

Beaver Builders

Trace how built features shape a wetland system.

7.5.F “analyze and explain the complementary relationship between structure and function of objects, organisms, and systems; and”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Number each structure-function connection you find. Underline the exact words that state what the structure does, helps do, or allows.

A Dam Changes a River

- ① Along a slow river, beavers build dams from branches, mud, and stones. A dam is a wall across moving water. Its tightly packed materials slow the current and hold back water, forming a pond. The pond gives beavers a deep place to swim and helps protect their lodge entrance from many land predators. The lodge is built with a thick outer layer of sticks and mud. This layer helps keep the inside warmer during cold weather.
- ② Beavers use the pond as part of a larger wetland system. Water spreading beyond the dam can soak into nearby soil. Wet soil supports plants, and plant roots hold soil in place. As water moves slowly through the plants and soil, some mud and other particles settle out. Because the dam changes water flow, the pond, soil, and plants can work together to create habitat for fish, insects, frogs, and birds that live there throughout the year.
- ③ One structure can have limits as well as benefits. During heavy rain, water may rise above a beaver dam or push through weak sections. Beavers repair gaps by adding more branches and mud, restoring the dam's ability to slow water. Yet a dam can also block a culvert, a pipe that carries water under a road. Road crews may place a protective fence around the culvert. The fence guides beavers away from the pipe while allowing water to pass.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 How do the dam's tightly packed materials support its function?

2 Explain how the lodge's thick outer layer helps the beavers.

3 How does the dam's effect on water flow help create habitat in the wetland system?

4 Compare the function of a beaver dam with the function of the fence around a culvert.

3 YOUR TURN _____ Your own words

Choose a human-made object, organism, or system you know. Describe two structural features and what each feature helps do, then explain how changing one feature would affect its function.

PART 1 • READ AND MARK

Number each structure-function connection you find. Underline the exact words that state what the structure does, helps do, or allows. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How do the dam's tightly packed materials support its function?	The tightly packed branches, mud, and stones slow the current and hold back water, forming a pond.
2	Explain how the lodge's thick outer layer helps the beavers.	The thick layer of sticks and mud helps keep the inside of the lodge warmer during cold weather.
3	How does the dam's effect on water flow help create habitat in the wetland system?	The dam slows and spreads water. The water soaks soil, supports plants, and moves slowly through plants and soil so particles can settle out. The pond, soil, and plants then create habitat for animals.
4	Compare the function of a beaver dam with the function of the fence around a culvert.	A dam slows and holds back water, but it can block a culvert. The fence guides beavers away from the culvert so water can still pass through the pipe.

PART 3 • YOUR TURN (SAMPLE ANSWER)

A bicycle tire has a rubber outer layer with grooves. The rubber grips the road, and the grooves move water away, helping the bicycle roll without slipping. If the grooves wear smooth, the tire has less grip on wet pavement, so the bicycle is harder to control.

Accept answers that accurately connect a physical feature or arrangement to what it enables or affects. For the open task, accept a range of examples if the student identifies two structures, explains their functions, and reasonably predicts the effect of changing one feature.