

Lesson

Focus

1. Write the investigative question on the board: “What plants and animals use the school yard habitat?” Discuss strategies for observing—using four of the five senses (sight, hearing, touch, smell) and recording observations (drawing, using numbers, labeled diagrams writing). Hold up an object (e.g., pinecone, leaf, twig, rock) and ask students to describe its physical properties and characteristics. To prompt student thinking you might model drawing and/or writing observations as you ask:
 - What does it look like? (e.g., size, shape, color)
 - What does it feel like? (e.g. texture, temperature)
 - What does it smell like?
 - What does it sound like?

Large Study Area

Explore

2. Divide the class into pairs before going outside. Students spend multiple lesson sessions journaling observations. Students can record measurements. They can use paint chips to name colors they observe in nature. Providing a wide range of green paint chips for example helps to expand students’ color vocabulary beyond “green.” Below are sentence starters that will help students generate questions about the system (Fulwiler, 2007).
 - I am curious about . . .
 - It surprised me that . . .
 - I wonder how this part effects another part of the system . . .
 - Questions I could investigate are . . .

Day 1: Overall Observations. Students record general observations and questions.

Day 2: Looking Up. Students look up (above eye level) and record observations and questions.

Day 3: Looking Down. Students look down (to the ground) and record observations and questions.

Day 4: Looking in the Middle. Students look at eye level and record observations and questions.



Reflect

3. After each observation session ask students to share their findings and questions.
4. Categorize the questions students pose (descriptive, comparative, correlative, essential, why, researchable).

Type of Question	Examples
Book/Internet Research	What is the name of this tree or shrub? How tall does this tree grow? Where does this tree grow?
Essential-Life Pondering, Always Wonder	How do trees alter climate?
Descriptive	What do twigs look like in winter? What plants live on this tree? What animals use this tree for their habitat? How does this tree produce seeds?
Comparative	Which type (species of tree) grows the fastest? Are deciduous or broadleaf evergreen leaves stronger?
Correlative	How is tree fall leaf color related to the number of sunny days in fall? How is hot weather related to disease in pine trees?
Why Questions	Why are there deciduous and evergreen trees?

Special Study Area

Explore

5. Divide the class into pairs and give each pair a hula hoop and yard stick.
6. Students select a study area and place the yard stick in the middle of the hula hoop to create a transect line and two observation quadrats. Model this set up in the classroom before going outside; show students how to record locations of plants and animals by noting the nearest inch on the yard stick (e.g. there are three acorns, one at 4 inches, one at 15 inches and one at 22 inches).
7. Students record observations using written words/phrases, drawings, labeled diagrams, and numbers to describe the area within the hula hoop, to contrast the two observation quadrats, or to note items along the transect line.
8. Students use field guides to identify plants and animals.



Reflect

9. Students discuss the relationship they have noticed between the large study area and smaller special study area. Ask students, what similarities and differences did you notice?
10. Students formulate two descriptive questions and two comparative questions about the larger study site based upon their observations.
11. Ask students to reflect on the investigative question by writing or discussing, "What plants and animals use the school yard habitat?"