Sun Path Builders

Read, mark, and design a model of the Sun's path.

E.2.8.6 "Create a model that will demonstrate the observable pattern of motion of the Sun or Moon. Use an engineering design process to define the problem, design, construct, evaluate, and improve the model.*"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the three Sun positions in paragraph 1, circle the model parts in paragraph 2, and number the test and the fix in paragraph 3 as 1 and 2.

Nia's Sky Model

1. On a clear day, Nia saw the Sun low in the east before school. At lunch, it looked higher. By late afternoon, it was low in the west. The Sun seems to cross our sky because Earth turns.

2. Nia wanted a model that shows this change. She cut a curved slot in a cardboard sky. She put a paper Sun on a stick and slid the stick through the slot. The Sun could move from low to high to low.

3. Nia tested her model. It showed the Sun high at lunch, but it stopped before the west side. She made the slot longer. When she tried again, the Sun could move to the west side by late afternoon.

2 ANSWER WITH EVIDENCE

Use the passage

1. What three Sun positions did Nia need her model to show?

2. How did Nia make the paper Sun move along a path?

3. What went wrong when Nia tested her model, and what did she change?

3 YOUR TURN

Your own words

Draw a different model that shows the Sun's path from morning to late afternoon. Label three Sun positions, then write how you would test your model and one change you could make if it fails.

ANSWER KEY

Sun Path Builders

GRADE 2 · E.2.8.6

PART 1 · READ AND MARK

Underline the three Sun positions in paragraph 1, circle the model parts in paragraph 2, and number the test and the fix in paragraph 3 as 1 and 2. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What three Sun positions did Nia need her model to show?	**Low in the east before school, higher at lunch, and low in the west by late afternoon.**
2	How did Nia make the paper Sun move along a path?	**She put the paper Sun on a stick and slid the stick through a curved slot in cardboard.**
3	What went wrong when Nia tested her model, and what did she change?	**The Sun stopped before the west side, so Nia made the slot longer.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Sketch: A paper plate sky has three spots labeled “morning, low east,” “lunch, high,” and “late afternoon, low west.” A yellow button held by reusable putty can move between the spots. Test: Move the button to each spot in order and check its height. Improve: If the button falls, use more putty.

Accept other movable models if they show the Sun low, then high, then low again. The test must check the model's path, and the change must address a possible problem.