



# Community Science

## Pollinators

### Lesson 7: Observational Tree Mapping

**Duration:** 25 minutes    **Location:** Outdoor

#### Overview

In this lesson students will use their sense to discover the range of activities and inhabitants that occupy the space around their school grounds and use their observations to understand how their community is and/or is not a good habitat for wildlife.

#### Learning Objectives

By the end of the session, participants will be able to:

- Record animals living amongst the tree layers;
- Describe characteristics of coniferous and deciduous trees;
- Identify leaf shape, leaf arrangements, branching patterns through leaf shading (extension 4);
- Identify 3 actions they can take to improve the local environmental conditions for wild animals.

#### Curriculum links

Grade: 6

Subject and Unit: Science, Trees and Forests

- Describe kinds of plants and animals found living on, under and among trees; and identify how trees affect and are affected by those living things;
- Identify general characteristics that distinguish trees from other plants, and characteristics that distinguish deciduous from coniferous trees;



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- Describe and classify leaf shapes, leaf arrangements, branching patterns and the overall form of a tree (extension 4).

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#### Equipment required

- A journal/notebook and writing utensil for every student
- Sit upon (optional)

#### Lesson plan

Time	Activity	Equipment Needed
10 minutes	<p>Take your group outside, dressed for the weather. Your group will need to find a spot within the designated boundaries that is within sight of the facilitator but away from other students. It is ideal to have the students near trees or forested areas for this exercise.</p> <p>Sense maps are a quiet, individual activity. They need to be as quiet as possible and not interact with other students. Participants can choose to sit however is comfortable for them.</p> <p>They begin by drawing a dot in the center of the paper to represent them. Space at the top of their paper represents space in front of them. Space at the bottom of the</p>	<ul style="list-style-type: none"><li>• Pencils</li><li>• Journal / notebook</li><li>• Sit upon (optional)</li><li>• Weather appropriate clothing</li></ul>



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	<p>paper represents space behind them. The right side of the dot represents space to their right and so on.</p> <p>Before beginning, have all participants do a breathing activity (e.g., 5 finger breathing or box breathing) to settle their nerves. When the facilitator gives the signal to start, students record everything they hear, see, feel, and smell using a symbol they create. Students can use letters or shapes to represent what they hear, see, feel, and smell. Each time they hear, see, feel, and smell, they record it using the same symbol (if experienced multiple times, they will record it multiple times).</p> <p>For example, if they heard a bird chirp in a tree to their left, they could draw a musical note as close the chirp felt between their "X" and the left edge of their map. Tell them they can choose any symbols they want to represent sounds: i.e. pictures, shapes, words, squiggly lines, etc. Instruct the students to try and incorporate all elements of the natural area into their sense map including plants, trees, animals, birds, insects, etc. while paying close attention to their unique characteristics.</p> <p>Participants keep listening, looking, smelling and feeling and recording until the time is up. Participants will finish by creating a legend to accompany their sound map. They do not need to know what the sound, visual, feeling, or smell they experienced was, students need to use their imagination to create the legend.</p>	
15 minutes	<p>After several minutes of recording, gather back together to share each other's maps, symbols, and discoveries. Compare and contrasting each other's experiences by asking questions like:</p> <ul style="list-style-type: none"><li>• How many different species did we hear or see?</li></ul>	<ul style="list-style-type: none"><li>• Pencils</li><li>• Journal / notebook</li><li>• Sit upon (optional)</li></ul>



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- Where did you hear the sounds coming from?  
If there are trees in the area:
  - High up in the tree-tops or closer to the ground?
  - What layers of the tree were most sounds coming from?
  - What layers of the tree were the least amount of sounds coming from?
  - Is there any evidence (nests, burrows on the side of the trunk) to support this?
- What animals and plants did we see and record?
  - Were there any plants or animals with unique characteristics?
  - How would you describe the trees you recorded around you? Did they have pines or leaves (are they coniferous or deciduous)?
  - Are there areas with more plants and animals than others?
  - Is there any evidence (nests, burrows on the side of the trunk) to support this?
- Do you believe this is a healthy amount of wildlife?
  - If not, why not? (*Because there is not a wide variety of plants or wild space for them to utilize for food and shelter, there is no local body of water, human activity scares them away, there is no prey, etc.*)
  - If yes, why? (*Because there is a big wild space with many plants for them to use for food and shelter, there is places for them to hide away from human activities, there is available prey, etc.*)
- Do you believe our schoolyard /community has a diversity of wild animals?
  - If no, why not?
  - If yes, why?



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|  | <ul style="list-style-type: none"><li>• What are actions we could take to improve our local schoolyards' (habitat) biodiversity? (<i>plant more bushes/trees/flowers, put out a bird bath/feeder, etc.</i>)</li></ul> |  |
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### Extension

1. Repeat this activity several times. Having participants adopt one specific location as their own unique spot to connect with throughout the year.
2. The sense mapping activity can be repeated from different locations, during different seasons and times of day. Participants can compare their results, make note of any differences and discuss further about the causes behind these differences.
3. Participants could create leaf rubbings from leaves of plants or trees in the area. These rubbings can be used to identify leaf shapes, leaf arrangements, branching patterns. Students can start a collection of different types which can be used as a learning tool.
4. Maps could be used to determine species abundance. Discussion could be lead around; the lack or abundance of wildlife sounds in certain areas of the schoolyard, or layers of the trees (identifying plants and animals living under, within and among the trees), how the schoolyard could change to increase wildlife sounds, etc.
5. Participants could create a to-scale version of their sense map by taking measurement of their schoolyard.



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