Sunlight Shifts

Find patterns in sunrise and sunset times

E.2.8.2 "With teacher guidance, observe, describe, and predict the seasonal patterns of sunrise and sunset. Collect, represent, and interpret data from internet sources to communicate findings."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the words that tell how to find a seasonal pattern. Then circle the earliest and latest sunrise times in the table.

When Does the Sun Rise?

1. On her way to school, Maya sees the Sun low in the sky. Some mornings it is already bright. On other mornings it is still dim. She wonders if the time of sunrise changes during the year. Her class decides to look for a pattern.

2. With their teacher, the class finds sunrise and sunset times on an internet weather site. They use one city, Phoenix, Arizona, so they can compare the times fairly. The table shows times for four dates in one year. Each time is rounded to the nearest five minutes.

SUNRISE AND SUNSET IN PHOENIX, ARIZONA

Date and season	Sunrise	Sunset
March 20, spring	6:30 a.m.	6:35 p.m.
June 21, summer	5:20 a.m.	7:40 p.m.
September 22, fall	6:15 a.m.	6:25 p.m.
December 21, winter	7:30 a.m.	5:25 p.m.

3. Sunrise is when the Sun first appears at the edge of the sky. Sunset is when it disappears. To find a seasonal pattern, compare dates from different parts of the year. A pattern in past times can help you predict a time on a similar date next year.

2 ANSWER WITH EVIDENCE

Use the passage

1. How does the sunrise time change from spring to summer in the table?

2. Which season has the earliest sunset? How do you know?

3. Based on the table, will the Sun likely rise before or after 7:00 a.m. in Phoenix next December? Explain.

3 YOUR TURN

Your own words

With your teacher, use an internet sunrise and sunset source to fill in the table for a city other than Phoenix on June 21 and December 21. Write one sentence comparing the sunsets and predicting whether the next June 21 sunset will be earlier or later than the December 21 sunset.

CITY	DATE	SUNRISE	SUNSET

ANSWER KEY

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GRADE 2 · E.2.8.2

PART 1 · READ AND MARK

Underline the words that tell how to find a seasonal pattern. Then circle the earliest and latest sunrise times in the table. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How does the sunrise time change from spring to summer in the table?	**The Sun rises earlier in summer, at 5:20 a.m. instead of 6:30 a.m.**
2	Which season has the earliest sunset? How do you know?	**Winter has the earliest sunset. Its sunset time is 5:25 p.m., earlier than the other sunset times.**
3	Based on the table, will the Sun likely rise before or after 7:00 a.m. in Phoenix next December? Explain.	**After 7:00 a.m. The table shows a December sunrise at 7:30 a.m.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Honolulu | June 21 | 5:50 a.m. | 7:15 p.m.
Honolulu | December 21 | 7:05 a.m. | 5:55 p.m.
In Honolulu, the Sun sets later on June 21 than on December 21, so I predict next June 21 will also have a later sunset.

Accept small differences in collected times due to the year, source, or rounding. The two table rows must use the same city, and the prediction should follow the student's sunset data.