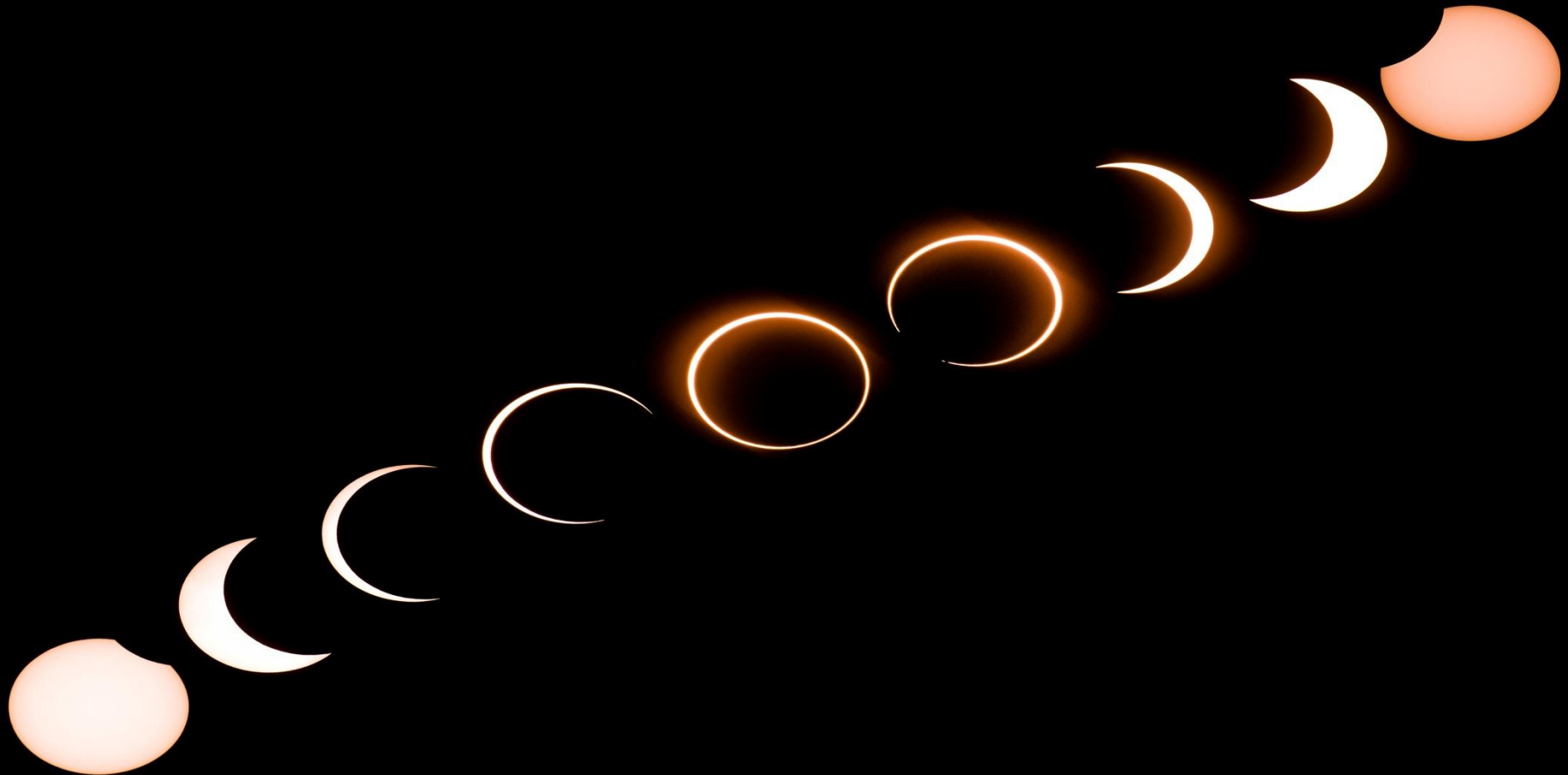


# ECLIPSE

Dr Gohar Taqi Kazimi



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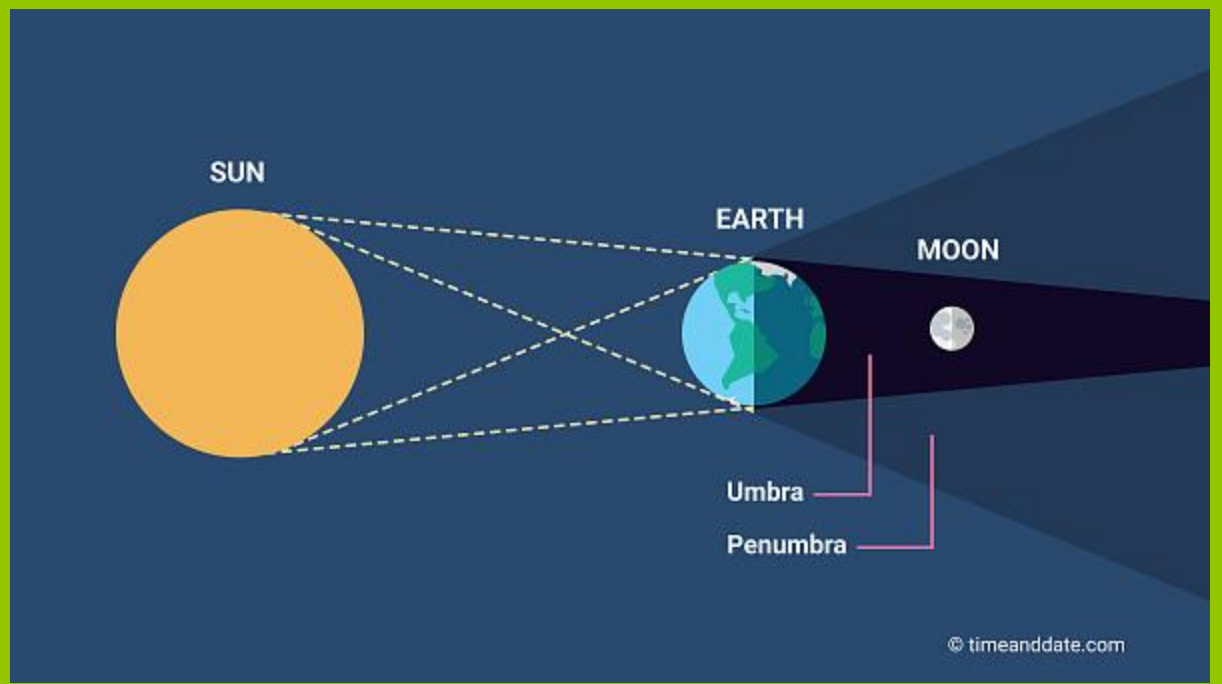
- An eclipse takes place when one heavenly body such as moon or planet moves into the shadow of another heavenly body.

## TYPES:

- There are two types of eclipse.
  1. Lunar Eclipse
  2. Solar Eclipse

# Lunar Eclipse

- When Earth passes directly between the sun and the moon a Lunar eclipse takes place.
- The moon moves in an orbit around Earth, and at the same time, Earth orbits the sun. sometimes earth moves between the sun and the moon. When this happens, Earth blocks the sunlight that normally is reflected by the moon. (this sunlight is what causes the moon to shine). Instead of light hitting the moon's surface, Earth's shadow falls on it. This is an eclipse of moon – a lunar eclipse.
- A lunar eclipse can occur only when the moon is full.
- A lunar eclipse can be seen from Earth at night.



# Types of Lunar Eclipse

- There are two types of lunar eclipse.
  1. Total lunar eclipse
  2. Partial lunar eclipse

## Total Lunar Eclipse

- A total lunar eclipse occurs when the moon and the sun are on exact opposite sides of Earth. Although the moon is in Earth's shadow, some sunlight reaches the moon. The sunlight passes through Earth's atmosphere, which causes Earth's atmosphere to filter out most of the blue light. This makes the moon appear red to people on earth.

## Partial Lunar Eclipse

- A partial lunar eclipse happens when only a part of the moon enters Earth's shadow. In a partial eclipse, Earth's shadow appears very dark on the side of the moon facing Earth. What people see from Earth during a partial lunar eclipse depends on how the sun, Earth and moon are lined up.

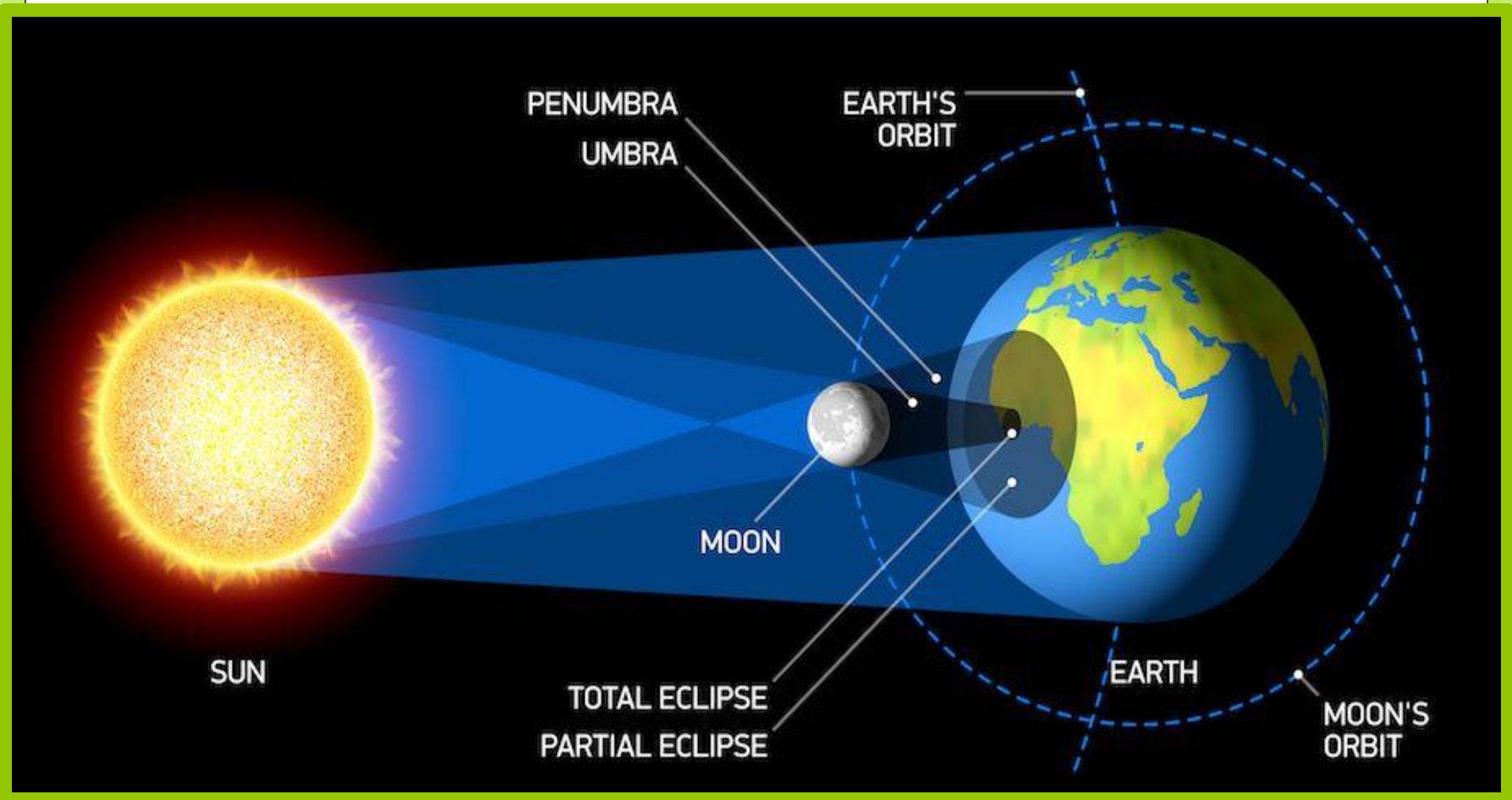
# Lunar Eclipse

Lunar eclipse usually lasts for a few hours. At least two partial lunar eclipses happen every year, but total lunar eclipses are rare. It is safe to look at a lunar eclipse.



# Solar Eclipse

- Sometimes when the moon orbit Earth, it moves between the sun and Earth. When this happens, the moon blocks the light of sun from reaching earth. This causes an eclipse of sun, or solar eclipse. During a solar eclipse, the moon casts a shadow onto Earth.



# Types of solar eclipse

- There are three types of solar eclipses.
  1. Total solar eclipse
  2. Partial solar eclipse
  3. Annular solar eclipse

# Total Solar Eclipse

- The first is the total solar eclipse. A total solar eclipse is only visible from a small area on Earth. The people who see the total eclipse are in the center of moon's shadow when it hits Earth. The sky become very dark, as if it were night. For a total eclipse to take place, the sun, moon and Earth must be in a direct line.

## Partial Solar Eclipse

- The second type of solar eclipse is partial solar eclipse. This happens when the sun, moon and Earth are not exactly lined up. The sun appears to have a dark shadow on only a small part of its surface.

# Annular Solar Eclipse

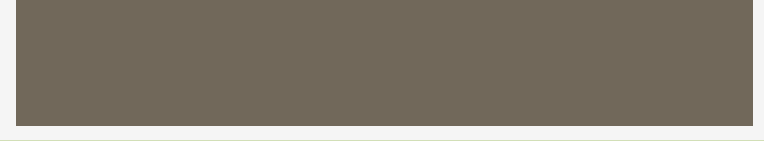
- Third type is annular solar eclipse. An annular eclipse happens when the moon is farthest from earth. Because the moon is farther away from Earth, it seems smaller. It does not block the entire view of the sun. The moon in front of the sun looks like a dark disk on top of a larger sun-colored disk. This creates what looks like a ring around the moon.

- During a solar eclipse, the moon casts two shadows on earth. The first shadow is called umbra(UM bruh). This shadow gets smaller as it reaches Earth. It is the dark center of the moon's shadow. The second shadow is called the penumbra (pe NUM bruh ). The penumbra gets larger as it reaches Earth. People standing in the penumbra will see a partial eclipse.
- People standing in the umbra will see a total eclipse.
- Solar eclipses happen once every 18 months. Unlike lunar eclipses, solar eclipses only last for a few minutes.

## **Important point**

- Never look directly at the sun: it can permanently damage your eyes, you must use proper safety equipment to look at any type of solar eclipse.





Thank  
you!