



The Origin And Evolution Of The Earth

- Big Bang Theory explains the origin and expansion of the universe.
- The universe began about 13.8 billion years ago.
- Big Bang Theory was proposed by Georges Lemaître in 1927.
- Edwin Hubble supported the expanding universe idea.
- CMBR is one of the strongest proofs of the Big Bang Theory.
- CMBR was discovered in 1964.
- Redshift shows galaxies are moving away; blue shift shows an object is moving towards the observer.
- Gravitational waves were predicted by Einstein in 1916 and detected by LIGO in 2015.
- The Solar System formed about 4.6 billion years ago.
- The Sun makes up about 99.8% of the Solar System's mass.
- Mercury is the smallest and closest planet to the Sun.
- Venus is the hottest planet and is called Earth's twin.
- Earth is the only known planet that supports life, with about 71% water.





- Mars is called the Red Planet.
- Jupiter is the largest planet and Ganymede is the largest satellite.
- Saturn is famous for its rings.
- Neptune is the farthest planet from the Sun.
- Pluto was classified as a dwarf planet in 2006.
- Earth rotates in 23 hours, 56 minutes and 4.09 seconds.
- Earth revolves around the Sun in 365 days and 6 hours.
- Rotation causes day and night; revolution causes seasons.
- Perihelion occurs on January 3 and Aphelion occurs on July 4.
- Equinoxes occur on 21 March and 23 September.
- Summer Solstice occurs on 21 June; Winter Solstice occurs on 22 December.
- India uses 82.5° E longitude as its Standard Meridian.
- IST is 5 hours 30 minutes ahead of GMT.
- Halley's Comet appears every 76 years and will next be seen in 2062.
- The Moon is Earth's only natural satellite, and its study is called Selenology.
- Earth formed through accretion and later differentiation.
- Oceans formed around 4000 million years ago.
- Life first appeared in oceans around 3.5 to 4 billion years ago.
- Geological Time Scale order is Eon → Era → Period → Epoch.
- Paleozoic Era is linked with Cambrian Explosion.
- Mesozoic Era is called the Age of Reptiles.
- Cenozoic Era is called the Age of Mammals.

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