

BOWMAN GRADE 1 SPRING NATURE WALK
Animals and What They Need to Survive

OBJECTIVES:

- Observe seasonal changes in schoolyard since winter.
- Discover how seasonal changes affect animals, particularly insects and birds.
- Discover food sources and compare with other seasons.
- Make careful observations of insects and other mini-creatures.
- Explore habitats such as the black top and edge areas of the school yard and the woods and observe the animals and signs of animals that live in them including mini-creatures and birds.
- Connect habitats with needs of animals (sow bugs need damp, dark environment. Birds need place with food, nest building materials, etc.)

PREPARATION:

Room Parent

- **Logistics:**
 - **Time:** Allow 45 minutes.
 - **When:** Schedule this Walk for mid to late-May after a warm spell so insect and other mini-creature eggs have hatched.
 - **Groups:** 4-5
 - **Sites:** (1) Grassy edge of schoolyard for 2 groups 2) woods across bridge at back of school yard or 3) woods across bridge by staff parking lot for 1-2 groups (4) Schoolyard black top. See map.
- Confirm with teacher whether or not to collect materials for birds' nests or sow bug habitat. These are optional. Notify parent leaders.
- Schedule parents.
- Ensure no overlaps with other classes by checking the schedule outside the BBB cabinet. Update BBB schedule with class time by writing Time/Grade/Teacher in correct date.

Teacher

- Notify the school nurse one week ahead of the walk so the nurse can check for allergies in the classroom.
- Send note to parents to ensure children are dressed appropriately, to put on bug spray and sun screen as necessary.
- Complete "Pre-Walk Activities" and "Post walk integration opportunities"
- Determine whether sow bug habitat or birds' nests materials should be collected on walk.

PTA BBB Coordinator

Make birds nests available in cabinet, if possible.

Questions/Comments?

Questions contact current PTA BBB Coordinator(s).

MATERIALS:

- Clipboard and pencil, Spring Observation Worksheet, Nature Walk Evaluation.
- Bug boxes and hand lenses – approximately one for every 2 children.

Read the following supplemental material but may not be necessary to take on the walk.

- Common Bird and Bird Silhouettes ID sheets (spring supplement-birds)
- Mini-creature ID and other information (spring supplement-bugs)
- Diet of mammals, birds and mini-creatures (spring supplement-food)
- Bird nest, if available in cabinet.
- Optional: Plastic bag for nest building material
- Optional: Bucket for material for sow bug habitat.

ACTIVITIES:

- Observe birds and look for bird nests.
- Observe/identify mini creatures (insects).
- Explore changes in the grassy areas and black top of the schoolyard, and the woods.
- Explore and record animals, animal signs, water and food sources, and shelter.
- Walk leader fills out Spring Walk Observation Worksheet during walk.
- Optional: Collect material to create a habitat for sow bugs
- Optional: Build Bird's nest

AFTER THE WALK:

- Leave Spring Observation Worksheet with the teacher.
- Fill out Nature Walk Evaluation and leave in BBY cabinet.
- Return all materials to BBY cabinet

PRE-WALK ACTIVITIES: TO BE LED BY THE TEACHER

1. **Curriculum Connection: Science—Organisms.**

Ask: *What season is it now? Are you happy to see spring and warmer weather? Why or why not? What changes does spring bring for the animals in our schoolyard?* Review the four ways animals survive winter. Ask: *What do you think is happening to animals in each group?*

- **Hibernate:** They have woken up with the warm weather and are HUNGRY.
- **Stay active:** They don't have to work so hard to find food and shelter, and to get different kinds of food in their diet.
- **Die and leave eggs or larvae:** The eggs are hatching into new larvae and the larvae are emerging from their cocoons or pupas as adults, all looking for food. Many of these will be food themselves for other animals.
- **Migrate south:** They are coming back now that plants are growing and insects and other mini-creatures are available for dinner.

Ask: *How do you think the schoolyard, woods, and wet meadow will have changed? Will there be birds or other animals there you didn't see in the winter? What animals? Why? Do changes in weather affect animals and plants? How?*

2. **Curriculum Connection: Science--Organisms.**

Review what all animals need to live and grow. A habitat is a place where organisms find all these things.

Ask: *Is spring a better time to find things that animals need to live and grow than winter? Think about today's weather. How has the weather changed since winter and early spring? (More sunlight, warmer air, rain instead of snow.)*

How have habitats for birds and other animals in the schoolyard, woods, and wet meadow changed in springtime? Are there more food sources? Is there better shelter both for protection from storms and from predators? (Trees have leaves, many wildflowers are growing.)

- **Water:** The snow and ice have melted; there is more liquid water to drink.
- **Warmth:** Longer hours of sunlight mean warmer temperatures in the soil and air.
- **Air:** The air is warmer.
- **Food:** More food sources as plants begin to grow, and insects and worms become active.
- **Shelter:** Shelter will be better when more leaves grow.

3. **Discuss insects**

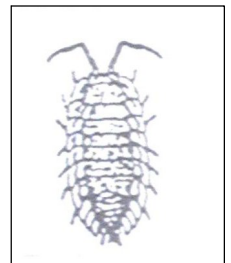
- Ask: *Are there more insects now than in winter? What happened to the insects in the winter?* (Some died and left eggs, some live through winter.)
- Ask: *What kinds of tiny animals might they find? Are they all insects? How can you tell?* Counting legs is a good way to discover whether the mini-creature is an insect or not. Insects always have six legs and no antennae are visible.
- Spiders have eight legs. Ask: *Can you think of a tiny animal with no legs? (worm) How about one with more than eight legs?* (Millipede, centipede)
- **Life Cycle of most insects:** egg, larva, pupa or cocoon, adult. A larva may be called a caterpillar, an inchworm, or a grub; the pupa is the cocoon stage. e.g. Butterflies, ants, fireflies, ladybugs
- **Life Cycle of some insects:** egg, nymph, adult. Nymphs look like the adult but have no wings. e.g. Grasshoppers and dragonflies.

4. **Discuss Crustaceans** (e.g. Sow Bug or pill bug)

- Ask: *What does it look like?* (Flattened body, fused abdominal plates, two pairs of antennae, but only 1 readily visible, and 7 pairs of legs, gray or black in color, about ½ inch in length).
- *Where do they live?* (Damp areas under rocks and in decaying logs.)
- *What do they do in the winter?* (Winter over as adults. Females carry eggs in pouch located on underside through May, June, July, then hatch. Babies are similar to adults, but smaller.)
- *How long do they live?* (2 to 3 years in right environment.)
- *What do sow bugs eat?* (Moist decaying plant material, rotting wood)

- **Optional: Building a Sow Bug habitat**

Ask: *What do we need to build a habitat for a sow bug?*
 Make a list of materials for the sow bug habitat for the walk.



5. **Discuss birds and nests**

- Ask: *Are there more birds around in spring than in winter? What did birds do during the winter?* (flew south, lived here.) *What do all animals need to survive?* (Food, water, air, shelter, warmth, there is more food and water available in spring.)
- Ask: *What are the birds doing in spring* (building nests, having babies)? *What do birds use to build nests?* (grass, twigs, leaves) If you brush a dog's fur and leave it outside, birds will use it to build their nests.
- Robbins pack their nests with mud. Weaver birds hang upside down and weave theirs out of blades of grass. Some swiftlets make theirs from sticky strands of spit.
- **Think like a bird**
 - Say you were a bird living on this school's grounds. *What needs would you have?* Make a list. (Be specific. Don't just write "shelter". Write "a place to sleep that is safe from cats" or "a way to keep warm".)

NATURE WALK: TO BE LED BY BIG BACKYARD VOLUNTEER

1. Observe changes since winter.

- Walk outside and look around. Ask the children: *How has the weather and the schoolyard changed since winter? Is it easier for birds and other animals in the schoolyard, woods, and wet meadow to “make a living”?* Why? Possible answers include:
 - Air: warmer—easier for animals to stay warm.
 - Water: rain instead of snow; there is water to drink.
 - Wildflowers (including grass): many are growing.
 - Trees: trees have leaves.
 - Sun: higher in sky, more hours of sunlight.
 - Ground: warmer, maybe muddy.
 - Food: more food sources as plants begin to grow and insects and worms become active.
 - Shelter: Better shelter, especially when more leaves grow.

2. On school yard black-top: Look and listen for birds and observe ants. Write observations on worksheet. (Site 4)

- Look for birds: Look for robins, red-winged blackbirds, chickadees, sparrows, blue jays, crows, tree swallows, and hawks overhead. Ask: *Some of these birds spent the winter in the south where it is warm. Why have they returned now?* (Warmer days bring better shelter and protection, more food sources, including insects as well as seeds, fruits, and nectar in flowers.)
- Listen for birds. Ask: *Why are they singing? Do you hear these songs in winter? Can you tell the different calls?* (Some songs are to help them find a mate so they can have baby birds. Some calls warn of danger or to shoo away another bird from their territory.)
- Ask: *Would you like to be a bird? Why or why not? What do you suppose the schoolyard or woods looks like from up in the sky? Can birds do things we can't do?* (Build a nest with their beak, see behind them, sing those beautiful songs, fly.)
- Observe ants and anthills. Ask: *Any anthills on the black top of the playground? How many legs does an ant have? (6) Is it an insect? (yes) While crossing the black top, notice any activity in cracks in the blacktop? Why might ants live here? Feel the blacktop on a sunny day. (It is warm so good for cold blooded insects)*



- Watch ants moving around. *Ask: Are they carrying anything? Ants can actually carry 50 times their own weight! Ask: How much do you weigh? Can you even lift your own weight?*

3. Explore the edge of the schoolyard Site 2. Write observations on worksheet.

- Explore the edge of the schoolyard looking for evidence of animals and insects. *Ask: Why are birds and other animals drawn to this habitat? (Plenty of food sources, water and shelter.) Make a list of food sources, water, warmth and shelter. Things children may find include:*

- Food or signs of eating:
 - Seeds and berries, nectar in flowers.
 - Small branches bitten off (rabbit or deer).
 - Insects or insect eggs (including ants and ant hills).
 - Galls.
 - Worm castings
 - Holes dug in dirt made by skunks hunting grubs
 - Scat: Rabbit, deer, fox, dog.
- Shelter:
 - Meadow mouse tunnels.
 - Squirrel nests and bird nests
 - Spittle bug ‘crystal palace’



- **Discuss, observe and possibly identify insects**

- **Insect life cycles:** the teacher should have covered this in class but you can briefly discuss this: *Ask: what do you know about the life stages of insects? Answers:*
- **Most insects:** egg, larva, pupa or cocoon, adult. A larva may be called a caterpillar, an inchworm, or a grub; the pupa is the cocoon stage. e.g.
- Butterflies, ants, fireflies, ladybugs.
- **Some insects:** egg, nymph, adult. Nymphs look like the adult but have no wings. e.g. Grasshoppers and dragonflies.
- **Larvae:** explain that larvae eat voraciously, shedding their skin usually seven or eight times before emerging as a fully-grown adult. After all they only have a few weeks to get big enough to become an adult. Larvae are mostly plant eaters. To grow so fast, larvae eat their own weight every day! *Ask: How much do you weigh? How many sandwiches and glasses of milk would you have to eat to eat your own weight every day?*
- **Bug Observation:** Have children sit quietly at the edge of tall grass and look for insects. If they are quiet, insects will start moving around them, hopping on to clothing, flying around, crawling on nearby plants, visiting flowers for nectar. Ants can be seen carrying food back to their hill.
- *Ask: What insects do you expect to see here? Do you like insects? Why or why not?* Most children will think of insects that hurt them. This is OK. Remind



Dragonfly nymph

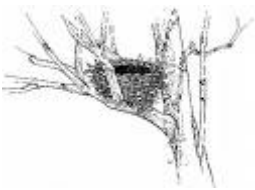
them that very few (less than one tenth of one percent) insects in the world are harmful to people.

- Ask: *What are these tiny animals are doing? How do they move? Are they well camouflaged? What do you think they are eating? Are they food for another animal? How do they stay safe?*
- Ask: *How do you know if it is an insect? (It has 6 legs) Ask: How many legs does a spider have? (Eight). Is it an adult insect? (Adult insects have wings).*
- Tell: Do you know that if you could jump for your height as far as a grasshopper can jump, you could jump the length of a football field in a single bound!
- Collect some insects in a bug box: Ensure that the children treat these animals with respect. Don't let the bug boxes with insects in them stand in the sun; cold-blooded animals are in danger from over heating as well as freezing.
- **Identification:** If there is enough interest, use the mini-creatures Identification Sheet and Arthropod key to identify them and then let them go.
 - **Spittle Bugs:** Look on meadow plants for the foamy bubbles of the spittle bug. The larva of the froghopper sucks sap from the stem, then blows some of the sap out through its tail to create its own 'crystal palace' for shelter from the hot sun as well as predators. Carefully get the larva on your finger so children can see the bulging eyes that suggest it name. Be sure to put the nymph back in its foamy iridescent home.



- **Look for bird nests in trees while walking to the bridges at either of the woods sites.**

- Ask: *Do birds do anything special in the spring? (nest building for baby birds)*
- Robins and crows build nests now in early spring. Ask: *If you were a robin what kind of a tree would you choose for a nest where your babies would be safe? (Evergreens for protection).*
- Ask: *Can you see any nests left from last year? Birds usually do not use a nest again, but build a new one each spring.*



- **Show bird's nest** from cabinet if cannot find any outside.
- **Optional: Collect materials for building a bird's nest (If teacher agreed).** The class will build one nest together. **Important: Don't cut or break off living plants!** (Birds only use materials from dead plants).
- **Baby Birds can fall out of their nests.** Well-meaning people sometimes take them home to "rescue" them. Scientists at Drumlin Farm say that this is not a good idea. It is very hard to take care of baby birds. Birds feed their babies with worms and insects more than 100 times a day! Also babies often jump out of the nest just before they learn to fly. The best thing to do if you find a baby bird is to leave it where it is. The bird parent will most likely come to feed the baby. (If cats are in the neighborhood, it is also OK to place the baby in a box and put it up in a bush or tree for the parent to find—most birds can't smell, so they would not know that a human touched the baby. Don't forget to wash your hands with soap and water afterward.)

4. Explore the woods sites (2) or (3) and record observations on worksheet.

- What signs of animals, or sources of water, shelter, and food can children find in the woods?

- Woodpecker holes.
- Galls, tent caterpillar and other insect egg cases.
- Chewed green leaves and acorns.
- Many seeds and berries.
- Deer fox, and rabbit scat.
- Animal tracks.
- Rotting logs – shelter for many small creatures
- Spider webs

- **Rotting logs as shelter for small creatures such as sow bugs**

- Turn one or more of the rotting logs and discover more interesting creatures. Centipedes, millipedes, spiders, slugs, and sow bugs share this habitat with insects such as ants and beetles. Look for clusters of round pearly slug eggs. Children may even discover a salamander! It is important for children to explore and observe but not damage these logs as they are home to many animals. Be sure to return them to their original position.
- If you are lucky enough to find a slug, carefully put it on the palm of your hand. Watch the antennae poke out; a slug's eyes are at tip of its antennae. Carefully touch your finger to the ends of the antennae and watch them retract into the head. After a short while the antennae will emerge again.
- **Rocks as shelters:** Try turning over a rock and you may uncover a colony of ants under one of the rocks. Watch as the ants carefully carry their eggs or larva underground out of the light and into safety. Remember that ants can carry 50 times their own weight! Ask: *Which is stronger, an ant or a person?*



- **Imagine a world with no insects and other mini-creatures**

- Ask: *What would it be like to live in a world with no insects?* (Some answers: Would be little for humans to eat if there were no insects to pollinate plants. Many insects are food for birds and other animals.)
- Of all the kinds of insects in the world less than one in a thousand are harmful to people. This doesn't mean some insects aren't annoying or harmful, but most insects either don't bother us or are helpful. And they certainly are interesting and fun to watch!

5. Optional: Collect material for sow bug habitat (if teacher agreed)

- Sow bugs are a good example of a crustacean.
- Ask: *What does it look like?* (Flattened body, fused abdominal plates, two pairs of antennae, but only 1 readily visible, and 7 pairs of legs, gray or black in color, about ½ inch in length).
- Ask: *Where does it live?* (In damp areas under rocks and in decaying logs.)
- Ask: *What do they do in the winter?* (Winter over as adults. Females carry eggs in pouch located on underside through May, June, July, then hatch. Babies are similar to adults, but smaller).
- *How long do they live?* (2 to 3 years in the right environment)
- *What do sow bugs eat?* (Moist decaying plant material, rotting wood.)
- Students should have a list of materials they need for the sow bug terrarium. Sow bugs live in cool, damp places under logs. They eat dead leaves and rotting wood.

6. Carefully collect sow bugs for terrarium.

Just before you return to the classroom carefully collect your sow bugs for the terrarium.

7. Wrap up.

- Walk back to the school.
- Give the Spring Walk Observation Worksheet to the teacher.
- Return all materials to the Big Backyard cabinet.
- Fill out a Nature Walk Evaluation and leave it in the Big Backyard cabinet.

**POST-WALK CURRICULUM INTEGRATION OPPORTUNITIES: TO
BE CHOSEN AND LED BY THE TEACHER**

1. Curriculum Connection: Language Arts.

Have each child pretend to be an animal in their schoolyard and draw a picture of the schoolyard as it would look to that animal. They could choose to be a robin, a crow, a skunk, a grasshopper, an ant, a squirrel, a rabbit, or any other animal that lives in the meadow or woods near the school. They could be in their home or out looking for food. For example: If you are an ant, the blades of grass may look like trees, many times bigger than you are, but the door of your shelter will be just the right size. Or imagine that you are a hawk soaring over the schoolyard looking for a mouse.

- After doing the drawing, have each child write several sentences about their animal and how it lives. Include the animal's shelter, food and water sources.
- In small groups have children share their drawings and written sentences with their friends. Post all reports in the room.

2. Curriculum Connection: Art/Language Arts.

Fold a piece of drawing paper in half twice, then open it up to make four sections. Label the sections Fall, Winter, Spring, and Summer. Have each child choose a bird or other animal and draw their choice with its shelter and food sources in each season.

- Then have the children write a short story about how their animal lives in each season.
- Share their drawings and story with a friend.

3. Curriculum Connections: Library Research.

Ask children to choose a favorite schoolyard animal. Invite them to tell what is special about that animal. Challenge students to make a list of questions about their animal. Guide them in using library resources or the Internet to answer these questions. Tell students that this is another way scientists learn about the world. They wonder about things, ask questions, and try to find answers.

4. Curriculum Connections: Science--Food chains.

Hand out tongue depressors labeled *leaves, caterpillar, and robin* to three children and ask them to read their stick and then take the hand of what they eat. They've made a food chain! Give *grass, rabbit, and hawk* to three other children and have them make a food chain. Suggest that children make up other food chains, just verbally or using blank sticks. *Acorn, squirrel, fox* could be one. Could they make up a food chain for the tree swallows or other birds that they observed on their walk? Lastly show children tongue depressors labeled *seeds, chicken, people*. Are they part of a food chain?

5. Reflections: Thinking about animals living in the schoolyard and the Grade 1 Nature Walks.

Say: *We have made many discoveries about the animals in our Big Backyard this year. What did you like most about your Nature Walks this year? Were you surprised to learn how many birds and other animals live in the schoolyard, marsh, and woods near our school? Did you enjoy learning how these animals live? How can you learn more about animals near your home or the place where you go on vacation? What tips would you give someone who wants to do this? (Look for food sources, walk quietly, observe closely, etc.)*

6. Build a bird's nest

See instructions in Grade 1 spring supplement – birds.

Walk Leaders—Spring Walk Observation Report

(Please give to teacher after walk.)

ANIMALS SEEN (including birds and insects)/ACTIVITIES OF ANIMALS:

SIGNS OF BIRDS AND OTHER ANIMALS:

HABITAT: FOOD SOURCES:

HABITAT: SHELTER:

Things that interested the children and questions they asked:

NATURE WALK EVALUATION
 (Please leave in Big Backyard cabinet)

Walk Leader: _____

Grade and Teacher: _____ **Date:** _____

Children in Group: _____

1. What parts of the walk interested the children the most? (check all that apply)

Birds observation	Animal signs	The woods
Sow bugs	Holes in ground or trees	The black top
Nests	Seeing animals	Edge area
Food sources	Insects observation	

Other: _____

2. What parts were not successful? (check all that apply)

Birds observation	Animal signs	The woods
Sow bugs	Holes in ground or trees	The black top
Nests	Seeing animals	Edge area
Food sources	Insects observation	

Other: _____

3. This walk was: (circle one) TOO LONG JUST RIGHT TOO SHORT

4. The children seemed adequately prepared: (circle one) YES NO

5. This was a good working group: (circle one) YES NO

6. I felt adequately prepared to lead this walk: (circle one) YES NO

Other comments or suggestions: