

## Soda box solar viewer

Materials:  
Empty 12 can soda box  
Tape  
Paper  
Scissors  
Aluminum foil  
Safety pin



Procedures for building the viewer:

1. Take the empty soda can box and cut out a portion of the solid end of the box. You will need a hole about three inches wide.



2. Cut a piece of aluminum foil to fit over the cut in the top of the box you just made. The foil needs to completely cover the hole and there should be no tears in the aluminum foil. Tape the foil in place so that it will not come off the end of the box.



3. Cut a piece of paper (color doesn't matter here) to fit over the hole of the soda box handle. The paper should completely block the sunlight from entering there. Tape into place.



4. In the space where the soda box tears open (where the cans come out), cut a piece of white paper to fit along the bottom. Tape it so that it fits on the inside of the box directly opposite the aluminum foil. (This is where the image of the sun will appear.)

5. Make sure that along all the corners that no sunlight is coming through to the inside of the box. This will dilute the image of the sun.

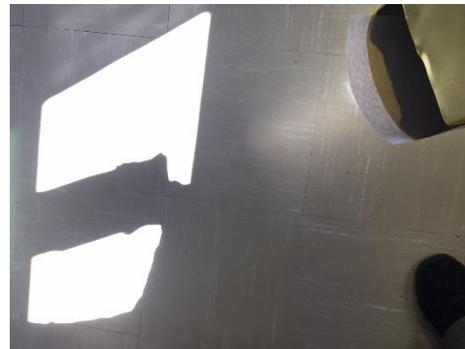


6. At the top of the viewer, take the safety pin and carefully poke a single hole in the aluminum foil.

Procedures for using the viewers:

Note: You need to have a sunny sky in order to properly use the viewers. However, if the skies are cloudy the day you use the viewers, you can substitute a lightbulb (similar to that used in the explore activity).

1. Stand with your back to the sun.
2. Lift the viewer so that the bottom is at eye level. Lift the viewer so that the bottom is at eye level. The aluminum foil should be pointed toward the sun. Align the shadow so that the disk of the sun is visible in the viewer. It should look like this:



This is wrong. (The shadow is too long) →



←This is Right (The shadow is the square shape of the box.)

3. If the viewer is properly aligned, you should see the disk of the sun appear in the viewer at the bottom, opposite the aluminum foil.



4. Have students practice viewing the sun using these procedures so that the day of the eclipse they understand how to use the viewers.