

Sky Tool Detectives

Compare what your eyes and a telescope can show.

2.9.B “observe objects in the sky using tools such as a telescope and compare how objects in the sky are more visible and can appear different with a tool than with an unaided eye.”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline words that tell what Lena saw with her eyes, and circle words that tell what looked different through the telescope.

Lena Observes the Night Sky

- ① On a clear evening, Lena looked at the Moon with her unaided eyes. It was bright and round, with a few darker areas. She could see the Moon, but its edge and surface details looked small.
- ② Next, Lena used a telescope with an adult. The telescope made the Moon look larger. She saw more dark and light areas, and the edge looked sharper. The Moon was easier to observe because more details were visible.
- ③ Lena also looked at a bright star. With her eyes, it looked like a tiny point of light. Through the telescope, it still looked like a point, but it was brighter and easier to find.

2 ANSWER WITH EVIDENCE _____ Use the passage

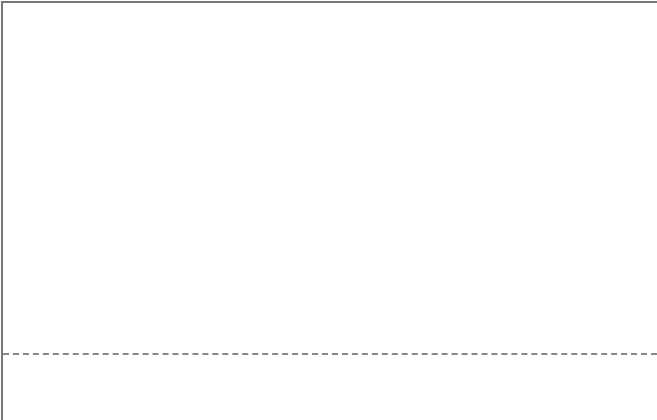
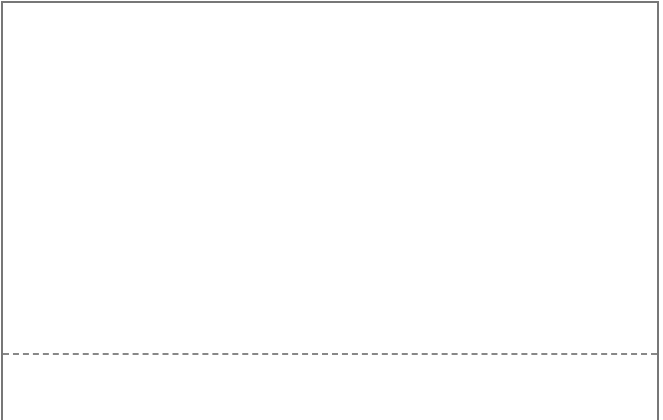
1 How did the Moon's surface look different through the telescope?

2 What did the bright star look like with Lena's eyes and through the telescope?

3 Why was the Moon easier for Lena to observe with a telescope?

3 YOUR TURN _____ Your own words

Teacher: arrange a clear after-sunset Moon viewing with an adult for every child, using a suitable telescope or steady binoculars. Supply and focus the tool and supervise turns; never aim it toward the Sun or view the Sun. Postpone cloudy viewing rather than imagine results. First look at the Moon without the tool and draw what you actually see in Panel 1. Next look through the tool and draw your actual view in Panel 2. Label the viewing method, date/time and tool; write or dictate one comparison of apparent size, brightness or visible details. Remain with the adult at the approved safe site.

	
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PART 1 • READ AND MARK

Underline words that tell what Lena saw with her eyes, and circle words that tell what looked different through the telescope. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How did the Moon's surface look different through the telescope?	Through the telescope, Lena saw more dark and light areas, and the Moon's edge looked sharper.
2	What did the bright star look like with Lena's eyes and through the telescope?	With her eyes, it looked like a tiny point of light. Through the telescope, it still looked like a point, but it was brighter and easier to find.
3	Why was the Moon easier for Lena to observe with a telescope?	More details were visible.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Possible Moon record, only if observed: Panel 1, unaided eyes: small bright shape with dark patches. Panel 2, binoculars: larger-looking shape with more surface detail. A Jupiter comparison is also possible with suitable equipment: unaided it is a bright dot; a telescope may reveal a disk and bands. Record the actual chosen target and views, not an imagined planet or required details.

Accept comparisons that show the telescope makes the chosen object more visible or makes it appear different. The student may compare size, brightness, sharpness, or visible details. Require actual adult-supervised unaided and tool-assisted sky observations, with drawings/labels and an evidence-based comparison. The teacher provides and focuses the tool at an after-sunset session; cloudy conditions require rescheduling. Accept honest limited detail or a similar-looking view after checking focus, not a mandated crater/band claim. This is one supported observation, not every sky object. Teacher viewing reference: NASA Moon Viewing Tips, <https://science.nasa.gov/moon/viewing-tips/>.