



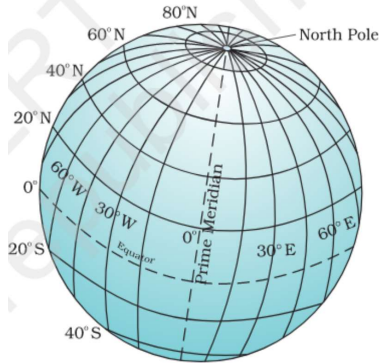
**FLORENCE INTERNATIONAL SCHOOL**  
**CLASS- VI**  
**WORKSHEET NO: 10**  
**GEOGRAPHY**

**NAME:**

**DATE: 10/04/2020**

**Longitude and Time**

- As the earth rotates from West to East, those places East of Greenwich will be ahead of Greenwich Time and those to the West will be behind it.
- The earth rotates  $360^\circ$  in about 24 hours.
- At any place, a watch can be adjusted to read at 12 o'clock when the Sun is at the highest point in the sky.



**Standard Time**

- The local time various places are different, so it is necessary to adopt the local time of some central meridian of a country as the Standard Time.
- $82^\circ \text{E}$  is treated as the Standard Meridian of India. The local time at this meridian is known as the Indian Standard Time (IST).
- India located East of Greenwich at  $82^\circ 30' \text{E}$ , is 5 hours and 30 minutes ahead of GMT.
- Some countries have a great longitudinal extent and so they have adopted more than one standard time.

The circle passing through Greenwich in Britain, and perpendicular to the equator, and parallel to the axis, is called the Prime Meridian. It divides the earth into two Hemispheres, the Eastern and the Western. Together, the Equator and the Prime Meridian divide the earth into four equal parts. We can imagine a number of more circles parallel to the Prime Meridian, having their center at the center of the earth, and having equal radii. These circles are called Degrees of Longitudes. The longitudes are identified with the help of degrees. The Prime Meridian represents the zero degrees longitude. The longitudes in the Eastern Hemisphere are designated as degrees east ( $^\circ \text{E}$ ), e.g.  $10^\circ \text{E}$ ,  $20^\circ \text{E}$ , and so on till  $180^\circ$ . Similar is the case with the Western Hemisphere. Degrees are further divided into minutes and minutes into seconds. Note that the symbol for a minute is an apostrophe (') and that for a second is a double apostrophe (").  $60'$  (60 minutes) make up a degree and  $60''$  (60 seconds) make up a minute. So,  $30'$  means half a degree and  $40''$  means two-thirds of a minute. Two points on earth can lie on the same latitude but still be far away from each other. Also, two distant points may lie on the same longitude. But only one-point lie on a particular pair of latitude and longitude. So, latitudes and longitudes are helpful in locating a point on earth. The Tropic of Cancer and the Arctic Circle are studied as special latitudes in the Northern Hemisphere. They are at  $23 \frac{1}{2}^\circ \text{N}$  and  $66^\circ \text{N}$  respectively. The Tropic of Capricorn and the Antarctic Circle are studied as special latitudes in the Southern Hemisphere. They are at  $23^\circ \text{S}$  and  $66^\circ \text{S}$  respectively. The area between the Tropic of Cancer and the Tropic of Capricorn receive maximum heat from the Sun and this region is called the Torrid Zone. The area between the Arctic Circle and the Tropic of Cancer in the Northern Hemisphere, and that between the Antarctic Circle and the Tropic of Capricorn in the Southern, have moderate temperatures. These regions are the Temperate Zones. The area north to the Arctic Circle and that south to the Antarctic Circle is close to the Poles and receive the sunlight of very low intensity. So, it is very cold here. These regions are called the Frigid Zones. The Frigid Zones, the Temperate Zones, and the Torrid Zone are called the Heat Zones.

The sun does not shine equally on all longitudes at a time. When it is 12 noon at a time, it means that the sun is not at all visible at the place on the other side of the earth. 'So, it must be midnight there. In fact, we can say that the time difference is 24 hours at 360 degrees longitudes apart. So, every longitude brings a difference of 4 minutes. This gives us the concept of Time Zones. Two consecutive time zones differ by an hour. The time at a particular place is said to be the local time. It may happen that a certain country extends over a long range of longitudes, thus giving a large amount of time difference. E.g. Russia extends over eleven time zones. India actually extends over a range of a 2-hour time difference. But this is not too much, so for convenience and for uniformity, we have a standard meridian set at Allahabad ( $82^{\circ} 30'$ ), which gives the time for all over India. This time is called the Indian Standard Time (IST).

**Major features of meridians:**

1. Meridians are equal in length.
2. It is  $0^{\circ}$  longitude.
3. It divides the earth into eastern and western hemispheres.
4. They are semicircles.
5. They are 360 in all -180 in the east and 180 in the west of prime meridian.
6. The longitude running through the Greenwich London was first chosen as the Prime meridian having noon at the same at all places on this line.

**Relation between Longitudes and time**

- It takes 24 hours for the earth to complete one rotation.
- In 24 hours, earth completes  $360^{\circ}$ .
- It takes about 4 minutes for crossing one degree of longitudes and takes one hours in 15 degrees of longitudes.
- The earth has divided into 24 time zones of one hour each.
- Each place has different sunrise and sunsets, therefore the time in east is 4 minutes ahead per degree of longitude.

**EXERCISE**

**Q1. Fill in the blanks:**

1. Earth rotates from \_\_\_\_\_ to \_\_\_\_\_
2. Earth rotates \_\_\_\_\_ degrees in 24 hours.
3. India is located at \_\_\_\_\_ of Greenwich.
4. \_\_\_\_\_ divides earth into two hemispheres.
5. It takes \_\_\_\_\_ minutes to cross one latitude.

**Q2. Describe how latitude is measured.**

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**Q3. Write about Artic Circle and Antartic Circle.**

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Q4. Describe main features of Meridians.

Q5. Describe how a country can have a varied range of Longitude with an example.

Q6. Is there any relation between longitude and time? Describe

Q7. Draw and color the diagrams of Longitudes, latitudes also show Tropic of cancer, Tropic of Capricorn, equator, Arctic and Antarctic Circle.

