

Sect 19.1 & 19.2 Notes

19-1 Earth in Space

The Earth moves through space in two ways: rotation and revolution

Rotation- the spinning of Earth on its axis, causes day and night

Revolution-

Orbit-

Seasons on Earth

Earth has seasons because its axis is tilted as it revolves around the sun.

Summer and winter –

Change in Earth's season is not connected to how far we are from the sun.

Solstices

Solstice- the day when the sun is the farthest north of the equator is the summer solstice in the Northern Hemisphere and the winter solstice in the Southern Hemisphere.

The opposite is true in the winter, when the sun –

Usually around December 21st.

Equinoxes

Halfway between the solstices, neither hemisphere is tilted toward or away from the sun.

This occurs twice a year around March 21st (Vernal Equinox) and September 22nd (Autumnal Equinox)

Equinox-

19-2 Gravity and Motion

Gravity-

Newton was the first to realize that gravity occurs everywhere

Law of Universal Gravitation-

Gravity



Strength of the force of gravity depends on the masses of the objects and the distance between them

Gravity, Mass and Weight



Mass-



Weight

Mass does not change, an object's weight can change depending on location

Gravity and Distance



More massive objects have greater gravitational strength



The force of gravity decreases as distance increases



Inertia –



Newton's 1st Law of Motion



States that an object at rest will stay at rest and an object in motion will stay in motion with a constant speed and direction unless acted on by a force.

Orbital Motion



Newton concluded that two factors-