

# Space

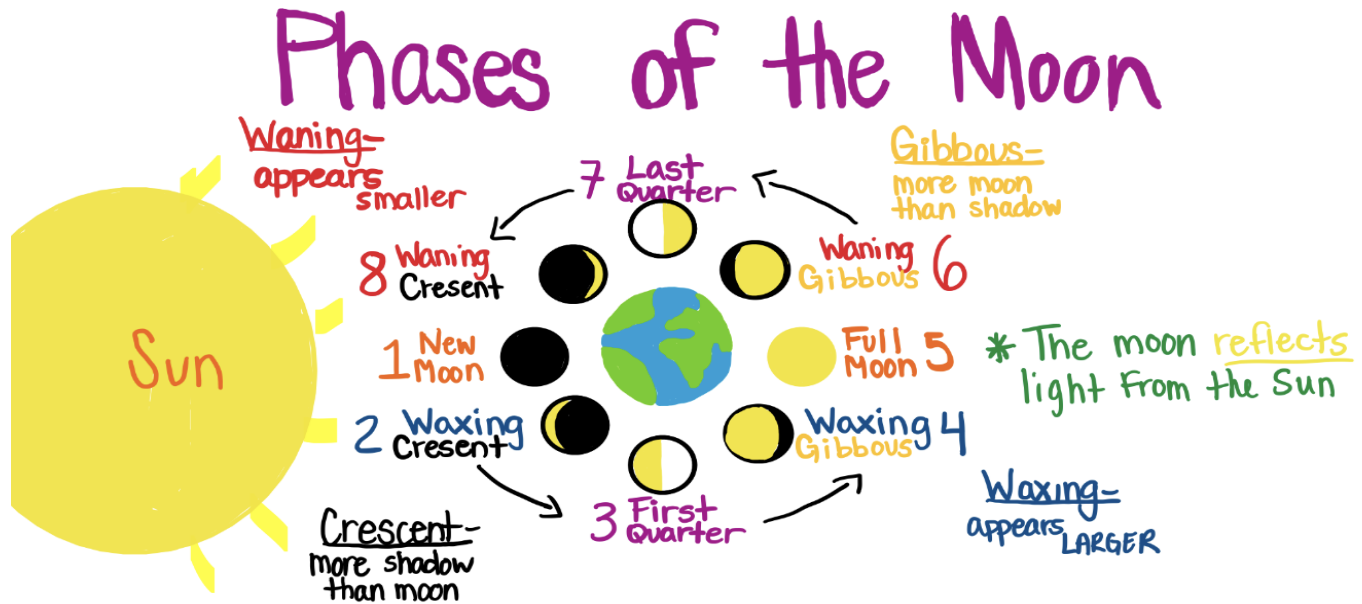
## Lesson 9: Moon Phases

### Today's focus

I will be able to:

- describe the changes in the observable shape of the Moon over the course of about a month.

### Brain Dump:

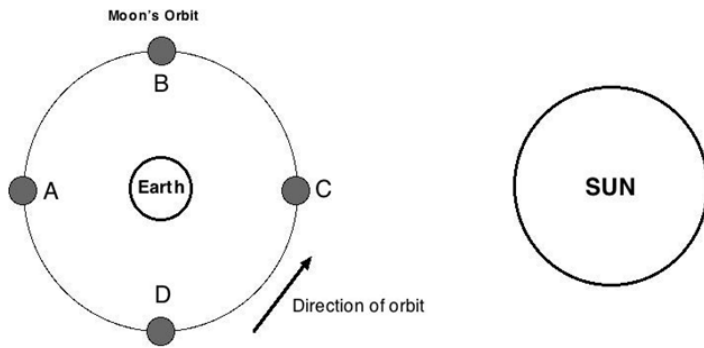


It takes the moon 27-30 days to orbit Earth

- From phase 1 to 5 = 14 days (2 weeks)
- From phase 3 to 7 = 14 days (2 weeks)

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## Think About This!!!:



**Tina:** I think position C will be the full moon because it is closer to the Sun and the Sun lights up the Moon.

**Ricky:** I think position A will be the full moon because the Moon produces its own light.

**Alicia:** I think position A will be the full moon because light bounces off of the Moon from the Sun and then travels to the Earth.

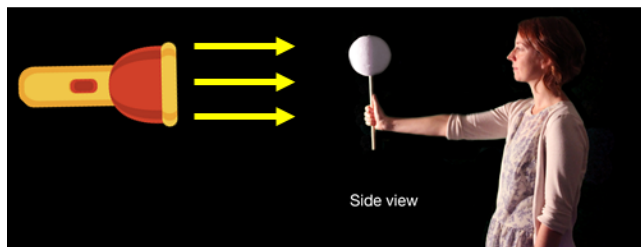
**Brandy:** I think position C will be the full moon because the sunlight bounces off the Moon from the Sun and then travels to the Earth.

What do you agree with and why?

## Modeling Moon Phases

### Moon Phase 1

1. Student one holds the flashlight representing the Sun.
2. Student two (the Earth) will sit in a chair and hold the spherical object (the Moon) slightly above their head and out toward the flashlight.
3. The partners switch jobs and repeat steps 1 and 2.
4. Answer the questions.



How much of the Moon is lit up?

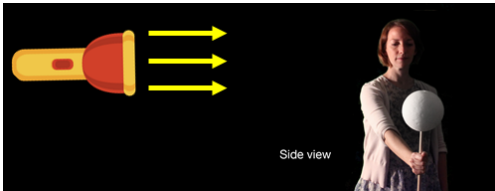
How much of the lit up portion of the Moon in this position do you observe from Earth?

Draw a picture of this Moon Phase as observed from Earth. What is the name of this moon phase?

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## Moon Phase 2

1. Student one holds the flashlight representing the Sun.
2. Student two will rotate counterclockwise in the chair one-quarter turn still holding the spherical object slightly above their head.
3. The partners switch jobs and repeat steps 1 and 2.
4. Answer the questions.



How much of the Moon is lit up?

How much of the lit up portion of the Moon in this position do you observe from Earth?

Draw a picture of this Moon Phase as observed from Earth. What is the name of this moon phase?

## Moon Phase 3

1. Student one holds the flashlight representing the Sun.
2. Student two will rotate counterclockwise in the chair another one-quarter turn still holding the spherical object slightly above their head.
3. The partners switch jobs and repeat steps 1 and 2.
4. Answer the questions.



How much of the Moon is lit up?

How much of the lit up portion of the Moon in this position do you observe from Earth?

Draw a picture of this Moon Phase as observed from Earth. What is the name of this moon phase?

## Moon Phase 4

1. Student one holds the flashlight representing the Sun.
2. Student two will rotate counterclockwise in the chair another one-quarter turn still holding the spherical object slightly above their head.
3. The partners switch jobs and repeat steps 1 and 2.
4. Answer the questions.



How much of the Moon is lit up?

How much of the lit up portion of the Moon in this position do you observe from Earth?

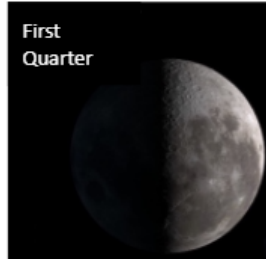
Draw a picture of this Moon Phase as observed from Earth. What is the name of this moon phase?

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## The Moon's Patterns

The Moon changes its appearance throughout its orbit around Earth.

\*\*\*Remember that moons orbit planets.\*\*\*



During New Moon, the lit side of the Moon is not visible from Earth.

During the First Quarter Moon, the right side of the Moon is visible from Earth.

During Full Moon, the lit side of the Moon is completely visible from Earth.

During the Last Quarter Moon, the left side of the Moon is visible from Earth.

- It takes about 1 month (approximately 28-30 days) for the Moon to complete one revolution around Earth.
- The phases of the Moon as observed from Earth always occur in the same order.

\_\_\_\_\_ - You can not see the Moon from the Earth. The Moon is between the Earth and the Sun.

\_\_\_\_\_ - You can see the entire Moon from the Earth. The Moon is on the opposite side of Earth from the Sun.

\_\_\_\_\_ - The right side of the Moon is bright.

\_\_\_\_\_ - The left side of the Moon is bright.

## Why Does the Moon Change?

1. The moon does not actually change \_\_\_\_\_, but our \_\_\_\_\_ of it changes as it orbits Earth.
2. It takes about \_\_\_\_\_ month for the moon to complete one full orbit around \_\_\_\_\_.
3. The different shapes of the lit-up moon that we see from Earth are called \_\_\_\_\_.
4. When the fully lit side of the moon faces Earth, we see a \_\_\_\_\_ moon.
5. After the moon goes through all eight phases, it starts again at the \_\_\_\_\_ moon.

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## Exit Ticket:

What are the next 3 phases of the Moon if the Moon currently looks like the picture below?

