



WINTER | Critters Hibernation How To!

Summary:

Many animals sleep, or hibernate, during the short, cold winter days. Examples of animals that hibernate during the winter are bears, ground squirrels, raccoons, skunks, groundhogs, and bats.

Before Visiting the Garden:

Gather: Your pajamas, a notebook, digital thermometer, pencil, and timer/watch

Explore: Blankets! Look through your house for blankets and explore the color, thickness, and warmth of different materials.

Read: *Animals Hibernating: How Animals Survive Extreme Conditions* by Pamela Hickman

In the Garden:

Humans have devised all sorts of clever ways to store and grow food through the winter months, such as canning vegetables and growing plants in greenhouses. Animals have developed their own ways of surviving winter—hibernation. They prepare for this long sleep by eating extra calories and storing up food in their dens. Like the woodchuck, many increase their body fat and eat more food during the fall season so they have stored up energy to make it through winter. Over a period of days, the heart rate of these animals drops to a few beats per minute and their internal body temperature decreases to 50–70 degrees Fahrenheit (our normal temperature is 98.5 degrees!).

Questions to Explore:

- If most of these animals start with an internal body temperature of 99 to 100 degrees Fahrenheit, how many degrees do their body temperatures drop during hibernation?
- Do you see any dens or nests around the garden? Squirrels may be the easiest to spot as they make giant leafy nests.
- Are humans able to hibernate? Why or why not?
- If we were able to hibernate, what would we need to do to prepare?

Activity:

Let's Hibernate (A Bit)!

1. After returning home from the garden, put on your "fur," (your pajamas) and start preparing to hibernate.
2. First, lay on the ground. Set your timer for one minute. During that minute, count how many times you take a breath. Now imagine that you are one of our hibernating friends and you only breathed a few times per minute. Could you do it?
3. Next, have an adult take your pulse for one minute. Your beats per minute should be between 80 to 130 beats. Can you believe that our hibernating friends' heartbeats are only five to ten times per minute? How many more beats per minute is your heartbeat?
4. Finally, think about how hungry you are when you first wake up in the morning. Imagine that you went all winter without eating any breakfast or any food at all! What kind of foods would you store up for yourself to prepare for the winter season?

Beyond the Garden | Visit a Camping Store!

Camping in a tent can be a little bit like hibernating. Visit a store that carries tents and sleeping bags. What can you learn about the technology humans have developed to allow us to hibernate, or at least keep warm, while sleeping outdoors? Which sleeping bag would you choose to use for your hibernation? Why?

Continue Exploring | Supporting Materials

10 animals that hibernate during the winter: <http://www.conservationinstitute.org/10-animals-that-hibernate/>