

Space Object Detectives

Use evidence to explain how stars and planets are different.

S4E1.c "Construct an explanation of the differences between stars and planets."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Circle the sentence that says a star makes its own light and heat, underline the sentence that tells how a planet looks bright, and write 1 beside the sentence that names the path planets take around stars. Use these marked details as evidence when you explain the differences.

Stars, Planets, and Light

- ① On a clear night, many bright points fill the sky. Some are stars, and some are planets. A star is a huge, hot ball of gas that makes its own light and heat. Deep inside a star, energy is released. That energy travels outward, so the star shines. Our Sun is the closest star to Earth.
- ② A planet does not make its own light. It looks bright when it reflects light from a star. Planets are much smaller and cooler than stars. Earth is a planet, and it has land, water, and air. Other planets have different surfaces and gases. Planets can have moons, but a moon is not a planet or a star.
- ③ Planets travel around stars along paths called orbits. Earth takes one year to travel once around the Sun. A star can have many planets orbiting it. Stars also move through space, but their motion is harder to notice because they are very far away. Stars may spin, just as planets spin. These differences help scientists sort objects in space.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Why can a planet look bright even though it does not make its own light?

2 What are two ways planets are different from stars in size or temperature?

3 Describe one difference in how a planet and a star move or relate to objects in space.

4 Use two details from the passage to explain why the Sun is a star, not a planet.

3 YOUR TURN _____ Your own words

Write three sentences that explain differences between a star and a planet. Include one difference about light, one about size or temperature, and one about movement.

PART 1 • READ AND MARK

Circle the sentence that says a star makes its own light and heat, underline the sentence that tells how a planet looks bright, and write 1 beside the sentence that names the path planets take around stars. Use these marked details as evidence when you explain the differences. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Why can a planet look bright even though it does not make its own light?	A planet looks bright because it reflects light from a star.
2	What are two ways planets are different from stars in size or temperature?	Planets are much smaller and cooler than stars.
3	Describe one difference in how a planet and a star move or relate to objects in space.	A planet travels around a star in an orbit. A star moves through space and can have planets orbiting it.
4	Use two details from the passage to explain why the Sun is a star, not a planet.	The Sun is a star because stars make their own light and heat, and the passage says the Sun is Earth's closest star.

PART 3 • YOUR TURN (SAMPLE ANSWER)

A star makes its own light and heat, but a planet reflects starlight. Stars are huge and hot, while planets are smaller and cooler. A planet orbits a star, while a star moves through space and can have planets orbiting it.

Accept accurate comparisons supported by the passage. For the movement difference, students should state that planets orbit stars and may also state that stars move through space or have planets orbiting them.