Second Nature

Winter Ways

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Even though sometimes it may feel like winter will go on forever, don't forget that the days are getting longer which gives you more time to explore the wonders of this season outside! Every season provides distinct opportunities for you and your family to observe and role play what different plants and animals need to survive.

In wintertime, food sources for many animals change as plants change. Some animals cannot find the food they need to survive. For example, hummingbirds need flowers and bats need flying insects to eat. Animals have four strategies for winter survival. Some birds, butterflies and bats (and some grandparents!) MIGRATE to a warmer climate. Many birds and mammals stay ACTIVE as they are well adapted to winter and there are food sources available. A few examples are barred owls, chickadees, foxes, and squirrels. A few mammals, such as chipmunks, raccoons and skunks, go to SLEEP when it is very cold and wake up to find food on warmer days. Some animals such as turtles, frogs, and jumping mice actually HIBERNATE through the winter. Wood frogs settle under the leaf litter on the forest floor and become a frozen frog-cicle! Woodchucks burrow below the frost line to hibernate, while brown bats hibernate in caves (or your attic!).

Hibernating mammals go into a deep sleep, their temperature drops, and their heart rate and breathing slow down. To better imagine what their body goes through, try these simple activities. First breathe normally, and count how many times you breathe in and out in one minute. Then try to breathe only once in a minute. Hibernating woodchucks breathe about once every six minutes! A brown bat's heart rate when active during the summer is about 600 beats per minute. Try to clap ten times in one second. When hibernating, a brown bat's heart beats about once every six seconds!

What about plants in winter? How do they survive? Because the water is frozen, winter is like a drought for plants. The sun is further away, the days are shorter and growth slows down. Plants that grow here have adapted over millions of years to three different strategies

survive the winter. Coniferous trees have green needles for leaves, these waxy needles have a small surface area to reduce the need for water and help shed heavy snow. The plant can still make a little food with their needles and the winter sun, hence they EAT. Examples are pine, hemlock and spruce trees. Deciduous trees have dropped their leaves and their buds are waiting for spring. These plants have gone to SLEEP. Buds have scales to protect the flowers and leaves waiting within for spring. You can find a leaf scar on the twig, just below the bud, where the leaf was shed. You can also notice whether the buds and branches are opposite each other or alternate like a zigzag. Examples are maple, beech and birch trees. Herbaceous plants appear to DIE. They look dead, but they have made seeds to send out that will grow in the spring, and the roots may or may not live underground through the winter to send up new shoots in the spring. Examples are goldenrod, wild carrot and milkweed plants.

You can enjoy some fun role plays with your children outside. Explore and try to find the three different kinds of plants. Pretend you are the different plants and together act out the different strategies to survive through the winter. Learn about the animals that live near you and how they survive winter. Explore and try to find signs of active animals in winter. Choose an animal to imagine yourselves as and try to move like your animal. What do you eat and where do you find your food? How do you keep warm? Where do you find shelter? Does someone else like to eat you? How do you keep safe and avoid predators? One of you could become a predator to play a game with all your senses alert while stalking and hiding, chasing and fleeing. Take turns with the different roles to experience the differences of being predator and prey.

Go outside to explore and play on winter days that are warmer and colder. What differences do you notice in the feeling of the winter world around you? What differences do you notice in the plants and animals around you? When back inside with a warm cup of tea or cocoa, you can talk about how you survive winter and share with each what plant or animal you would like to be if you lived outside through the winter.

Recommended picture books for children about winter survival:

"Over and Under the Snow," by K Messner & C S Neal

"In the Snow: Who's Been Here?" by L B George

"Under the Snow," by M Stewart & C Bergum

"Winter Trees," by C Gerber & L Evans

"Snowflake Bentley," by J B Martin & M Azarain

"A Warm Winter Tail," by C A Pearson & C Wald

Second Nature is submitted by the naturalists at Bonnyvale Environmental Education Center in West Brattleboro. Come enjoy the trails open sunrise to sunset. Visit www.BEEC.org for more information and current events for all ages. BEEC is a member supported non-profit organization.