



Sun-Earth Day

Celebrate the Connection!

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Public Outreach:

Make and Take Activities

What You'll Need

- Copies of My Solar Eclipse hand-out (see next page)
- Images of the Sun showing its different structures (see related link below). Optional: label the names of the structures (flares, sunspots, magnetic loops, etc.)
- Black Construction Paper
- White Construction Paper
- Small paper plate or bowl
- Pencils
- Acrylic or Tempera Poster Paint in Red, Orange, and Yellow
- Foam paintbrushes or cut up sponges
- Bowls or cups for paint
- Scissors
- Glue, gluesticks, or paste
- Brass brad fastener
- Hole puncher
- Optional: Stapler

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My Solar Eclipse – A Paper Model

About this Activity

Make your own paper model of the Sun and a total solar eclipse using paint and construction paper. Label the structures on the Sun, and make the moon move on a pivot to create the eclipse!

Right: An image of a complete "My Solar Eclipse," with labels, painted structures of the Sun, and moveable Moon.

Preparation

Have the paint ready in different bowls or cups. It helps to have a set of each color for every three or four participants, and an extra bowl or cup to place paintbrushes or sponges in between uses. Depending on the age group of your audience, you may want to use only washable paints, and to have the table covered with a tablecloth or newspapers to minimize cleanup.

Make sure you have a large clear space that is free of wind and out of the way of foot traffic to lay the papers flat while the paint dries, and have something to keep them from flipping over before they are dry (tucking a corner under a chair or table leg works well). You cannot hang these up to dry as the paint may drip.

To Do and Notice

- 1) Have the participants study the images of the Sun, and explain the names of the different structures (flares, sunspots, magnetic loops, etc.)
- 2) Give each participant one piece of black construction paper and a paper plate. Have the participant use the paper plate to trace a circle in the middle of the black construction paper. This will serve as the outline of the Sun. Save the paper plate to trace the Moon later.
- 3) Have the participants use the paintbrushes or sponges to dab yellow paint into the circle. Be sure they leave small spots of the black paper showing through (for sunspots and flares). It is okay to paint outside the circle because it creates the Sun's corona, and you can make loops for the prominences and magnetic loops. Avoid brushing the paint because you want a granular appearance to the Sun!
- 4) Have the participant dab orange and red paint directly on top of the wet yellow paint, leaving some yellow and black areas showing. Have the participants write their name in pencil lightly along the edge of the paper so they know which Sun is theirs. Set the painted Sun aside in a clear area to dry.
- 5) Give each participant another sheet of black construction paper and one piece of construction paper. Have them glue them together back to back. Then, using the same paper plate as above, trace a circle for the Moon and cut it out.
- 6) Pass out the My Solar Eclipse handout to each participant. Have them fill out their name and use as many labels as they like for the vocabulary they learned about the structures of the Sun. Have them cut the labels out and paste them to the Moon ("Moon in Light" is the white side, and "Moon in Shadow" is the black side), and the painted Sun if it is dry.
- 7) Have the participants punch holes at the top of their Moon and attach them to their painted Sun with a brad, with the black side of the Moon facing outward. Optional: Ask them first how to put the pieces of the eclipse model together, such as which side of the Moon disk (when placed over the Sun painting) is in the Sun's light, and which is in shadow.

Activity Notes

Optional: You can create a "book" by giving the participants two sheets of black construction paper in step two. Follow steps three and four as above, but have them dab on more paint (you need enough to "smoosh" into the second sheet of black paper). While the paint is still wet, ask the participants to place the second



piece of black paper directly on the painted paper and gently rub the sandwiched papers to blend the colors. Then they can peel apart the two pieces of paper and set them both aside to dry.

One Sun can be used for the front cover of the book, and the other for the back cover. The labels for the structures can be reserved for the back cover rather than the front cover (step 6) like the photograph above. The book can then be filled with worksheets or other handouts, and stapled when complete.

This activity is adapted from Eye on the Sky "Our Star the Sun" Classroom Activity #13. Making a Solar Eclipse Book: The Sun and Moon During Solar Eclipse. See link below for full activity and additional lesson plans.



Related Websites

Eye on the Sky: Lessons for the Elementary Classroom

<http://eyeonthesky.org>

Sun-Earth Media Viewer: Images, Movies, & Illustrations of the Sun

<http://ds9.ssl.berkeley.edu/viewer/flash/flash.html>