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The Earth in the Solar System

Lesson Plan

Contents

- ▶ An overview of the Universe
- ▶ The Solar System: The Sun, the Planets
- ▶ The Satellites: The Moon, Asteroids, Meteors, Comets

Objectives

- ▶ To understand what constitutes the universe
- ▶ To learn what Solar System is
- ▶ To know about various satellites
- ▶ To appreciate the interrelation of all celestial bodies

■ Teacher's Aids

- ▶ Globe
- ▶ Model of the Solar System
- ▶ Clay models of planets, satellites, etc., on a table or on a cardboard sheet
- ▶ Pictures, atlas and wall maps of the Universe and galaxies
- ▶ Blackboard

■ Tips for Teacher

- ▶ Explain the Universe, space, etc., using aids and, if necessary, plasticine/modelling clay to make a model of the Solar System and other celestial bodies.
- ▶ Use the internet and films such as 'Cosmos', by Carl Sagan to show the magnitude of the Universe, and its interrelationships.
- ▶ Use role play by students to understand the location and movements of the planets, revolution of the moon, etc.
- ▶ Students should be encouraged to know places, locations and their placement on the maps.

■ Background and Reading

- ▶ Read the lesson aloud and explain, sharing the aids, etc., stopping to examine and explain the data in the boxes.
- ▶ Particularly focus on how the entire Universe is interconnected.

The Earth and the Solar System

- ▶ Location of the Earth in the Universe/among the galaxies/in the Solar System, with the magnitude and distances involved and its standing vis-à-vis the other planets.
- ▶ Explain the details of each planet, with diagrams/pictures.

Satellites

- ▶ Explain each of the satellites, specifying variations and differences.
- ▶ In explaining the phases of the moon, use pictures, diagrams, torch/small balls, models, and let the students themselves represent the phases and also the planets.
- ▶ Explain some of the terms that are significant in the chapter: the Big Bang Theory, Proxima Centauri, sunspots, Greenhouse Effect, etc. Ask different groups of students to bring in a few sentences on each term that is new, and share it with the class.

Assessment Corner

Oral Assignment

- Ask for answers at random from the students. Confirm the right answers. It is possible some students may have learnt different stories about the beginning of the Universe. Tell them the scientific explanation. Let them write down the correct answers if they like in their books.

Written Assignment

- The teacher has two options—(i) Either do these exercises orally first and then ask the students to write them down. OR (ii) Ask students to write the answers on their own. Then the teacher can announce the correct answers and students can ask their partners to cross check them.

In either case, the answers can be written as homework and the teacher can check them in the class.

Think Tank

- HOTS questions:** Discuss the questions in class and let students write the answers to G and H as homework. Teacher should assess individual work.