

Based on the content of the passage, write summary notes to fill in the table.

The International Date Line

The International Date Line is an imaginary line running in a north-south direction through the middle of the Pacific Ocean. From the North Pole, it comes down between Siberia and Alaska, divides the Pacific Ocean, passes to the east of New Zealand, and reaches the South Pole. The date changes at the Date Line. The west side of the line is one day later than the east side. The International Date Line is necessary because of the way in which time zones work.

As the earth rotates, the sun reaches different places at different times. The earth rotates eastward; so, at any one moment the time on the clock is later and later at points that are further and further east. For instance, when it is 10 am in Los Angeles, it is already 1 pm in Toronto and 6 pm in London. Since the earth takes one day for a single rotation, the time-zone changes total 24 hours. Naturally, these differences can lead to a difference in the date as well: continuing the series of times above, when it is 6 pm in London it is 9 pm in Ankara, 11 pm in Karachi, and 1 am in Bangkok... but in Bangkok it is 1 am ***the next day*** because the sun reaches Bangkok earlier and so each calendar day begins earlier there, too.

All this is complicated enough if you just think about staying in one location and calculating the time in other places around the globe. But if you actually travel across time zones, the situation can seem even stranger. For example, moving from the Central into the Mountain Time Zone – which in Canada only requires stepping over the provincial border from Manitoba into Saskatchewan – will require you to adjust your watch by one hour. Step back, and you have to reverse the one-hour adjustment. The travel time may only be one minute but the clock change is one hour.

Moreover, since the times zones run all around the earth in a sequence of 24 one-hour steps, it is plain that there will be a whole day's difference from the first zone to the 24th one. Thus, an important question arises: where do we begin counting? Without agreement on where in the series of times zones a whole day must either be added or subtracted from the date, depending on the direction of calculation, the system will not work. The International Date Line is that point; the time immediately on each side of the Date Line does not differ, but the date does. For instance, when it is 8 am, October 15 on the west side of the Date Line it is also 8 am on the east side, but October 14. Thus, when your airplane crosses the International Date Line from east to west, you do not have to change the hour on your watch but, if your watch shows the date, you have to set it ahead by one day! And because of the International Date Line, if you reverse the eastward series of time calculations above – working westward from Toronto to Los Angeles to Bangkok – you will not only still get the correct Bangkok time (1 am) but also the correct date because, as your calculation crosses the Date Line, you will add one day.

Of course, the International Date Line is not a geographical feature; it is just the result of an informal agreement among nations. There is in fact no international law decreeing the Date Line and neither is there any strict necessity for the line to be where it is. However, the chosen route of the line has the advantage of passing mainly over water, so as to avoid dividing any country into two parts with different dates! Thus, although the International Date Line mainly follows the 180th meridian of longitude, at some points it bends a little to the east or the west of that meridian in order to help assure that land areas with links to each other will have the same date.

Definition/Description of the International Date Line:

How time zones relate to the rotation of the earth:

How time zones relate to travel:

Eastward and westward calculations to keep the time *and* the date right:

Why the International Date Line generally follows the 180th meridian: