

Prime Meridian

The Prime Meridian is the line of zero degrees of longitude that divides the Earth into Eastern and Western Hemispheres. The Prime Meridian runs from the North Pole to the South Pole through the old observatory in Greenwich, London, UK. It has been used as the world standard for longitude and for telling time since 1884 by an international agreement.

Universal Time (UT) is the time on the Prime Meridian: the number of hours, minutes, and seconds that have passed since midnight (when the Sun is at a longitude of 180°) in the Greenwich Time Zone. Universal Time is generally stated using 24-hour notation (Hours: Minutes: Seconds, e.g., 16:35:04). Universal Time used to be called Greenwich Mean Time (GMT). The time in all other time zones around the world is determined in relation to UT. *Note: Scientists now use an atomic clock, rather than the rotation of the Earth, to measure a day. For this, the term Coordinated Universal Time (UTC) is used.*

Time Zones

The world is divided into 24 time zones. Time zones are generally centred on meridians (circles through the poles) of a longitude that is a multiple of 15 degrees; however, the shapes of time zones can be quite irregular because of adjustments around the boundaries of countries. All time zones are defined relative to Universal Time (UT). This is the reference time zone from which all other time zones around the world are calculated.

Local Time

Local time is the time in any given time zone in the world, determined in relation to the time at the Prime Meridian (0° of longitude) in Greenwich, London, England.

Note that each time zone in Canada has a name. Most time zones in Canada are adjusted in winter for Daylight Savings.

International Date Line

The International Date Line is an imaginary line on the Earth's surface, at approximately 180° of longitude starting from the Prime Meridian in either direction (east or west). Its path is adjusted so that it does not pass directly through any populated areas of the world, since it separates the calendar date. Travelling east across the line takes the traveller back one day; travelling west takes the traveller forward one day. Without the date line, the traveller would experience "calendar confusion."

Examples of problems student groups may generate

- *It is 16:35 (UT). What time is it in Winnipeg (in winter)?*
- *The local time in Winnipeg is 04:15. What time is it in Sydney, Australia?*