Shoes for Sand

Use an animal's feet to solve a problem.

L.2.4.2 "Create a solution exemplified by animal adaptations to solve a human problem in a specific environment (e.g., snowshoes are like hare's feet or flippers are like duck's feet). Use an engineering design process to define the problem..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the sentence that tells Maya's problem, and circle the camel's body part that gives her an idea. Write 1 beside the sentence that starts "She makes," 2 beside "Her first test," and 3 beside "Maya replaces" to show how Maya builds, tests, and changes her model.

Maya's Sand Shoes

1. At the beach, Maya wants to walk across soft sand without sinking deep. A camel can cross sand on wide feet that spread its weight. Maya wonders if wide shoes could help people walk there, too.

2. Maya draws a plan for wide shoes. She makes a model by taping small foam pads under a toy person's feet. She uses the same toy and the same sand tray for each test.

3. Her first test shows that the toy sinks deep with the small pads. Maya replaces them with wider foam pads. In a second test, the toy sinks less. She thinks wider shoes may help people on soft sand.

2 ANSWER WITH EVIDENCE

Use the passage

1. How do the camel's feet give Maya an idea for shoes?

2. What did Maya learn from her first test? What did she change?

3. What shows that Maya's changed model worked better in the sand tray?

3 YOUR TURN

Your own words

In a swimming pool, a swimmer wants to move faster. Draw a tool for the swimmer's feet based on an animal, then write three sentences to name the animal, tell how you would build and test the tool, and say how you would improve it if it did not help.

ANSWER KEY

Shoes for Sand

GRADE 2 · L.2.4.2

PART 1 · READ AND MARK

Underline the sentence that tells Maya's problem, and circle the camel's body part that gives her an idea. Write 1 beside the sentence that starts “She makes,” 2 beside “Her first test,” and 3 beside “Maya replaces” to show how Maya builds, tests, and changes her model. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How do the camel's feet give Maya an idea for shoes?	**The camel's wide feet spread its weight on sand, so Maya plans wide shoes to help people sink less.**
2	What did Maya learn from her first test? What did she change?	**The toy sank deep with small pads, so Maya replaced them with wider pads.**
3	What shows that Maya's changed model worked better in the sand tray?	**The toy sank less in the second test with wider pads.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Drawing: wide flippers shaped like a duck's webbed feet. I would copy a duck's webbed feet and make wide rubber flippers. I would time the swimmer going across the pool with and without the flippers. If the flippers did not help, I would change their shape and test again.

Accept other animal-based tools if the drawing and sentences connect an animal body part to swimming and describe a build, a test, and a possible improvement.