

measure one year. Mars takes 687 days to make one revolution around the sun; therefore, a year on Mars is longer than a year on Earth.

The earth's axis is not straight up and down, but instead leans towards one side. This axial tilt causes our seasons, where one half of the planet gets more direct sunlight than the other half. As the earth revolves around the sun, the earth's axis tilts toward the sun when it is summer in the Northern Hemisphere. It tilts away from the sun when it is winter in the Northern Hemisphere. North America is in the Northern Hemisphere (the top half of Earth), which leans away from the sun during December and January. When the top half of the earth leans away from the sun, the lower half of the earth leans towards the sun. The sun shines directly on the hemisphere leaning towards it and indirectly on the hemisphere leaning away from it. This is why when it is winter in North America it is summer in lower parts of the world, like Australia. Isn't that interesting?

Every day, the time of sunrise and sunset changes. This is also because of Earth's axis. In the winter, you can see how the days are shorter. The sun doesn't stay in the sky for very long. The shortest day of the year is called the winter solstice. This happens around December 21 in the Northern Hemisphere. In the summer, it's the opposite-the days are longer. The longest day of the year is called the summer solstice. This happens around June 21 in the Northern Hemisphere.

So, we can guess when our seasons will start. When the days are getting shorter, we know that winter is coming. When the days are getting longer, we know that summer is on its way! From observing and determining the patterns we find in sunrises and sunsets, we can predict the seasons in the future.