



### **Fascinating Facts About Beavers!**

**THEIR TEETH** have two layers: a hard orange enamel on the front side and soft white dentine in the back. Beaver teeth grow constantly (like all rodents), so they must constantly chew to keep their teeth the proper length. Beaver teeth are selfsharpening; the dentine wears away faster than the enamel as the lower jaw works against the upper jaw.

Beavers use their sharp teeth to cut down trees small branches. They gnaw vertically on trees, parallel to the trunk, leaving large chips around a fresh cutting. A beaver can cut down a four inch tree in less than 10 minutes. A large tree may take several days to cut. Beavers eat pond plants, ferns, buds, and leaves in summer, and the bark of aspen, willow, birch and alder trees and shrubs in winter.

**THEIR TAIL** has two physical functions: to store fat in the winter (enlarges up the three times its normal thickness!) and act as a kickstand to balance the beaver as it chews trees upright.

The tail is used as a rudder for steering in the water, and as a paddle to slap against the water as a warning signal. It is NOT used to pack mud as seen in cartoons.

**THEIR WEBBED HIND FEET** help to push water as the beaver swims. The fourth toenail on each hind foot is split and has a special purpose. Behavioral adaptation: The fourth toenail is used as a comb to spread waterproofing oils through the fur.

THEIR FRONT FEET have long nails, which give the beaver traction in mud. These feet are similar to human hands, except the thumb is weakest and the pinkie is strongest.

Nails are used to grasp wood and as a comb for grooming. They will also use their front feet to dig canals between streams, through which they can float branches to add to dams or lodges.

THEIR FUR has two layers: long outer guard hairs and a soft inner layer of felt. The felt layer is made up of tiny, interlocking hairs that stick together and hold their shape.

THEIR FAT LAYER insulates the beaver in 32 ° F water in the winter, and streamlines the body for faster travels in water.

THEIR OIL GLAND, located near the base of the tail, is a waterproofing oil gland. Beavers spread the waterproofing oil through their fur, similar to the preening of ducks.

THEIR CASTOR GLAND is located near the tail on the abdomen, this gland contains castoreum. Castoreum was and is still used as a fixative in expensive perfumes. It is NOT related to castor oil, which comes from the castor bean.

From springtime to mid June, beavers build mounds of mud with their hands and squirt castoreum on top of them to mark territory and attract mates.

THEIR NICITATING MEMBRANE are a clear third eyelid that beavers can close, but still see through, while swimming in the water. It protects the beavers eyes and helps them see.

THE SPECIAL INTERNAL FLAPS INSIDE THEIR NOSE, EARS, AND MOUTH keep water out of the beaver's nose and ears while diving.

The mouth flap is a special inner mouth membrane BEHIND the teeth. Beavers can carry a stick in their teeth and close this membrane so they don't swallow the whole pond while swimming!

GOOD LUNGS: Beavers' lungs can remove 75% of the oxygen in air, compared to humans' measly 15%. They can also tolerate a high buildup of carbon dioxide in the blood, which we cannot.

Beavers are stimulated to build DAMS by the sound of rushing water. Dams provide a protective pond and a constant water depth. The LODGE protects a beaver family from predators and the winter's cold. Snow is good for insulation; interior temperatures must remain about 40° F. Abandoned beaver lodges are often occupied by river otters. Food caches made up of cut branches are stored underwater in huge piles near the lodge for use in winter. A beaver will chew off about a footlong branch, like corn on the cob.