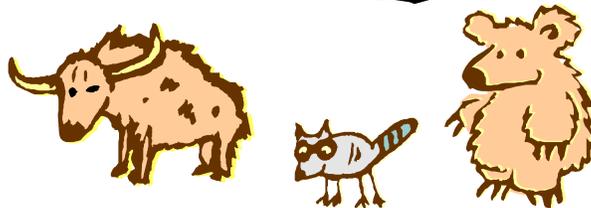


WHERE DO ANIMALS GO IN WINTER?



CFE 3323V

OPEN CAPTIONED
NATIONAL GEOGRAPHIC
SOCIETY

1995

Grade Levels: 1-6

17 minutes

1 Instructional Graphic Enclosed

DESCRIPTION

Animals living in cold climates adapt to winter temperatures and the scarcity of food in different ways. Birds migrate to warmer climates; other animals change their behavior, diet, shelter, and even their appearance. See what animals do to prepare for winter, how they survive during the cold months, and their response to warming spring days.

INSTRUCTIONAL GOALS

- To recognize the signs of winter and spring.
- To demonstrate ways animals prepare for winter.
- To locate the patterns by which some animals migrate to the South.
- To compare how animals adapt to the winter in respect to behavior, diet, shelter, and appearance.

BEFORE SHOWING

1. Read the CAPTION SCRIPT to determine unfamiliar vocabulary and language concepts.
2. Discuss the concept of *winter*.
3. Predict what various animals will do when winter comes.
4. Explain the video depicts animals migrating to the South in different paths.
5. On a map of North America, locate the following:
 - a. The East Coast
 - b. The Mississippi River
 - c. Mexico
 - d. The Caribbean
 - e. The Sacramento Valley in California

DURING SHOWING

1. View the video more than once, with one showing uninterrupted.
2. Point out the signs of winter. Pause to discuss the changes.
3. Pause to review the migration patterns.

4. Point out and identify animals as they appear.
5. Pause as the snowshoe hare with white fur is identified. Note that the fur has changed in color. Discuss.
6. Pause when the signs of spring arrive and predict what animals will do.

AFTER SHOWING

Discussion Items and Questions

1. Identify the signs of winter and discuss how things in the environment change with the seasons.
2. Categorize animals as those that migrate and those that don't migrate. Discuss the differences.
3. Discuss the animals' adaptation to winter. Give examples regarding behavior, diet, shelter, and appearance.
4. Debate advantages and disadvantages animals have regarding the deep snow.
5. Explain that not all animals survive the winter. Discuss some possible factors for not surviving.
6. List the signs of spring, and relate how animals adapt to spring from winter.

Applications and Activities

1. Discuss and share experiences preparing for winter.
2. List survival techniques of nonmigrating animals. (See INSTRUCTIONAL GRAPHICS.)
3. Using a Venn diagram, compare two animals' characteristics and preparations for winter. Write a summary of this comparison.
4. Imagine being an animal. Keep a journal of winter experiences.
5. Research and report on how various animals survive throughout a season other than winter.
6. Complete a worksheet, matching illustrations of animals in various activities to labeled illustrations of the appropriate seasons.



COMMUNICATION SKILLS

1. Acquire a book or a video of animal sounds. Identify the sounds that animals make.
2. Dramatize animals preparing for winter. Use appropriate facial expressions and body language.
3. Create a story using the handshapes from A to Z with concepts of animals adapting to winter. For example, A=cold, B=walking, C=looking, and so on.

INSTRUCTIONAL GRAPHICS

One instructional graphic is included with this lesson guide. It may be enlarged and used to create transparencies or copies.

- ADD UP THE FACTS

WEBSITES

Explore the Internet to discover sites related to this topic. Check the CFV website for related information. (<http://www.cfv.org>).

CAPTION SCRIPT

Following are the captions as they appear on the video. Teachers are encouraged to read the script prior to viewing the video for pertinent vocabulary, to discover language patterns within the captions, or to determine content for introduction or review. Enlarged copies may be given to students as a language exercise.

<i>(female narrator)</i> <i>During the night,</i>	<i>their parents</i> <i>and grandparents took--</i>
<i>the season's first frost</i> <i>settled upon the land.</i>	<i>south,</i> <i>toward warmer weather.</i>
<i>Cold air</i> <i>swept down from the north,</i>	<i>Each fall,</i> <i>millions of birds migrate</i>
<i>across the forests</i> <i>and fields,</i>	<i>down the east coast</i> <i>of the United States,</i>
<i>bringing with it</i> <i>the first signs of winter.</i>	<i>across the Caribbean</i> <i>to South America.</i>
<i>The grass</i> <i>has turned brown.</i>	<i>Many go down</i> <i>the Mississippi River</i>
<i>Many trees</i> <i>have stopped growing.</i>	<i>through Mexico.</i>
<i>Some are covered</i> <i>with ice.</i>	<i>Others</i> <i>fly down the west coast.</i>
<i>Lakes and ponds</i> <i>have begun to freeze over.</i>	<i>Some spend the winter</i> <i>in California's</i> <i>Sacramento Valley,</i>
<i>Soon it will snow.</i>	<i>where it's warm</i> <i>and there is plenty of food.</i>
<i>[geese honking]</i>	<i>Far to the north,</i>
<i>When winter comes</i> <i>and food becomes hard to find,</i>	<i>the animals that didn't</i> <i>or couldn't migrate</i>
<i>many birds fly away</i> <i>from the cold north.</i>	<i>are busy preparing</i> <i>for winter--</i>
<i>From every lake and marsh,</i>	<i>each in its own way.</i>
<i>ducks and geese</i> <i>flap their way through the sky,</i>	<i>These honeybees</i>
<i>usually taking</i> <i>the same routes</i>	<i>have found shelter</i>

in an old tree.

*The thick walls
of the tree trunk*

*will protect the bees
from winter winds.*

By the hundreds,

*honeybees swarm inside
and set up housekeeping.*

*They build a waxy comb
and then fill it with honey.*

*When it gets
really cold outside,*

*honeybees
cluster together,*

*eat the honey
they have stored,*

*and share
each other's body warmth.*

*As fall marches
across the north,*

*the days get shorter,
the trees change color--*

*from green to gold,
yellow, red, and brown--*

*and finally the leaves
settle to the ground.*

*Many animals
rely on plants for food.*

In winter,

*when snow buries
the forest floor,*

*their food supply
may be buried.*

*That's why squirrels
spend most of the fall*

*searching for nuts,
stuffing their cheeks full,*

*and then hiding
their winter food supply*

in safe places.

*Food is the key
to surviving winter.*

Animals with enough food

*are not bothered
by the cold.*

*But those animals
that cannot store food*

*must look long and hard
for each meal.*

*Finding food in the forest
in winter can be difficult.*

*Wild turkeys
often come out of the trees,*

*turning to farm fields
to scratch out a living.*

They dig through the snow

*to find grain left behind
during harvesting.*

*When snow covers most
of their natural food,*

*songbirds often flock
to backyard bird feeders*

for a handout.

Birdseed is a fuel

*that keeps these tiny animals
alive in winter.*

*They eat seeds
and then shiver to keep warm.*

Many little birds

*can't find enough to eat
in winter.*

Some die.

Not all animals

*find it difficult
to survive the cold.
The bison has little trouble
finding food.
Using its head as a plow,
a bison digs down
through the snow,
searching for grass.
Bison have long legs
and can wade
through deep snowdrifts,
going pretty much
wherever they choose.
Protected by
a heavy winter coat,
the bison
seem not to be bothered
by the freezing temperatures.
Most animals that stay
in the north all winter
adjust to the temperature
quite well.
Mule deer
have a warm winter coat
made of hollow hair.
This thick layer
holds warm air close
to the deer's body,
keeping rain and snow out.
Some animals change color
when they change coats.
The snowshoe hare
is brown in summer
and white in winter.
The winter coat*

*helps the hare
hide from predators.
The snowshoe gets its name
from its feet.
In winter,
the snowshoe
grows fur on its feet.
This fur helps it walk
on the snow.
In the mountains,
winter can be especially harsh.
The temperature drops
well below zero.
Winds howl through
the leafless forests.
When a thick snow cover
blankets the ground,
animals must work their way
through the snow
to reach the grass.
For some,
the snow is too deep.
They must find
something else to eat.
The elk eats tree bark
and twigs in winter.
Driven by deep snow
and extreme cold,
elk eventually
abandon the high country.
Soon, herds of elk
move down to warmer valleys,
where the snow
is not so deep
and food is easier to find.
[animal screeching]
[animal screeching]*

[animal screeching]

*For many animals,
deep snow is a problem--*

*something to paw
their way through.*

*But for others,
deep snow is a solution--*

a blanket to protect them

*from cold temperatures
and wind.*

*Many animals
could not survive winter*

without a blanket of snow.

It's warmer below.

*More animals live
beneath the snow in winter*

than on top.

*It wasn't that cold
last night.*

*(narrator)
Dr. Joe Merritt
of the Powdermill Nature*

has spent most of his life

*studying the tiny animals
that live beneath the snow.*

He uses live traps

*to capture mice, voles,
flying squirrels, and shrews*

*so that the animals
do not get hurt.*

*First we'll see
what we have.*

*That's important
to check.*

*This is going to be
the deer mouse.*

(narrator)

*Dr. Merritt counts and weighs
the tiny*

and studies their behavior.

*(Dr. Merritt)
Six and seven
in a nest.*

The warmth helps

*in terms of how much food
you have to eat*

*when there's
not a lot of food around.*

*(man)
What are
their nests made of?*

Grasses and leaves...

*(narrator)
For as long as there is
snow on the ground,*

mice, voles, and shrews

*race around in tunnels
under the snow.*

*(Dr. Merritt)
The deer mouse,*

it is number 47.

*You want to
write this down.*

The station is D-6.

*(narrator)
While most animals
are very active*

*beneath the snow
in winter,*

a few go there to sleep.

*Black bears spend much
of the summer and fall*

eating and growing fat.

*In winter,
while sleeping in their dens,*

*the fat helps
keep them warm.*

*Fat may help keep the bear
comfortable in winter,*

*but many other animals
cannot stay warm*

no matter what they do.

*When scuba divers
go beneath the ice*

in a frigid Midwestern lake,

*they find the fish
are as cold as the water.*

Their body temperature

*adjusts to the temperature
of the water.*

*Dr. John Magnuson,
of the University of Wisconsin,*

studies fish under the ice.

*He has found that cold water
doesn't really hurt fish,*

*but ice
can sometimes kill them.*

*If a lake freezes
to the bottom,*

the fish will freeze.

*If the ice
on top of the lake*

*keeps air from
mixing with the water,*

*fish can run out of air
to breathe.*

*These mud minnows have
a solution to the problem.*

They suck the air

*from tiny bubbles
trapped under the ice.*

*No matter how harsh
or long the winter,*

*warm weather returns,
and the ice breaks up.*

[honking]

As the snow melts away,

*animals that have
spent the winter*

deep underground

*feel the warmth
of the spring sun*

*and work their way
to the surface.*

*Dr. Robert Mason,
of Oregon State University,*

studies snakes.

*He's found many thousands
of garter snakes*

*in several dens
in Manitoba, Canada.*

*Garter snakes
sleep all winter*

in these underground dens.

*The soil protects them
from most of winter's cold.*

When spring comes,

*warm air finds its way
down into the caves,*

*and the snakes
slowly wake up.*

*Through every crack
and hole in the ground,*

they wiggle to the surface.

By the thousands,

they crawl around,

*find each other,
and mate.*

*One by one,
each snake slips away,*

*back toward
its summer home.*

*The first warm days
and nights of spring*

stimulate plants to grow.

*Buds burst
and tender leaves unfold.*

*As soon as there is
something green to eat,*

insects begin to stir.

*A family
of tent caterpillars hatches*

and works its way out

*from inside
the protective webbing*

of its nest.

*Soon, flowers blossom
on almost every tree and bush.*

[honking]

The flyways
become choked with birds

returning to their summer homes
in the north.

Another long winter
has come to an end.

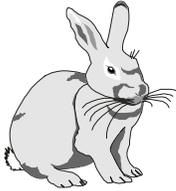
Funding for purchase
and captioning of this video

was provided by the
U.S. Department of Education:

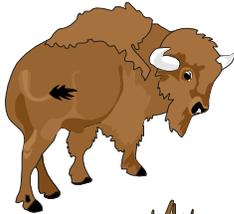
PH: 1-800-572-5580 (V).

ADD UP THE FACTS

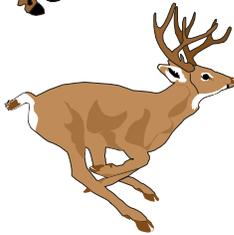
DIRECTIONS: On each line, write a fact that tells what the animal did for survival during the winter.



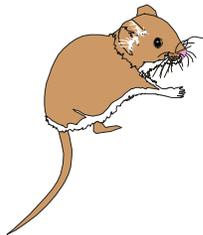
+



+



+



+



+

Other

+

Surviving through the winter
without migrating to the South