mystery science

Grades K-5
Mini-Lesson: “Why do beavers build dams?”

VIDEO TRANSCRIPT

VIDEO 1

Hi, it's Doug! You see this? This is the Hoover Dam in Nevada, USA. A dam is a place where people have walled off part of a river and created a lake behind the wall. Hoover Dam is huge but isn't even the tallest or the longest dam in the world. Check out this one in Alberta, Canada. It's not very tall, but it's almost twice as long as the Hoover Dam. In fact, it's so long that it shows up on satellite images from space. And the most amazing thing of all, this dam wasn't built with cranes, or cement trucks, or tractors like most dams. This was made almost entirely by beavers. Someone named Mateo has a question about beavers and dams. Let's give Matteo a call now.

[Video Call]

- Hi, Doug!

- Hi, Matteo!

- I have a question for you. Why do beavers build dams?

- That's a great question.

This is a beaver dam. Why do beavers build these? Well at first, I didn't know the answer to this question either. I thought that a beaver dam must be a house where beavers lived, but it surprised me to find out that beaver dams aren't where beavers live. They're not houses at all.

So why do they build them, then? I mean, building a dam seems like a lot of work, especially since beavers are so small. And it is a lot of work. For a beaver to build a dam, it can take weeks, months, or even years to completely finish. And if you think about why, it makes sense it takes so long. First, they need to cut down tall trees. Then they drag them all the way to the middle of a river. Then they pile rocks, and sticks, and plants on top of it to make it taller. So if they're not going to live in a dam, why do they go through all this trouble? There must be a good reason, right? Before I say anything more, I'm curious. Why do you think beavers go through all the trouble of building a dam?

VIDEO 2

Even though dams aren't beaver houses, scientists have discovered that they have a lot to do with where beavers build their houses. You see, beavers do build houses. Their homes are called lodges and when a beaver builds a lodge, it needs to find the perfect place. For a beaver, that means a place surrounded by lots of water. If they can find an island in the middle of a pond, that's perfect, that's where they'll build their lodge. That's because beavers aren't very fast on land, but they're great swimmers. Look closely. You see it's back feet? They're webbed just like a duck's. So, a beaver can swim really fast and do you notice its flat tail? It turns out that helps a beaver steer just like the rudder on a boat. So, building a lodge in the middle of a pond makes sense. It makes it a lot easier for beavers to escape from danger and swim home if they're being chased by predators like wolves, wolverines, or bears. It's kind of like a moat around a castle. The water helps beavers swim home quickly and keeps dangerous animals away, animals that can't swim as well, but what if there's no pond around? What if the only water nearby is a river? A beaver can't just build a lodge in the middle of a rushing river. The

fast-moving current would just carry their home away. This is where a dam comes in. By building a dam, the beaver blocks the rushing water and turns the river from this, to this—a totally calm and peaceful pond. Once they have a pond, there's no more rushing water or fast-moving current that can carry away their lodge and they'll have a safe place to build. Now, you may be wondering, what about when beavers have to go outside to build dams or collect food, couldn't they get attacked by a predator then? But beavers have that figured out too. A beaver dam floods the land and plants and trees around the river. So now, instead of having to walk everywhere to get wood or food, they can just swim everywhere. It's kind of like having a water freeway and this, in my opinion, is the coolest part. A beaver builds a secret underwater tunnel underneath its lodge so that it can swim in and out without anyone or anything seeing. In fact, when a beaver sees a wolf or other predator coming close, it will start slapping its tail on the water as a warning signal, which tells the other beavers to swim to the secret entrance as fast as they can. So, beavers build dams in order to slow down a rushing river and create a pond where they can live safely, but even that's not all. They also use these ponds they create for something else. It's their refrigerator. Beavers love eating bark and leaves off trees, so they spend the entire fall storing tree branches underneath the water of the pond near their secret entrance. When winter comes and the pond freezes on top, they can swim out of their secret tunnels to their stash of sticks whenever they want a snack, then, take it back into their cozy lodges and they can do this without ever having to go out into the snow. So, in summary, beavers build dams to stop the flow of rushing rivers so they can create safe ponds to build their lodges on. Since these lodges are surrounded by water, the beavers who live there are a lot safer from predators. That's all for this week's question. Thanks, Matteo, for asking it!