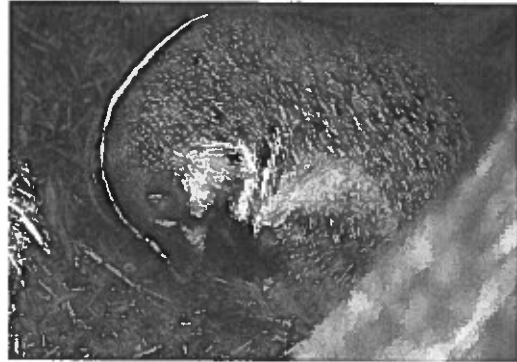


## Hibernation

When the weather gets cold and the snow starts falling, how do animals survive? Some migrate to warmer climates while others grow thicker coats to insulate them from the cold. Perhaps the most interesting way some animals cope with cold weather and little food is hibernation.




Hibernation is when an animal goes into a sleep-like state to save energy. Hibernation is different than sleep, though. The animal may look asleep, or even dead, but its brain is very active. Disturbing an animal in a deep state of hibernation can be life-threatening for the animal because it can't adjust to a waking state quickly.

There are different types of hibernation. Bats and ground squirrels, for example, go into deep hibernation. This means their body temperatures lower significantly, and their breathing and heart rates slow down. Other animals such as bears, raccoons, opossums, and skunks, go into a lighter state of hibernation. All types of hibernation, though, have the same purpose: to lower the amount of energy the animal needs to survive. A bear can lower the amount of energy it uses by 75 percent!

How do animals know when it is time to hibernate? Some feel the temperatures dropping, and others notice a lack of food and start collecting what is left. Another way some animals can tell winter is coming is through the length of the day. Scientists have found that animals that hibernate have HIT (Hibernation Inducement Trigger) in their blood. This is one of the necessary internal factors that helps animals know when to start getting ready for hibernation.

A lot of preparation goes into hibernation. Some animals such as ground squirrels must gather enough food to last them through the winter. These animals will wake up every couple of weeks to eat some food. Other animals, such as the polar bear, eat more



food than normal so they can store it as fat in their body. Then when they hibernate, their bodies can use the extra fat as energy.

The animals must also prepare their shelter, whether in a tree, hollowed out log, or underground. That area must be insulated with materials like leaves or mud. If the environment is not warm enough, the animal may wake up and generate body heat by shivering or moving around.

Waking up from hibernation is not easy. The animal might shiver for hours to raise its body temperature. After that, it will be ready for a good meal!

Name \_\_\_\_\_

## Hibernation

Which topics are covered in this article? Put an X in front of the correct answers.

- \_\_\_\_\_ What happens to an animal's liver and kidneys during hibernation
- \_\_\_\_\_ How some animals cope with cold weather and little food during winter
- \_\_\_\_\_ What it means to hibernate
- \_\_\_\_\_ How birds migrate during the cold winter months
- \_\_\_\_\_ How animals know when it is time to hibernate

True or False

1. Hibernation is the same as a deep sleep. \_\_\_\_\_
2. There are different types of hibernation. \_\_\_\_\_
3. During hibernation, an animal's body temperature goes down. \_\_\_\_\_
4. Polar bears eat extra food before hibernation to store body fat. \_\_\_\_\_
5. The only way animals know when it is time to hibernate is when the days get shorter.  
\_\_\_\_\_

What happens to animals bodies when they hibernate? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

### Vocabulary

Match the word to its definition

- |                   |   |
|-------------------|---|
| _____ hibernation | a. the activity or process of becoming ready for something            |
| _____ insulate    | b. the ability to be active; strength that allows you to do something |
| _____ cope        | c. to not have enough of  |
| _____ energy      | d. located on the inside of something                                 |
| _____ preparation | e. to pass the winter in a dormant or resting state                   |
| _____ lack        | f. shaking caused from cold   |
| _____ internal    | g. to add a material to stop heat from going into or out of it        |
| _____ shiver      | h. to deal with a problem   |