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Write a note on the origin of Earth and the planets in solar system. Also examine how do scientist study birth of planets in Universe. (150 words).

Origin of Earth took place around 5.5 Billion yrs ago.

Various hypotheses put forward by different scientist about origin of Earth but most agreed one was, Earth formed out of dust and ashes particles surrounding youthful sun. These dust and ash particles collides numerous with rocks, asteroids etc and accretion led to the origin of Earth.

Whereas planet formation took place around 4.6 Billion year ago.

Planets are formed as follows -

- ~~planets~~ These are localised lumps of gases within a nebula.

- Gravitational force developed within time leading to formation of core and dust particle around the core.

- These dust particle around the core accumulated with various

other particle and formed small-small bodies as planetisimals.

- After accumulation of small particles into large body, these gases around core started to condense and formed larger bodies by accretion.

And this led to formation of Earth and planets in the solar system. Further

This formation of planets studied by Scientist in var through various methods like →

- a) Study of Meteorite.
- b) Study of asteroids, comets.
- c) Through Spectrometry

etc. are the methods associated which can further help in understanding and studying formation of earth and planet in a efficient manner.

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Discuss the evolution of the layered structure of the Earth along with the formation of the Lithosphere, hydrosphere and atmosphere.

Evolution of Earth took place around 505. Billion year ago. Initially Earth was full of gases like Hydrogen and Helium and Temp was also very high around 4500K.

> With time temperature dropped and earth started cooling to some extent.

~~Various steps~~

> Volcanoes eruption took place which led to addition of various gases into atmosphere.

> Meanwhile condensation also took place which led to rainfall.

> Rainfall accumulation led to formation of oceans (Hydrosphere).

> Excess CO_2 in atmosphere formed CaCO_3 , Ca came in existence through Earth.

> Hydrogen & Helium being the lighter gas, escaped in the upper layer of atmosphere

and particular incident terms as Degassing.

> Organism evolution by the time led to formation of O_2 ,

Are the various processes which led to the formation of ~~Earth and its layered structure~~. Lithosphere, hydrosphere and atmosphere.

- When Earth formation took place it was hot ~~was~~ with temp. around 4500 K. Heavier material combined forming core and lighter material to the periphery of core, forming Crust, Mantle and Core.

~~well~~ Due to presence of Iron, Magnetic field also developed protecting Earth from other fields.

And this led to the formation of Earth's structure and layers Crust (semi-solid), Mantle (liquid) and core as solid with NiFe.