

The Longest Day

Name: _____

Read the passage all the way through before you start.

Earth does not sit upright as it travels round the Sun. It leans, by about twenty-three and a half degrees, and it keeps leaning the same way all year. That single fact produces every season we have.

In June the northern half of the planet is tipped towards the Sun. Sunlight arrives more directly, and the part of Earth in daylight at northern latitudes is larger, so days are long and the heating is stronger. In December the same hemisphere leans away, the light strikes at a shallower angle, and days are short.

The longest day of the year in the north is around 21 June. In Vancouver the Sun is up for a little over sixteen hours. In Whitehorse it is up for nearly twenty. North of the Arctic Circle it does not set at all.

It is worth noticing what does not cause seasons. Earth's distance from the Sun changes a little through the year, but not in the way people assume: the planet is actually closest to the Sun in early January, in the middle of the northern winter. It is the tilt that matters, not the distance.

The clearest proof is that the seasons are opposite in the two hemispheres. When it is the longest day in Canada, it is the shortest day in Argentina. Both places are the same distance from the Sun on that date. Only the lean is different.

Non-fiction · 236 words

Before you turn over

1. Underline any word you are not sure of. Work out what you can from the sentence around it.

2. In one sentence, what is this passage about?

3. Write down one question you still have.

The questions are on the next page. →

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Answer in complete sentences. Look back at the passage as often as you need to.

1. What single fact causes the seasons?

2. Why are June days long in the north?

3. The writer says Earth is closest to the Sun in January. Why include that?

4. How do the opposite seasons in Canada and Argentina prove the point?

5. Explain in your own words why the Sun does not set inside the Arctic Circle in June.

The Longest Day — Answer Key

1. Earth's axis is tilted about 23.5 degrees and keeps leaning the same way as it orbits. (*Main idea*)
2. The northern hemisphere is tipped towards the Sun, so sunlight arrives more directly and more of the north is in daylight. (*Cause and effect*)
3. To correct the common belief that seasons come from distance. It shows the tilt, not the distance, is the cause. (*Author's purpose*)
4. Both are the same distance from the Sun on the same date, yet have opposite seasons — so distance cannot be the explanation. (*Inference*)
5. Answers will vary. The lean is steep enough that those latitudes stay in sunlight through the planet's whole daily turn. (*Summarizing*)