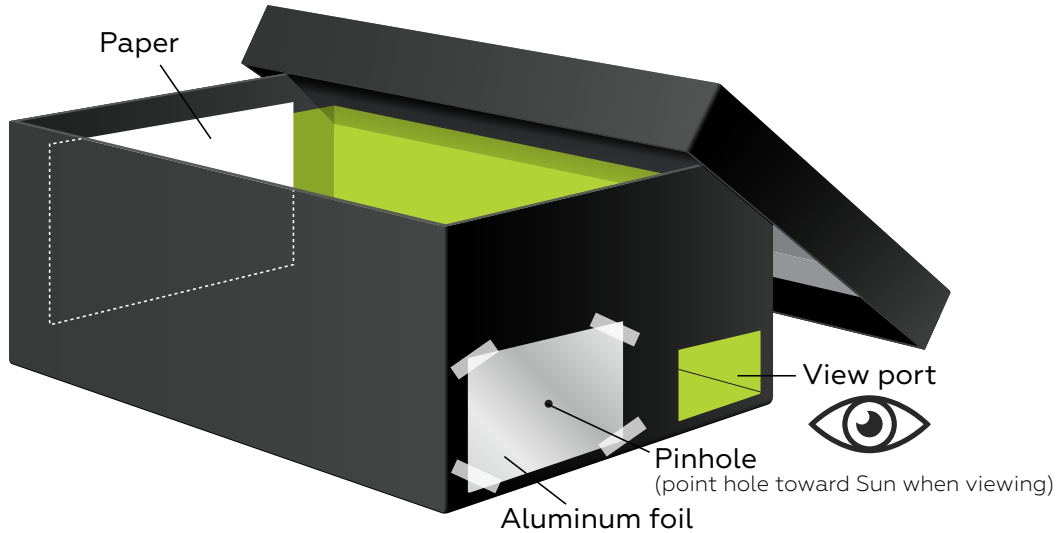


# 3.10

## A Safe Way to Observe the Sun

### PINHOLE PROJECTION IN A BOX



1. Use a shoe box or a long cylindrical or triangular tube that a mailing service might use to mail rolled up posters or prints. The longer the box, the bigger the image will be. To make a longer box, you can tape together two boxes and just remove the dividing wall between them.
2. Now cut a hole in one end of the box and tape a piece of aluminum foil over the hole.
3. With a pin, make a small hole in the middle of the aluminum foil.
4. Tape a piece of white paper to the opposite end of the box. This is where the image will be.
5. Cut a large rectangular hole on one side of the box so you can look at the image projected from the pinhole to the opposite side (see diagram). If the shoe box has no cover, the open side can be your viewing portal.
6. Stand with the Sun behind you. Point the pinhole end of the box toward the Sun until, looking through the opening on the side, you see an image of the Sun on the opposite end from the pinhole. The longer the box is, the larger the image of the Sun will be.
7. Be careful not to look at the Sun! The idea is to have the pinhole pointing at the Sun and your eyes pointing at the image in the opposite direction.
8. This method doesn't show you much detail, but it is useful during a partial eclipse to see the "bite" the Moon takes out of the Sun.

#### Safety note:

Looking directly at the Sun is dangerous to your eyes, so don't try viewing the Sun without your teacher's guidance.

