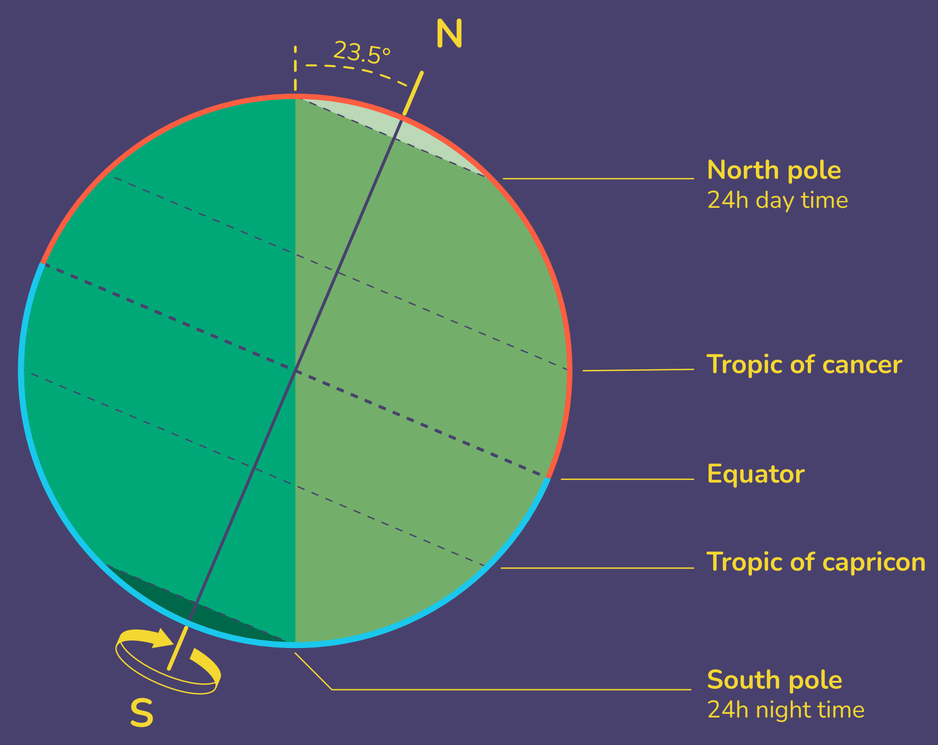
Earth’s rotation | basic principles

Every 24 hours the Earth rotates around its axis with a fixed 23.5° angle. When the North Pole is tilted towards the Sun, it is summer in the Northern Hemisphere and winter in the Southern Hemisphere.

The Earth also completes one orbit around the Sun every 365 days. This is called “revolution” and is responsible for the changing of seasons, as well as the length of a year.

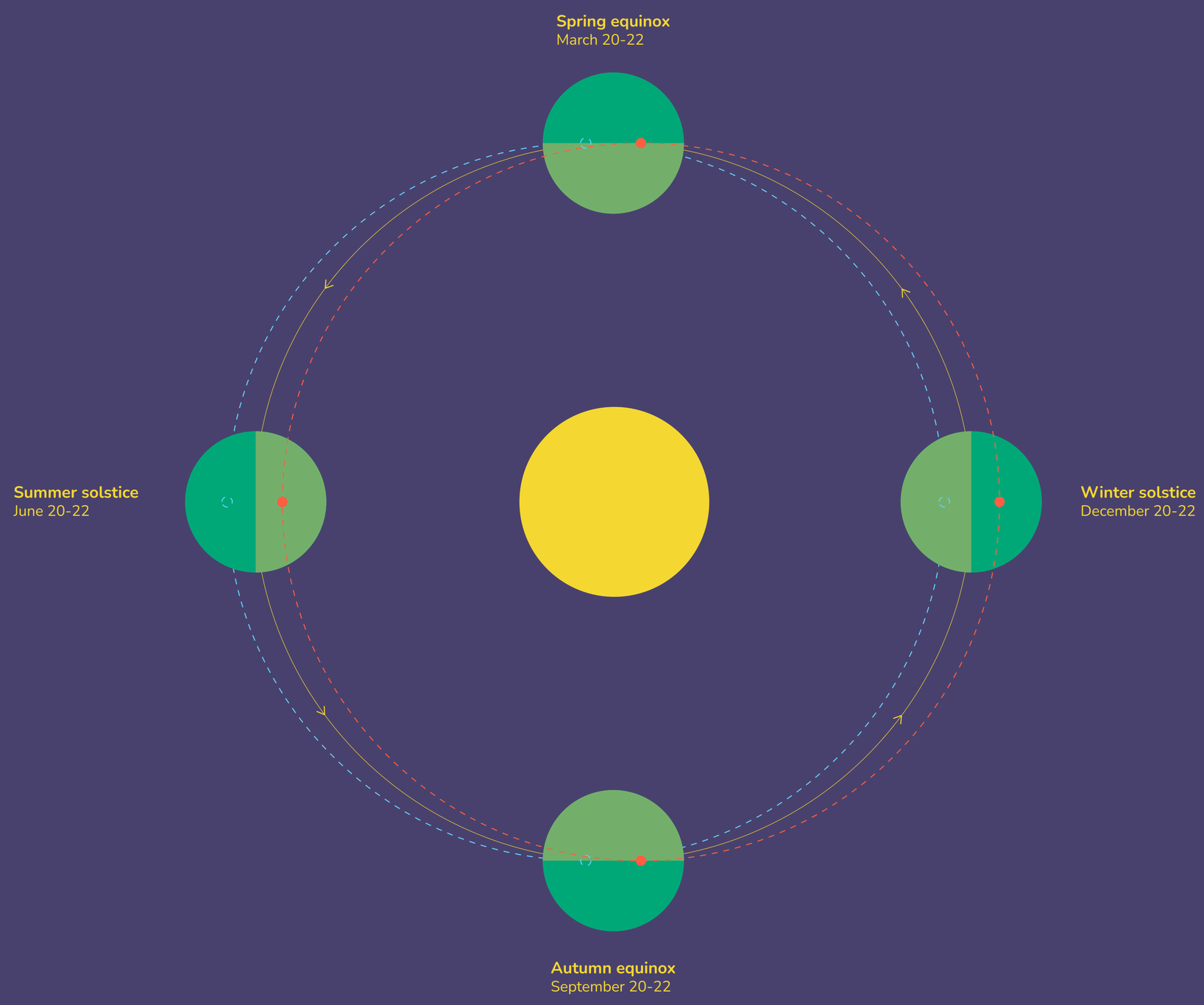


Day time
Night time
Winter zone
Summer zone

Earth’s rotation | top view

Soltices happen twice a year. In June, the Northern Hemisphere is closer to the Sun and has the longest day of the year, starting the summer season. In December, the Southern Hemisphere is closer to the Sun and has the shortest day of the year, starting the winter season

Equinoxes also occur twice a year, when the Sun is exactly above the Equator, resulting in day and night lasting 12 hours. During the March equinox, the Northern Hemisphere enters spring and the Southern Hemisphere starts autumn, while the opposite happens during the September equinox.



Day time
Night time
South pole trajectory
North pole trajectory

Earth’s rotation | side view

The transition between an Equinox and a Solstice, or vice versa, can be referred to as a season. There are 4 seasons in a year that lasts around 3 months: spring, summer, autumn. They are defined by the position of the Earth in relation to the sun and its axis.