Why Sun Shines

Use evidence and reasoning to explain apparent brightness.

5-ESS1-1 "Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth. Assessment Boundary: Assessment is limited to relative distances, not sizes, of stars..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two pieces of evidence about the Sun's distance from Earth. Circle the sentence that explains why a nearer light looks brighter.

A Bright Star Nearby

1. On a clear day, the Sun looks brighter than any star you see at night. The Sun is a star, and it is Earth's nearest star. Its light travels to Earth from much closer than the light from other stars. This nearby distance makes the Sun appear especially bright in our sky. Brightness here means how bright an object looks from Earth, not how much light it gives off.

2. Distance changes apparent brightness. Imagine two identical flashlights shining toward you in a dark gym. The flashlight held nearby looks brighter, while the one at the far end looks dimmer. The flashlight bulbs have not changed, but their distances from you have. In the same way, light from a star spreads through space as it travels. A star's light reaches Earth looking dimmer when the star is farther away.

3. To support an argument, use evidence and explain how it supports your claim. One claim is that the Sun appears brighter than other stars because it is closer to Earth. Evidence is that the Sun is Earth's nearest star and its light has a shorter trip to Earth. The reasoning is that nearer lights look brighter, as the flashlight example shows. Together, the evidence and reasoning connect the Sun's apparent brightness to relative distance.

2 ANSWER WITH EVIDENCE

Use the passage

1. What fact in paragraph 1 identifies the Sun's relationship to Earth?

2. How does the flashlight example show that distance can change apparent brightness?

3. What claim about the Sun and other stars is stated in paragraph 3?

4. Name two pieces of evidence from the passage that support the claim that the Sun appears brighter because it is closer.

3 YOUR TURN

Your own words

Write a three-sentence argument explaining why the Sun appears brighter than other stars. Include a claim, one piece of evidence from the passage, and reasoning that connects distance to apparent brightness.

ANSWER KEY

Why Sun Shines

GRADE 5 · 5-ESS1-1

PART 1 · READ AND MARK

Underline two pieces of evidence about the Sun's distance from Earth. Circle the sentence that explains why a nearer light looks brighter. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What fact in paragraph 1 identifies the Sun's relationship to Earth?	**The Sun is Earth's nearest star.**
2	How does the flashlight example show that distance can change apparent brightness?	**The nearby flashlight looks brighter, while the flashlight farther away looks dimmer.**
3	What claim about the Sun and other stars is stated in paragraph 3?	**The Sun appears brighter than other stars because it is closer to Earth.**
4	Name two pieces of evidence from the passage that support the claim that the Sun appears brighter because it is closer.	**The Sun is Earth's nearest star, and its light travels to Earth from much closer than light from other stars.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

The Sun appears brighter than the stars we see at night because it is closer to Earth. The Sun is Earth's nearest star, so its light travels to Earth from much closer. Since a nearby flashlight looks brighter than one farther away, the Sun's shorter distance explains its brighter appearance.

Accept arguments that state the Sun appears brighter because it is closer to Earth, use accurate distance evidence, and explain that nearer lights appear brighter. Do not require or accept explanations based on star size or other factors.