

ScienceNewsLearning

LESSON PLAN



NASA's Scientific Visualization Studio

April 8, 2024

Prepare Your Community for the Eclipse



Lesson Plan: Prepare Your Community for the Eclipse

Learning Overview: This activity will help students learn more about eclipses and how to communicate scientific information through the creation of a video about the upcoming total eclipse on April 8, 2024. Students will practice summarizing information from a variety of Science News Media Group articles and will use their writing skills to create an informative script for their video. For those in the solar eclipse's path, the video will also discuss where to watch the eclipse and how to get involved in community education projects.

NGSS-Disciplinary Core Ideas: HS-ESS1

Paired Articles:

Science News: "[How the 2019 eclipse will differ from 2017's — and what that means for science](#)"

Readability Score: 10.6

Science News Explores: "[Scientists Say: Eclipse](#)"

Readability Score: 6.0

Science News Explores: "[Eclipses come in many forms](#)"

Readability Score: 7.2

Science News: "[Astronomers scrutinized last year's eclipse. Here's what they've learned](#)"

Readability Score: 10.8

Science News Explores: "[Getting ready for the solar eclipse](#)"

Readability Score: 7.4

Science News Explores: "[How to safely watch a solar eclipse](#)"

Readability Score: 6.7

Science News Explores: "[When the moon throws shade, the weather can change](#)"

Readability Score: 7.4

Science News Explores: "[What do animals do during a solar eclipse?](#)"

Readability Score: 8.0

Science News: "[Here's how citizen scientists can help during the 2024 solar eclipse](#)"

Readability Score: 12.2

Directions: At the start of the activity, students will form groups and each member will be assigned one of six Science News Media Group articles about eclipses. Using their assigned articles, students will create individual summaries and then share their summaries with the group, identifying potential areas of interest for further research. The focus areas for groups could include eclipse history, how eclipses occur, weather changes and animal behavior, viewing safety, scientific research: what can be learned during an eclipse, and local engagement opportunities. Once the group decides on one of the eclipse topics, each group will research their topic further and write a script for a 2- to 3-minute informational video, which they will film and produce. These videos can be consolidated into a single informative video that the school can publish for their local community.

In preparation for this activity, make sure to have accessible film/video equipment with pre-charged batteries and video editing software downloaded to a computer or accessible online. For free video editing software, Clipchamp is a downloadable option from Microsoft and Canva and Apple iMovie are free online options.

At the start of this activity, assign students to four or five groups of no more than six individuals. Students will work in these groups for the remainder of the activity.

- Eclipse History
- How Eclipses Occur
- Weather Changes and Animal Behavior during an Eclipse
- Safety When Viewing an Eclipse
- Scientific Research during Eclipses: What can we learn during an eclipse?
- Local to an eclipse? Get involved!

Approximate class time: 3-4 class periods

Supplies:

- Computers
- Student Worksheets
- Video/Filming Equipment
- Video Editing Software

Summarizing Science News Media Group Articles

Assign students to individually read and summarize one of the following Science News Media Group articles either in class or for homework:

- [“How the 2019 eclipse will differ from 2017’s — and what that means for science”](#)
- [“Scientists Say: Eclipse”](#)
- [“Eclipses come in many forms”](#)
- [“Astronomers scrutinized last year’s eclipse. Here’s what they’ve learned”](#)
- [“Getting ready for the solar eclipse”](#)
- [“How to safely watch a solar eclipse”](#)
- [“When the moon throws shade, the weather can change”](#)
- [“What do animals do during a solar eclipse?”](#)
- [“Here’s how citizen scientists can help during the 2024 solar eclipse”](#)

Within a group, no two students should be assigned the same article. To help guide students in creating a summary, use the [“How to write a summary”](#) Science News Learning activity.

Eclipse Topic

Once students have created their summaries, ask students to share what they’ve learned with their group and answer the following questions.

Have student groups indicate their preferences in question 2, review each group’s answers and assign each group a topic. All topics should be covered within the class, with at least one group per topic. If your

class is not in an area where the eclipse is visible, you may omit the “Local to an eclipse? Get involved!” topic. Once students have been assigned their topics, they may continue to answer the questions and use any available resources to build an understanding of their assigned topic.

1. Within your group, share what your articles were about. What topic(s) stood out to you as a group? Why?

2. As a group, you will be creating a 2- to 3-minute video that addresses one of the following topics:

- Eclipse History
- How Eclipses Occur
- Weather Changes and Animal Behavior During an Eclipse
- Safety When Viewing an Eclipse
- Scientific Research during Eclipses: What can we learn during an eclipse?
- Local to an eclipse? Get involved!

Rank the topics from 1-5, with 1 having the highest preference. Once you have ranked your topics from 1-5, share your answer with your teacher.

3. What did the articles do to help you understand the content? How could you use these techniques to create an informative video about your topic?

Some of the articles used analogies or simplified terms to help explain the science of the eclipse. Some articles include diagrams to depict the position of objects during an eclipse. Students may want to replicate these literary devices and illustrations in their videos.

Scripting a Video

In their preparations, students should pose several questions about their topic. For example, students addressing eclipse safety may ask, “Why is looking at the eclipse dangerous?” or “How can I safely watch the eclipse?” After students have posed these questions, they may create a bulleted list of the items that cover the answers.

Groups should also come up with at least one element or call-to-action that engages the community. For example, students addressing eclipse safety may include instructions on how to create a pinhole camera to safely view the eclipse. Community engagement components may also include inviting the community out to watch the eclipse or posing scientific questions for video viewers to ponder.

Students should work together to create a bulleted list of topics that can help to answer their topical questions. Then, students should work together to turn their bulleted list into written sentences in script form. Here are some tips for writing a script that you can share with students: Identify your audience. Research your subject. Use conversational language. Draw the viewer in at the start with a hook. Use visual tools, such as props or animations. Record yourself reading the script and then edit. Don’t forget to cite your sources.

Upon drafting the script, students can submit the script for your review and receive feedback before creating their video.



To guide students in the process of writing their script, provide the following task list.

1. As a group, write two or three general questions about your topic for the audience of the video. For example, a group with the topic of safety may write, “Why is looking at the eclipse dangerous?” and “How do safety glasses protect your eyes?”
2. Use online resources and the provided articles to learn more about your topic. Create an outline, framing it by using your group’s questions. Then, create a bulleted list that contains subtopics or concepts you need to explain to answer your questions. This outline should provide the information your group would like to include in a 2- to 3-minute video about your topic.
3. Divvy up the outline among group members. Fill in your outline topics with engaging sentences, definitions, and information you’d like to include in the video. Think about how the articles were engaging, fun, easy-to-understand, and informative and implement similar strategies as you develop a script for your section. Think about any props, images, animations, or slideshows you’d like to include in your video. Write down your script for your section and make sure to cite the sources of the information you used.
4. As a group, review the scripts for each section of the outline. Refine the script sections and decide how the individual parts will fit together and flow from one to the next. Also, discuss how you’ll make your video interactive. How can you engage your community? What is your engagement element or call-to-action? Get creative! Add your idea(s) to your script before finalizing your script as a group.
5. Submit the first draft of your script to your teacher.

Filming and Video Compilation

Provide feedback to each group on their scripts, ensuring that each script contains at least two general questions, engaging elements — such as props, demonstrations, or animations — and a call-to-action for the audience. Students should fact-check their scripts to ensure that the information they contain is accurate.

After students have received your script feedback, have them finalize their scripts and create a 2- to 3-minute video.

Compile the videos from each group into one cohesive final product which can be posted online by the school to engage and inform the local community about the April 8, 2024, eclipse. While there are many available video editing software tools, Clipchamp is a free downloadable software option from Microsoft and Canva provides free online video editing.

Student Worksheet: Prepare Your Community for the Eclipse

Directions: Form groups with a maximum of 6 students apiece and individually read and summarize one of the following Science News Media Group articles:

- [“How the 2019 eclipse will differ from 2017’s — and what that means for science”](#)
- [“Scientists Say: Eclipse”](#)
- [“Eclipses come in many forms”](#)
- [“Astronomers scrutinized last year’s eclipse. Here’s what they’ve learned”](#)
- [“Getting ready for the solar eclipse”](#)
- [“How to safely watch a solar eclipse”](#)
- [“When the moon throws shade, the weather can change”](#)
- [“What do animals do during a solar eclipse?”](#)
- [“Here’s how citizen scientists can help during the 2024 solar eclipse”](#)

If you need help creating a summary, use the [“How to write a summary”](#) Science News Learning activity.

Eclipse Topic

In your group, share your summary and answer the following questions.

1. Within your group, share what your articles were about. What topic(s) stood out to you as a group? Why?

2. As a group, you will be creating a 2- to 3-minute video that addresses one of the following topics:

- Eclipse History
- How Eclipses Occur
- Weather Changes and Animal Behavior During an Eclipse
- Safety When Viewing an Eclipse
- Scientific Research during Eclipses: What can we learn during an eclipse?
- Local to an eclipse? Get involved!

Rank the topics from 1-5, with 1 having the highest preference. Once you have ranked your topics from 1-5, share your answer with your teacher.

3. What did the articles do to help you understand the content? How could you use these techniques to create an informative video about your topic?

Scripting a Video

Use the following step-by-step instructions to help guide your group in creating a video script.

1. As a group, write two or three general questions about your topic for the audience of the video. For example, a group with the topic of safety may write, “Why is looking at the eclipse dangerous?” and “How do safety glasses protect your eyes?”

2. Use online resources and the provided articles to learn more about your topic. Create an outline, framing it by using your group’s questions. Then, create a bulleted list that contains subtopics or concepts you need to explain to answer your questions. This outline should provide the information your group would like to include in a short 2- to 3-minute video about your topic.

3. Divvy up the outline among group members. Fill in your outline topics with engaging sentences, definitions, and information you’d like to include in the video. Think about how the articles were engaging, fun, easy-to-understand, and informative and implement similar strategies as you develop a script for your section. Think about any props, images, animations, or slideshows you’d like to include in your video. Write down your script for your section and make sure to cite the sources of the information you used.

4. As a group, review the scripts for each section of the outline. Refine the script sections and decide how the individual parts will fit together and flow from one to the next. Also, discuss how you’ll make your video interactive. How can you engage your community? What is your engagement element or call-to-action? Get creative! Add your idea(s) to your script before finalizing your script as a group.

5. Submit the first draft of your script to your teacher.

Filming and Video Compilation

After receiving feedback on your script and making any appropriate changes, make sure your script is fact-checked to ensure that the information you provide is accurate.

Create your 2- to 3-minute video by recording your script according to your teacher’s instructions. Review your video and do as many takes as you need before submitting it to your teacher.

