Eclipse Chalk Art

Prep Time: 15 min

Activity Time: 30 min.

Materials Needed:

- Paper, cardstock <Black or Blue>
- White chalk, non-toxic
- Pencil
- Scissors
- Masking Tape
- Circle templates <cardstock, file folders>
- Optional: brightly colored construction paper or foam sheets for a horizon detail
- Optional: tissues

Preparations:

- Depending on age group may want to have supplies set up.
- Have templates precut.
- Help smaller children by holding the circle in place so that it does not move around.

SAFETY FIRST!!!!!!!!!

Heliophysics

Lesson 2

Objectives:

Students will:

- Explore the sun by creating chalk art
- Learn about the Sun's corona

Next Generation Science Standards:

Website link and videos:

- https://solarsystem.nasa.gov/resources/2711/eclipse-chalk-art/
- https://spaceplace.nasa.gov/sun-corona/en/

Key Concepts:

- Sun; Origins & behaviors solar wind, energetic particles, magnetic fields; magnetospheres

Introduction:

Observing a total solar eclipse can be an exciting, once in a lifetime experience. Long before there were cameras or telescopes, eclipse watchers recorded what they saw in the sky in words, drawings, and paintings. Now, you are going to have fun creating your own picture of a solar eclipse with chalk and paper.

Image: NASA.

Key Words:

Corona: outermost layer of the Sun; it can not be seen with the naked eye except during a total solar eclipse, or with the use of a coronagraph; does not have an upper limit.

Prominences: structures in the corona made of relatively cool plasma supported by magnetic fields.

Polar Plumes: bright structures of fast-flowing solar material coming from coronal holes, which are more common near, but not exclusive to the poles.

Coronal Loops: found around sunspots and in the active regions

Helmet Streamers: large, cap-like coronal structures with long pointed peaks that usually lie over sunspots and active regions.

Discussion/Follow Up Questions:

- What is a total solar eclipse?

Extension:

* Let student/campers decorate

Procedure:

The Sun's Corona, which is Latin for crown, is the outermost part of the atmosphere. It is a jacket of extremely hot gases that reaches far into space. The magnetic energy and heat on the surface of the Sun makes it an incredibly active place. From the corona comes the solar wind that travels through the solar system.

How To:

1. Make circle templates on some type of stiff paper preferably cardstock. You can make the template by tracing around the masking tape roll which provides a circle. Ensure to make several of these or if working with older students/ campers allow them to create their own templates.
2. Place the template on a piece of dark paper– it is nit advisable to use construction paper for this part. The circle can either be held down or secured in place with a small piece of tape. If working with younger students/participants you may want to help them with this part.
3. Draw a thick circle of chalk around the circle. You may want to go around 2-3 times. This part may not necessarily be neat.
4. Holding the template in place, smudge the chalk away from the center of the circle using a finger to create the corona of the sun.
5. When you are done smudging, remove the circle template from the paper.
6. You can now add words, pictures or fun designs.
7. Have students/campers show their work to the others in their group and have them talk about what they have learned.
8. Be sure to review with students/participants the keys words and topics to ensure understanding of the lesson.

Left: Sketch of 1860 total solar eclipse showing a coronal mass ejection. *Image: G. Temple/NASA.*

Right: First photograph of a solar eclipse, in 1860. *Image: C. Young/NASA.*