

Beaver Adaptations

Grades 4-7

Nutshell

Through a dress-up activity and explorative hike, students will learn about beavers and their adaptations. Behavioral and physical adaptations will be discussed while searching for beaver signs along the shores of Minister Lake.

Objectives

Upon completion of this activity, students will be able to:

- List at least 3 beaver adaptations.
- Describe how an adaptation helps the beaver survive.
- Explain at least 3 characteristics of a beaver's habitat.

Beaver Adaptations Pre-visit Activities

The following materials are aids to help prepare your students for their visit to the Central Wisconsin Environmental Station. The vocabulary list contains terms and concepts your students will encounter in their visit. Please modify the definitions as needed. The activities listed below are merely options – it is not necessary to do them all or follow any particular order. Keep in mind that your students' learning experiences at CWES will be enhanced if they are familiar with these concepts and terms prior to the on-site activities.

Pre-visit Vocabulary

- Adaptation - something an organism has or does that makes it better suited to survive in its environment
- Community - a group of interacting living things, living in the same area (i.e., the pond community consists of all the plants and animals living in the pond)
- Crepuscular - an animal that has a high degree of activity at dawn and dusk.
- Diurnal - an animal that is active during the day.
- Ecology - the study of the relationship between living things and their environment or surroundings
- Habitat - the place where an animal lives; it provides food, water, shelter and air
- Niche - the job or role that a living thing has in its community or habitat (e.g., consumer, producer, decomposer.)
- Nocturnal - an animal that is active at night.

Activity #1

Challenge the students to make a mural of a pond community. Brainstorm a list of all the important parts of a healthy pond habitat. Then have the students draw members of the community or clip pictures from magazines. When they are finished, challenge the students to do research to determine if they forgot to include any important members of parts of the pond habitat in their mural. Some things they may choose to include are sun, plants, algae, beaver, fish, frogs, etc.

Activity #2

Research how the beaver has been important in Wisconsin's history. Then do at least one of the following activities:

- Create a mock trading post and role-play a trapper and a trader's conversation.
- Teach classmates about Native American and pre-European settlers.
- Pretend you are fur trappers. What would be some of the benefits of your job? (money, honor, challenge) What challenges would you face? (cold, hunger, danger)
- Create your own.

Beaver Adaptations Post-visit Activities

A visit to the Central Wisconsin Environmental Station can be a school-year highlight for both students and their educators. We feel the knowledge and concepts gained during a Station visit apply outside the Station as well. The following activities will allow students to expand their knowledge and help them incorporate those lessons into their everyday life. Feel free to pick from and modify the activities as best suits your group.

Activity #1

Create your own beaver legends. Divide the class into small groups and prepare skits to “explain” fictitious reasons why beavers

- Have flat tails
- build lodges
- have teeth that never stop growing
- fell trees

Or think up your own ideas and act out the legends to explain them. Write and illustrate a class storybook about the legends.

Activity #2

Have students compare the beaver’s adaptations for survival with their own. Are there similarities? Differences? Then, choose one of the ways that the beaver has adapted to its watery habitat. Ask the students to imagine themselves with that adaptation (i.e. What if I had a large, flat, scaly tail?). Now, have the students write an imaginative short story about what they could do with this adaptation. How would this change their life? What challenges would it pose?

Activity #3

Take one of the facts the class knows about beavers and hypothesize what might happen to a beaver if one of the facts was changed. For example, what might happen if:

- beavers did not mate for life?
- A beaver had a tail like a muskrat instead of a large, flat one?
- The beaver today was the size of today’s black bear?
- A beaver’s favorite food source was mud?
- Beavers needed 14-20 pounds of inner bark a day to survive?

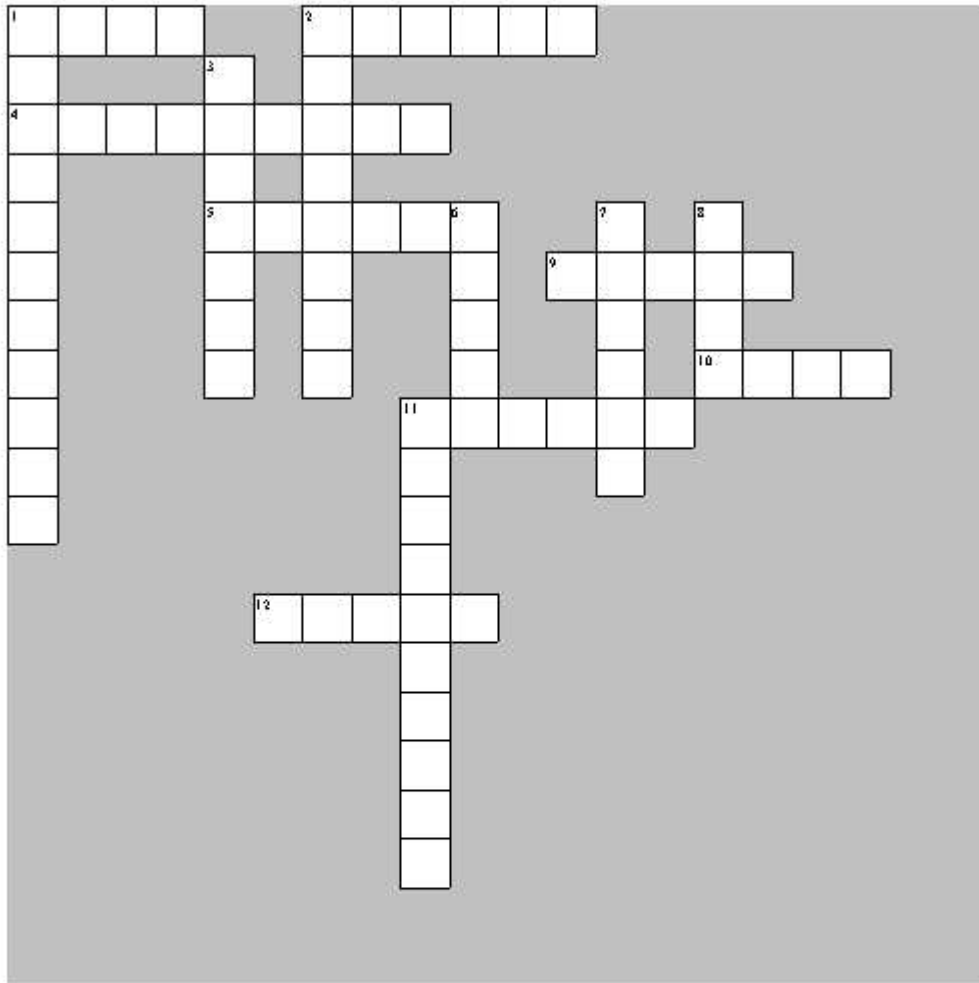
Write a paper about the implications of that change.

Activity #4

Review the vocabulary and concepts learned while at CWES by completing the attached crossword puzzle. The answer key is located at the bottom of the Resources page.

Beaver Adaptations Post-visit Activities

Beaver Adaptations Crossword Puzzle



- | Across | | Down | |
|---|---|---|--|
| 1. Valves can close to protect the beaver's _____ and ears when underwater. | 9. The only other animal to change their habitat more than the beaver is the _____. | 1. Beavers have a _____ membrane over their eye that serves as built-in goggles. | 7. The beaver uses his tail like a _____ on a boat, to help him change direction while swimming. |
| 2. Beavers can stay underwater for up to _____ minutes. | 10. Beaver babies are called _____. | 2. There are special _____ on the beavers hind feet with which they comb their fur. | 8. Beavers eat leaves, twigs, and _____ of most woody trees. |
| 4. Beavers secrete _____ to scent mud mounds that mark their territory. | 11. Beavers have _____ feet to help them swim. | 3. Beavers are the largest _____ in North America. | 11. Beavers keep their fur _____ with a special oil that they secrete. |
| 5. The hard orange covering of a beaver's teeth is made of _____. | 12. Beavers use their tail as an _____ signal by slapping the water with it. | 6. Beavers live in a _____ that they construct out of wood and mud. | |

Central Wisconsin Environmental Station

University of Wisconsin ~ Stevens Point

10186 County Road MM ~ Amherst Junction, WI 54407

Beaver Adaptations Resources

References

Carabella, Monica and Lorenzo Fornasari. 1997. *The Breathing Earth*. Austin, TX: Raintree Steck-Vaugh. 63 pp.

Grzimek, Bernhard. 1976. *Grzimek's Encyclopedia of Ecology*. New York: Van Nostrand Reinhold Co. 705 pp.

Jackson, Hartley H.T. 1961. *Mammals of Wisconsin*. Madison, WI: University of Wisconsin Press. 504 pp.

Miller, G.T. 1991. *Environmental Science: Sustaining the Earth*. Belmont, CA: Wadsworth Publishing Co.

Nentl, Jerolyn Ann. 1983. *The Beaver*. Mankato, MN: Crestwood House. 47 pp.

Pils, C.M. 1983. *The Beaver (Castor canadensis)*. Wisconsin Department of Natural Resources Bureau of Wildlife Management. Pub. 11-2300(83).

Youth Literature

Brady, Irene. 1976. *Beaver Year*. Boston: Houghton Mifflin. 40 pp.

Brownell, Barbara M. 1988. *Busy Beavers*. Washington DC: National Geographic Society.

George, William T., and Lindsay Barrett George. 1988. *Beaver at Long Pond*. New York: Greenwillow Books. (For Grades Pre K-4).

Lepthien, Emilie U. 1992. *Beavers*. Chicago: Children's Press. 45 pp.

Sharmat, Marjorie Weinman. 1984. *The Story of Bentley Beaver*. New York: Harper and Row. 62 pp. (Fiction).

Tordjman, Nathalie. Trans. Vicki Bogard. 1991. *The Living Pond*. Ossining, NY: Young Discovery Library. 37 pp. (For Grades K-4).

Wallace, Karen. 1993. *Think of a Beaver*. Cambridge, MA: Candlewick Press.

ANSWER KEY

Across

1. nose
2. twenty
4. castoreum
5. enamel
9. human

10. kits
11. webbed
12. alarm

ANSWER KEY

Down

1. nictitating
2. toenails
3. rodent
6. lodge
7. rudder
8. bark
11. waterproof

Central Wisconsin Environmental Station

University of Wisconsin ~ Stevens Point
10186 County Road MM ~ Amherst Junction, WI 54407