ECLIPSE VIEWER

Environment & Outdoors

THE ADVENTURE:

The next time you want to catch a solar eclipse, build a pinhole projector to safely catch the action. Light travels through the pinhole, creating an image on a white screen that you can view safely. A box viewer will limit external light, while using two pieces of card will make the device more portable.

ONLINE RESOURCES:

- DIY: Simple Pinhole Projector for Solar Eclipses
- How to View a Solar Eclipse
- What is a solar eclipse?

SAFETY TIP:

You should never look directly at the sun without some kind of eye protection. **Using a telescope, binoculars or camera to look directly at the sun can be particularly damaging.** This is especially true during a solar eclipse. While you may not feel any discomfort, the light-sensing cells on your can become overstimulated, causing permanent damage.

PLAN:

- When is the next solar eclipse in your area? Where will you be able to watch it?
- What style of projector will you build?
- What materials and tools do you need to build your projector?
- What do you expect to see through the projector?

DO:

- Collect your materials and build your projector!
- Make a small pinhole in the sheet or card.
- Make a screen on to which the image will be projected.
- With your back to the sun, hold up the pinhole and screen so that the light travels through the pinhole onto the screen. What do you see?
- How can you make the image larger?

REVIEW:

- What do you know now that you did not know before?
- What did you see on the screen?
- How was the image affected by the distance between the pinhole and the screen?
- What elements of STEM were in this adventure? Science? Technology? Engineering? Mathematics?
- What did you like about this adventure? What did you not like? How would you do this adventure differently?