

Grade 3: Unit 5, Week 5 Animal Architects

Read Aloud: **Spring Stream, Winter Pond** by Bruce Goldstone

Wonderful words: *tranquil, natural, urge, legend, predator*

Spring Steam, Winter Pond

On a sunny summer day the stream looks so tranquil. Very soon, though, it will be bustling with activity. A family of beavers is about to move in. By the end of the year, everything will look completely different.

As soon as the beavers arrive, they will start to build a dam. What makes beavers do this? Surprisingly, it is the sound of running water. When beavers hear the sound, they have a natural urge to start building. They will keep building their dam until the sound stops.

The dam will block the flow of water and turn the stream into a pond. The deep water will be a safe home. On land, beavers would be hunted by wolves, coyotes, and bears.

The new pond will also be a place to store winter food, such as tree bark, roots, and grass. If a pond is not deep enough, food stored at the bottom will freeze.

Beavers build dams out of trees, branches, twigs, and mud. But they sometimes use other materials, too. People have discovered dams made with car hubcaps, cornhusks, and other kinds of garbage.

So how do beavers start building a dam? It all begins with cutting down trees.

A beaver has long, sharp teeth that never stop growing. They stay very sharp because the upper and lower teeth touch slightly. Every time a beaver closes its mouth, it

sharpens its teeth. But it must also gnaw and chew nearly all the time or its teeth would grow too big to use!

When a beaver cuts down a tree, it stands on its hind legs and uses its broad tail like a leg for balance. One beaver can cut down a tree one-half inch thick with a single bite. It might take a beaver about twenty minutes to cut down a tree that's six inches thick.

There are many legends about beavers, but not all of them are true. Some people think beavers can choose which way a tree will fall because the trees all tend to fall the same way. People don't realize that the side of the tree facing the water gets more sun and is fuller. Naturally, that means it's heavier on that side, too.

Once the tree is down, the beaver cuts it into smaller pieces. The beaver then pulls the branches or logs to the dam. It places the branches underwater and weighs them down with mud and rocks.

Beavers work together to build a dam. They can build a small one in just two or three nights. Then they will add onto the dam, making it higher or thicker.

The beavers keep adding layers of branches. The branches act like ribs to support the dam. At this point, water still passes through the dam. The dam is not yet strong enough to hold back all the water.

After enough branches are in place, the beavers pack the face of the dam with mud. They also use leaves and other materials they find near the river. Soon the dam starts to hold water. Then the pressure of the water helps build the dam! The water packs the mud and makes the dam stronger.

Finally, the water will stop flowing. The level of the stream will rise and overflow the river's banks. That's how the pond starts to form. Eventually, it gets deeper and deeper.

Over the next few weeks, the beavers will make the dam higher to create a deeper pond. An average beaver dam is about six feet high and between 60 to 80 feet long. Some dams are much larger. One dam in Berlin, New Hampshire, was 4,000 feet long. That's about the length of thirteen football fields!

Beavers are clever builders. They carefully control the water in their ponds. They might also make new dams above or below an older dam.

Beavers also build canals. These small channels make it easy to float trees down to their dam. The canals are usually about five feet wide and three feet deep. They can be hundreds of yards long.

Finally, the dam will be finished. Many animals will use the new pond. Insects lay their eggs there. Water birds make nests in nearby areas that have been cleared away. Even moose will sometimes come down to wade into a beaver pond. The water plants that grow in the pond are special treats for them.

In the fall, a new period of building will start for beavers. Then they will build new homes, called lodges.

A beaver lodge is a place where the family can live and store food. Some lodges are dug underground. Some are huge mounds of logs, sticks, and mud that sit in the water like an island.

Every lodge has at least one underwater entrance. This entrance makes food gathering easier and can also be used as an emergency escape from predators.

The most dramatic beaver home is called a castle. It has water all around it. A beaver starts to build one by piling up logs and branches in the water. Then it adds sticks and leaves. Finally it packs in mud. The finished castle will usually reach about five feet out of the water. It looks a little like a teepee.

The home will have two levels. The main level is about four inches above water level. This is where the beavers eat. As the beavers get ready for winter, they will bring food into this part of their new home. The second level is about nine inches higher. This is where they sleep on beds made of wood shavings.

The outside of the beaver home will then be covered with mud to keep the water out. In the winter, this mud will freeze. The outside of the home will then become like a tough shell. This will keep other animals from digging in.

However, the very center of the roof is always left uncovered. This will allow air to enter and leave the home. In cold weather, you can actually see steam from the beavers' warm breath coming out of the hole in the top!

The stream now has a different appearance. The water still remains, but it has formed a deep, quiet pond. A beautiful beaver lodge rises out of the water.

Next year, the beavers will continue to build. They will add more dams and canals. And some of their offspring will move to new areas. They will find the perfect spot to start their own dams and lodges.

tranquil

Define: When something is **tranquil**, it is calm and peaceful; there are no disturbances or noise.

Example: Sitting in the **tranquil** garden made me less nervous about my upcoming performance in the play.

Ask: Where is a **tranquil** place that you like to go?

natural

Define: **Natural** means that it has been there from the beginning; it is not the result of teaching or training.

Example: Tom showed he was a **natural** leader by organizing the fund-raising drive.

Ask: What would be a **natural** reaction if you started to trip over something?

urge

Define: An **urge** is a strong feeling to want to do something.

Example: I told dad I had an **urge** to cook pasta for dinner.

Ask: What is something that you have had an **urge** to do?

legend

Define: A **legend** is a story that has been passed on through the years that many people believe to be accurate, but it may not be entirely true.

Example: My favorite stories are **legends** about Robin Hood.

Ask: Why can't a **legend** have been written a year ago?

predator

Define: A **predator** is an animal that lives by hunting other animals for food.

Example: Desert packrats build nests with cactus pads to protect themselves from **predators**.

Ask: Which is a **predator**—a sheep or a lion? Why?