

Make an Pinhole Eclipse Viewer

Aluminum Foil Version

Note: This activity works well on a sunny day. There is a separate lesson for exploring pinhole viewers indoors, for when it is cloudy or you can't go outside.

Supplies

- 2 index cards 4 x 6
- Aluminum foil
- Scissors
- Tape
- 1 push pin

To Do

1. Figure out a safe way to cut a rectangular hole in the middle of one of the index cards. Consider folding the index card. The exact size of the hole is not important. 1 cm x 1 cm is good.
2. Put aluminum foil over the hole in the index card. Secure it.
3. Put the cleanest, smallest hole you can in the aluminum foil.
4. Go outside with both cards. You need a sunny day for this to work!
5. Stand with your back to the Sun and find your shadow.
6. Hold the card with the pinhole in the aluminum foil over your shoulder. Find the shadow of the card on the ground.
7. Take the card without the pinhole and hold it at arm's length.
8. Move the second card so that its shadow overlaps the first card's shadow.
9. Look closely at the second card. You should be able to find an image of the Sun. On a regular, non-eclipse day, the image of the Sun will be round. On an eclipse day you will be able to see the Moon blocking part of the Sun.

Additional To Do

- Move the second card closer and further away from the first card. What do you notice?

To Think About

- Does this pinhole viewer work better than the simpler version that did not use aluminum foil? Why or why not?

Additional To Do Continued

- Does the size of the hole in the aluminum foil matter? Does its shape? Explore and make notes.
- It is likely you will ruin your pinhole viewer when experimenting with it. That is OK, just make sure to fix it before taking it out to view the eclipse. You will likely just need to replace the aluminum foil and put the best possible, based on your experiments, hole in the aluminum foil.