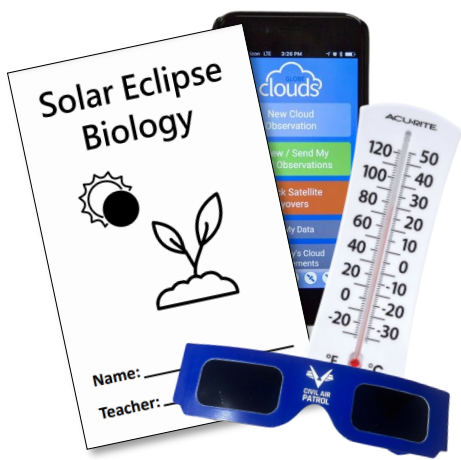


CAP Solar Eclipse Classroom Biology Educator Guide

On April 8, 2024 a solar eclipse will be crossing North America. To take advantage of this unique astronomic event, NASA has invited members of the public to help collect eclipse data.

To help as many students as possible have the opportunity to become solar eclipse citizen scientists, the Civil Air Patrol created this classroom activity that supports the GLOBE Eclipse project. The scientific measurements that teachers and their students make and submit will become part of a NASA dataset.



Mission Materials:

- CAP Solar Eclipse Classroom Biology Educator Guide
- Smartphone or Tablet loaded with the GLOBE Observer App
- Solar Eclipse Biology Student Data Books
- Thermometer (*with decimals*)
- Solar Glasses
- Living Plants (*These may needed to be potted plants*)
- Optional: Recorder
- Optional: Solar Eclipse Biology Parent Guide

Before the Eclipse:

To be ready for the Solar Eclipse, tackle the following steps at least 72 hours before April 8.

- **Register as a CAP Solar Eclipse Classroom** at <http://tinyurl.com/CAP-Eclipse-Classroom>
- **Gather Mission Materials** (*aka print out data books, locate scientific instruments, download the GLOBE Observer App from <https://observer.globe.gov/about/get-the-app>, etc.*)
- **Complete the GLOBE Eclipse Training.** This training is located in the GLOBE Observer App, will take less than 15 minutes to complete, and will be available March 18th.
- **Look up the local times for the Start of the Eclipse, Solar Eclipse Maximum, and the End of the Eclipse** using this link <https://eclipsesoundscapes.org/eclipse-lookup-tool/>
- **Provide Students with a Solar Eclipse Briefing.** Registered CAP Solar Eclipse Classrooms will have the option to download briefing slides, access a video, or request Civil Air Patrol volunteer to provide an in person or virtual eclipse briefing for their class/school.

Biology Educator Guide Cont.

During the Eclipse:

- **Break students into groups of 3 to 5 students.**
- **Pass out the Solar Eclipse Astronomy Student Data Books.**
- **At the Beginning of the Eclipse** (*referred to as 1st Contact*) - Have the students make their first set of plant and animal observations in their data books.
- **1 Hour Before Solar Eclipse Maximum** - Begin logging air temperature measurements in student data books and the GLOBE Observer App every 10 minutes.
- **30 Minutes Before Solar Eclipse Maximum** - Have students make their second set of plant and animal observations. Begin logging air temperature measurements in student data books and the GLOBE Observer App every 5 minutes.
- **10 Minutes Before Solar Eclipse Maximum** - Have students make their third plant and animal observations. Continue making air temperature measurements every 5 minutes.
- **Solar Eclipse Maximum** - Give students time to experience the peak of the solar eclipse at your location. Then have them make their fourth set of plant and animal observations in their data book. Continue to log air temperature measurements every 5 minutes.
- **10 Minutes After Solar Eclipse Maximum** - Have students make their fifth set of plant and animal observations. Continue to log air temperature measurements every 5 minutes.
- **30 Minutes After Solar Eclipse Maximum** - Have students make their sixth set of plant and animal observations. Log air temperatures measurements in student data books and the GLOBE Observer App every 10 minutes.
- **1 Hour After Solar Eclipse Maximum** - Stop logging air temperatures.
- **At the End of the Solar Eclipse** (*referred to as 4th Contact*) - Have students make their seventh and final solar eclipse observations in their student data books.

After the Eclipse:

- **Graph and Discuss Your Results.** After the eclipse work together as a class to process the data you collected and discuss any trends you noticed.
- **Submit Your Data.** Educators can submit any animal observations to NASA via this form: <https://eclipsesoundscapes.org/observer/#submit> Make sure to upload any air temperature data that your class collected via the GLOBE Observer app to NASA. If for any reason the App does not work the day of the Eclipse, CAP does have a backup method for collecting the data.
- **Request A Citizen Science Certificate For Your Classroom.** Within 24 hours of the end of the Eclipse, CAP Solar Eclipse Classroom educators will receive a survey. Complete the 5-minute survey to receive an official Solar Eclipse Citizen Science Certificate for your classroom.
- **Watch For The Results.** In the coming months, we will be working with the GLOBE Observer Team to share the discoveries made during the 2024 Solar Eclipse with your classroom.
- **Find Your Classroom's Next Aerospace Education Adventure at:**
<https://www.gocivilairpatrol.com/programs/aerospace-education>