

Seasons & Daylight

Shadow Canyon with Skyling

Learning target

Explain seasons using a qualitative tilt model.



Before you begin

Use the reference page and discussion prompts on their own, or open the optional browser adventure. No earlier lesson or physical kit is required.

For online play: use an internet-connected current browser with local storage enabled. Read the three-part Gemling briefing, answer the quick check, and apply the evidence at three checkpoints. Retry feedback supports review; results are not a secure test or gradebook.

Use for teacher-led review, science centers or partner practice. Independent readers may need support with the vocabulary below. The design target is grades 3-5; choose support based on the learner.

Vocabulary and concepts to discuss

Earth's tilt; yearly orbit; daylight length; opposite hemispheres

Open Shadow Canyon - direct lesson link

Scan the QR code or use the clickable link. This guide is usable offline; the adventure runs on an external educational website.



Seasons & Daylight - key ideas

1. The first clues

Earth's tilted axis and yearly orbit produce seasonal changes in sunlight angle and day length. Distance from the Sun is not the main cause of seasons.

2. How the clues connect

When the Northern Hemisphere tilts toward the Sun, it generally has longer days and more direct sunlight; the Southern Hemisphere has the opposite seasonal pattern.

3. Our evidence record

Our records show longer northern days in one part of the year and shorter days later. Compare daylight and tilt, not a story that Earth moves much closer for everyone's summer.

Keep the science accurate

Use tilt and changing daylight, not Earth-Sun distance, as the main seasonal explanation.

Apply the evidence

Use a specific observation from this lesson to explain one choice. Point to a clue, then connect that clue to a scientific idea.

Curriculum reference: <https://www.nextgenscience.org/dci-arrangement/5-ess1-earths-place-universe>

Talk through the evidence

1. What mainly explains Earth's seasons?

Expected answer: Tilt and changing sunlight through the year

Reasoning: Earth's tilted axis and yearly orbit produce seasonal changes in sunlight angle and day length. Distance from the Sun is not the main cause of seasons.

2. Which hemisphere has the opposite seasonal pattern?

Expected answer: The other hemisphere

Reasoning: When the Northern Hemisphere tilts toward the Sun, it generally has longer days and more direct sunlight; the Southern Hemisphere has the opposite seasonal pattern.

3. What accompanies northern summer in our model?

Expected answer: Longer days and more direct sunlight

Reasoning: When the Northern Hemisphere tilts toward the Sun, it generally has longer days and more direct sunlight; the Southern Hemisphere has the opposite seasonal pattern.

4. Which evidence helps test the seasonal explanation?

Expected answer: Daylight records across the year

Reasoning: Our records show longer northern days in one part of the year and shorter days later. Compare daylight and tilt, not a story that Earth moves much closer for everyone's summer.

Guide the discussion

Ask learners to name the evidence that supports their answer. If an answer differs, revisit the matching key idea on page 2 and invite a revised explanation.

Online rewards: this lesson grants one fixed digital Expedition Discovery. Five saved digital Gemling friends become available only after all six distinct subject lessons are complete, in any order. Digital rewards do not establish physical ownership.