ECLIPSE INVESTIGATION

Brief description

Students will investigate the eclipse for their local and personal context. They will explore historical and cultural connections with solar eclipses through various methods, including using online material, print material, and interviews.

School level: End of primary through secondary
Preparation time: None
Duration: 1-2 lessons and/or take-home activity (easy to scaffold to your liking!)
Keywords: eclipse, history, geography, journalism, social studies

Educational Goals

- ★ Investigate local history and perspectives about solar eclipses.
- ★ Develop critical investigation and formal writing skills.

Materials

- ❒ Worksheets.
- ❒ Access to computers and/or print material (e.g. school or local public library).

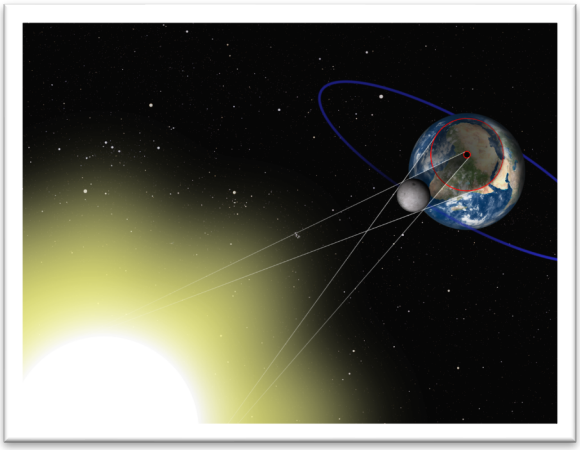
Introduction

A solar eclipse is a mesmerizing event that occurs when the Moon passes in between the Earth and the Sun in its orbit, causing the Sun to cast a shadow of the Moon onto the Earth. Solar eclipses are rare on Earth because the Earth, Moon, and Sun must be aligned perfectly so that the shadow of the Moon falls onto Earth and hits a populated land mass.

This activity enables students to explore the history of solar eclipses in their local or chosen geographic region and the impact, representation, and understanding of them in their communities. This activity can be shortened or scaled down as appropriate for student ability and available lesson time. Teachers should consider starting with an introduction to solar eclipses to ensure students have a basic understanding of the phenomenon. From there, you can mix and match the three attached worksheets based on your students and timeframe. One possible process is provided here where students can work in pairs or small groups, but students can also work individually. It is recommended for students to at least cover the

Investigate the Eclipse worksheet, as this naturally leads into the Eclipse News worksheet and provides a foundation for the Eclipse Interview worksheet.

Investigate the Eclipse encourages students to dig into the history, culture, and social impacts of solar eclipses in the region they're investigating. Eclipse News provides some guidance on writing a news article about the eclipse, that can then be submitted to your school or local newspaper. Eclipse Interview equips students with interview considerations and questions to use with a family member or community member who has previously witnessed a total solar eclipse.



A diagram of the shadow of the Moon being cast onto the Earth during a total solar eclipse.

Preparation

Print the attached worksheets or have them digitally available for your students. Coordinate with your school or local library for access to digital and print resources. Consider access to local newspaper archives in particular.

Process

1. Introduce the upcoming total solar eclipse to students during class, covering when it is and what it is. You may consider using our Modelling Eclipses with Balls and/or our Modelling Eclipses to Scale activities. [up to ½ lesson]

2. Split students into pairs or small groups. Pick a geographic region to investigate, such as your local area or another area, city, or country. This may be a class discussion or vote. Depending on student ability, each group can choose a different region, and at least one group should investigate your local region. Consider encouraging students to choose regions where they have a personal connection and/or that are along the path of an upcoming eclipse.

If using as an in-class activity:

3. Ask each group to investigate solar eclipses in their chosen region, answering the questions in the below worksheet for Investigate the Eclipse. Ask students to present their findings orally or submit a short synopsis at the end of class. [up to 1 lesson]

4. As a class, complete the below worksheet for Eclipse News. [up to ½ lesson]

If using as a take-home activity:

5. Assign both the below worksheets for Investigate the Eclipse and Eclipse Interview to each group. Consider whether you want to assign roles to group members (e.g. researcher, interviewer, etc.) or ask students to come up with their own approach of gathering information.

6. Request students to present their findings as a formal report, poster, presentation, and/or as a news article following the below worksheet for Eclipse News.

7. As a class, complete the below worksheet for Eclipse News to create a culminating article. This is a great opportunity to encourage discussions on information students found that support each other as well as giving space for discussion on differences.

Taking it Further

Are any of your students on the student council or the school newspaper? Ask them if they can put your class's work into the next edition!

You can also consider submitting the culminating news article to your local newspaper.

Encourage students to delve into the cultural representations and personal perspectives around eclipses in the regions they've chosen. This is most relevant for Investigate the Eclipse, but can be mentioned in any activity. Especially if you are letting students choose their regions to investigate, consider using eclipse maps to showcase the path of the eclipse.

INVESTIGATE THE ECLIPSE

A solar eclipse is a mesmerizing event that occurs when the Moon passes in between the Earth and the Sun in its orbit, causing the Sun to cast a shadow of the Moon onto the Earth.

Eclipses represent major events in history, including cultural, social, political, and scientific impacts. They capture everyone's attention and inspire creativity, fear, and curiosity.

In this activity, we will investigate the representations and understandings of eclipses in your chosen geographic region, when the last solar eclipse occurred, and when the next one is expected.

An image of the 2017 total solar eclipse.
Credit: Rémi Boucher

Investigation Questions

These are starting questions for your investigation. Please include other questions that you think are relevant before you start or as you are investigating. Consider encompassing aspects of what, why, when, where, who, and how in your responses as appropriate. You may also wish to include contextual information about the region in addition to the below questions.

Note your methods and sources of information for each question. Consider how you found this information, what the source is, who the author or creator is, and when it was written or published. Always attempt to find reliable sources, and question why something might or might not be true.

1. When will the next total solar eclipse in this region occur? Try to include a day, month, and year as well as how long the eclipse will last.

2. When was the last total solar eclipse in this region? Try to include a day, month, and year as well as how long the eclipse lasted. Did anything happen as a result of the eclipse? What was life like and what other historical events occurred around this time?

3. What was the general feeling towards the eclipse by the people in the region? How do you know?

4. How did people in the region observe the eclipse? Why do you think they used these methods, and were they safe? If they did not observe the eclipse, explain why.

5. Do solar eclipses represent anything socially or culturally for the people in this region? Did they in the past? Has anything changed over time?

ECLIPSE NEWS

A solar eclipse is a mesmerizing event that occurs when the Moon passes in between the Earth and the Sun in its orbit, causing the Sun to cast a shadow of the Moon onto the Earth.

One of the main ways we get information about local and upcoming events is through news articles, either in print or online. Otherwise, we might miss them!

In this activity, we will consider what information about a solar eclipse is needed for our local news outlets to share with our community and write a news article that can be used for this purpose.

An image of the 2017 total solar eclipse. Credit: Rémi Boucher

What does the public need to know?

Most news articles need to be short and to the point, communicating essential information to the reader. They also need to engage the reader and keep them interested.

Assuming you have completed the Investigate the Eclipse worksheet, you should have all the information you need to write a news article about the eclipse in your region. Follow these prompts to help your writing:

1. What is the critical information the audience needs to know? Consider who is affected, what is happening, when it will happen, where it will happen, how people in the region can be engaged, and why they should want to be engaged.

2. What other information can we add to increase interest? Are there historical connections, cool facts, or other attention-grabbing ideas that could be included?

3. What images would you like to use? Make sure you have the rights to use them, and credit the creator(s) appropriately.

It can help to refer to news articles about solar eclipses in your region but be sure to create your own work!

Helpful resources

- French Canadian newspaper coverage for the 1932, 1963, and 1972 total solar eclipses
- American Astronomical Society Royalty-free Images & Videos

ECLIPSE INTERVIEW

A solar eclipse is a mesmerizing event that occurs when the Moon passes in between the Earth and the Sun in its orbit, causing the Sun to cast a shadow of the Moon onto the Earth.

Total solar eclipses are known to have a deep impact on people. It is an extremely moving event and is often very vividly remembered.

In this activity, we will design and conduct an interview with someone who has observed a total solar eclipse. This will give us insight into their experience and the impact the eclipse had on them individually.

An image of the 2017 total solar eclipse.
Credit: Rémi Boucher

Find your Interviewee and interview space

Consider how you will find someone in your family or community who has observed a total solar eclipse before. What questions will you ask, and to whom? Take note of who you asked, what you asked, and when you asked.

Before you conduct your interview, consider where, when, and how you would like to interview this person. Should you be in person, on a video call, or a phone call? Should you be alone, or should other people be around? Take note of your decisions and your motivations for them.

Interview Quetions

These are starting questions for your interview. Please include other questions that you think are relevant before you start or as you are conducting the interview. This is what is called an unstructured or semi-structured interview, you do not need to follow these questions exactly.

1. When and where did you observe a total solar eclipse? How old were you at the time?

2. What was it like just before the eclipse? Were there any local efforts or communications about the eclipse that you remember?

3. How did you prepare for the eclipse? Was there any stigma around the eclipse from your community or groups you were involved with (e.g. school, workplace, faith-based groups)?

4. What was it like during the eclipse? Can you describe what you saw, felt, or heard?

5. What was it like after the eclipse? Were there any local efforts or communications about the eclipse that you remember?

6. How did you feel about the eclipse, before, during and after? (Excited, anxious, etc.) Why did you feel that way? How do you feel about the upcoming total solar eclipse?

Extended Considerations

These questions are for you to think about after your interview.

1. Did you get the information you wanted from the interview? Did anything surprise you about the interview? Why or why not?

2. Do you think your interviewee's experience represents every persons' experience with total solar eclipses? Why or why not?

3. Was there more than one person you could have interviewed? Why did you choose this person?

4. Was it hard to find an interviewee? Why do you think that was the case?