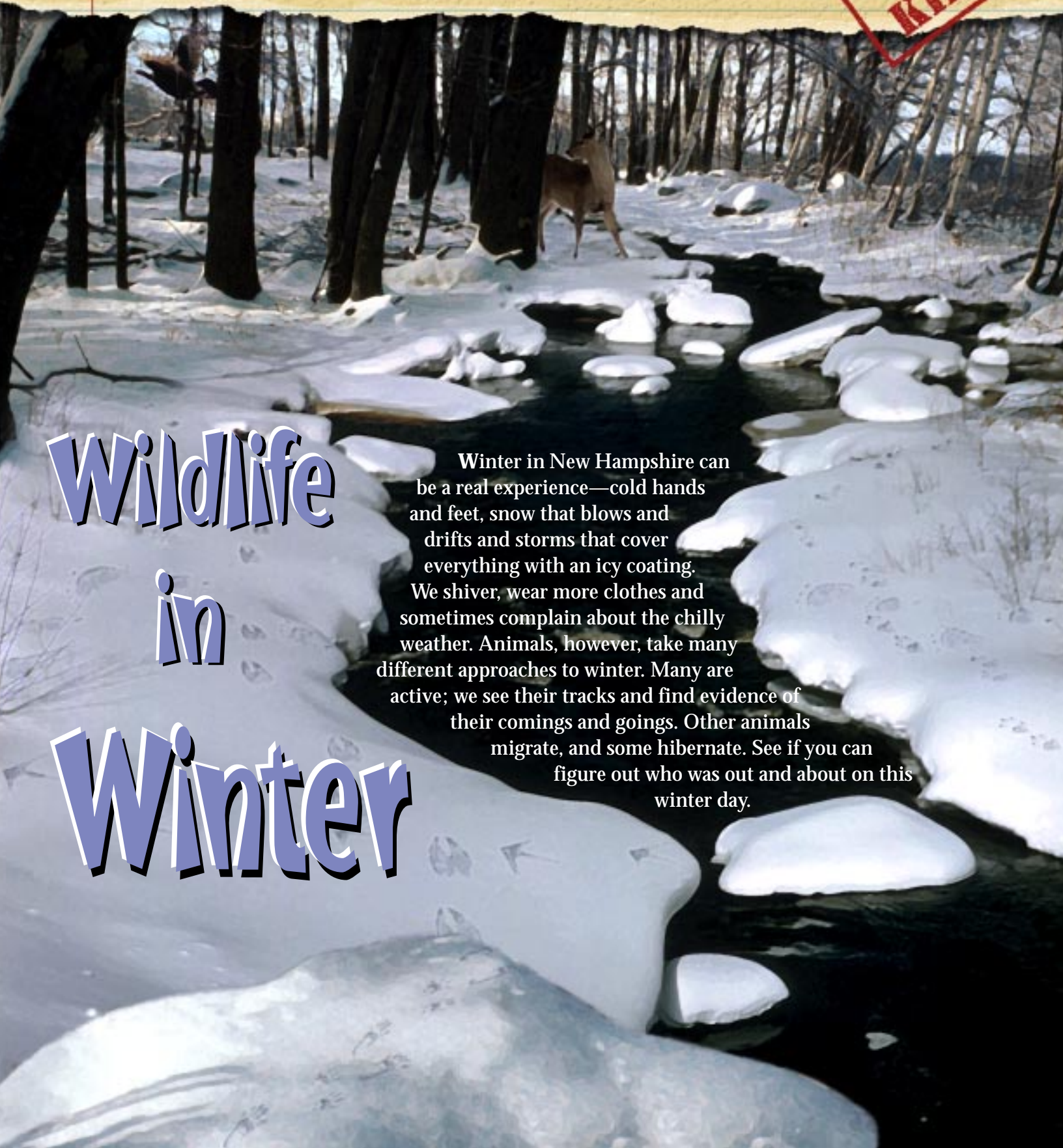


WILD TIMES

FOR
KIDS

Wildlife in Winter

Winter in New Hampshire can be a real experience—cold hands and feet, snow that blows and drifts and storms that cover everything with an icy coating. We shiver, wear more clothes and sometimes complain about the chilly weather. Animals, however, take many different approaches to winter. Many are active; we see their tracks and find evidence of their comings and goings. Other animals migrate, and some hibernate. See if you can figure out who was out and about on this winter day.



BRRRRR... IT'S COLD!

Not all birds leave New Hampshire in the winter. Those that stay have to deal with the cold. One simple way birds stay warm is by fluffing out their feathers. The fluffing makes spaces between the feathers where air is trapped. The trapped air insulates the bird's body from the cold. You might have noticed the puffed-out breast feathers covering the legs and feet of some birds—like sparrows, juncos and finches—when they sit and feed off the ground.

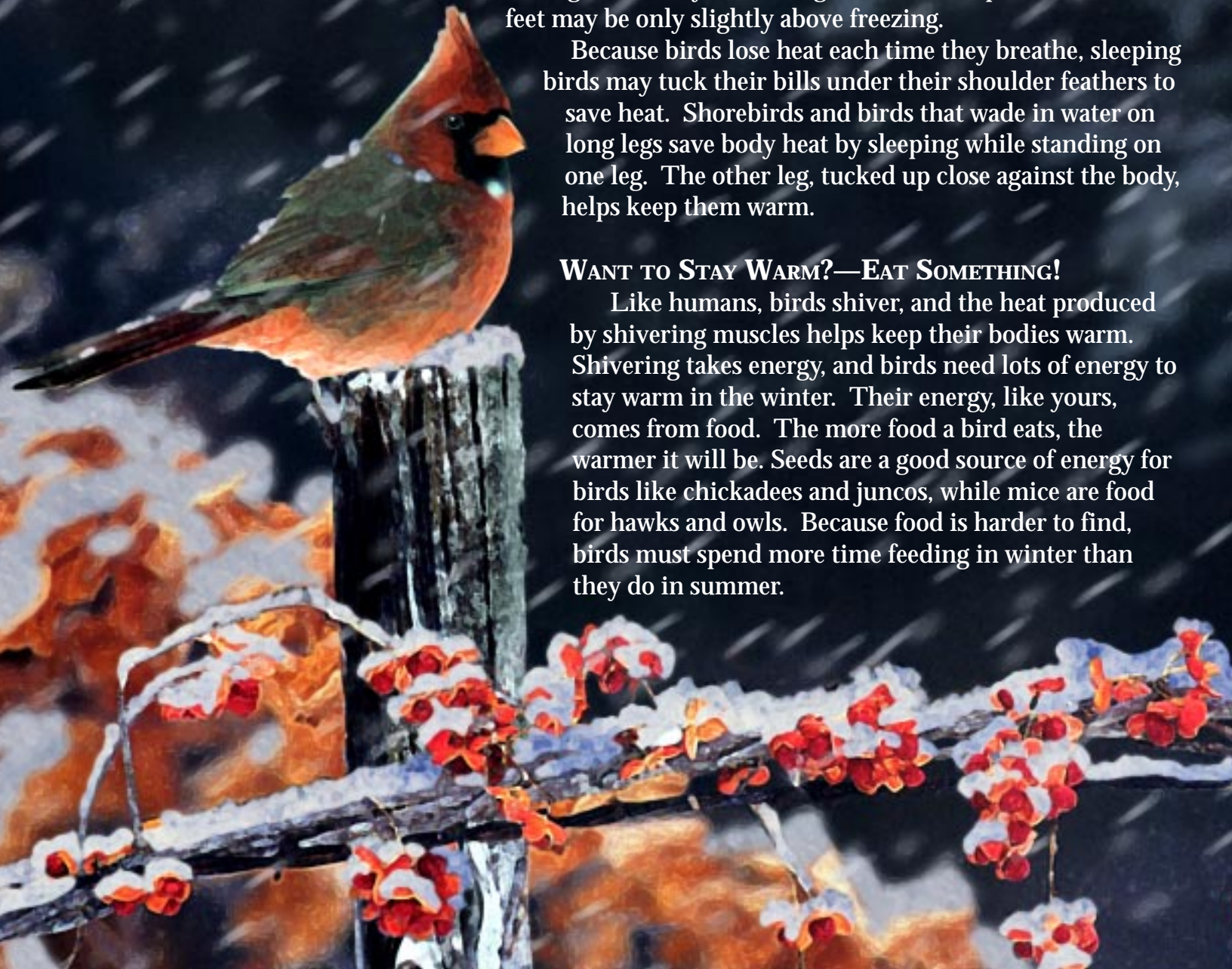
SHARING THE WARMTH

Some birds—such as titmice—huddle together to stay warm. To lessen heat loss, many birds have arteries and veins in their legs that touch each other and exchange heat. Warm blood flowing toward the feet passes heat to the blood flowing back to the body. Blood vessels near the surface of the feet constrict and become smaller. That lets just enough blood reach the feet to keep them healthy, but exposes less blood to the cold. So, while the inside (or “core”) temperature of a duck standing on ice may be 104 degrees F, the temperature of its feet may be only slightly above freezing.

Because birds lose heat each time they breathe, sleeping birds may tuck their bills under their shoulder feathers to save heat. Shorebirds and birds that wade in water on long legs save body heat by sleeping while standing on one leg. The other leg, tucked up close against the body, helps keep them warm.

WANT TO STAY WARM?—EAT SOMETHING!

Like humans, birds shiver, and the heat produced by shivering muscles helps keep their bodies warm. Shivering takes energy, and birds need lots of energy to stay warm in the winter. Their energy, like yours, comes from food. The more food a bird eats, the warmer it will be. Seeds are a good source of energy for birds like chickadees and juncos, while mice are food for hawks and owls. Because food is harder to find, birds must spend more time feeding in winter than they do in summer.



TRACKS

Use this guide for clues in finding the answers to the questions on page 1 or when you are out exploring the winter woods

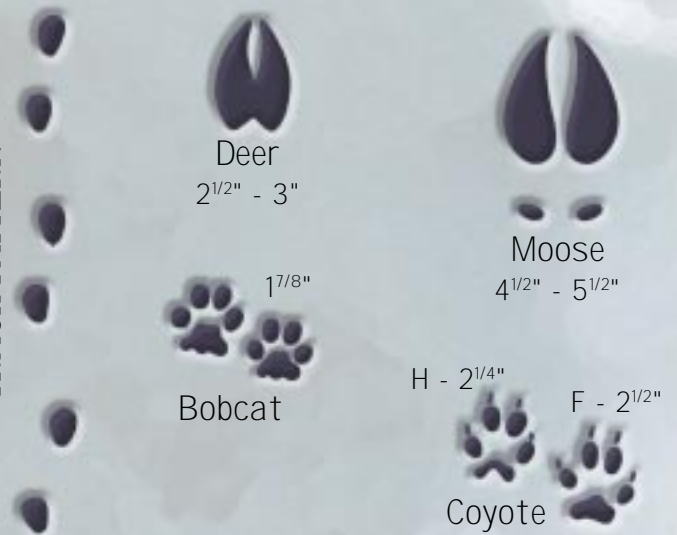
Bounders

TRACK PATTERN



Walkers

TRACK PATTERN



Gallopers

TRACK PATTERN



Waddlers

TRACK PATTERN



TRACKS NOT TO SCALE

Tracks will show considerable variation depending upon conditions of the ground (snow, mud, dust, sand, etc.) and movement of the animal.

F = Front Track
H = Hind Track



THE MATCH GAME

Match the Animal with its Winter Adaptation



Little Brown Bat ____

1. Turns white in winter and has large hind feet.

2. Sleeps and feeds underground on food stored in the fall.



Osprey ____

3. Migrates to the tropics to feed on fish.

4. Has wings and hibernates in caves and old mines.



Deer ____



Chickadee ____

5. Seeks shelter in evergreens when the snow gets deep.

6. Eats 20 times as much as in the summer.



Chipmunk ____



Snowshoe Hare ____

A LONG WINTER NAP

Fall is a busy food-gathering time for animals. Many insects still are plentiful and many plants have edible seeds, so most animals have plenty to eat. Then winter comes along.

The weather gets colder, plants stop growing, insects disappear, and food is harder to find.

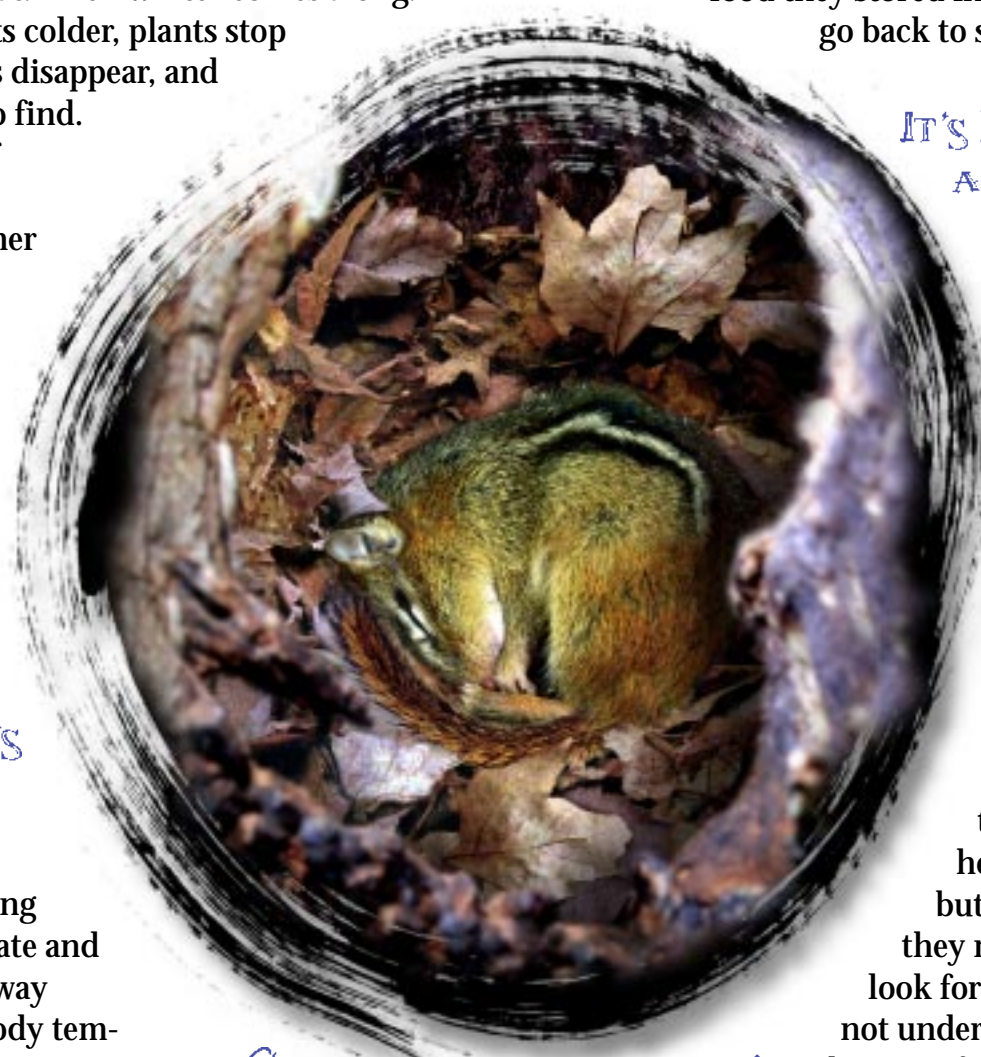
Many species of animals don't migrate to warmer places where there is more food. Instead, they have adapted to winter by going into a deep sleep called "hibernation."

NOW THAT'S REALLY SLEEPING!

A hibernating animal's heart rate and breathing slow way down, and its body temperature drops. Because its body is saving energy, the animal doesn't need to eat as much or maybe not at all. Instead, it lives on fat stored in its body. Hibernating warm-blooded animals become something like cold-blooded animals, and cold-blooded animals seem almost dead.

In fall, hibernating animals store a special brown fat around their backs and shoulders near the brain, lungs and heart. These are the important parts of the animals' bodies that will help them wake up when it's time to come out of hibernation.

Woodchucks, jumping mice and bats are true hibernators. They go into a deep sleep for four to six months. During that period they might wake up for a short time, eat some of the food they stored in their den, then go back to sleep.



IT'S REALLY JUST A LONG NAP!

Other animals like the raccoon, skunk and chipmunk are considered "light sleepers." They don't actually hibernate.

Rather, their metabolism slows down and they find dens or holes to stay in,

but in warm periods they may come out to look for food. They do not undergo the body changes of the deep sleepers, but they become less active and don't need much food.

All animals adapt to their environments, and hibernation is one way some animals have adapted to harsh winters.

Chipmunks are "light sleepers," not true hibernators.

HIDER - MAZE

Help this little mouse find a cozy place to spend the winter.



WINTER WORD SCRAMBLE

Read the material in this issue to unscramble the words below. Use the red letters to figure out the special message.

1. NI**W**RET _____
2. ORNE**I**HASTR _____
3. D**O**L**C** _____
4. E**R**E**D** _____
5. A**C**T**S**R**K** _____
6. ECHE**I**D**C**A**K** _____
7. **A**M**T**I**G**E**S** _____
8. R**A**E**H** _____
9. **S**A**B**T _____



special message!

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New Hampshire Fish and Game Department
Conserving New Hampshire's wildlife and their habitats
for over a century.

ANSWERS
Answers to *Match Game* (pg. 4):
Little Brown Bat 4; Deer 5; Chipmunk 2; Osprey 3; Chickadee 6; Snowshoe Hare 1.
Answers to *Winter Word Scramble* (pg. 6):
1. Winter; 2. Hibernators; 3. Cold; 4. Deer; 5. Trucks; 6. Chickadee; 7. Migrates; 8. Hare; 9. Bats
Special Message: *Wild Times*