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Latitudes and Longitudes

Lesson Plan

Contents

- ▶ An overview of the latitudes and longitudes on Earth
- ▶ Drawing and locating them

Objectives

- ▶ To understand what latitudes and longitudes are
- ▶ To learn what purpose they serve
- ▶ To know about location using them
- ▶ To learn about the time zones created by latitudes

Teacher's Aids

- ▶ Globe
- ▶ Pictures, atlas, diagrams of latitudes and longitudes: giving climate and time zones, and finding locations based on the grid
- ▶ Blackboard

Tips for Teacher

- ▶ Explain first what a grid is using the blackboard. Then when you go into the details of location and time and climate zones, the students will understand them faster.
- ▶ Use the internet and pictures and videos/films to show different climate zones, satellite images of the Earth, etc.
- ▶ Make clay models of the Earth to show its shape, grid and location of climate and time zones.
- ▶ Students should be encouraged to know places, locations and their placement on the maps.
- ▶ You can take the class for a visit to the Jantar Mantar, the Observatory, etc.

Background and Reading

- ▶ Read the lesson aloud and explain, sharing the aids, etc., stopping to examine and explain the diagrams and the map.
- ▶ Particularly focus on the manner in which the grid is used to find location, time and to identify climate zones.

The Earth

- ▶ The shape of the Earth
- ▶ Reference Points: Poles, Axis, Hemispheres, Equator, Parallels and Meridians

Latitude

- ▶ Explain the concept of angles and degrees in measurement of latitudes.
- ▶ Important Parallels: Poles, Arctic and Antarctic Circles, Tropics of Cancer and Capricorn and the Equator.
- ▶ The Heat or Climate Zones: use two different-sized balls to represent the Sun and the Earth and explain how the Sun's rays fall on different parts of the Earth and create the Heat Zones and climatic changes in different areas of the Earth.
- ▶ Tropical/Torrid Zone, Temperate Zone, Frigid Zone.

Longitude

- ▶ Explain the concept of meridians, and how to count 360 of them.
- ▶ Prime Meridian or Greenwich Meridian and 180 degree meridian.

Time and Location

- ▶ How to find locations using the grid of latitudes and longitudes.
- ▶ Explain the Time Zones and the International Date Line; how one day is gained if you travel east across the Date Line and one day lost if you travel west over it.
- ▶ What is Standard Time and why it is difficult for countries like USA and Russia to have a Standard Time?

Assessment Corner

Oral Assignment

- A. Ask for answers at random from the students. Confirm the right answers.
If the students like, they can write down the answers.

Written Assignment

- B–F. 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

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