

Models of Solar System

Ptolemy's Geocentric Model -> Earth at the center and accepted for over 1500 years	Copernicus' Heliocentric Model -> Sun at the center, circular planet orbits
Galileo's Contributions -> One of the first telescopes (support Copernicus)	Kepler's Improved Model -> Elliptical orbits and moons orbiting planets

Phases of the Moon -> Appears in different shape in different time

Causes of Season

The Earth rotates on its axis (rotation) and revolves around the Sun (revolution)	Daylight (the hemisphere experiencing summer (e.g., the Northern Hemisphere) is tilted towards the sun)
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<https://sciencenotes.org/wp-content/uploads/2023/11/Why-Do-We-Have-Seasons.png>

Properties of Magnetism

North and South poles attract, similar pole repel	Discovered by Chinese 200 BCE thousands years ago
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Magnetism (Physical) -> Allows certain materials to attract or repel each other.

Earth's Magnetic Field

Magnetic Field -> Space around a magnet where its force is felt	To find magnetic field, use iron fillings or compass.
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Earth's magnetic field is generated by the movement of molten iron in its outer core. Protects the planet from harmful solar radiation by deflecting charged particles from the sun.

Shape of Magnetic Field

https://cdn.shopify.com/s/files/1/1025/0137/files/s/magnetic-fields_8a6a18c6-d8b9-485f-97ca--99ba5a6e06c5.jpg?v=1685904676	Flow from north to south, closed loops, no crossing.
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Factors that Affect Gravity Strength

Gravity -> Force that pulls object together.	Earth's Gravity (9.8) pull everything toward center.
Weight -> Force of gravity on an object	$N = kg \times N/kg$
Earth orbits sun at 100,000 km/h.	Factors -> Mass, Distance, Density, Location, Presence of Nearby Masses

Gravity Affect Objects in Space

Keeps planets in orbit around the sun, preventing them from flying off into space.	Causes moons to orbit planets and governs the motion of satellites
Pulls matter together, which is how stars and galaxies are formed	Affects the paths of comets and asteroids as they travel through space.
Affects microgravity environment like ISS.	

