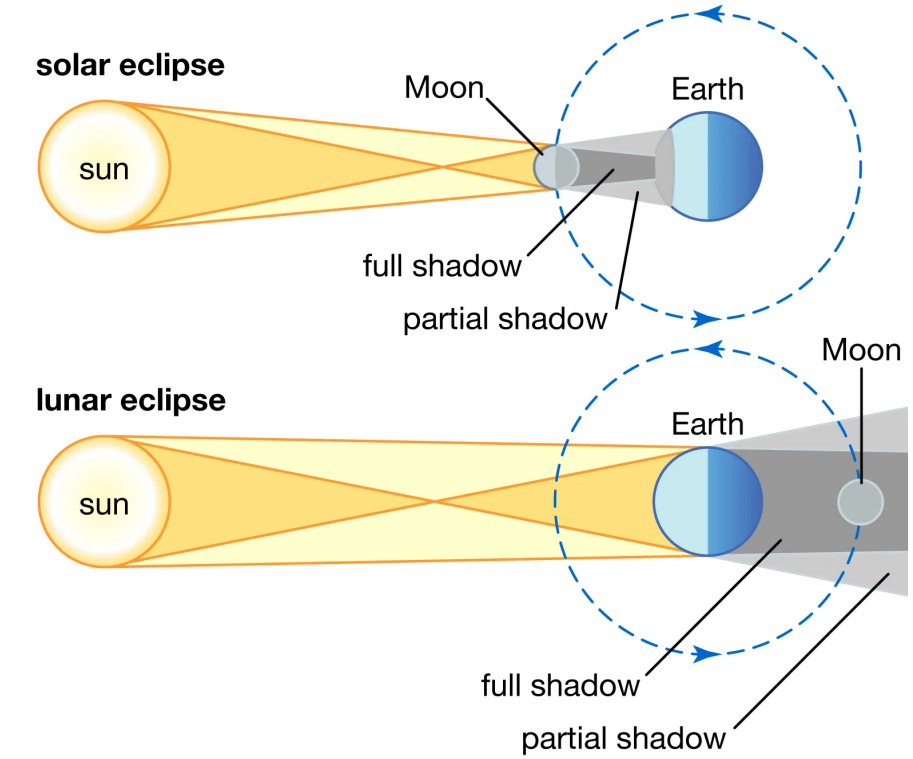
G. Lunar & Solar Eclipse

Lunar & Solar Eclipses: A Dance of Shadows

Have you ever seen the Moon disappear or the Sun darken in the sky? These magical moments are known as eclipses. Eclipses occur when one celestial body moves into the shadow of another. Let's explore the two fascinating types of eclipses: lunar and solar eclipses.



Lunar Eclipse

A lunar eclipse occurs when the Earth comes between the Sun and the Moon. Imagine the Earth as a big ball, and the Sun is on one side while the Moon is on the other. During a lunar eclipse, the Earth blocks the sunlight from reaching the Moon. As a result, the Moon might look a little darker and sometimes even turn a reddish color.

Why Does the Moon Turn Red?

You might wonder why the Moon turns red during a lunar eclipse. It's like a magical trick! The reddish color happens because some sunlight still reaches the Moon. But,

instead of passing straight through, the sunlight has to go through Earth's atmosphere. Earth's atmosphere is like a magical filter that scatters the blue and green colors, leaving behind the red light. This is why the Moon takes on a coppery glow during a lunar eclipse.

Solar Eclipse
On the other hand, a solar eclipse happens when the Moon comes between the Earth and the Sun. Picture the Moon standing right in front of the Sun like a big umbrella. During a solar eclipse, the Moon blocks the Sun's light from shining on certain parts of the Earth.

The Path of Totality
During a solar eclipse, there is a special path on Earth where the Moon completely covers the Sun. This path is called the path of totality. If you are lucky enough to be in this path, you will see the Sun fully covered by the Moon, creating a breathtaking sight called a total solar eclipse. It's like seeing a big black hole in the sky for a little while.

Safety First!
Remember, never look directly at the Sun, even during an eclipse. The Sun's rays are super bright and can hurt your eyes. If you want to watch a solar eclipse, use special solar viewing glasses or make a pinhole projector to see the eclipse safely.
Partial and Total Eclipses
Not everyone in the world sees a total solar or lunar eclipse. People outside the path of totality experience a partial eclipse. This means only part of the Sun or Moon is covered. It's like seeing a bite taken out of a cookie!

Eclipse Folklore
Throughout history, people have been amazed and sometimes scared by eclipses. In ancient times, some cultures believed that a dragon or giant beast was eating the Sun or the Moon during an eclipse. Others thought eclipses were a sign of good or bad luck.

1. What is a lunar eclipse?
    A) When the Moon comes between the Earth and the Sun
    B) When the Earth comes between the Sun and the Moon
    C) When the Moon turns red in the sky
    D) When the Sun disappears from the sky

2. Why does the Moon turn reddish during a lunar eclipse?
    A) Because it reflects the red light from Mars
    B) Because it reflects the red light from Jupiter

C) Because some sunlight still reaches the Moon and gets scattered by Earth's atmosphere
D) Because the Moon is angry

3. What is a solar eclipse?
   A) When the Earth comes between the Sun and the Moon
   B) When the Sun comes between the Earth and the Moon
   C) When the Moon comes between the Earth and the Sun
   D) When the Moon turns red in the sky

4. What happens during a solar eclipse?
   A) The Sun turns red
   B) The Moon turns red
   C) The Moon completely blocks the Sun, creating a dark shadow on Earth
   D) The Earth completely blocks the Sun

5. What is the path of totality during a solar eclipse?
   A) A path where the Moon blocks the Sun completely
   B) A path where the Sun blocks the Moon completely
   C) A path where the Sun's light is completely blocked by clouds
   D) A path where the Moon turns red

6. How can you safely observe a solar eclipse?
   A) Look directly at the Sun
   B) Use special solar viewing glasses or solar filters
   C) Wear regular sunglasses
   D) Use a telescope to look at the Sun

7. What do you call a lunar eclipse where the Moon turns red?
   A) A solar eclipse
   B) A blue Moon
   C) A red Moon
   D) A blood Moon

8. Who sees a total solar eclipse during an eclipse event?
   A) Everyone in the world
   B) People outside the path of totality
   C) People in the path of totality
   D) Only astronauts in space

9. What did ancient civilizations often do during eclipses?
   A) Celebrate with fireworks

B) Create myths and stories to explain the phenomena
C) Dance and sing under the eclipsed sky
D) Ignore the eclipse completely

10. Why should you not look directly at the Sun during an eclipse?
A) The Sun is not pretty to look at
B) The Sun's rays can hurt your eyes and cause damage
C) You might see ghosts in the Sun
D) The Sun is too bright for your eyes

ANSWERS & EXPLANATIONS

1. When the Earth comes between the Sun and the Moon
    - A lunar eclipse happens when the Earth blocks the sunlight from reaching the Moon.

2. Because some sunlight still reaches the Moon and gets scattered by Earth's atmosphere
    - The reddish color happens because some sunlight still reaches the Moon and gets scattered by Earth's atmosphere, leaving behind the red light.

3. When the Moon comes between the Earth and the Sun
    - A solar eclipse happens when the Moon comes between the Earth and the Sun, blocking the Sun's light from reaching certain parts of the Earth.

4. The Moon completely blocks the Sun, creating a dark shadow on Earth
    - During a solar eclipse, the Moon completely covers the Sun, creating a dark shadow on Earth.

5. A path where the Moon blocks the Sun completely
    - The path of totality is a special path on Earth where the Moon completely covers the Sun during a solar eclipse.

6. Use special solar viewing glasses or solar filters
    - To watch a solar eclipse safely, use special solar viewing glasses or solar filters to protect your eyes from the Sun's bright rays.

7. A blood Moon
    - A lunar eclipse where the Moon turns red is often called a blood Moon due to its reddish appearance.

8. People in the path of totality
    - Only people in the path of totality experience a total solar eclipse, where the Moon completely covers the Sun.

9. Create myths and stories to explain the phenomena
    - Ancient civilizations often created myths and stories to explain the magical and sometimes scary phenomenon of eclipses.

10. The Sun's rays can hurt your eyes and cause damage

- The Sun's rays are super bright and can hurt your eyes, even during an eclipse. It's essential to use special viewing tools like solar viewing glasses to protect your eyes.