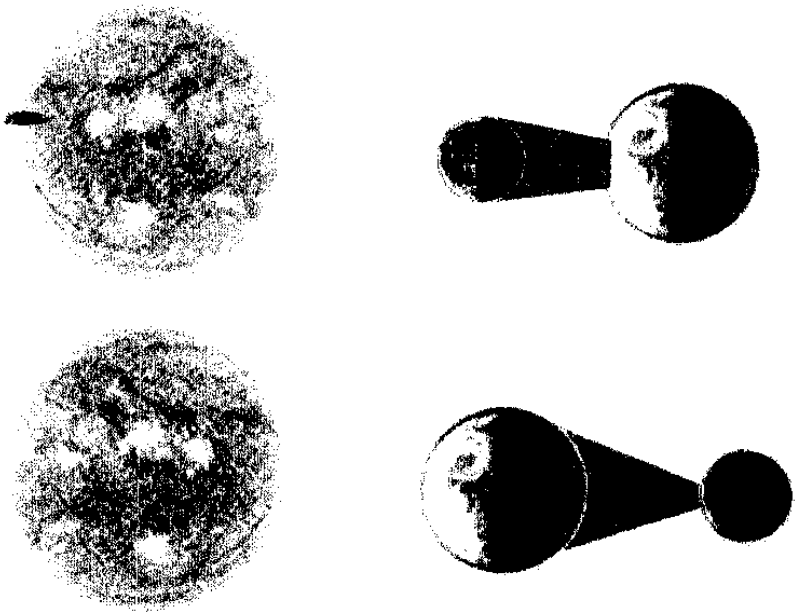
4

Module 68

Science and Health

DIFFERENTIATE HOW LUNAR AND SOLAR ECLIPSE OCCUR



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To the Learner

We have learned that an eclipse happen when one heavenly body casts a shadow on another heavenly body. There is what you call a solar eclipse and a lunar eclipse. You will learn more on the differences of the two in this module.

Let's Learn This

Compare / differentiate how solar and lunar eclipse happens.

Let's Try This

1. Group Activity (Teacher-assisted)

Have the class group into two. One group will do activity A and the other on activity B.

Activity A. Draw the positions of the sun, earth, and moon during a solar eclipse. Explain what a solar eclipse is.

_____

_____

Activity B. Draw the positions of the sun, earth, and moon during a lunar eclipse. Explain what a lunar eclipse is.

_____

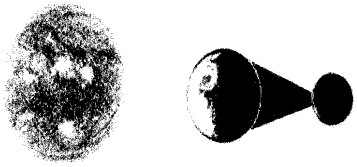
_____

2. Check Yes or No

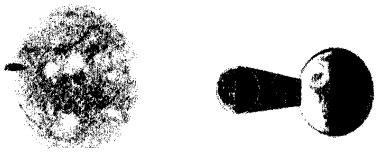
	YES	**NO**
1. Solar eclipse happens on a new moon.	_____	_____
2. The moon revolves around the earth.	_____	_____
3. Lunar and Solar eclipse last very long.	_____	_____
4. Lunar eclipse happens on a new moon.	_____	_____
5. You can see the moon during a lunar eclipse.	_____	_____

Let's Study This

When the earth is in line between the sun and the moon, it casts a shadow on the moon. As a result, the moon is darkened. The darkening of the moon due to the shadow cast by the earth is called a **lunar eclipse**.



Lunar Eclipse



Solar Eclipse

When the moon is exactly in line between the sun and the earth, the moon casts a shadow on the earth. As a result, the sun is darkened. The darkening of the sun due to the shadow cast by the moon is called a **solar eclipse**.

Let's Do This

Classify the following statement. Write the <u>number only</u> on the appropriate column. Number 1 is done for you.

1. Happens during new moon.
2. The earth is between the sun and the moon.
3. The moon cast a shadow on the earth.
4. The earth cast a shadow on the moon.
5. The moon is between the sun and the moon.
6. Happens during a full moon.

Solar Eclipse	Lunar Eclipse
	1

Let's Do More

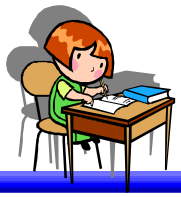
A. Draw the position of the Sun, Earth and Moon during a lunar eclipse. Explain what a lunar eclipse is.

B. Draw the position of the Sun, Earth and Moon during a solar eclipse. Explain what a solar eclipse is.

Let's Remember This

A **solar eclipse** occurs when the moon is in a position between the sun and the earth. This can only happen during a new moon but not during every new moon.

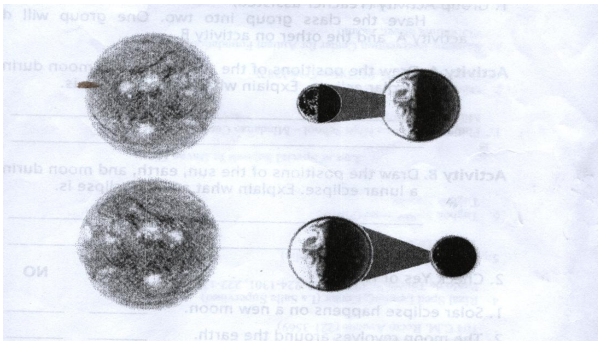
A **lunar eclipse** occurs when the earth is in a position between the sun and the moon. This can only happen during a full moon but not during every full moon.



Let's Test Ourselves

A. Identify if the illustration shows a **Solar Eclipse** or **Lunar Eclipse**.

_____ 1.



_____ 2.

B. True or False

_____ 1. You can see the moon during a lunar eclipse.

_____ 2. Solar eclipse happens on a new moon.

_____ 3. The moon revolves around the earth.

_____ 4. Lunar and solar eclipse last very long.

_____ 5. Lunar eclipse happen on a new moon.

Science Fact File

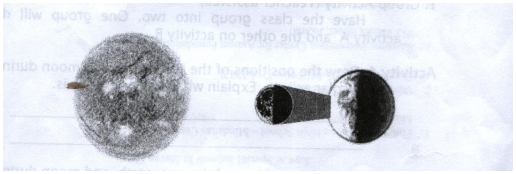
- A Solar eclipse always occurs two weeks before or after a lunar eclipse.
- Eclipses very often occur in threes, alternating lunar, solar and lunar.
- At any geographic position on the Earth, a total solar eclipse occur an average of once every 360 years.
- The cycle of eclipses repeats every 18.6 years called the saros.
- The eclipse shadow moves at 2,000 mph at the Earth's poles and 1,000 mph at the Earth's equator.
- Eclipses are a normal consequences of an alignment of the Earth's and the Moon's normal orbits. Although infrequent, they are completely predictable.

Answer Key

Let's Try This

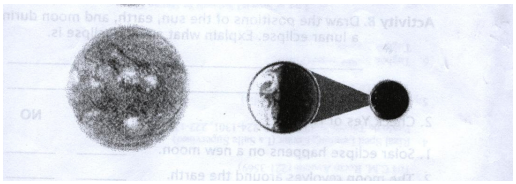
1. Group Activity

Activity A



Solar eclipse happens during a new moon when the moon is between the sun and the earth.

Activity B



Lunar eclipse happens on a full moon when the earth is between the sun and the moon.

Let's Do This

Solar Eclipse	Lunar Eclipse
3 5 6	1 2 4

Let's Do More

sun

earth

moon

Lunar eclipse happen when the moon is covered with the Earth's shadow, the moon cannot reflect light. It will be dark even during a full moon.

sun

moon

earth

Solar Eclipse happen when the moon cast a shadow on the Earth during daytime when the sun's light can be seen.

Let's Test Ourselves

A. 1. Solar Eclipse
2. Lunar Eclipse

B. 1. False
2. True
3. True
4. False
5. False