Animals Two by Two

Animals Two by Two > Investigation 2: *Land and Water Snails* >
Part 1: ***Land Snails***, page 9

Go On a Schoolyard Field Trip to Look for Snails

FOSS® Extension, page 27

When to Go Out

This activity should be done prior to Investigation 2, Part 1 (if you do not have snails). If you already have snails for your class, do this activity following Part 1.

Note: The United States Department of Agriculture (USDA) requires a permit for the purchase of *Helix aspersa* and other land snails. For more information, go to Delta Education's website at www.deltaeducation.com.

Outdoor Objective

Students will learn where to look for land snails and collect a class sample to use for this investigation.

Materials

For Each Student	1 Hand lens
For the Teacher	1 Clipboard with paper
	1 Container for snail terrarium

Getting Ready

Time: 15–20 min.

Site: Look in schoolyard for evidence of land snails in shady, moist, wooded areas before taking students outside. Snails are nocturnal and are easiest to find early in the day.

Conservation: Teach students how to gently turn leaves over without breaking the leaf off; how to gently turn logs over to look underneath them and carefully replace them; and how to pick up a snail by slowly sliding it along the surface to which it is attached while gently lifting upwards.

Seasonal Tip: Snails hibernate in the winter.

Outdoor Activities At a Glance

Investigation 2

Go On a Schoolyard Field Trip to Look for Snails (FOSS® Extension)

Observe Locally Gathered Land Snails on Natural Surfaces (BSI Extension)

Compare Slugs to Snails (FOSS® Extension)

Observe Snail Trails Outdoors (FOSS® Extension)

Investigation 3

Take a Schoolyard Field Trip to Look for Worms (FOSS® Extension)

Investigation 4

Go On a Schoolyard Field Trip to Look for Isopods (FOSS® Extension)

Investigation 5

Observe and Compare Two Schoolyard Birds (BSI Extension)

Priority activities appear in green.

Guiding the Investigation

1. Gather students outside in a circle for discussion.
2. Discuss places where students may find snails.
3. Students will then spread out to search for snails.
4. When the first snail or two is found, gather students to show them where it lives and observe it for a few minutes.
5. Try to find as many snails as you can, ideally one per student or one per pair.
6. While students are looking at the snail, ask them to describe where they found it (i.e., in a moist log) and record this information on your clipboard.
7. Look for mucus trails left by the snails.
8. Return inside to discuss your findings. If you are keeping the snails, have students gently place them in the terrarium.

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Part 2: *Snail Races*, page 14

Observe Locally Gathered Land Snails on Natural Surfaces

Boston Schoolyard Initiative Extension

When to Go Out

After completing Part 2 indoors, bring your locally collected land snails outside for this activity.

Outdoor Objective

Students will temporarily bring their snails outside to observe how they move on various natural surfaces.

Materials

For Each Pair	2 Hand lenses
	1 Plastic cup
	1 Vial
For the Class/Teacher	1 Pitcher of water
	1 Whistle (attention getter)
	Snails

Getting Ready

Time: 20–30 min.

Site: Set up in an area near vegetation in the shade that offers various surfaces such as rocks, tree trunks or logs, and leaves.

Conservation: Make sure that students understand that all snails need to be returned to the classroom for further study. At the end of the investigation, land snails should be returned to the location where they were first found.

Seasonal Tips: It may harm the snails to do this activity outdoors in the winter, but you could bring the natural surfaces inside and try it.

Caution: Remind students to keep snails out of direct sunlight.

"This was my favorite activity in the kit. The students really enjoyed it and loved seeing the snails on different surfaces. It really showed them how snails exist in the environment."

Sarah Trantina
K–2 Classroom Teacher

What You Might Find:

Early in the school year your students may not have the attention span to handle testing so many different things in the same lesson. You may want to have students test the three leaves during one lesson and test the sticks and rocks during a second lesson.

Students may find that the snail eats one leaf and not another. This will generate a great discussion.

Guiding the Investigation

1. Gather students outside in a circle to discuss the activity.
2. Remind students how to handle the snails and to place them only on moist surfaces. Show students how to moisten a leaf. They will need to observe the snail with a partner (unless you have one snail per child).
3. Ask students to gather 3 different kinds of leaves, 2 rocks they can hold with their hands, and 1 or 2 sticks.
4. After students have gathered these objects, sit in a circle in a shady spot. Fill up each pair of students' cups halfway with water.
5. Start with the three different types of leaves. Students will sprinkle water on their leaves and then gently place their snail on one leaf at a time for about 2 minutes.
6. Have students carefully observe what the snail does, how it moves, and what it eats.
7. Repeat with the other kinds of leaves.
8. Follow the same process with the rocks and branches.
9. Return indoors to discuss what students have discovered and record their observations on a chart. If students have science notebooks, you may choose to have them record their observations in words and drawings prior to the class discussion.

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Part 3: ***Observing Water Snails***, page 18

Compare Slugs to Snails

FOSS® Extension, page 27

When to Go Out

After completing Part 3, try the extension that suggests comparing slugs to land snails by going outdoors to observe them in their habitat.

Outdoor Objective

Students search for slugs in the schoolyard and compare their body structure, habitat, and behavior to those of snails.

Materials

For Each Student	1 Hand lens
For the Teacher	1 Clipboard with paper

Getting Ready

Time: 15–20 min.

Site: Slugs eat at night. During the day, they rest in dark, damp places such as under pots, bricks, rocks, or dead logs.

Guiding the Investigation

Follow the steps in the previous lesson, "Go On a Schoolyard Field Trip to Look for Snails" substituting "slugs" for "snails."

Animals Two by Two > Investigation 2: *Land and Water Snails* >
Part 4: *Shells*, page 22

Observe Snail Trails Outdoors

FOSS® Extension, page 27

When to Go Out

Following Part 4, try the extension that suggests looking for the trails left by snails overnight.

Outdoor Objective

Students learn about snail behavior and habitat by looking at where their mucus trails are found.

Animals Two by Two > Investigation 3: *Big and Little Worms* >
Part 3: *Comparing Redworms to Night Crawlers*, page 17

Take a Schoolyard Field Trip to Look for Worms

FOSS® Extension, page 22

When to Go Out

Following Part 3, take students outside to look for worms. In addition to going out after a rainstorm, as the extension suggests, you may want to look for worms in the soil and under rocks at other times as well.

Outdoor Objective

Students observe worm behavior and learn that worms live in the earth all around them. Students can also set up a compost area to attract worms.

Guiding the Investigation

1. Discuss what might cause worms to come out of the ground. Have students dig for worms in the school garden or put the class worms into the garden to enrich the soil.
2. Another suggestion is to begin a compost bin with your students in the schoolyard.

Animals Two by Two > Investigation 4: *Pill Bugs and Sow Bugs* >
Part 2: ***Identifying Isopods***, page 12

Go On a Schoolyard Field Trip to Look for Isopods

FOSS® Extension, page 24

When to Go Out

This activity can be done anytime during Investigation 4.

Outdoor Objective

Students observe isopods in the schoolyard and look for evidence of how sow bugs or pill bugs are different in structure and behavior.

Getting Ready

Site: Look for isopods under stones, clay flowerpots, fallen tree branches, plant litter on the ground, or in a compost bin. You could also put out chunks of raw potato overnight to attract isopods.

Animals Two by Two > Investigation 5: *Eggs and Chicks*

Observe and Compare Two Schoolyard Birds

Boston Schoolyard Initiative Extension

When to Go Out

If you are unable to do Investigation 5 where you hatch chicks, you can observe birds in the schoolyard.

Outdoor Objective

Students search for, observe, identify, compare, and draw two birds found in the schoolyard.

Materials

For Each Student	Science notebook
	1 Clipboard
	Crayons
For the Teacher	Extra crayons

"We read the **Animals Two by Two** *section on isopods first and discussed where we might find them. We then scouted out good areas to search and the students felt the ownership of putting their ideas to work. Later, on their own at recess, I found the kids discussing bugs and looking for them, and wondering why they would be in certain areas and not others."*

Patricia Smith
K Classroom Teacher

"We couldn't do chicks and eggs but we could talk about birds outside. We sketched pigeons. The kids were looking, and observing in such detail, they even observed different types of pigeons."

Patricia Smith
K Classroom Teacher

Getting Ready

Time: 15–25 min. (Depends upon students' attention spans.) Do this over the course of 3 or more days.

Site: Find a quiet area with room for the whole class to sit. A good location to observe birds is under a tree. In a city classroom, you may want to select from pigeons, sea gulls, starlings, blue jays, or other common birds that you are guaranteed to see each time you go out.

Seasonal Tips: In the winter, send a note to parents to introduce this activity and ask that students come to school dressed appropriately.

Guiding the Investigation

1. Instruct students inside about how quiet and still they need to be for birds to feel safe. Teach them to point to the birds if they want others to see a bird instead of using words. You may want to practice (sitting with notebooks and being quiet) indoors first.
2. Each day guide the investigation by focusing on one of the following:
   - Identify, observe, and watch the two selected birds
   - Compare the structure of the birds (refer to Part 3 for questioning strategies)
3. Have students record their notes on each bird on facing pages of their science notebooks so they are displayed side by side when the notebook is open. This makes it easier for students to make comparisons.