

# For Creative Minds

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## Torpor or Hibernation?

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Black bears in some parts of North America can't find much food in the winter. These bears spend months in a deep sleep called **torpor**. While they sleep, their bodies slow way down. Their heart beats much less than normal, as few as 8 beats a minute. Their breathing slows down to 1 breath every 45 seconds. For the four or five months they are in torpor, they do not eat, drink, pee, or poop.

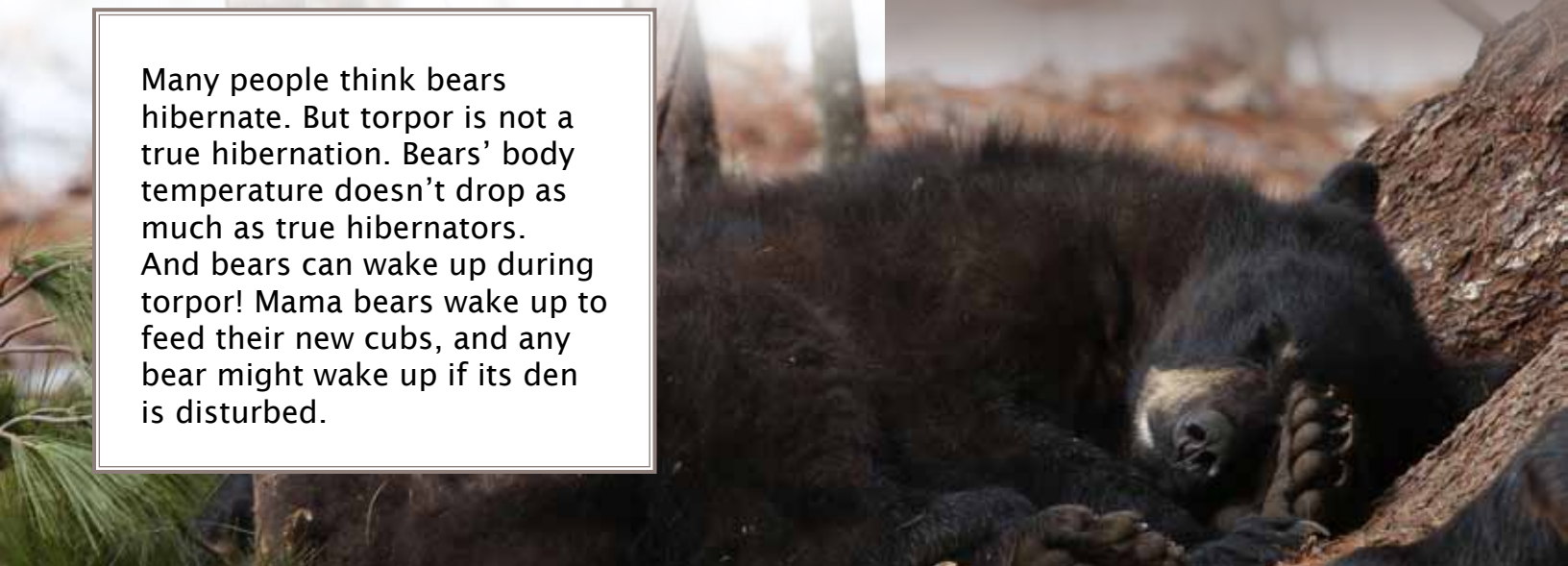
Baby cubs are born in their mother's den in the middle of winter. At birth, each cub weighs little more than a stick of butter. They live off their mother's milk and grow bigger and bigger inside the den. The mother is awake when her cubs are awake. When the cubs sleep, the mother sleeps too. When the weather warms in early spring, black bears leave their dens.

*How can bears go so long without eating?*

All living things need energy to live. While the bears are in torpor, they don't use as much energy as when they are awake and moving around. But they still do need energy: to breathe, to circulate blood, and to maintain their body temperature.

Animals get energy from food. Animals can store energy in their bodies in the form of fat. Bears eat a lot in the fall so that they can grow nice and fat before winter. Throughout the winter, their body breaks down the fat to use it for energy.

Many people think bears hibernate. But torpor is not a true hibernation. Bears' body temperature doesn't drop as much as true hibernators. And bears can wake up during torpor! Mama bears wake up to feed their new cubs, and any bear might wake up if its den is disturbed.



# What Do Bears Eat?

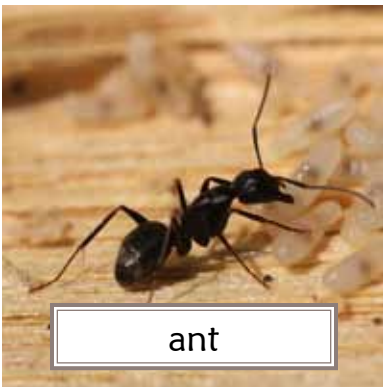
Which of these foods do you think black bears eat?  
Do you eat any of the same foods as a black bear?



acorn



beech nut



ant



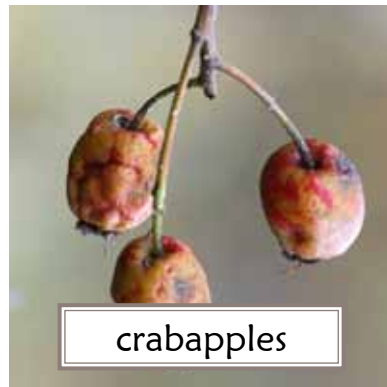
bald-faced hornet



blackberries



blueberries



crabapples



Jack-in-the-pulpit



hickory nut



honey bee



willow flower

Black bears eat all of these foods!  
*What about you?*

# Black Bear Signs

It is much more common to see black bear signs than to see a black bear! Black bears leave signs to communicate with other bears. They have an excellent sense of smell. When a bear finds another bear's sign, it sniffs it. The scent tells it if the other bear is male or female, young or old, strong or weak, or if it is looking for a mate.

Can you match each bear sign to its description?

## Scat

Bears are omnivores—they eat lots of different kinds of food. Most of a black bear's food comes from plants. You can tell what kind of food a bear has eaten by looking at its poop, or scat. Depending on when you look, you might find seeds, bud scales, bits of ferns, leaves, grasses, flowers, insect parts, hair, bones, and scales.

## Markings

Bears leave their scent on trees by scratching them with their claws, rubbing on them, and biting them. These are called "marking trees." They act as sign posts for any bear passing by. Sometimes these marking trees help a bear find a mate, and other times they keep bears away. Both males and females mark trees, but the males are especially active during the mating season in June.

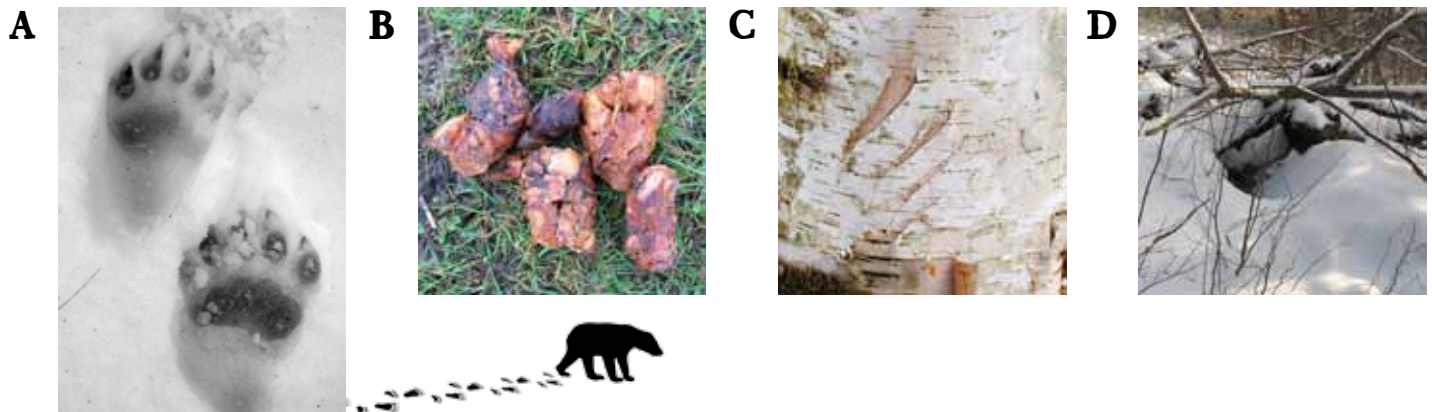
## Tracks

Have you ever left a footprint that showed where you walked? Bears leave footprints too. When a bear walks in the snow, their feet sink down and leave tracks behind. Even without snow, you can often find bear tracks if a bear walked in mud.

Bears are large animals, so they have large feet and leave large tracks. The front and back feet have different sizes and shapes. A black bear's front foot is smaller and more rectangular than its hind foot. The hind foot is bigger and longer than the front foot.

## Bear Den

Bears spend the winter in dens—cavities where they go into torpor. Dens can be under fallen trees, under overturned stumps, or in brush piles, caves, hollow trees, or thick stands of conifers. Dens usually have a large opening, so the temperature in the den is roughly the same as the outside air. When a female's cubs are born (in the middle of winter), she wraps her body around them to keep them warm.







## “Babysitter Tree”

Often the mother bear chooses a specific tree for her family to rest near. It should be easy for cubs to climb, and is typically near a wetland that provides the bears with food. The mother and her cubs rest at the bottom of the tree during the day.

This is the bear cubs’ safety tree as well as their resting tree. If the mother goes out to forage for food, she sends her cubs up into the tree where they will be safe until she returns. She also sends her cubs up the tree if she senses danger nearby. Some people call this a “babysitter tree.”

If the mother and cubs are away from their resting tree and the mother senses danger, she picks a nearby tree for them to climb. She sends the cubs up the tree, and they stay there until she decides it is safe for them to come down. This is called a “refuge tree.”

## Chewed Sticks and Trees

Bears, particularly young cubs, will chew on sticks, saplings and branches in places where they spend a lot of time. Sometimes they gnaw big chunks of bark off trees.

## Bear “Nest”

In some parts of North America, you might find a cluster of branches high in an American beech tree. Although it is called a bear “nest,” this is not a nest, and the bear that made it doesn’t sleep in it.

A bear climbs the beech tree to eat the beechnuts. The bear sits near the trunk where the branches are strong. It breaks off branches to get to the beechnuts at the tip. After the bear has finished all of the nuts on a branch, it puts the empty branch next to it. The more branches of nuts the bear breaks off, the bigger the pile of branches.

## Hair

Some bear signs are hard to see. Bears rub their shoulders, back, neck, and chest against a tree. Wherever they rub, bears leave their scent, along with a few hairs that get caught in the bark. During mating season, male bears rub against lots of trees to spread their scent.



Answers: A-tracks. B-scat. C-markings. D-bear den. E-hair. F-bear nest. G-chewed sticks and trees. H-babysitter tree.