

The Seasons: Anaya and the Leaning Globe

Read the story aloud together, then try the activities.

Name _____

Class _____

Date _____

In December, Anaya in Delhi wore her warmest sweater and woolly socks to school. That evening, a photo arrived from Ollie, her pen pal in Sydney, Australia. Ollie was on a sunny beach in shorts, holding an ice cream — on the same day! "How can it be winter here and summer there?" Anaya wondered. "Maybe Australia is closer to the Sun."

The next day she asked her teacher, Mr Das. He shook his head with a smile. "Here's a surprise," he said. "The Earth is actually closest to the Sun in early January — right in the middle of our winter. So being closer to the Sun can't be what makes summer." Anaya frowned. "Then what does?"

Mr Das put a lamp in the middle of the table and switched it on. "This is the Sun." Then he picked up a globe. "Notice anything?" "It's leaning!" said Anaya. "Exactly," said Mr Das. "The Earth is tilted, and it keeps leaning the same way all year as it travels around the Sun. One trip around takes a whole year."

He carried the globe to one side of the lamp. "This is June." The top half of the globe — where India is — leaned towards the lamp. "Our half leans towards the Sun, so the sunlight hits us straight on and the days are long. That's our summer. But look at Australia, down here: it's leaning away. That's Ollie's winter."

Then Mr Das walked the globe slowly round to the other side of the lamp, keeping it leaning the same way. "Six months later, it's December." Now the top half leaned away from the lamp, and the bottom half leaned towards it. "Now it's winter for us and summer for Ollie," said Anaya slowly. "Yes! And in between, in spring and autumn, neither half leans much towards the Sun."

Finally, Mr Das shone a torch straight down onto a sheet of paper. It made a small, bright circle. Then he tilted the torch. The same light spread out into a big, pale oval. "Straight-on sunlight is strong, like the small circle — that's summer. Slanting sunlight is spread out and weak, like the big oval — that's winter." That night, Anaya wrote back to Ollie: Happy summer! Love from winter.

1. Match each word to its meaning

Write the letter next to each word.

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|---------------------|---|
| 1. Season _____ | A. a lean. The Earth's axis is tilted. |
| 2. Axis _____ | B. the Earth's path around the Sun. One orbit takes a year. |
| 3. Tilt _____ | C. half of the Earth. The northern hemisphere is the top half and the southern hemisphere is the bottom half. |
| 4. Orbit _____ | D. one part of the year with its own kind of weather, such as summer or winter. |
| 5. Hemisphere _____ | E. an imaginary line through the middle of the Earth, from the North Pole to the South Pole, that the Earth spins around. |

2. Complete Mr Das's explanation.

The Earth's axis is _____. When our half of the Earth leans _____ the Sun, we have summer. When it leans _____, we have winter. One trip around the Sun takes one _____.

Word bank: towards · away · year · tilted

3. Answer the questions

1. Why was Anaya wearing a sweater while Ollie was on the beach?

2. Is the Earth closer to the Sun in summer?

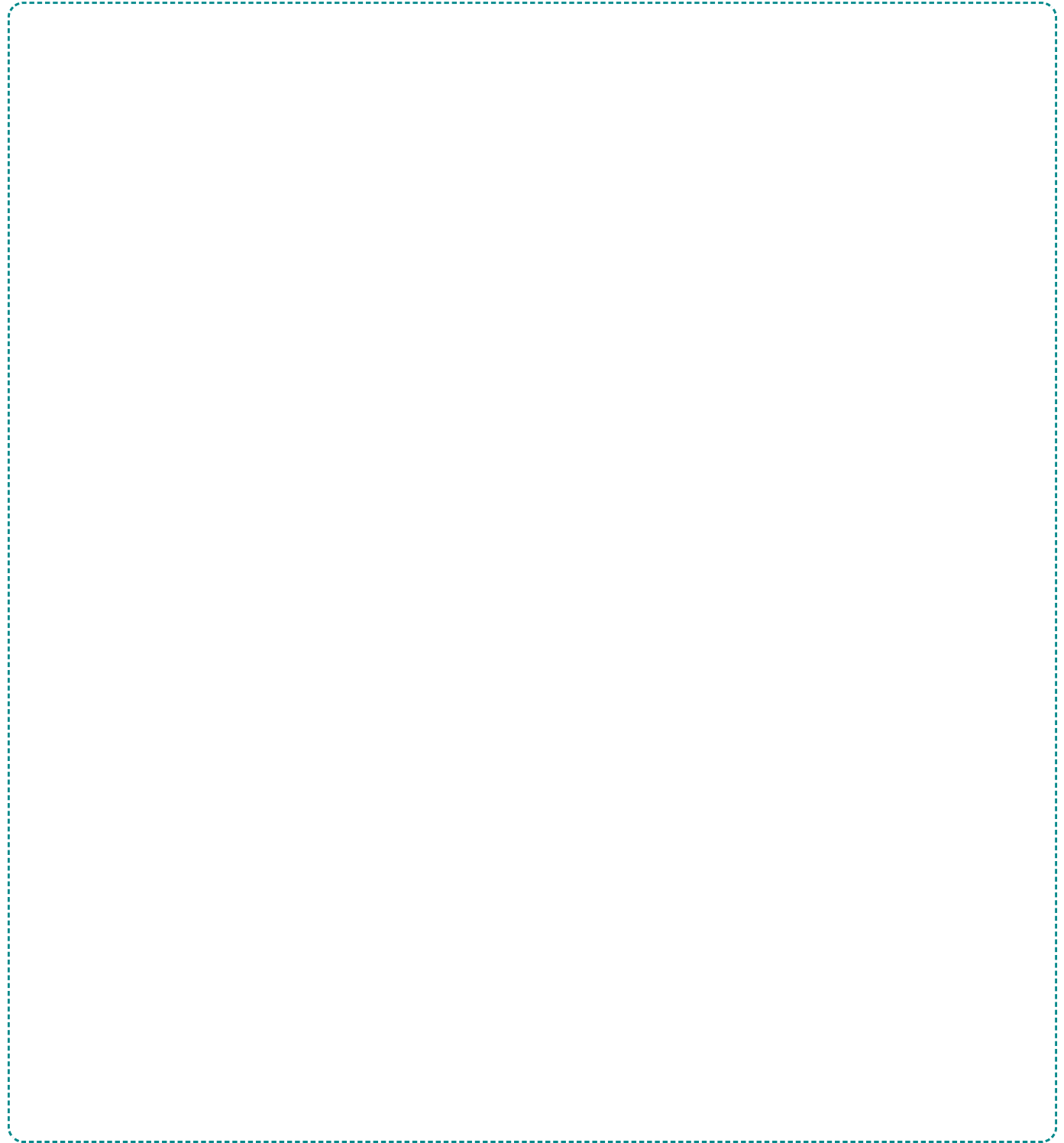
3. What was special about Mr Das's globe?

4. What happens when our half of the Earth leans towards the Sun?

5. Why did the tilted torch make a bigger, paler patch of light?

4. Draw and label

Draw the Sun with the tilted Earth on both sides of it. Label: summer for us, winter for us.



Answer key (for teachers and parents)

On its own page so you can leave it out when printing for children.

1. 1-D 2-E 3-A 4-B 5-C

2. tilted, towards, away, year

3.1 It was December: winter in Delhi, in the northern hemisphere, but summer in Sydney, in the southern hemisphere.

3.2 No — the Earth is closest to the Sun in early January, which is winter in India.

3.3 It leaned — it was tilted, just like the real Earth.

3.4 Sunlight hits us more directly and days are longer, so it is summer.

3.5 The same light was spread out over a bigger area, so it was weaker, like winter sunlight.