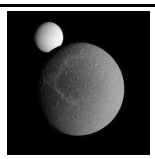
Astronomy (Earth, Moon and Sun)

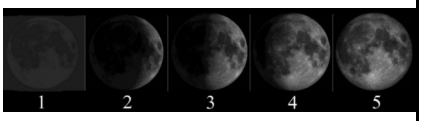
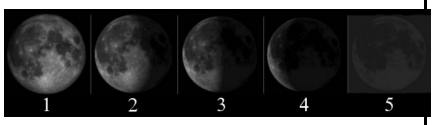
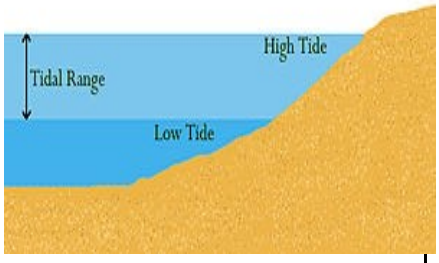
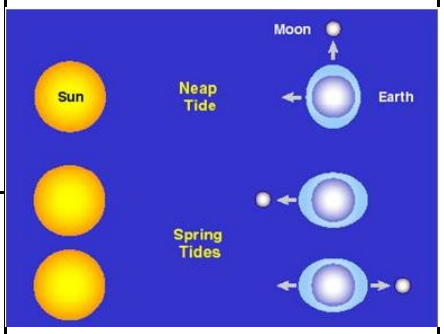
S6E2. Obtain, evaluate, and communicate information about the effets of the relative positions of the sun, Earth and moon.

A. Develop and use a model to demonstrate the phases of the moon by showing the relative positions of the sun, Earth and moon.
B. Construct an explanation of the alignment of the sun, Earth, and moon during solar and lunar eclipses.
C. Analyze and interpret data to relate the tilt of Earth to the distribution of sunlight throughout the year and its effect on seasons.

S6E3. Obtain, evaluate, and communicate information to recognize the significant role of water in Earth processes.

D. Analyze and interpret data to create graphic representations of the causes and effects of waves, currents, and tides in Earth's systems.

Term	Info	Picture
Natural satellite	A celestial body that orbits a bigger celestial body (a moon)	
Moon	Earth's only natural satellite. It causes all of the tides.	
Moon phases	The way the Earth appears as it revolves around Earth.	
First quarter moon	When the right half of the moon is illuminated.	
Third quarter moon	When the left half of the moon is illuminated.	
Full moon	When the whole face of the moon that is facing Earth.	
New Moon	The entire face of the moon is dark. After a waning gibbous moon.	

Term	Info	Picture
Waxing	WAX ON/RIGHT ON! The moon is becoming more illuminated.	
Waning	WANE OFF/LEFT OFF! The moon is becoming less illuminated.	
Crescent Moon	When the face of the moon is less than half lit.	
Gibbous Moon	When the face of the moon is more than half lit.	
Lunar Eclipse	When the moon passes through the shadow of Earth.	
High Tide	When the ocean is higher up on the beach. There are two high tides per day.	
Low Tide	When the ocean is at it's lowest point.	
Neap tide	When there is only a small difference between the low tide and high tide. It happens when there is a first or third quarter moon (half moon)	
Spring tide	When there is a higher than normal high tide. Happens during a new moon or a full moon.	

Terrestrial Planet

Gas giant

Planetary ring

rotation

revolution

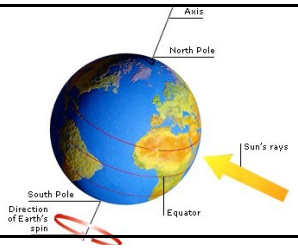
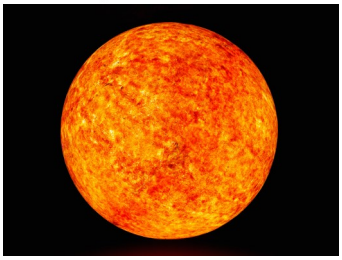
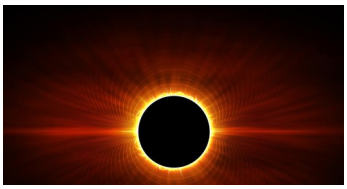
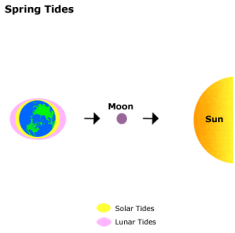
solstace

equinox

day

year

season

Term	Info	Picture
Tilt of the Earth	Earth is tilted at 23 degrees, which is what causes the seasons in the temperate zones.	
Earth's Axis	The tilt of the Earth, Earth's axis is 23 degrees.	
Sun	The largest celestial body. The sun provides light and energy for all of Earth. It has the strongest gravitational pull and is the center of our solar system.	
Solar Eclipse	When the moon blocks the sun. Total solar eclipses are very rare, and it depends on where you are located on Earth as to whether or not you can see it.	
Aligned	LINED UP. When the Sun, Moon and Earth are always in a line they are ALIGNED.	

Learning Targets:

1. I can describe the moon's orbit and how it affects the view of the moon from Earth.
2. I can explain how a solar eclipse occurs.
3. A solar eclipse occurs when the moon passes between the Earth and the sun.
4. I can explain how the tilt of Earth causes seasons.
5. I can explain the causes of tides and compare and contrast different interactions between the

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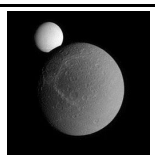
Natural satellite		
Moon		
Moon phases		
First quarter moon		
Third quarter moon		
Full moon		
New Moon		

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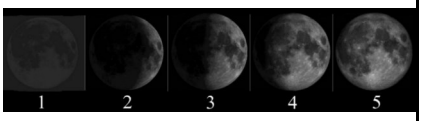
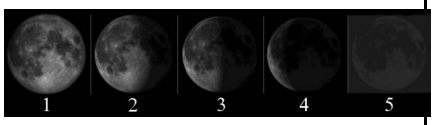
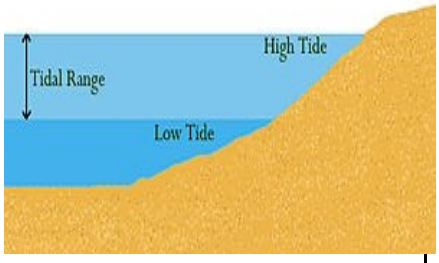
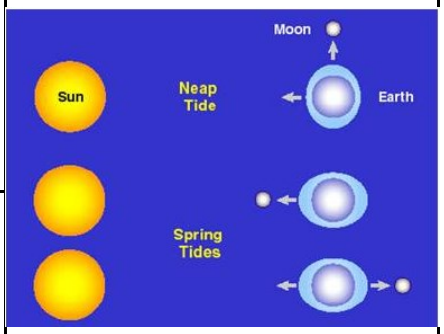
Waxing		
Waning		
Crescent Moon		
Gibbous Moon		
Lunar Eclipse		
High Tide		
Low Tide		
Neap tide		
Spring tide		

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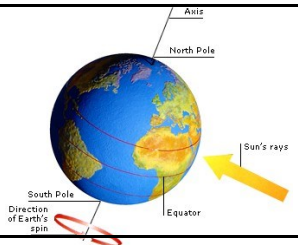
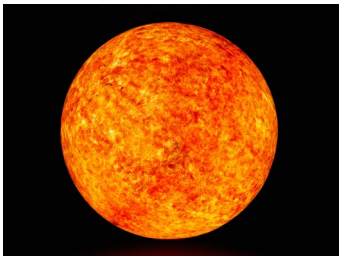
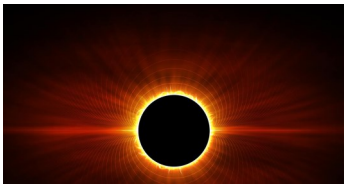
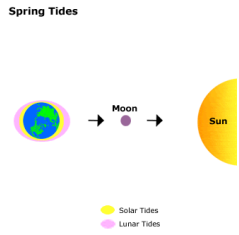
Tilt of the Earth		
Earth's Axis		
Sun		
Solar Eclipse		
Aligned		

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