

Northern Vermont will be in the final path of totality for a total solar eclipse on Monday, April 8, 2024. This means Vermonters will experience up to three and a half minutes of complete or partial darkness between 3:20 p.m. and 3:30 p.m.—the only total solar eclipse to travel across Mexico, the United States, and Canada during the 21st century! Find out if you're in the path of totality, how to view the solar eclipse safely, and access more educational resources at vermontpublic.org/eclipse.

FOR WHO? THE MOON, SUN, AND YOU! This learning guide is made for families, caregivers, and teachers of children from Grade 3 to Grade 5.

HOW

WATCH: ECHO's Science and Stories on Vermont Public broadcast or YouTube. Elizabeth will read and help us learn about *Moon Bear's Shadow* by Frank Asch and *Someone is Eating the Sun* by Ruth Sonneborn.

LISTEN: To the *But Why* Podcast about eclipse events in April

ASK: Be curious! Ask our *But Why* team questions...

THEN join Vermont Public and the Fairbanks Museum for extensive coverage of this epic event, including live total solar eclipse coverage from *But Why* host and executive producer Jane Lindholm and astronomy expert Mark Breen from the Fairbanks Museum and Planetarium. Find all the ways to follow live coverage at vermontpublic.org/eclipse.

WHY

College, Careers, and Civics Life (C3):

1. Change, Continuity, and Context: D2.His.1.3-5. Create and use a chronological sequence of related events to compare developments that happened at the same time.
2. Perspectives: D2.His.5.3-5. Explain connections among historical contexts and people's perspectives at the time.

Next Generation Science Standards (NGSS):

1. Science and Engineering Practice: Develop and use Models to describe phenomena.
2. Cross-Cutting Concepts: Patterns, Cause and Effect, and Systems and System Models.



Vermont Public has curated **PBS LearningMedia** resources for Vermont educators of all age bands at vermontpublic.org/educators. And look for the **But Why: Adventures! Northeast Nature** series, made for monthly classroom use throughout the year.

PLAY TO PREPARE with Vermont Public

Discover what makes this eclipse possible by understanding the position of the Moon, Sun, and Earth on April 8, 2024.

FIRST, measure the length of your arm from the top of your shoulder to the base of your thumb. Your eye height is the perspective of the Earth. Your model of the Moon is held at the end of your arm.

NEXT, use scissors to cut out your moon model from the sheet of paper carefully tape it to the tip of a toothpick, making sure its circular shape isn't obscured by the tape.

THEN, use a compass or round shape to trace a circle with a diameter at least 10 times larger than the Moon model. This circle will be your Sun. Tape your Sun model to a wall where there's enough space for you to back away from it.

NOW, face the paper Sun taped to the wall and stand a few feet away. Then, close one eye. In this model, where you stand represents the position of Earth. Your open eye represents the position of an observer on Earth.

With your arm straight and your elbow locked, hold your paper Moon in front of your open eye. Carefully back away until the Moon (paper/toothpick in your hand) just barely covers the sun taped on the wall. Though the Sun is much larger than the Moon, and much farther away, from our point of view on Earth on April 8, 2024 the Moon can perfectly cover the far-away Sun, resulting in a total solar eclipse.

Materials:

- One sheet of 8.5 x 11 paper
- Scissors
- Tape
- Toothpick
- Objects that can be traced to make circles
- Measuring tape

CONVERSATIONS STARTERS

Many cultures throughout human history have believed that eclipses hold special meanings. What does darkness represent to you? What does light returning mean to you?

Can you write a story or a play, or draw a picture, that expresses the meaning you came up with? For literal thinkers, what facts interest you most about an eclipse?

Use a separate piece of paper to draw, write or explore your ideas.

SAFETY TIPS: Remember we all need special eclipse glasses or a viewer (shadow camera) to watch the eclipse event safely. For kids who are sensitive to sensory stimuli, remember that many children and adults are loud during nature events. Headphones or a quiet environment away from crowds may help the child experience the event without being overwhelmed.