora Rays"

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Activity Procedure:

1. Hand out the STUDENT WORKSHEET: “Aurora Shapes.” Ask students to list the four shapes of the aurora in order of appearance throughout the night: quiet arc, rayed bands, patches, and long aurora rays. Explain that a corona is actually a rayed bands shape seen from underneath.
2. Instruct students to create a booklet containing art and written descriptions of each aurora shape.
3. To avoid confusion, students should illustrate and write the text for one shape at a time. The recommended artwork and text for each aurora shape is described in the following sections. (NOTE: The completion of this lesson will take longer than one class period.)

Shape #1: Quiet Arc

1. Show VISUAL AID: “Quiet Arc” and read the shape description. Ask students to write the description of the quiet arc aurora shape on a piece of paper.
2. **GLITTER ART:** Hand out black construction paper, chalk, and glitter glue. Ask students to create a quiet arc.
3. Afterwards, ask students to glue their written description to the bottom of their artwork.

Shape #2: Rayed Bands

1. Show VISUAL AID: “Rayed Bands” and read the shape description. Ask students to write the description of the rayed bands aurora shape on a piece of paper.
2. **SPONGE ART:** Hand out white construction paper, watercolors, sponges, and black permanent markers. Demonstrate how to create rayed bands using watercolors by dampening the paper with a sponge and mixing watercolors in a lid to create the colors of the aurora. Students will not need to paint the foreground until after their artwork is completely dry. Once dry, they can add the outline shapes of trees or other items in the foreground with a black permanent marker.
3. Afterwards, ask students to glue their written description to the bottom of their artwork.

Shape #3: Patches

1. Show VISUAL AID: “Patches” and read the shape description. Ask students to write the description of the patches aurora shape on a piece of paper.
2. **PILLOW ART:** Hand out black or white construction paper, pieces of pillow stuffing, glue, and watercolors (or tempera paint). Ask students to create patches by dipping or gluing. Dipping involves dunking pieces of pillow stuffing into water colors or tempera paint, blotting the colored stuffing on paper towels to remove excess moisture, then using the stuffing like a paint brush to imprint clouds of color on white construction paper. Gluing initially involves the same process, but ends with gluing the colored pieces of stuffing to black construction paper.
3. Afterwards, ask students to glue their written description to the bottom of their artwork.

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Shape #4: Long Aurora Rays

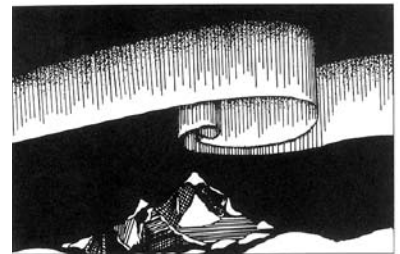
1. Show VISUAL AID: “Long Aurora Rays” and read the shape description. Ask students to write the description of the long aurora rays aurora shape on a piece of paper.
2. **NOODLE ART:** Hand out black or white construction paper, noodles, and tempera paint. Ask students to create long aurora rays by dipping a noodle into the tempera paint and then placing the noodle briefly on the page to create lines of color that resemble long aurora rays.
3. Ask students to glue their written description to the bottom of their artwork.

Creating the Aurora Title Page and Booklet

1. Ask students to put their artwork and descriptive summaries of aurora shapes in the order in which they appear throughout the night: quiet arc, rayed bands, patches, and long aurora rays.
2. Instruct students to create a cover for the front of their booklets.
3. Ask students to brainstorm possible titles for their booklets. Some possibilities include: Dancing Lights, Shimmering Lights, Aurora Borealis, Dancers in the Sky, Fox Fire, etc.
4. Ask students to use alphabet stamps to create their titles. Demonstrate laying out an example cover that says, “Aurora Shapes.” Show students how to make pencil marks to guide alphabet stamps so they will not run out of room or clump letters together.
5. **CRAYPAS ART:** Hand out black construction paper and Craypas. Ask students to create an aurora of any shape on the front cover.
6. Ask students to bind their booklet using a stapler or a hole punch. Hole punched booklets can be sewn together with yarn or put in a notebook.

Answers to Student Worksheet:

1. *true*
2. *A. quiet arcs, rayed bands, patches, long aurora rays*



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1. True or False: The rayed band aurora shape lines up with Earth's magnetic field.
2. Aurora shapes occur in which order during the night?
 - A) quiet arcs, rayed bands, patches, long aurora rays
 - B) rayed bands, quiet arcs, patches, long aurora rays
 - C) quiet arcs, long aurora rays, rayed bands, patches
 - D) patches, quiet arcs, long aurora rays, rayed bands

