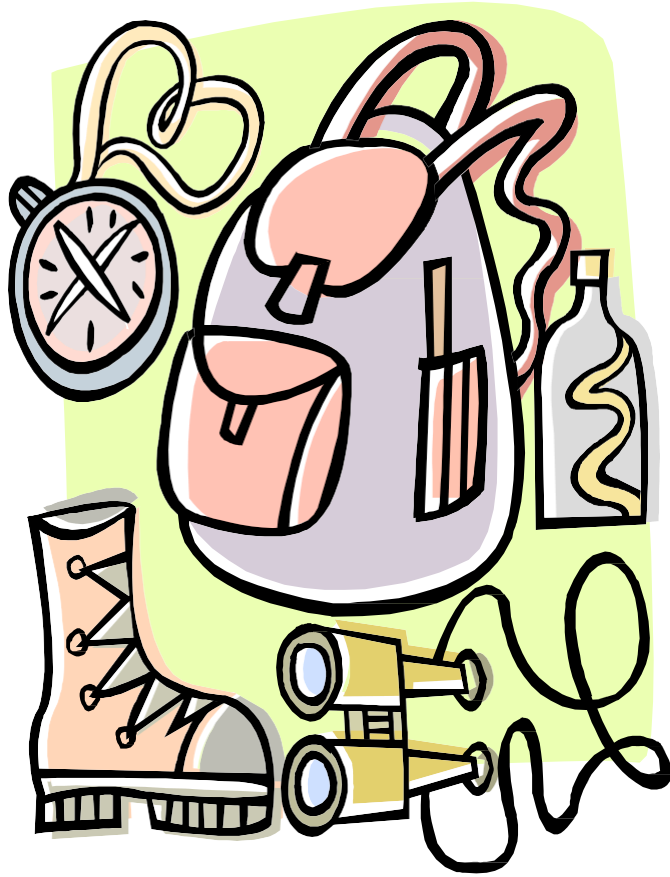


Nature Explorer Activity Book



NAME



The John Hay
Estate at the Fells

Explore the woods and gardens with our Nature Explore, ecology-themed activity booklet. This is part of our "Bus Stops Here Program," designed for homeschool or in-person classroom learning in grades k-4.



Topics Include

Finding Your Way and Safety

Mammals, Birds, and Insects

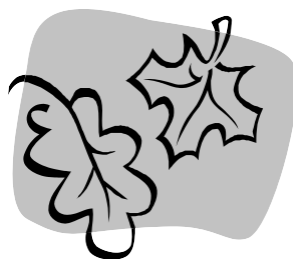
Spiders and Webs

Animal Tracks

Trees

Habitats

Nature Journaling

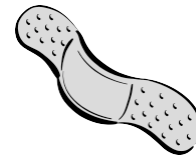




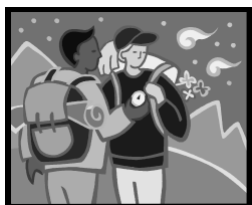
TIPS FOR STAYING SAFE OUTSIDE



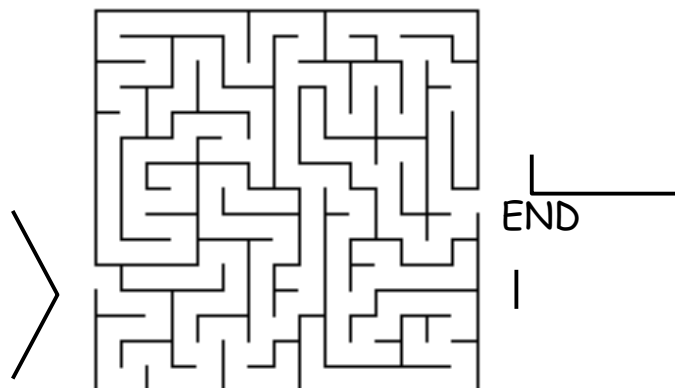
1. Do not go on a trail alone. Always go with a friend, leader, or parent!
2. Wear the right clothing. Make sure to check the weather before going out. Layers are great for hiking.
3. Wear the right shoes for the activity. Do not wear sandals or flip-flops.
4. Carry some basic first aid equipment like band-aids. A whistle and trash bag (can be used for a poncho) are great additions to your pack.
5. Do not go on trail after dark.
6. Drink water and bring a snack.
7. Do no touch or eat anything on the trail.
8. Do not feed animals.
9. Stay on the path. Follow any trail signs.
10. Wear sunscreen.
11. Do not litter.
12. Remember, if you get lost, stay put and let help come and get you.



LEAD THESE HIKERS THROUGH THE TRAIL



START



ANIMALS AT THE FELLS

MAMMALS

BLACK BEAR



A male black bear can weigh up to 250 pounds. It likes to eat grasses, berries, fruits, insects, and nuts.



WHITE-TAILED DEER



The white-tailed deer has white fur on the bottom of its tail. Males have antlers and can weigh up to 220 pounds.



MOOSE

The moose is the largest animal in the States and can weigh up to 1000 pounds. eat mostly leaves, trees, bugs, and



United
Moose
shrubs.



SNOWSHOE HARE

The snowshoe hare change color twice a year because the length of the days change. They mostly eat grasses, berries, twigs, and bark.

QUESTIONS:



Which animal is the largest? -

Which animal changes colors? -

ANIMALS AT THE FELLS

BIRDS

MATCH THE BIRD TO ITS PICTURE

TURKEY

BARRED OWL

BROAD WINGED HAWK

WOOD THRUSH



INSECTS



ANT



CATERPILLAR



BEETLE



BUTTERFLY

These are the body parts of an insect: head, thorax, abdomen, legs, antenna, and eye. Can you draw an ant below and label its parts?

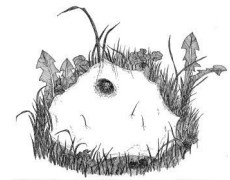


SPIDERS AND WEBS

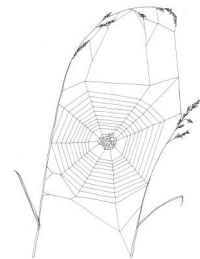


SPIDERS are defined by their two distinct body parts, eight legs, and having no antennae or wings. Spiders produce silk which many use to make webs. There are four main types of web. Can you match them? Use the definitions with the webs as hints!

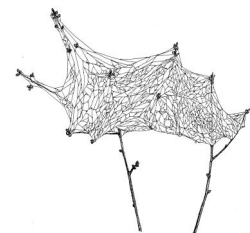
ORB WEB- shaped like a wheel with spokes. The silk is sticky to catch prey.



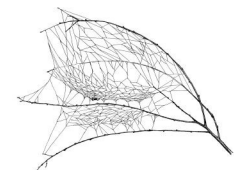
COBWEB- tangled with sticky silk. The spiders hang upside down in the cobweb.



SHEET WEB- tangled but with less sticky thread. The prey usually get caught and then entangled.



FUNNEL WEB- have a tunnel at one side where the spider waits. The prey is caught in threads above the sheet.



ANIMAL TRACKS

How do you know an animal has been in the area when you cannot actually see the animal?

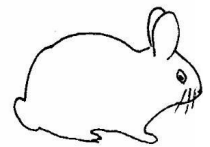
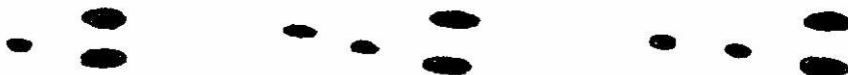
The answer is ANIMAL TRACKS!

- Where are the tracks? Are they by a pond, a stream, some woods, or a field?
- How big are the tracks? How deep do they go?
- What are the track patterns? Are they in a straight line or do they zig-zag?

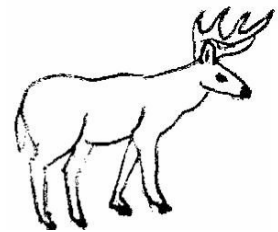
The answers to these questions can point you to what type of animal made the track! Can you find any today?

Four types of tracks you can find outside:

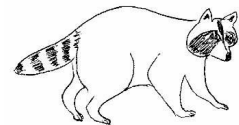
RABBIT:



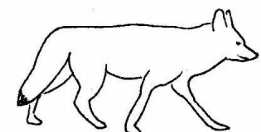
COY-
OTE:



RACCOON:



COY-
OTE



TREES AT THE FELS

DECIDUOUS AND CONIFEROUS

Trees are either Deciduous or Coniferous.

What's the difference?

- Deciduous trees lose their leaves every year. The leaves usually change colors in the autumn before they fall. The leaves also have patterned lines called veins.
- Coniferous trees are also called conifers or evergreens. They do not lose their leaves. Their leaves are usually shaped like needles. They also frequently have cones. The cones carry the seeds for the new trees.

Can you spot some of these common trees at the Fells today?

Check them off if you find them!

The BEECH tree has smooth, light-gray bark. The leaves are thin and pointed. During the fall, they turn tan or brown.

The WHITE PINE is the tallest tree in North America. The leaves look like needles and are in bundles of five. The bark is thick and flaky.

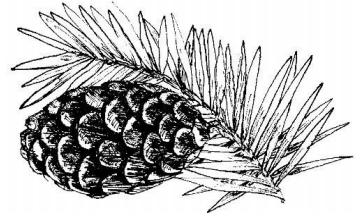


MORE TREES AT THE FELLS

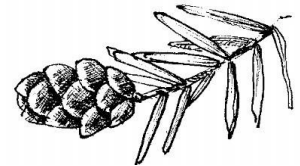
The WHITE BIRCH has white bark which is paper-thin with black marks. The leaves turn yellow in the fall.



The RED SPRUCE has needle-like leaves that are green and pointy. The cones are cylindrical. The bark is thick and looks reddish-brown on the inside.



The HEMLOCK tree has drooping branches. The bark is thick and scaly. It can be any color from gray to brown. The leaves are slightly flattened and have winter buds shaped like ovals.



The SUGAR MAPLE has leaves which are in five sections which turn orange or yellow in the fall. The bark is long, thick, and scaly.



Did you find any other trees? List them here.

WHAT IS A HABITAT?

A HABITAT is the area or community where an animal or plant can normally be found. Animals and plants get most of what they need for living including food, water, and shelter from their habitat. Two land habitats at the Fells are forests and fields. Two water habitats are vernal pools and streams.

HABITATS AT THE FELLS FORESTS



A FOREST is a space with lots of trees and woody plants. The forest floor is covered with rotten logs and leaves. Decomposition, or the breaking down of life, occurs on the forest floor among the logs and fallen leaves.



These rotten logs and fallen leaves are still useful. Animals, insects, and even other plants and trees use them as food and shelter.

DRAW A PICTURE OF A FOREST.

HABITATS AT THE FELLS FIELDS FIELDS AND FORESTS



A FIELD is a wide open area with few trees or large plants. Most fields are maintained by grazing and mowing. You can find shrubs, grasses, and flowers in fields. There are also many small mammals like mice and amphibians like snakes. These animals like to make tunnels into the ground. Another animal often found in a field is a deer. The deer like to eat the grasses.



Field Mouse



Garter Snake

LOOK FOR THESE PLANTS IN A FIELD!

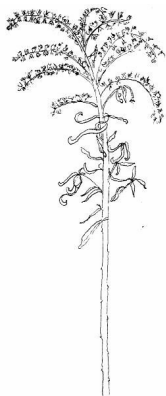
Goldenrod

Common Mullein

Mallow

Milkweed

Dock

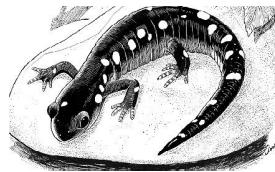
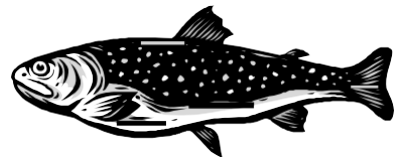


HABITATS AT THE FELLS

VERNAL POOLS

A VERNAL POOL is a temporary pond which has water for about two to three months. They usually appear in April and last through June. During the spring, they fill with water from winter rains or from melted snow. There are no fish in vernal pools. Three species need vernal pools to live. These three species are the fairy shrimp, the wood frog, and the spotted salamander.

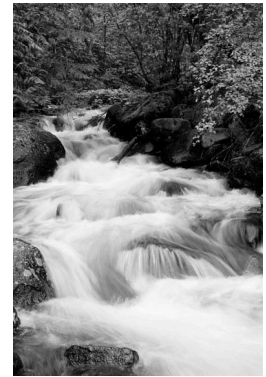
CIRCLE THE THREE SPECIES THAT NEED VERNAL POOLS



Vernal Pools are something special found at the Fells. If you see one, it is important to look and not touch. This is true with most things found in nature.

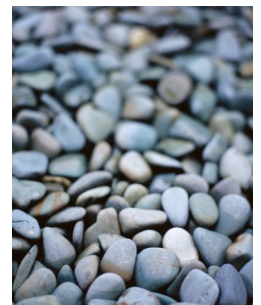
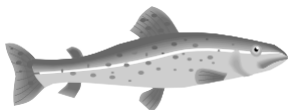


HABITATS AT THE FELLS STREAMS



A **STREAM** is a body of water that flows or moves. It lies in a bed and its sides are called banks. Streams flow over rocks, gravel, animals, and plants. Streams are constantly changing habitats. In the summer, the water is usually calm and quiet whereas in the spring, a stream is fast and loud because of spring rains and snowmelts.

At The Fells, there is a brook. A **BROOK** is just a small stream. The brook is called Beech Brook. Look for it as you walk through the grounds. The brook contains many aquatic insects and fish such as brook trout and rainbow smelt, but it might be hard to see them because they hide under rocks and camouflage, or blend in, to their habitat. River otter and mink live along the banks. You can see their tracks in the mud.



The bottom of a stream can be made of rocks, mud, sand, and boulders. Order these from largest to smallest.

1.

2.

3.

4.



THE FELS WORDSEARCH

FIND THESE WORDS IN THE WORDSEARCH BELOW:

Safety

Hiking

Moose

Turkey

Spider

Web

Animal Track

Hemlock

Field

Vernal Pool

Habitat

Barred Owl

Rock

Deciduous

Insect

Beech

Brook

Log



H	S	S	H	I	S	M	T	R	A	L
H	A	K	I	D	R	C	O	S	O	W
E	F	B	K	R	E	C	P	O	Y	O
M	E	E	I	S	K	I	P	E	S	D
L	T	W	N	T	D	L	K	F	D	E
O	Y	I	G	E	A	R	I	E	A	R
C	C	I	R	N	U	T	I	I	G	R
K	C	A	R	T	L	A	M	I	N	A
H	D	E	C	I	D	U	O	U	S	B
K	V	F	I	E	L	D	C	C	O	I
B	E	E	C	H	K	O	O	R	B	O
B	A	K	A	S	C	R	G	H	C	D





NATURE JOURNALING

Use this page to create a nature journal. A nature journal is a place to record thoughts, feelings, ideas, and observations about the natural world. Write a description, poem, or story. Sketch a picture or trace a leaf. You can do whatever you want. Be Creative! Have Fun!

The Fells is an educational center with a year-round program of classes, guided walks, exhibits, and special events. The historic Hay family estate, gardens, and trails offer wonderful educational opportunities in ecology, horticulture, history, and the arts.

Each season offers new opportunities to learn about our natural world here at The Fells. Frogs and salamanders return to vernal pools each spring. Summers boast blooming gardens and beautiful art shows in the Main House Gallery. Golden colors decorate the woodland trails in autumn. Winter snow cover provides a canvas on which to track mammal prints.

Share this New Hampshire treasure with your class, camp, youth group or family!

The Fells would like to thank **The Four Winds Institute** for allowing the use of their educational materials in this booklet.

Four Winds Nature Institute is a non-profit organization advancing the understanding, appreciation and protection of the environment through community-based natural science education and research. Through programs including *Knee-high Nature*, *The Nature Program*, and *Outdoor Classroom*, Four Winds offers both teacher professional development and volunteer-based ecological place-based education programs for teachers and school-based volunteers.

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Credit: Sarah E. Galligan
Dartmouth College
2008