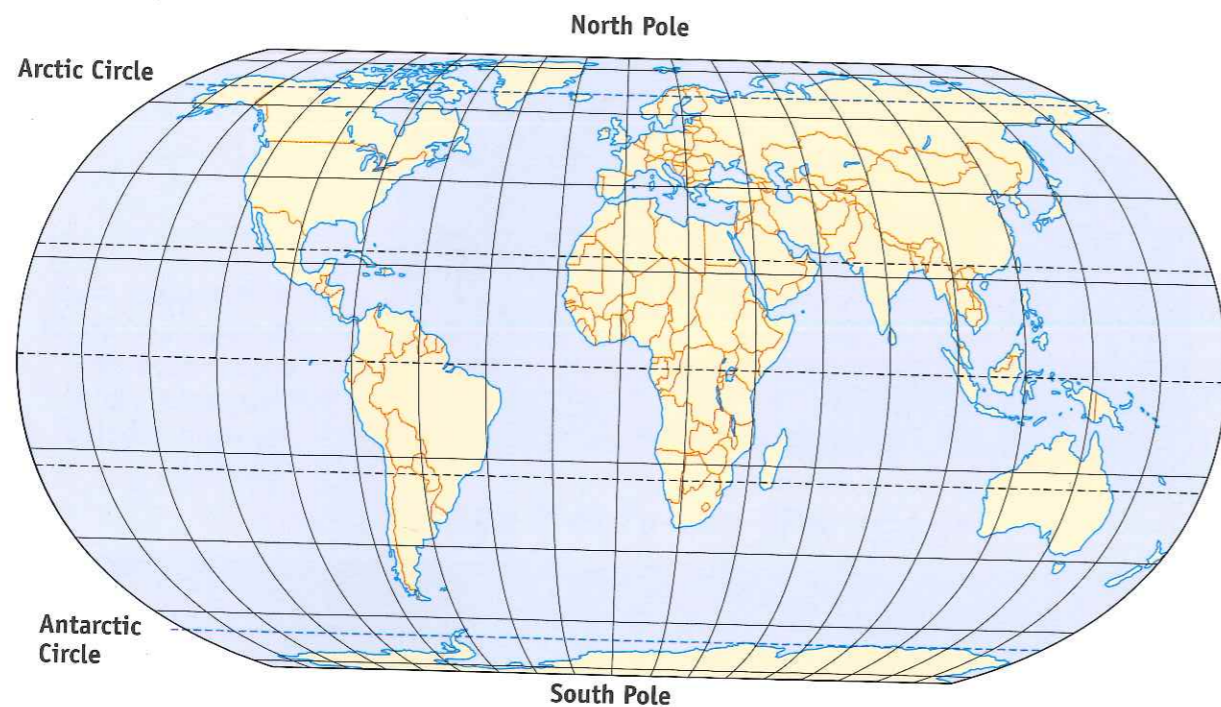


Latitude, longitude, and map projections



▲ Lines of latitude and longitude help people determine exact locations of places.

Imaginary lines divide Earth into sections. Lines that run east to west are lines of **latitude**. Lines that run north to south are lines of **longitude**. Every location on Earth can be pinpointed by its latitude and longitude – the point where an east-to-west line meets a north-to-south line. Both measurements are given in degrees (°) and minutes ('), and one degree has 60 minutes.

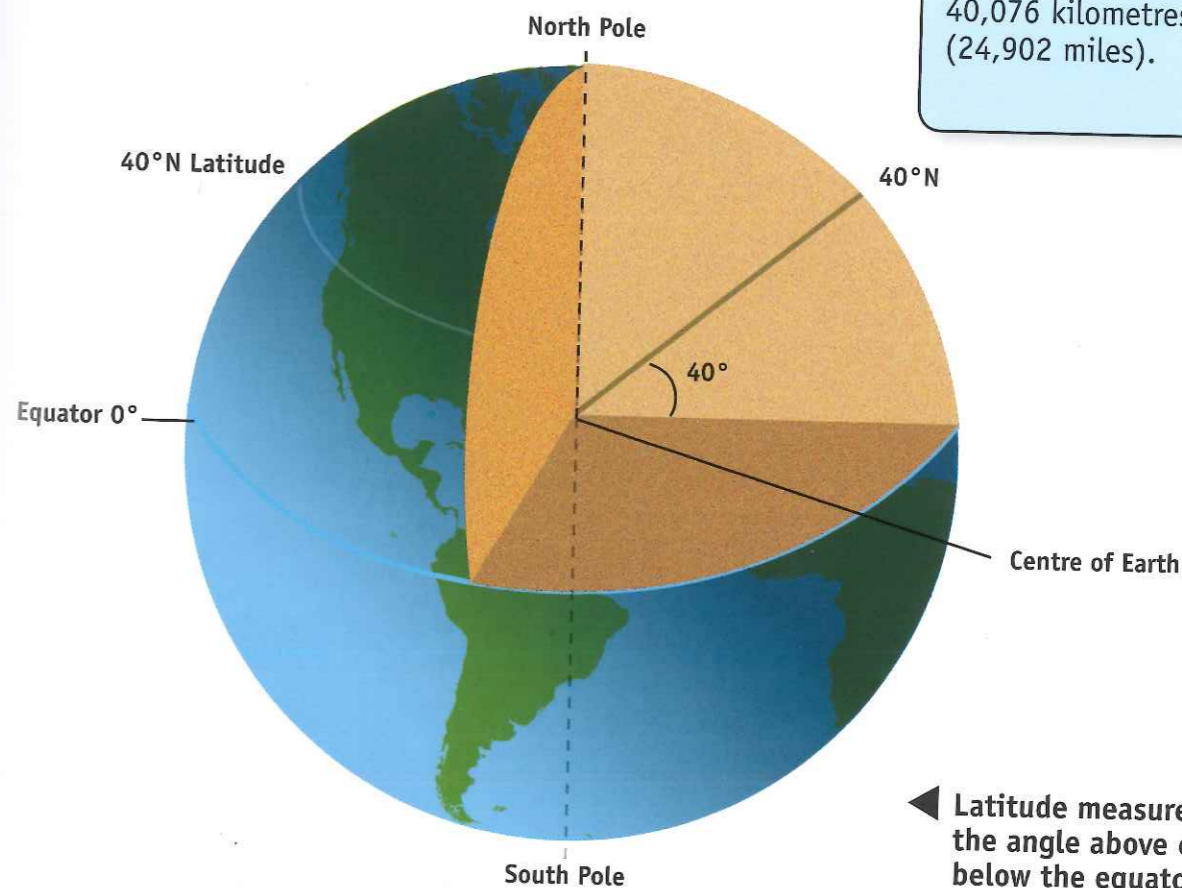
For example, say you are looking for a point that is latitude 19° 0' north and longitude 72° 48' east. On a map or globe, begin by looking for the **equator**, an imaginary line around Earth. Find where the equator (latitude 0°) meets the **Prime Meridian** (longitude 0°).

Go north to just below latitude 20° north, then move east (to the right) along that line until you reach 72° east. Where are you? Mumbai, India!

Latitude

Degrees of latitude are measured either north or south of the equator. The number of degrees is based on an angle formed by two lines. The first runs from the equator to the centre of Earth, and the second runs from the centre of Earth to a point on Earth's surface.

For example, the Arctic Circle lies at latitude 66° 33' north. The angle formed from the equator to the centre of Earth to the Arctic Circle is 66° 33'. All lines of latitude run parallel to the equator. The distance between two lines of latitude (1°) measures 111.4 kilometres (69.2 miles).



◀ Latitude measures the angle above or below the equator.

The equator

In 1349 Britain's Thomas Neale determined the location of the equator. The equator lies exactly halfway between the North and South **poles**. Each half of Earth is a **hemisphere**, or half a sphere. Europe, Asia, and North America lie in the northern hemisphere, while South America and Australia lie in the southern hemisphere. The equator measures 40,076 kilometres (24,902 miles).