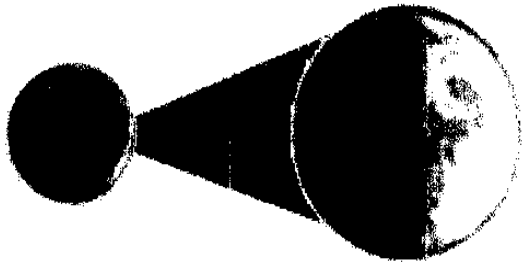


# Science and Health

## LUNAR ECLIPSE





## To the Learner

Have you experience an eclipse? What happens when there is an eclipse? What is an eclipse? You will find out in this module.



## Let's Learn This

Explain why a lunar eclipse happens during a full moon.



## Let's Try This

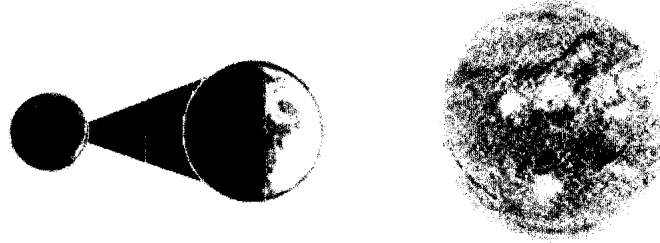
A. Answer each, question with yes or no.

1. Is the moon as big as the earth? \_\_\_\_\_
2. Is the moon as big as the sun? \_\_\_\_\_
3. Does the moon revolve around the earth? \_\_\_\_\_
4. Does the moon have its own light? \_\_\_\_\_
5. Do you see the moon at daytime? \_\_\_\_\_
6. Does the moon change its shape? \_\_\_\_\_
7. Does the sun shine on all parts of the moon? \_\_\_\_\_
8. Are there nights when you do not see the moon at all? \_\_\_\_\_
9. Is the moon farther away from us than the sun? \_\_\_\_\_
10. Does the moon give us heat? \_\_\_\_\_
11. Does the earth go around the moon? \_\_\_\_\_
12. Does the moon also go around the sun? \_\_\_\_\_
13. Does the sun give the moon some light? \_\_\_\_\_
14. Could you see the moon even when the sun is shining brightly? \_\_\_\_\_
15. Does the sun go around the Earth? \_\_\_\_\_

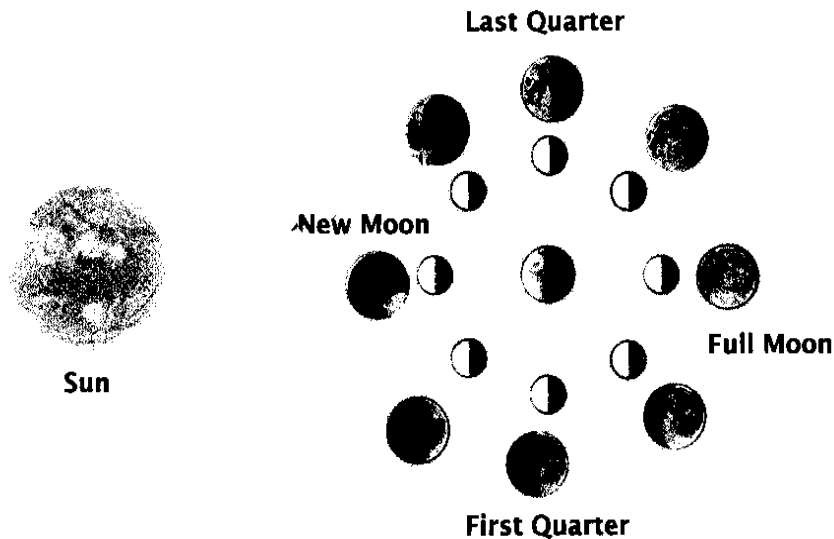


## Let's Study This

When the Earth is directly between the sun and the moon the earth blocks the light of the sun from reaching the moon. The moon becomes dark because the shadow of the Earth falls on the moon, this is the Lunar Eclipse.



As the moon revolves around the earth it may move into the shadow of the earth. The sunlight cannot fall on the moon so it becomes dark. This is called an eclipse of the moon or ***lunar eclipse***.



The moon does not change its shape. As it revolves around the earth, you see more and more of its lighted part. Then you see less and less of the lighted part. These apparent changes of the moon's shape are called **phases of the moon**.

Lunar eclipse happens during full moon because at this phase of the moon, it is directly in line with the Earth and the sun. Study the illustration above.

An eclipse lasts for only a few minutes because both the Earth and the moon are moving. They do not stay in the same position for a long time.



## Let's Do This

Get a flashlight, a big ball and a small ball.

Place each ball on top of a stack of five books. Darken the room. Shine a flashlight on the big ball.

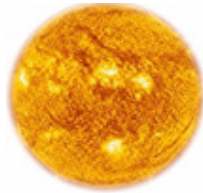
The big ball represents the earth; the small ball represents the moon.

1. Does the small ball receive light? Why?
2. Does the big ball have a shadow?
3. Where does the shadow fall?



## Let's Do More

1. Where should the moon be during a lunar eclipse? Draw it.



2. In which phase of the moon would a lunar eclipse happen?
  - a. full moon
  - b. new moon
  - c. half moon
3. What happens when the earth's shadow falls on the moon, making the moon dark?
  - a. There is solar eclipse.
  - b. There is lunar eclipse.
  - c. Something bad will happen.

4. Why does lunar eclipse usually happen during a full moon?

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5. A lunar eclipse lasts for a few minutes only, Why?

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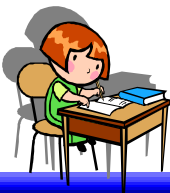


### Let's Remember This

A Lunar eclipse happens when the Earth is directly between the moon and the sun.

It happens on a full moon because at this phase the moon is directly in line with the Earth and the Sun.

Lunar eclipse lasts for a few minutes only because the earth and the moon are moving.

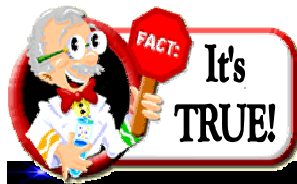


### Let's Test Ourselves

Write true or false.

- \_\_\_\_\_ 1. The earth goes around the moon.
- \_\_\_\_\_ 2. The moon goes around the sun.
- \_\_\_\_\_ 3. The sun gives light to the moon.
- \_\_\_\_\_ 4. You can see the moon even when the sun is shining brightly.
- \_\_\_\_\_ 5. The sun goes around the moon.
- \_\_\_\_\_ 6. The moon is as big as the earth.

- \_\_\_\_\_ 7. The sun is bigger than the moon.
- \_\_\_\_\_ 8. The moon revolves around the earth.
- \_\_\_\_\_ 9. The moon has its own light.
- \_\_\_\_\_ 10. You can see the moon at daytime.
- \_\_\_\_\_ 11. The moon changes its size.
- \_\_\_\_\_ 12. The sun always shines on all parts of the moon.
- \_\_\_\_\_ 13. There are nights that you do not see the moon.
- \_\_\_\_\_ 14. The moon is farther away from us than sun.
- \_\_\_\_\_ 15. The moon gives us heat.



## Science Fact File

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Lunar eclipses can only occur during a full moon.

The maximum time a lunar eclipse can last in 3 hours and 40 minutes.

The longest time the Moon can stay in totality is 1 hour 40 minutes.

Lunar eclipses can occur up to 3 times a year.

Lunar eclipses are visible over an entire hemisphere.



## Answer Key

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### Let's Try This

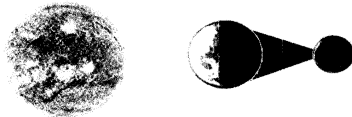
- |        |        |         |
|--------|--------|---------|
| 1. NO  | 6. NO  | 11. NO  |
| 2. NO  | 7. NO  | 12. YES |
| 3. YES | 8. YES | 13. YES |
| 4. NO  | 9. NO  | 14. NO  |
| 5. NO  | 10. NO | 15. NO  |

### Let's Do This

1. NO, because the earth blocks the light.
2. YES
3. The shadow fall on the small ball.

### Let's Do More

1.



2. a

3. b

4. Lunar eclipse happens during a full moon because it is directly in line with the sun and earth.
5. Lunar eclipse lasts for a few minutes only because the earth and the moon are moving.

### Let's Test Ourselves

- |          |           |           |
|----------|-----------|-----------|
| 1. False | 6. False  | 11. False |
| 2. True  | 7. True   | 12. False |
| 3. True  | 8. True   | 13. True  |
| 4. False | 9. False  | 14. False |
| 5. False | 10. False | 15. False |