

Who Lives Here?

A Schoolyard Ecosystem

The students will observe, characterize, and research different ecosystems to learn how each support different species.



Explore

Supplemental Reading

*One Small Square series:
Woods, Pond, Backyard*

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Grade Levels:

K, 1, 2, 3, 4, 5

Curriculum Correlation:

NCSCS—Science

1.L.2.1, 1.L.2.1,

4.L.1.1, 4.L.1.2, 4.L.1.3

5.L.2.1, 5.L.2.2, 5.L.2.3

Materials:

5 pieces of string cut into 2ft lengths; paper and pencil for recording

Duration:

30-40 minutes

Location:

Outdoor Space

Procedure:

1. Prepare the students for this outdoor activity by splitting them into groups of 3-4. In their groups have them write down what they expect to find living in the Outdoor Space (around your school or center).
2. Give each group a piece of string 1-2 feet long. Try to make sure everyone has approximately the same size string. Explain that the string will be used to encircle one small section of a larger ecosystem. The students will walk around the outdoor space with the group and every time you yell, “stop” the group should kneel, make a circle with their string, and count the number of different species (plant and animal) living within their circle. Encourage them to look for subtle differences in the grass species, or to look for the tiny insects in the dirt. The goal of this exercise is not to identify particular species but to count the total number of different species found.
3. Have someone in each group record the number of varying species found each time you shout, “stop.” Be selective in the different spots that you choose to have students count species. For example, have students count in two separate places in the Outdoor Space, then walk to different areas of your location like the playground, the parking lot, underneath a shaded area, in the middle of a soccer field, next to trees, etc.
4. Return to the classroom and ask students: What did you discover about the different places you looked? Make a table on the board that tallies the amount of species found at each site. After looking at the numbers ask students:
 - Which site/ecosystem had the largest amount of living things in it? Why do you think more things could live there?
 - Which site/ecosystem had least amount of different things living in it?

What could be some reasons for this?

Introduce the word **biodiversity** (variety of species present in an ecosystem), asking the students to create a definition first, then fill in any missing content with the above definition.

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5. Ask the students: What do you know about the characteristics of an ecosystem? Provide any content refreshers like—interactions of living and non-living things; one of those non-living things can be weather; consider location, etc. Next ask about the living things they found at their locations:

What did you notice about the different species you found at the different sites? Were any the same or different? Were there any species that appeared in all of the sites? Why were some species found in some spots but not others? What do you think is the explanation for that?

* Let's zoom out and think about our larger ecosystem in our area. Have the students compare a well known natural feature in the area (river, lake, forest) to their observations of the area they just explored. Ask some of the same questions as before (How are they similar or different?)

6. Ask the students: What questions do you still have about ecosystems and biodiversity?

Variation:

Students can do a “Zoom In” version of the activity where they will first observe their spot from 3 feet away, then 1 foot away, then looking within the circle. They can record the different number of species they were able to see during each observation.

Extensions:

1. Have students pick and research a common ecosystem in North Carolina (estuaries and salt marshes, oceans, lakes and ponds, forests, and grasslands) and write or present a report on some of the species that live in that ecosystem. Make sure to ask if some of those species live in other ecosystems around the state. Why are they able, or not able, to do so?
 - What are some of the characteristics of their ecosystem that make it unique?
 - Would any of the species found in the Outdoor Study Plot live in this ecosystem? What could help them live here? Which components of the ecosystem are not a good fit?
2. For second graders, have students go outside and do the “Who Lives Here?” exercise throughout the year to see how seasons and weather affect an ecosystem.

Learning Targets:

1. Utilize different types of technology to research an ecosystem.
2. Observe and compare characteristics of different ecosystems.
3. Explain how different ecosystems support different types of plants and animals.