

Place-Based Education at Our Table Cooperative Farm
Spring 2020: Beavers: Many characteristics of organisms are inherited from their parents

Third Grade – Life Science 3-LS3 Heredity: Inheritance and Variation of Traits

Variation of Traits: Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1)

Beavers are rodents. The word *rodent* means “THE BEAST THAT GNAWS.” All rodents (except one) have two upper front teeth and two lower front teeth called *incisors* that continue to grow throughout the animal’s life. They use these teeth to slice and grind through things like a pair of scissors. All rodents (except one) also have grinding *molars* in the back. The beaver uses their teeth to gnaw on tree trunks to fell trees.

In order for this mammal to live a semi-aquatic life, beavers utilize a host of adaptations that help them navigate the water. Beavers have a special gland that produces oil. They come out of the water to groom themselves and spread the oil over their fur. This oil makes them waterproof, keeping them warm and dry in the water. Nose and ear valves shut to keep out water while submerged, and nictitating membranes or transparent "third eyelids" act as goggles. Perhaps most useful is that their lips close behind their oversized front teeth, allowing the beaver to transport building materials and food without drowning. These are internal structures that assist in their growth and survival.

Beavers have what is called *underfur*, short, thick, gray and fuzzy hairs found underneath the long, silky *guard hairs*. Each hair of the *underfur* is covered in dozens of tiny barbs like fishhooks. Beaver fur has up to 100,000 hairs per square inch.

Beavers are the engineers of the animal world. They use their specially designed anatomy to fell trees and build dams and lodges. They are constantly cutting and moving materials with their long sharp teeth, powerful legs and rudder-shaped tail.