

**Earth Science 11**  
**Unit 1 – Earth and its Solar System**  
**Day 6 – Our Moon**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Block: \_\_\_\_\_

Satellite: a natural or artificial body that revolves around a larger celestial body

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Moon: a celestial body that revolves around a body that is larger in mass; a natural satellite

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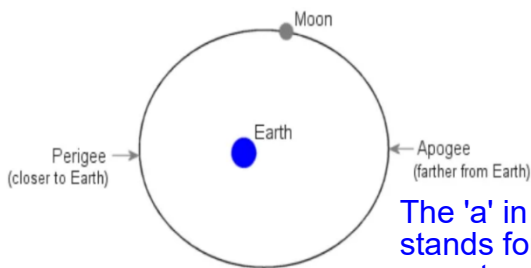
**Characteristics of the moon:**

- 1/6th the gravity of Earth
- no atmosphere so temperature ranges from 134 C day to -170 C night
- Mare -> dark areas that look like seas. This is solidified lava that is billions of years old
- Craters -> deep depressions on the surface of the moon from collisions billions of years ago
- Regolith -> dust and rock created from repeated meteorite collisions that covers the Moon's Surface

Formation of the Moon: A collision between Earth and a Mars sized body ejected magma into space, then settled into an orbit and clumped together.

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The Moon's orbit around Earth is an ellipse. One side (perigee) is closer to Earth than the other (apogee).



The 'a' in apogee stands for "away" .... not really but works

Note: In this diagram, the eccentricity of the Moon's orbit is exaggerated for clarity.

**Movements of the Moon:** \_\_\_\_\_

Orbits the Earth in an Ellipse

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Apogee -> point at which the moon is farthest from the Earth

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Perigee -> the point at which the moon is closest to the Earth

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It takes 27.3 days for the moon to revolve around the Earth

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Apogee? Perigee? Can't remember which is which? An old astronomer's trick: The "a" in "apogee" stands for "away."

What would you be thinking if you saw an eclipse, but no-one was around to tell you what it was?

Ancient people could not predict eclipses and didn't know when one would end or even that it would end. Rituals to persuade the Sun or Moon to return to its normal state were developed. And they worked! The heavens always return to normal after an eclipse.

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### Solar Eclipses:

When the moon passes directly between the Earth and the Sun. This blocks Earth's view of the Sun and also casts a shadow on the Earth

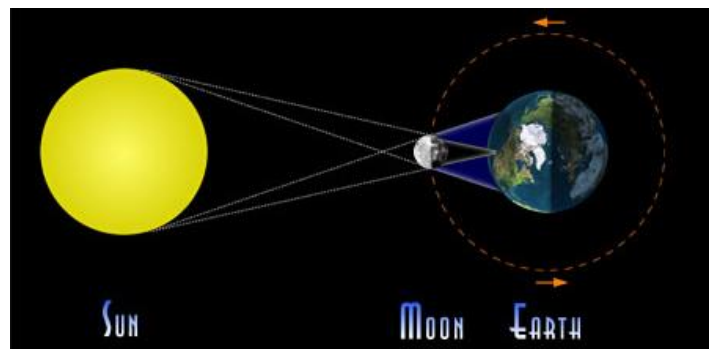
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Solar Eclipses are rare and only last a few minutes as the moon only casts a small shadow

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It will get darker and colder outside as the sun is covered, stars will become visible and birds will begin to sing.

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### Lunar Eclipses:

Occurs when the moon moves through the Earth's shadow, which only happens when the Earth is between the Moon and the Sun and all three are in line.

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Earth's shadow is large enough that a lunar eclipse lasts for hours and can be seen by any part of Earth with a view of the moon at the time of the Eclipse

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The moon will glow with a dull red colouring during a total lunar eclipse. Due to sunlight filtered and refracted by Earth's atmosphere.

