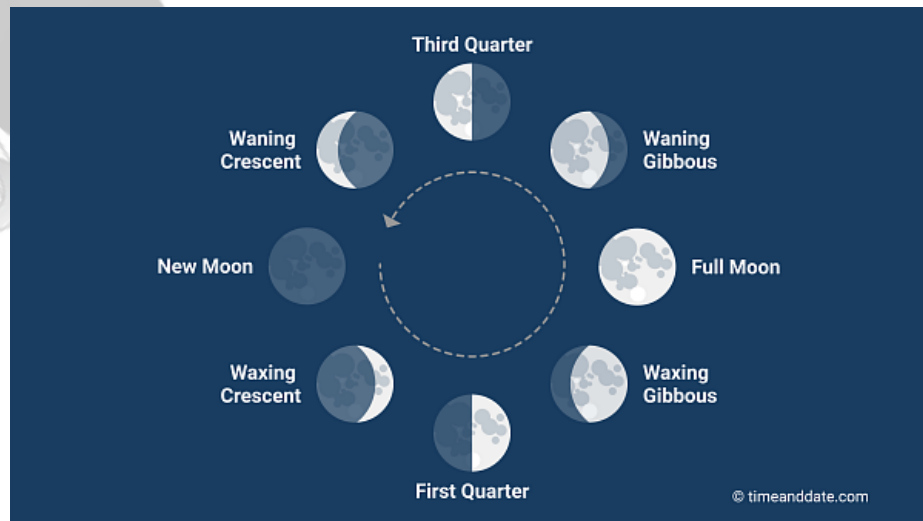


## D. Phases of the Moon

### Phases of the Moon

Have you ever looked up at the night sky and noticed how the Moon seems to change shape each night? These changes in the Moon's appearance are called phases of the Moon. Let's learn about the different phases of the Moon and why they happen.



#### New Moon

The lunar cycle begins with the new moon phase. During this time, the Moon is between the Earth and the Sun, and the side facing us is in darkness. It appears as if there is no Moon in the sky.

#### Waxing Crescent

After the new moon, a tiny sliver of the Moon becomes visible in the sky. This is known as the waxing crescent phase. As the days pass, this crescent shape becomes more prominent.

#### First Quarter

In the first quarter phase, half of the Moon is visible from Earth. This phase is sometimes called a half-moon because only half of the Moon's face is illuminated by the Sun.

#### Waxing Gibbous

As the Moon continues to orbit the Earth, more of its surface becomes visible each night. This phase is called the waxing gibbous, and it appears as a large, almost full moon.

### **Full Moon**

The full moon is the most famous and beautiful phase of the Moon. It occurs when the Earth is between the Moon and the Sun, and the entire face of the Moon is illuminated by the Sun's light.

### **Waning Gibbous**

Once the full moon has passed, the Moon starts to wane, or decrease in size. The waning gibbous phase is similar to the waxing gibbous but with the illuminated area gradually decreasing.

### **Third Quarter**

During the third quarter, half of the Moon is visible once again, but on the opposite side from the first quarter. Like the first quarter, it's called a half-moon.

### **Waning Crescent**

As the Moon continues to orbit, it appears to get smaller and smaller each night. The waning crescent is the final phase before the new moon.

### **Why Do Phases Happen?**

The changing phases of the Moon are caused by its position relative to the Earth and the Sun. As the Moon orbits the Earth, different amounts of its illuminated side face us.

### **Length of Lunar Cycle**

The entire lunar cycle, from one new moon to the next, takes about 29.5 days to complete. That's why we have a full moon once every month.

1. What is the phase of the Moon when it appears as a large, almost full moon?
  - A) First Quarter
  - B) Full Moon
  - C) Waxing Crescent
  - D) Third Quarter
2. How long does it take for the entire lunar cycle to complete?
  - A) 7 days
  - B) 14 days
  - C) 29.5 days
  - D) 365 days

3. During which phase is the entire face of the Moon illuminated by the Sun's light?

- A) Waning Crescent
- B) First Quarter
- C) New Moon
- D) Full Moon

4. When the Moon appears as a tiny sliver in the sky, it is in the \_\_\_\_\_ phase.

- A) Waxing Crescent
- B) Full Moon
- C) Third Quarter
- D) New Moon

5. What happens during the third quarter phase of the Moon?

- A) Half of the Moon is visible from Earth
- B) The Moon is between the Earth and the Sun
- C) The Moon appears as a large, almost full moon
- D) The Moon's surface becomes visible gradually

6. What is the phase of the Moon when half of its face is illuminated by the Sun's light?

- A) Full Moon
- B) Waxing Gibbous
- C) Third Quarter
- D) Waning Crescent

7. Which phase of the Moon occurs immediately after the full moon?

- A) Waxing Crescent
- B) Waning Crescent
- C) Waxing Gibbous
- D) First Quarter

8. When the Moon appears as a small sliver in the sky, it is in the \_\_\_\_\_ phase.

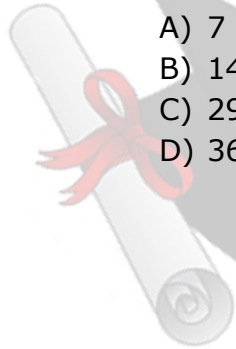
- A) First Quarter
- B) New Moon
- C) Waxing Crescent
- D) Waning Crescent

9. What causes the different phases of the Moon?

- A) The Earth's rotation
- B) The Moon's position relative to the stars
- C) The Moon's position relative to the Earth and the Sun
- D) The Moon's size and shape

10. How many days does it take for the Moon to complete its entire cycle and return to the same phase?

- A) 7 days
- B) 14 days
- C) 29.5 days
- D) 365 days



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## ANSWERS & EXPLANATIONS

1. B - Full Moon.
  - The waxing gibbous phase appears as a large, almost full moon.
2. C - 29.5 days.
  - The entire lunar cycle takes about 29.5 days to complete, from one new moon to the next.
3. D - Full Moon.
  - The full moon is the phase when the entire face of the Moon is illuminated by the Sun's light.
4. A - Waxing Crescent.
  - When the Moon appears as a tiny sliver in the sky, it is in the waxing crescent phase.
5. A - Half of the Moon is visible from Earth.
  - During the third quarter phase, half of the Moon is visible from Earth, similar to the first quarter.
6. B - Waxing Gibbous.
  - The phase of the Moon when half of its face is illuminated by the Sun's light is called waxing gibbous.
7. B - Waning Crescent.
  - The waning crescent phase occurs immediately after the full moon.
8. C - Waxing Crescent.
  - When the Moon appears as a small sliver in the sky, it is in the waxing crescent phase.
9. C - The Moon's position relative to the Earth and the Sun.
  - The different phases of the Moon are caused by its position relative to the Earth and the Sun.
10. C - 29.5 days.
  - It takes about 29.5 days for the Moon to complete its entire cycle and return to the same phase.