

Be a Biodiversity Detective!

Outdoor Activity

Providing time for students to discover their nature neighbours supports an understanding of the biodiversity within their local community. As Biodiversity Detectives, students will work in small search parties armed with clues and set out on a mission to discover a variety of life forms. Through exploration, and shared guided excursions, students will awaken to neighbours known and unknown. This activity is adapted from British Columbia's Ministry of Environment's, Backyard Biodiversity and Beyond resource.

Instructions

1. Print the attached Biodiversity Clues, cut them up and place them into a large envelope.
2. Plan and take a nature walk in your schoolyard or a nearby natural area. Identify an area students will explore that ideally includes a variety of habitats (e.g. lawn, coniferous forest area, a deciduous forest, a creek bed etc.).
3. Introduce or re-visit the concept of biodiversity with your students. One analogy you can use is biodiversity is like a library, but it is the Library of Life. Explain how students will become Biodiversity Detectives, exploring their schoolyard or nearby nature to discover the variety of species in their local community.
4. Divide students into small working groups/search parties of 2-3 students.
5. Head outside to your pre-determined area for your nature exploration.
6. Empower students to be a Biodiversity Detective! Each group or "search party" will receive two clues to look for a variety of living species within the defined area (ensure your boundaries are clearly identified).
7. Have students grab two random clues from the envelope.
8. Set the search parties free to explore and discover species that represent their clues.
9. Have students take a picture or draw a picture of their discovery in their science journal. Ask them to make a note on the location of their species.
10. Give students 30 minutes (or more) to explore before they come back to their research "headquarters". Have an identified sound (e.g. drum or whistle) to bring students back.

Materials:

- Biodiversity Clues
- Science Journals
- Pencil, Crayons
- Camera (Optional)

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11. Re-group the class and have student search parties pair up with another search party. Have each group take turns on becoming a “Nature Guide” and tour the other group to a few of their discoveries. If time permits, you could do this with the whole class with each group touring the class to a few discoveries.

Discussion

Reflect on the diversity of species students found. Here are a few questions to guide your conversation:

1. What kinds of animals (birds, mammals, insects, amphibians, others) live here?
2. What kinds of plants (trees, shrubs, moss, flowering plants, lichen) live here?
3. Was there one area where there were more clues found than others? Can you think of a reason why?
4. Can you brainstorm some words that describe the biodiversity of your area?
5. How would you feel if there were fewer species found here? More?
6. Can you brainstorm ideas on what biodiversity provides humans (food, medicine, shade, a place to play etc.)?

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Biodiversity Clues

Find three different kinds of holes made by animals.	Find biodiversity in at least three different shapes – square, rectangle, triangle, oval, heart.
Find three different kinds of plants growing under a tree.	Find three different kinds of consumers (animals) or evidence of them.
Find three different signs of an animal having eaten something.	Find three kinds of seeds.
Find three different organisms and give them names that describe how they look, move or behave.	Find three different kinds of decomposers.
Find three different kinds of leaves.	Find three different kinds of leaf stalks.
Find three different kinds of plant “skins” or surfaces.	Find three plants with different smells.
Find three leaves with different textures.	Find three different spider webs.
Find a plant with has three different colours.	Find three different insects.
Find three different plants.	Find three different lichens. Find three different flowers.
Find three different plants that have evidence an animal has interacted with it.	Find three different insects that live in the soil.
Find three different signs of an animal showing it lives there.	Find three flying insects.

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Learning Extensions

Here are two options to explore the intersections of art and nature.

Instructions

1. Photo Mural

- Help students print the images/photos taken of their biodiversity discoveries. As a class, decide how you will categorize the images. You can keep it general (e.g. trees, insects, flowering plants etc.) or you can be more specific (coniferous trees, deciduous trees, flying insects, insects found in soil, etc.). This is a great opportunity to have a discussion with students and to brainstorm how living things are classified.
- Create a class mural on a wall exhibiting all student discoveries highlighting the biodiversity of their local community.

2. Artistic Drawing

- Utilizing their drawings, photo images and knowledge gained from participating in their guided tour, students will create an artistic expression or biodiversity picture of the area they explored. Encourage students to give their creation a cool name.
- Share and celebrate student creations.