Virtual Viewing Party: Great American Eclipse
A total solar eclipse will be visible on a special path across the United States on August 21, 2017. This astronomical event is a rare opportunity to witness the awesome beauty and power of our sun and consider the science and math that makes a total solar eclipse possible. The path of totality will travel from Oregon to South Carolina over the course of several hours and provide classrooms across the nation with a once in a lifetime change for this unique instructional opportunity.

To empower educators to take full advantage of this rare occasion, Discovery Education is providing a variety of resources that will serve as a catalyst for the inquiry process and ignite students’ natural sense of curiosity and wonder. Your class can view live footage of the eclipse, participate in a Twitter Chat with a world-renowned astronomer and explore engaging multimedia content, classroom resources and activities, eclipse maps and more! We’ve enclosed some helpful tips to help you put together a viewing party for your class, school or community.

**Viewing Party Essential Questions**
What scientific and mathematical properties allow for a total solar eclipse?
Why are total solar eclipses so powerful to people that witness them?

**Before the Viewing Party**
Review the components behind a total solar eclipse, according to your students’ needs and abilities. Ensure that students understand the sun/moon/earth and their spatial relationships and rotational patterns; day versus night and shadows; and the emotional response witnessing an eclipse can inspire.

**Solidify understanding by creating models in your classroom.**

**For younger students:** Cut out one large sun for the class and one smaller moon for each student. Allow each student to take the part of Earth, holding the moon in front of them, so it is between them and the classroom sun. Recreate the rotations and encourage students to try to create a total eclipse by holding the moon the up at the correct distance from themselves.

**For older students:** Have students develop a 3D model of a total solar eclipse. Challenge them to include a light source that mimics the sun and test their models to determine whether they are accurate.
Suggested Discovery Education Resources
We’ve selected resources according to grade bands, but you may find that resources in grade bands both above and below those you teach are appropriate and helpful. We’ve also provide lesson starters to help you along your way.

Don’t have access to Discovery Education Streaming or Science Techbook?
Start a free trial today to explore the the Solar Eclipse Content Collection at http://www.discoveryeducation.com/trials. Then simply type “Solar Eclipse” into the search window to locate all of the following resources.

Solar Eclipse: CONTENT COLLECTION
Grades K-12, Assorted Resources
A solar eclipse is a natural phenomenon that occurs when the moon passes between the sun and the earth. During a solar eclipse, the moon partially or totally blocks Earth’s view of the sun. This content collection was curated by our content team at Discovery Education to highlight some of the best resources in our services.

Our Sun: Physical Characteristics
Grades K-5; Video Segment [06:52]
The sun is a large ball of hot gases. It is much larger than Earth.

Introduction: The Moon
Grades K-5; Video Segment [01:24]
What do you think of when you look at the moon? This clip introduces the moon.

Day and Night
Grades K-8; Full Video [10:04]
What causes day and night? This engaging program uses vivid animations to help answer this often difficult-to-teach concept.

Space Exploration: Moon’s Surface
Grades 3-5; Video Segment [01:30]
Looking at the moon from Earth, you might not realize that the moon is covered with mountains, valleys, and millions of craters.

Total Solar Eclipse: Countdown Begins to Great American Eclipse of 2017
Grades 3-12; Full Video [00:36]
The United States has started counting down to a total solar eclipse that will be visible from coast to coast on August 21, 2017.

Catching a Solar Eclipse
Grades 6-8; Video Segment [04:30]
Shares astronomers’ perspectives of and attempts to view solar eclipses.

Viewing a Total Eclipse: An Event to Be Remembered
Grades 6-8; Video Segment [02:57]
See a total eclipse using special telescope filters and sunglasses.

The Sun’s Atmosphere
Grades 6-12; Video Segment [03:12]
During a solar eclipse in India, Brian Cox witnesses the Sun’s atmosphere.
Prepare Materials for Viewing and Post-Viewing Activity

- For Viewing: Whether your students will go outside to view the eclipse or will watch the Science Channel livestream from Oregon, use the Core Interactive Text: Project: Viewing an Eclipse to create pin-hole cameras or source/purchase approved glasses. (Even if students will exclusively watch the eclipse on livestream, creating pin-hole cameras helps students understand relevant STEM concepts.)

- Post-Viewing Activity: To maintain a smooth transition after viewing, create the Paper Chat discussion paper in advance. On butcher paper or poster board, draw a rough model of an eclipse using three circles to represent the sun, the moon, and the earth. In each circle, write one of the following prompts: What is the coolest part of a total solar eclipse? What do you think people said about eclipses before they had the science to explain them? Why is it important to study scientific events like this? [Note: For very young students, simplify these questions, as needed. You may make them yes/no questions and approach the activity as a poll.]

During the Eclipse/Viewing Party

Have all your discussion and activity in the time leading up to and following the total solar eclipse. In Oregon, the eclipse will take over 2 hours but will achieve totality for only about 2 minutes. During the 2 minutes or so when the sun is completely covered, encourage students to watch closely and quietly.

Watch Live

August 21st from 9a PT/12p ET – 11a PT/2p ET

Our partners at the Science Channel will be capturing every moment of the Great American Eclipse with live coverage on air and online. They will broadcast live in Madras, Oregon – one of the nation’s premier viewing spots – with astronomers and educators, in partnership with the Lowell Observatory. They will also provide live footage from other prime viewing destinations across America – and you’ll even get a glimpse of the eclipse taken from the International Space Station.

Join our Live Great American Eclipse Twitter Chat

August 21st from 9a PT/12p ET – 11a PT/ 2p ET @DiscoveryEd #CelebrateWithDE

Have your questions answered by world renowned astronomer and astrophysicist, Dr. Jeffrey Hall, Director of the Lowell Observatory. You can also share your experience and see pictures from classrooms around the country, as the Great American Eclipse travels from Oregon through South Carolina.

In the Path? A total solar eclipse is something best experienced with all the senses. If you are within the path of the total solar eclipse and are able to take your class outside to see it, we recommend that you do so. Be sure to provide your students with safety equipment (glasses or projectors that allow them to view the eclipse without damaging their eyes) and monitor its use.

After the Total Eclipse/Viewing Party

Refrain from discussion; keep the classroom quiet. Give the students 3-7 minutes to reflect on their experience as witnesses to a total solar eclipse. They may write or draw in a journal or simply think about what they saw.

After 3 minutes, invite students to the join the Paper Chat activity when they are ready. (See above for Paper Chat questions and preparations.) Paper Chats allow students to engage in silent discussion about a shared topic or experience. When appropriate, bring the Paper Chat activity to a close and have the class step back to debrief by discussing the comments on the papers.
As a class, select some of the most interesting reflections to share on Twitter @DiscoveryEd using #CelebratewithDE.

**Extension of the Viewing Party**
If your students have developed a particular interest in space, encourage them to watch *Generation Beyond: Mars Exploration Virtual Field Trip* (DE Streaming, DE Science Techbook; Grades K-12; Full Video [40:40]).

Thanks for celebrating the Great American Eclipse of 2017 with Discovery Education. Remind your students to remember to look to the sky again on April 8, 2024, when the next total solar eclipse will be visible from the United States.