

Eclipses

i This article is accessible to students only when assigned.

Freckle Level: 7B

Introduction to Eclipses

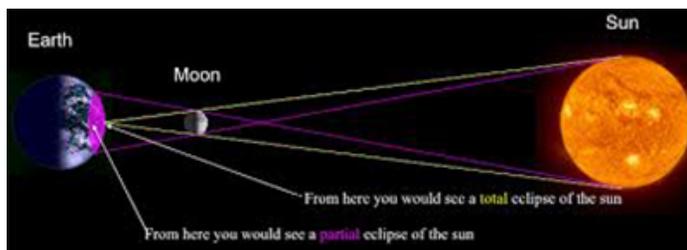
Have you ever seen an **eclipse**? These events occur when an object in space is blocked by the shadow of a passing object or by the object itself. The two main eclipses that can be viewed from Earth are **solar** eclipses and **lunar** eclipses. Both of these eclipses can only happen when the sun, moon, and Earth are in a straight line. This allows one object to be hidden behind another.

If you've never seen an eclipse, you should make sure to check one out in the future. There are anywhere from 4-7 eclipses per year, so you'll definitely have an opportunity!

Solar Eclipse

A **solar** eclipse occurs when the moon passes in front of the sun. This prevents the light of the sun from reaching Earth's surface, creating a dark period of time during the middle of the day. The type of **solar** eclipse depends a lot on the distance between the moon and the earth.

Most **solar** eclipses are brief events that can only be viewed in a small region of the earth. An even smaller region will get to experience a total eclipse, while the surrounding areas witness a partial eclipse. **Solar** eclipses are very exciting events, but you better show up at the correct time—total **solar** eclipses can only last for a few minutes! Plus, you have to wear proper eye protection. Looking straight at the sun can severely damage your eyes, otherwise.



A diagram showing how a solar eclipse forms

Lunar Eclipse

Writing

Skills: Informative, Writing Conventions, Drawing Evidence

- Using details from the text, explain the main differences between solar and lunar eclipses.

Vocab

- solar
- lunar
- visible
- illuminates

Reading

Skills:

- RI.2: Summarizing & Main Ideas
- RI.5: Text Structure & Development

RI.2: Summarizing & Main Ideas

Which of the following statements are central ideas of the text? Select all that apply.

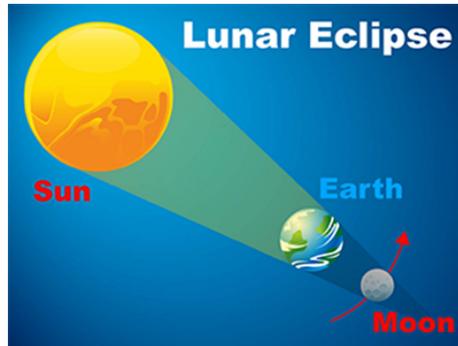
Eclipses are rare events in space that everyone should witness.

Solar eclipses are not as interesting as lunar eclipses.

Lunar eclipses are generally easier to witness than solar eclipses.

A lunar eclipse takes place when the moon moves into Earth's shadow. This happens when Earth is directly in between the moon and the sun, and when the moon is full. Unlike a solar eclipse, a lunar eclipse can be visible to an entire hemisphere or large region of the planet at one time. Thus, it is much easier for humans to see a lunar eclipse than a solar eclipse.

During a total lunar eclipse, the moon is not completely dark. Instead, some sunlight passes through and faintly illuminates the moon to a red hue. This is known as a Blood Moon and is truly a spectacle to witness.



A diagram showing how a lunar eclipse forms

Conclusion

There are lots of amazing events taking place in outer space every day. Most are too far from Earth for humans to witness. Eclipses, on the other hand, cannot happen without the earth, and are, therefore, visible from our planet. While you may not have the opportunity to witness a solar eclipse in your lifetime, be sure to head outside during the next lunar eclipse. It's truly something special to see with your own eyes!

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Eclipses are the only events in space that are interesting.

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RI.2: Summarizing & Main Ideas

Which of these statements **best** describes the text?

Objective, because the author only gives facts about eclipses

Subjective, because the article is all about how the author feels about eclipses

Both, because the author gives facts but adds information regarding his opinion

Both, because the author wrote a story about watching an eclipse, but included some facts in the story

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RI.2: Summarizing & Main Ideas

Which **2** of the following statements should be included in a brief summary of the text?

If you've never seen an eclipse, you should make sure to check one out in the future.

A solar eclipse occurs when the moon passes in front of the sun.

A lunar eclipse takes place when the moon moves into Earth's shadow.

There are lots of amazing events taking place in outer space every day.

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RI.5: Text Structure & Development

What is the **overall** text structure used to share information in this text?

Problem and Solution

Cause and Effect

Chronology

Compare and Contrast

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RI.5: Text Structure & Development

What is the purpose of the section titled 'Conclusion'?

to explain why the author wrote the article

to confuse the reader by adding unnecessary details

to convince the reader why they should try to witness an eclipse

to ask the reader to think about what they learned

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RI.5: Text Structure & Development

How do the images included help develop an understanding of the concept?

The images show which eclipse is more impressive.

The images show how eclipses form, which can be difficult to understand in text.

The images show which eclipse lasts for longer.

The images show what a human can expect to see when looking at an eclipse.

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