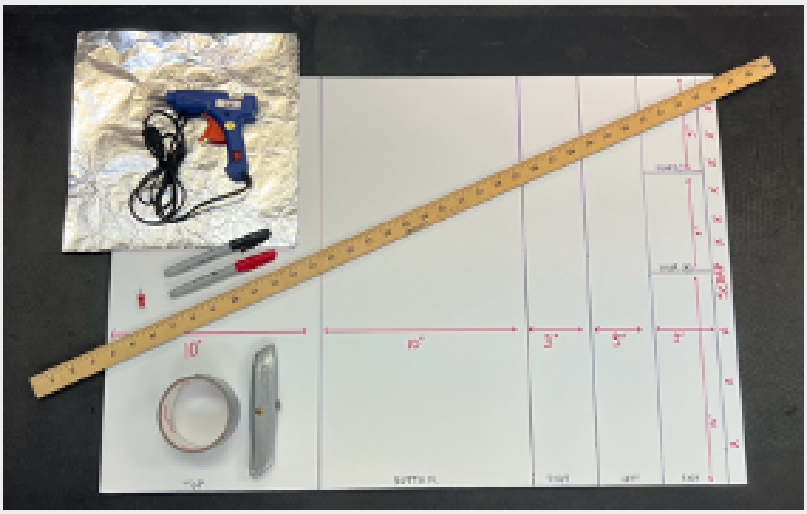
TEXAS TECH OUTDOOR LEARNING CENTER SAFE SOLAR PINHOLE VIEWER

There are so many cool things to observe during a solar eclipse. For many of us, this is a once in a lifetime event. While it is never safe to look at the Sun with your naked eye, there are plenty of ways you can safely view a solar eclipse. Certified solar glasses and filters are a good choice, but not always available. With one piece of 20-inch by 30-inch foam board and some common household supplies, you can build your own safe solar pinhole viewer. Follow these instructions and diagrams to build your own!

MATERIALS



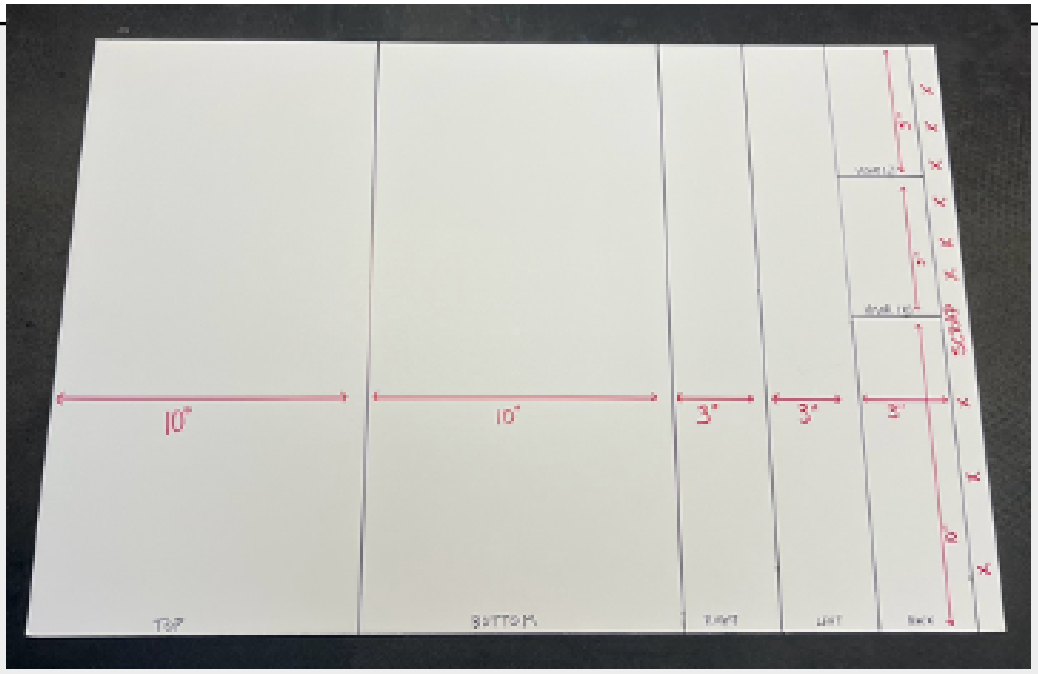
1 piece of white 20X30 inch foam board.
(This is the most common size found in stores.)
1 piece of aluminum foil about 12 inches
square
A hot glue gun (optional, but very helpful)
Duct tape
Yard stick to measure with
Permanent marker
Box cutter
Push Pin

HELPFUL HINTS

The longer the box, the larger the projected image of the Sun you will see. However, we still want it so that young hands can still hold the viewer. Using the width of the foam board as the length of the viewer will cut down on waste and trimming. It is also easier to mark all the measurements, and then cut.

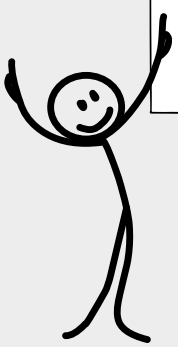
1. MARK THE FOAM BOARD (IT IS GOOD TO LABEL EACH SECTION)

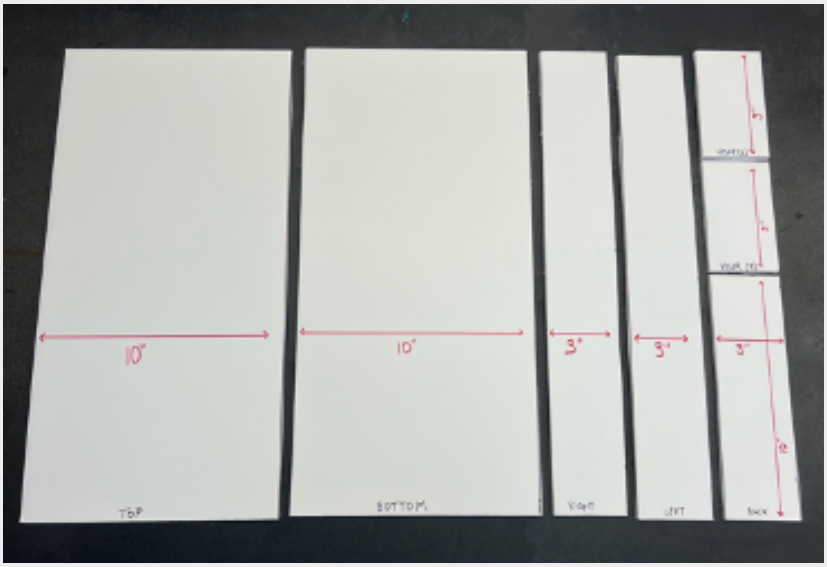
1. Measure and mark 10 inches from the left. This will be the top of the viewer.
2. Measure and mark another 10 inches and this will be bottom of the viewer.
3. Measure and mark 3 inches next, this is your right side.
4. Measure and mark another 3 inches to be your left side.
5. Measure and mark a last 3 inches to be your back and visors.
6. On the last section, you will divide it into 3 parts;
    - A 10 inch by 3 inch piece for the back.
    - A 5 inch by 3 inch piece for the right visor.
    - A 5 inch by 3 inch piece for the left visor



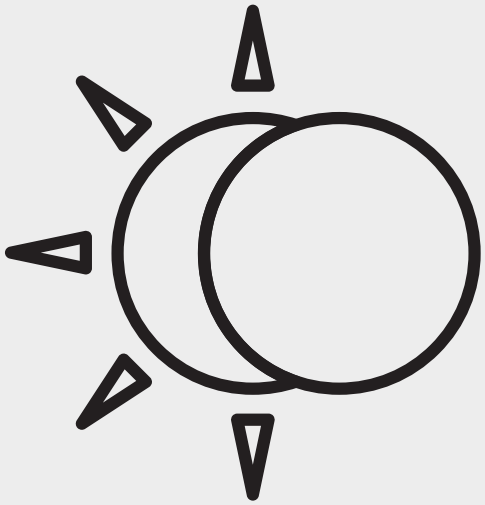
2. CUT OUT YOUR PIECES

Be careful of what is underneath and of your fingers!

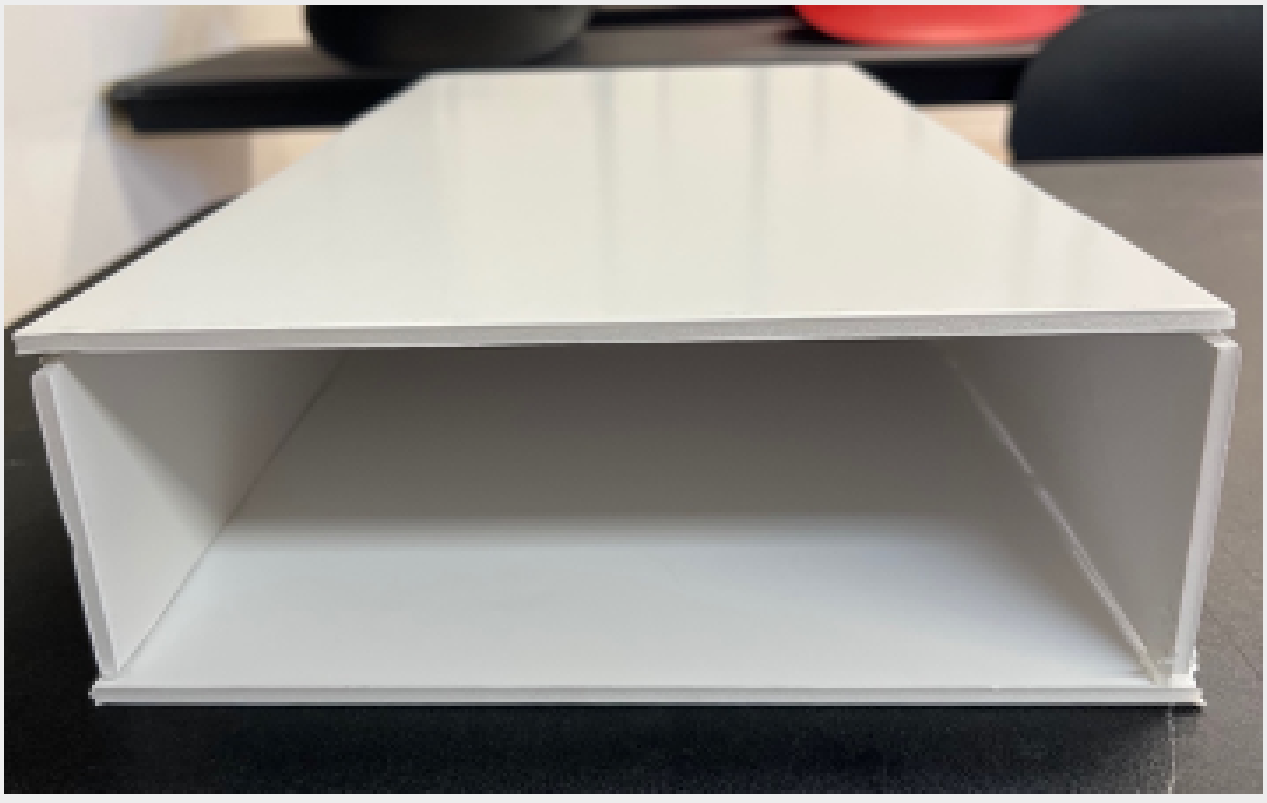




3. GLUE OR TAPE THE LEFT, RIGHT, AND BACK PIECES TO THE BOTTOM OF YOUR VIEWER.



4. GLUE OR TAPE THE TOP TO THE SIDES OF THE VIEWER.



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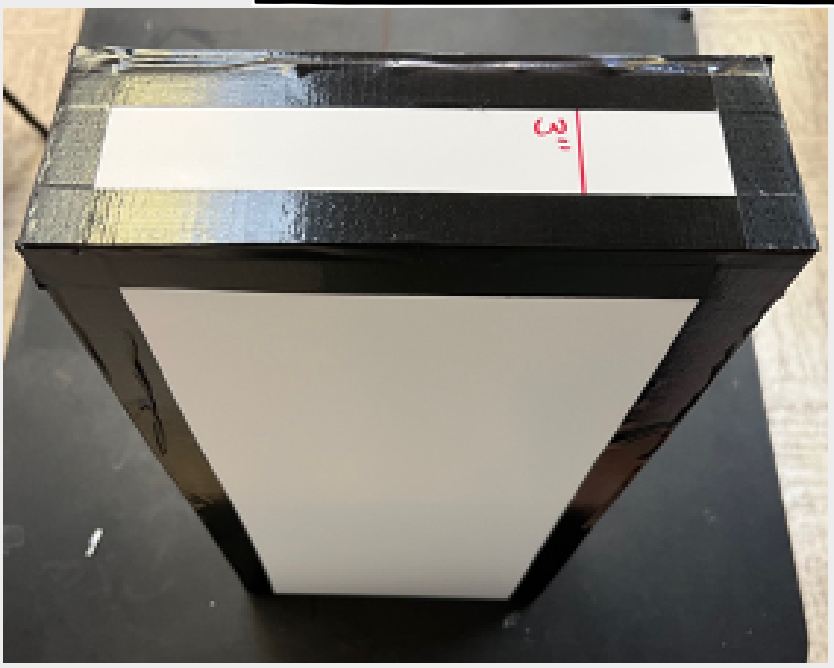
5. TAPE UP ALL THE SEAMS TO PREVENT LIGHT FROM COMING IN.

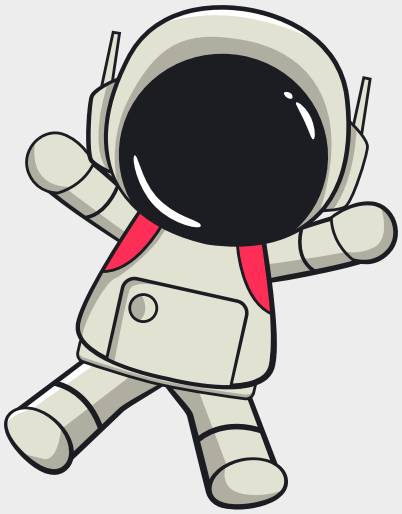


6. TAPE THE FOIL OVER HALF OF THE OPEN PART OF YOUR VIEWER.

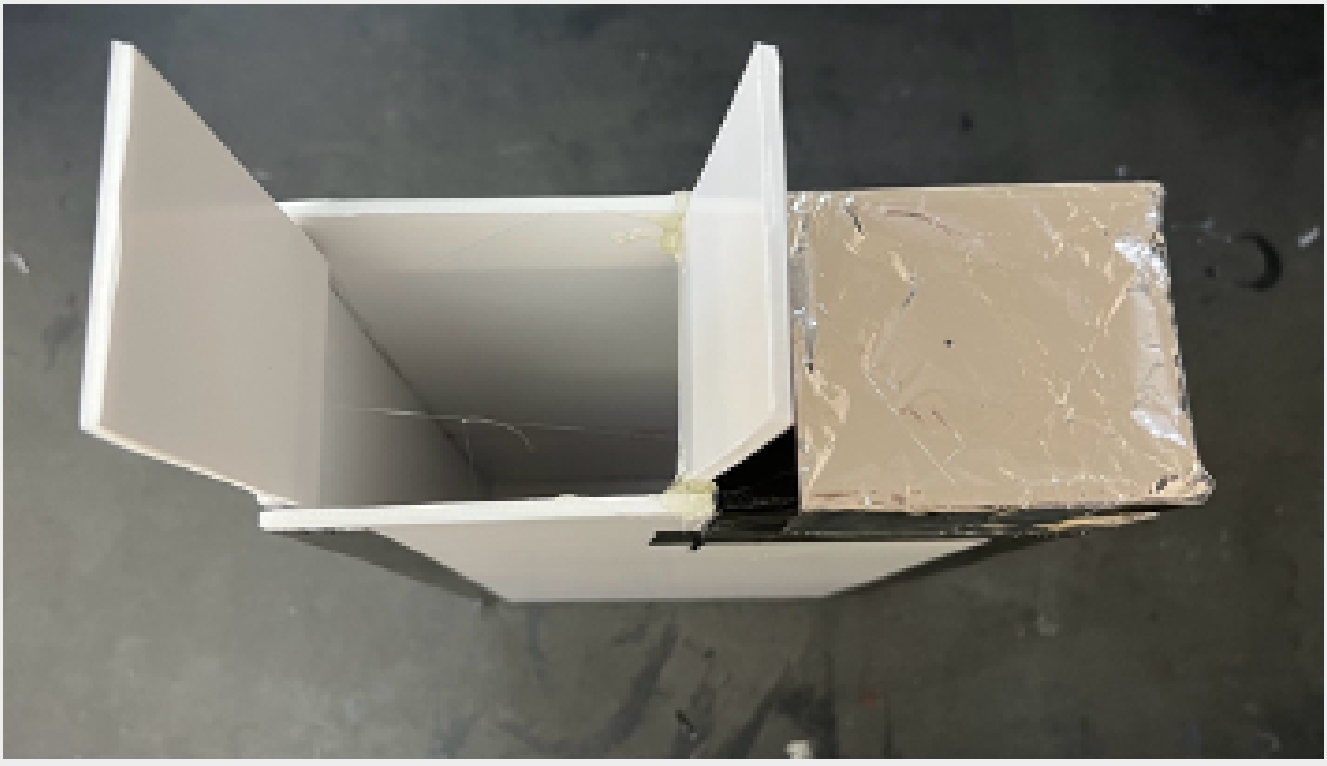
For most people, it is best to do this on the right side, and a 6" x 12" wide piece of foil works great!

7. POKE A HOLE IN THE CENTER OF THE FOIL.

A small hole will do. This is what will make your pinhole image.!

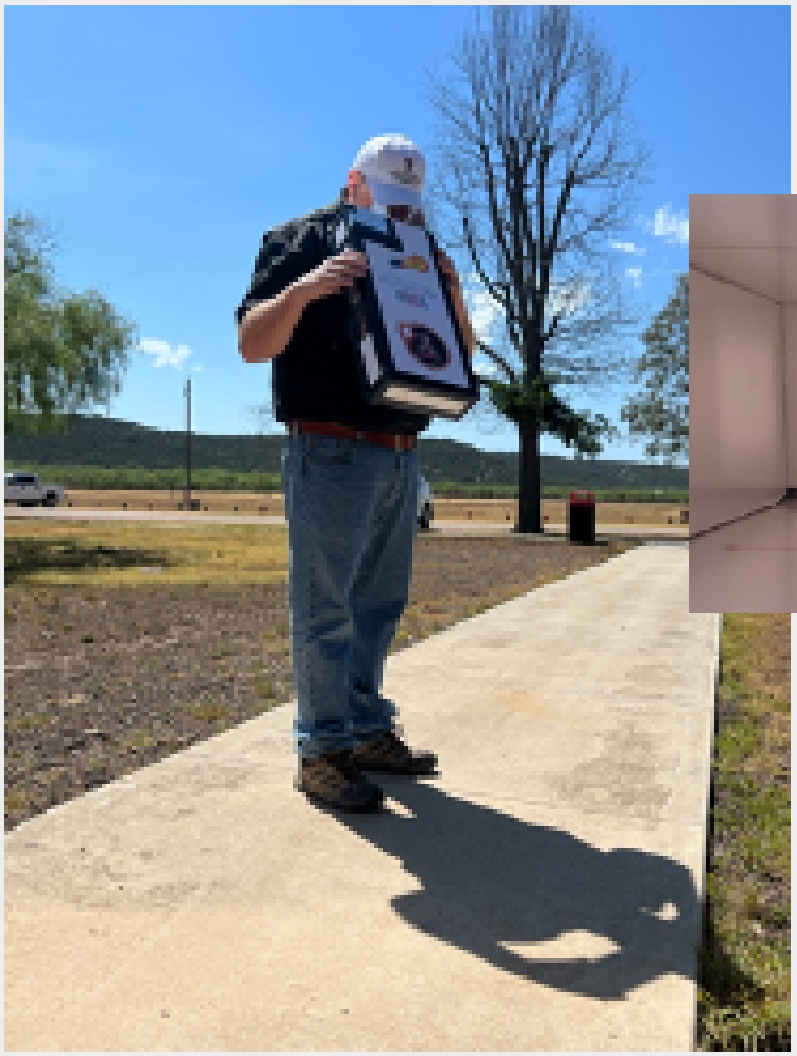


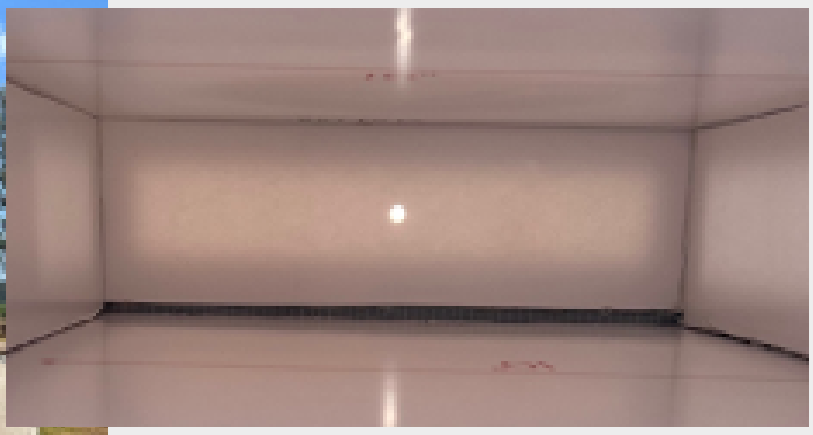
8. GLUE THE RIGHT AND LEFT VISOR IN THE OPENING LEFT OF THE FOIL



9. DECORATE WITH ANY OUT OF THIS WORLD DECORATIONS YOU CAN COME UP WITH. WE ARE PARTIAL TO TTU LOGOS.

To see the Sun's image, point the hole in the foil towards the Sun. You will be looking inside the viewer between the visors with the Sun to your back. To find the Sun's image, move the viewer around until the white spot of light is formed on the back of the box. That is the image of the Sun. You will be able to follow as the Sun is slowly being blocked out by the Moon during the eclipse. Remember it is never safe to look at the Sun without solar glasses. Do not look at the Sun through the pinhole, only look at the projection of the Sun inside your viewer.
Happy Viewing!





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