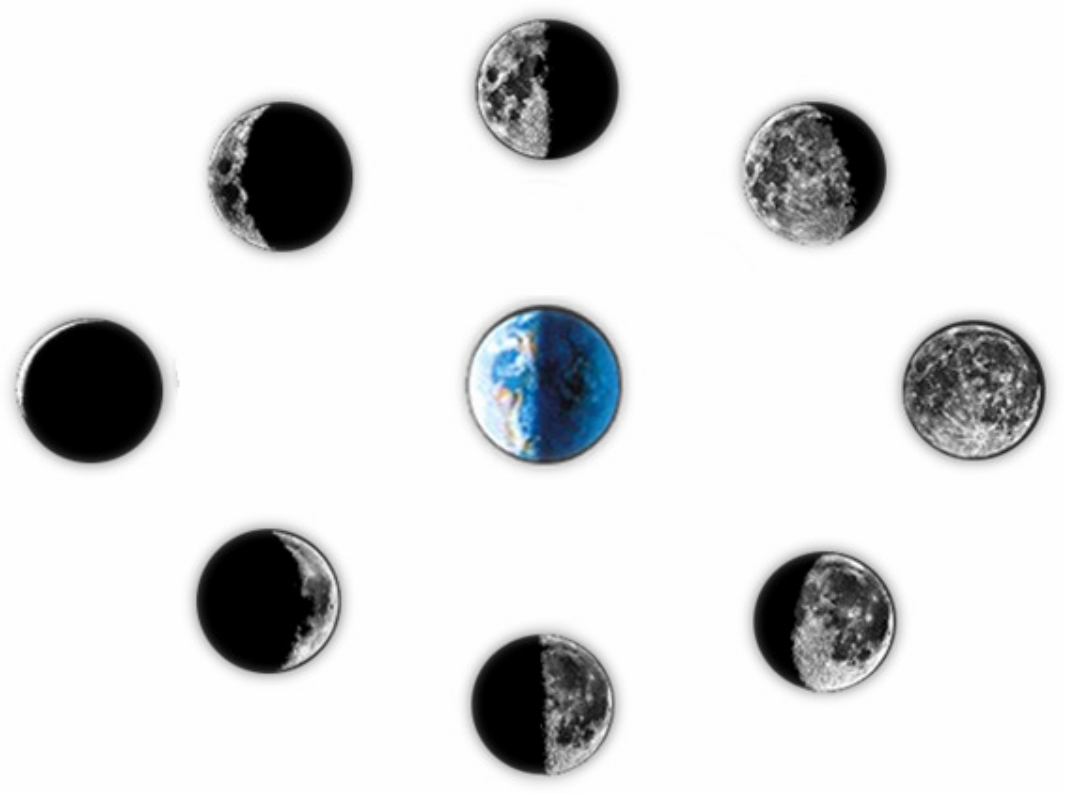
4
Module 64

Science and Health

PHASES OF THE MOON



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To the Learner

Have you wondered how it feels to be on the moon? Have you noticed that its shape seem to change from time to time. Do you want to know more about the moon?

Just imagine that you are on your way to the moon. Well, get set and off we go!

Let's Learn This

- Observe and draw the appearance of the moon over one month whenever possible.
- Show through a model how the relative position of the observer of earth, moon and sun causes the apparent changes in the shape of the moon.

Let's Try This

Match the illustration of the phases of the moon with its name. Write the letter of the correct answer.

1.  a. full moon
2.  b. new moon
3.  c. gibbous moon
4.  d. last quarter
5.  e. crescent moon

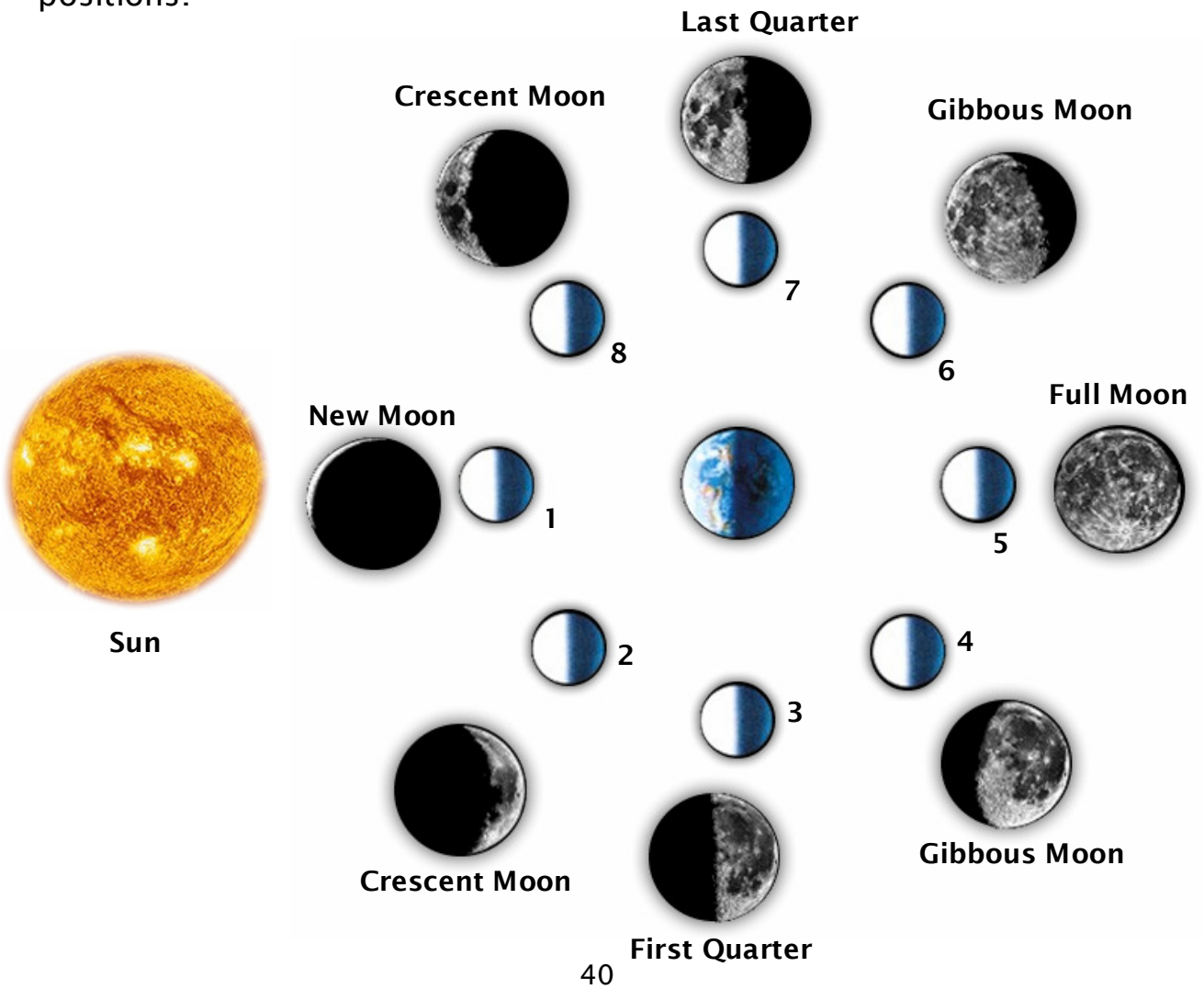
Let's Study This

You have seen the beautiful full moon appears on the horizon. The moon is not a planet but a satellite. A satellite is an object in space that revolves around a planet. A moon makes one complete revolution around the earth in 27 1/3 to 29 1/2 days.

The shape of the moon is round. However, its shape seems to change from time to time. There are times the moon looks round as a plate. Sometimes it appears like a banca. These apparent changes in the moon's shape are called ***phases***.

The moon shines by the reflected sunlight. Only one half of it is lighted at any time. So, as the moon rotates and revolves around the Earth, the moon changes its position in relation to the observer on Earth.

Below shows the phases of the moon as seen from different positions.



When the moon is between the sun and earth, we cannot see it because the sun shines on the side of the moon away from the earth. This phase is called the ***new moon***.

After one or two days, we see a small edge of the moon lighted. This is called the ***crescent moon***. After about a week, half of the moon is lighted. This phase is called the ***first quarter***. After a few days, we see more than half of the moon lighted. This is called the ***gibbous moon***.

After one week, the whole side of the moon facing the earth becomes lighted. This happens when the earth is between the sun and the moon. This phase is called the ***full moon***. After a day or two, the lighted part becomes less; we again see a gibbous moon.

After about a week we see only half of the moon's face. This phase is called the ***last quarter***. Then after a day or two, the lighted part becomes smaller producing a crescent moon. After one week, we do not see the moon at all. This means that the moon will undergo its different phases again.

Let's Do This

Color the circle to show the phases of the moon.

1. full moon

2. new moon

3. first quarter

4. last quarter

5. gibbous moon

6. crescent moon

Let's Do More

A. Arrange the following illustrations as to the correct phases of the moon then write its name. Number 1 is done for you. Do the rest.

A. 

position 1
new moon

B. 

C. 

D. 

E. 

F. 

G. 

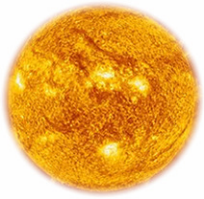
H. 

B. Shade or label to complete the phases of the moon.

7 _____

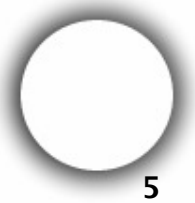
8 _____

6



Sun

1 _____



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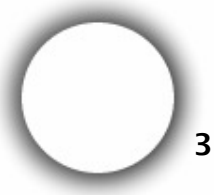
2



3

4 _____

First Quarter

C. Write T if the statement is true about the moon and F if it is not true.

_____ 1. The moon is not a planet but a satellite.

_____ 2. The moon has its own light. It does not get its light from the sun.

_____ 3. The shape of the moon seems to change from time to time.

_____ 4. It is full moon when the moon is between the sun and the earth.

_____ 5. We see a small edge of the moon lighted on new moon.

_____ 6. The changes in the shape of the moon we see are called phases of the moon.

_____ 7. New moon occurs when the earth is between sun and moon.

_____ 8. Gibbous moon occurs when we see more than half of the moon lighted.

_____ 9. After the gibbous moon half of the moon's face is seen. We see last quarter.

_____ 10. After the crescent moon half of the moon is lighted. We see the first quarter.

D. Do the activity below. This serves as your two-week activity.

Observing the Moon

1. Observe the shape of the moon every night for two weeks.
2. Draw the moon and its shape each night in a chart similar to one shown below.

Week	Night						
	1	2	3	4	5	6	7
week 1							
week 2							

3. Compare the moon's shape from night to night.

- Did you notice any changes in the moon's shape? Why do you think the shape changes?

Let's Remember This

- The moon seems to change in shape as it turns around the earth once.
- The shape of the moon we see depends on its position in relation to the position of the sun and the earth.
- The changes in the shape of the moon which we seem to see are called the phases of the moon.
- The phases of the moon are new moon, crescent moon, first quarter, gibbous moon, full moon and last quarter.
- <u>New moon</u> occurs when the moon is between the sun and the earth. S M E
- <u>Full moon</u> occurs when the earth is between the sun and moon. S E M
- When we see small edge of the moon lighted it is a crescent moon.
- After the crescent moon half of the moon is lighted. It shows the first quarter.

Let's Test Ourselves

Identify the phase of the moon as described.

_____1. The phase of the moon that occurs when the earth is between the sun and the moon. S E M

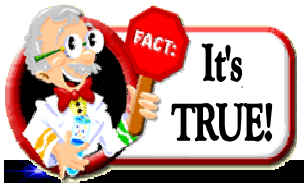
_____2. It occurs when the moon is between the sun and the earth. S M E

_____3. On this phase we see a small edge of the moon lighted.

_____4. After the crescent moon, half of the moon is lighted. Its shows _____.

_____5. After the gibbous moon half of the moon's face is seen. It shows _____.

_____6. On this phase we see more than half of the moon is lighted.



Science Fact File

Wobbling Moon

We always see the same side of the Moon as it rotates around the Earth. However, it wobbles or moves unsteadily as it orbits the Earth. Because of this wobble, we can actually see about 59 percent of the Moon's surface from the Earth.

Answer Key

Let's Try This

1. f
2. b
3. a
4. c
5. d
6. e

Let's Do This

1. 
2. 
3. 
4. 
5.  or 
6.  or 

Let's Do More

A. A. position 1, new moon
B. position 7, last quarter
C. position 8, crescent moon
D. position 2, crescent moon
E. position 3, first quarter
F. position 5, full moon
G. position 6, gibbous moon

H. position 4, gibbous moon

B. 1. new moon

2. 

3. 

4. gibbous moon

5. 

6. 

7. last quarter

8. crescent moon

C. 1. T
2. F
3. T
4. F
5. T
6. T
7. F
8. T
9. T
10. T

D. Answers will depend on pupil's observation.

Let's Test Ourselves

1. full moon
2. new moon
3. crescent moon
4. first quarter
5. last quarter
6. gibbous moon