

Survival Lessons from Nature

Grade Levels: 1-5

In a Nutshell

The students will observe how animals survive winter through conservation of heat energy and storage of food and realize how we use these lessons from nature in our daily lives.

Objectives

Upon completion of this activity, the student will be able to

- Explain how insulation works to conserve body heat;
- List three animals and identify the methods they can use to conserve heat and survive the winter;
- Describe two heat conservation lessons people learned from nature;
- Build a shelter utilizing heat conservation techniques;
- State at least one action that they can take to conserve heat energy in their home.

Survival Lessons from Nature 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 first visit. Please modify the definitions as needed. The activities listed below are merely options- it is not necessary to do them all or to 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.

Vocabulary

Burrow:	a hole or tunnel made in the ground by an animal for protection or Habitation
Conservation:	the protection, improvement and intelligent use of natural resources to assure their continuing availability
Hibernate:	to pass the winter in a resting place
Insulation:	a substance that slows flow of heat
Migrate:	to move from one place to another

Activity #1

Divide the class into groups of 2 or 3. Assign each group an animal from the following list.

Bear	Deer	Chipmunk	Raccoon
Fox	Cardinal	Squirrel	Rabbit
Beaver	Robin	Dog	Skunk

Ask the students to research these animals to find out how they prepare for winter, what they do to survive the winter (if they stay in Wisconsin), and how they stay warm. They may use the library for their research, or even interview their parents, grandparents, or anyone knowledgeable in this area. Have students draw pictures of their animals and what they do to survive winter. Each group should display and explain their illustration.

Activity #2

Tell the students to imagine that they are alone in the woods on a cold winter day. What would they want to have with them to help them stay warm and survive for a few days? Everything that they will need will have to fit into a backpack. Ask them to make a list of what is in their "survival pack." Collect the students' lists and keep them until after

Central Wisconsin Environmental Station

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

Survival Lessons from Nature Pre-Visit Activities

they visit the Environmental Station (when they will make a new list and see if there are any changes).

Activity #3

Chickadees need at least 20 times more food in winter than in summer to cope with the increased energy requirements to fight the cold. This mild weather requirement translates into an equivalent of 150 sunflower seeds per day to survive. When temperatures fall to zero degrees Fahrenheit, the chickadee requires more than 250 sunflower seeds, which approximates 60 percent of its body weight (National Wildlife, Feb.-Mar 1991).

Count out two piles of sunflower seeds- one with 150 seeds and one with 250 to represent a chickadee's winter food requirements. If it eats 20 percent more seeds in winter, how many seeds does it require for the summer? How many would it eat in a week of zero-degree weather?

Encourage the students to create their own chickadee story problems and challenge their classmates to solve them. How does a chickadee solve the "problems?"

Make birdfeeders that you can hang outside the school or their homes. One method is to use grapefruit halves that have been scraped out. Fill each half with suet and seeds. Poke 3 holes around the fruit, roughly ½"-1" below the top of the fruit. Thread some yarn through the holes and tie the ends together. Hang the feeder and watch the birds!

Survival Lessons from Nature 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 lives. Feel free to pick from and modify the activities as best suits your group

Activity #1

Again, tell the students to imagine that they are alone in the winter woods and they have a backpack of things to help them survive. What would these items be? Compare the students' list to those they wrote before their visit to CWES. Are there any differences? Why did the students change their minds? (This is a follow-up to pre-visit Activity #2)

Activity #2

Before class begins, write the names of each of these animals on two slips of paper (you should have 24 slips). Fold each slip and put them in a hat.

Chipmunk	Bear	Cardinal	Squirrel
Skunk	Beaver	Robin	Deer
Fox	Rabbit	Raccoon	Dog

At the beginning of class, hand out a piece of white construction paper to each student. Pass the hat and allow them to draw one slip. On one side of the paper, instruct the students to draw how his/her animal prepares for winter or conserves its body heat during the winter. For instance, a chipmunk burrows and hibernates; a cardinal perches in a pine tree and fluffs his feathers. On the other side of the paper, ask them to draw how humans have adapted that lesson for winter survival. For example, if the student drew a chipmunk hibernating underground, they might draw a picture of an earth shelter or someone under a pile of blankets. Have the students share their drawings with the rest of the class.

Activity #3

Place a dish of ice cubes on a table in the room. Challenge the students to find a way to keep an ice cube from melting for a class period, or even for an entire school day. Provide a variety of materials such as newspaper, aluminum foil, sawdust, sand, etc. Share discoveries!!

Activity #4

Involve the students in researching different types of houses found in different regions of the world. They can be "modern" homes, native homes, or simple shelters. Ask them to

Central Wisconsin Environmental Station

University of Wisconsin - Stevens Point
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Survival Lessons from Nature Post-Visit Activities

investigate the temperature extremes of “their” region and suggest how that may relate to the house. Consider building materials, typical designs, etc. The students may also look at clothing, diet, and other regional and/or cultural differences. An example would be old homes in the southeastern United States, where it gets very hot in summer and not too cold in winter. Homes tend to have many windows and large porches around them. Before air conditioning was common, people would spend hours on their porches to cool off. Have the students share what they find with the class.

Activity #5

Read the passage below was Jack London’s *Call of the Wild*.

“And not only did he learn by experience, but instincts long dead became alive again. The domesticated generations fell from him. In vague ways he remembered back to the youth of the breed, to the time the wild dogs ranged in packs through the primeval forest and killed their meat as they ran it down. It was no task for him to learn to fight with cut and slash and the quick wolf snap. In this manner [he] had fought forgotten ancestors. They quickened the old life within him, and the old tricks which they had stamped into the heredity of the breed were his tricks. They came to him without effort of discovery, as though they had been his always. And when, on the still cold nights, he pointed his nose at a star and howled long and wolflike, it was his ancestors, dead and dust, pointing nose at star and howling down through the centuries and through him. And his cadences were their cadences, the cadences which voiced their woe and what to them was the meaning of the stillness, and the cold, and the dark.”

Ask the students what they think the passage means. The story is about a dog, Buck, that follows his natural callings (instincts) and has to “re-learn” how to survive in the wild. Do humans have instincts? Ask the students to imagine they were going on an expedition across Alaska. Have them write a story about what challenges they might face and how they would survive.

Survival Lessons from Nature Resources

Teacher Resources

Ansell, Rod. *To Fight the Wild*. New York: Harcourt Brace Jovanovich. 1986. 151 pp.

Boswell, John, Ed. *The US Armed Forces Survival Manual*. New York: Times Books. 1980. 312 pp.

Dalrymple, Byron W. *Survival in the Outdoors*. New York: Outdoor Life. 1971. 309 pp.

McDougall, Len. *Practical Outdoor Survival: A Modern Approach*. New York: Lyons and Burford. 1992. 148 pp.

Petzoldt, Paul. *The Wilderness Handbook*. New York: Norton. 1974. 286 pp.

Youth Literature

George, Jean Craighead. *On the Far Side of the Mountain*. New York: Dutton Children's Books. 1990. 170 pp.

George, Jean Craighead. *The Moon of the Grey Wolves*. New York: Harper Collins Children's Books. 1991. (Grades 4-9)

Harris, Lorle K. *The Caribou*. Minneapolis, MN: Dillon Press, Inc. 1988. (Grades 4-6)

London, Jack. *Call of the Wild*. New York: Macmillan. 1965. 128 pp.

Murphy, Jim. *The Call of the Wolves*. New York: Scholastic. 1989. (Grades K-4)

National Geographic Society. *Secrets of Animal Survival*. Washington, DC: National Geographic Society. 1983. 104 pp.

Owens, Mary Beth. *A Caribou Alphabet*. New York: Farrar, Straus, Giroux. 1988. (Grades Pre-K – 4)

Paulsen, Gary. *The Voyage of the Frog*. New York: Orchard Books. 1989. 141 pp.

Schoenherr, John. *Bear*. New York: Philomel Books. 1991. (Grades K-4)