

Cross-curricular Connections

Sometimes we forget that we do not have to go far to experience the wonders of nature. Fun, exciting and meaningful activities are as close as your own schoolyard. Look around; is your school field “just grass”? At first glance, the answer is often yes. But is that all there is? In this activity, students develop their powers of observation and prediction skills by getting down on their hands and knees to take a closer look at what lays beneath their feet. By using descriptors, students learn how to identify two common plants growing on school grounds and make predictions about their frequency and preferred living space. This activity can be adapted for students in various grades and supports various strands of *Mathematics* including: *Number Sense and Numeration*; *Measurement*; *Patterning*; *Data Management and Probability* as well as *Science and Technology: Understanding Life Systems* and *The Scientific Inquiry/Research Skills Continuum*.

Preparation / Resources

- Make sure the school field is available when you wish to do the activity.
- Organize students into groups of 4.
- Assemble resources.

Each group needs:

- Two clipboards with pencils and paper;
- one photo / or sample of a plantain leaf;
- one photo / or sample of a dandelion leaf ;
- 2 pylons;
- 5 hula hoops (all the same size);
- Measuring tape;
- Magnifiers if available to assist with observations;
- Chart to record results: e.g.

Distance (from edge)	# of Plantains	# of Dandelions
10 metres	###	
20 metres		
30 metres		

Description of Activity

- **Time outside:** 40 – 60 minutes
- Once students are separated into groups of 4, hand out the clipboards with the plant samples (plantain and dandelion).
- On the paper with the leaf, have students brainstorm descriptors for each kind of leaf. (NOTE: to identify the leaf, you need a good sense of what it looks like!); invite each group to share descriptors.
- Show students how to lay out a transect line (a defined path to follow). *This gives structure to their observations and allows the students to notice a change over distance and over a change in terrain.*
- Marking the start and end with a pylon, have each group lay out their transect line starting at the edge of the playing field, moving towards the centre of the field; transects should be about 50m in length.
- Before starting, have the students make predictions: *Which plant will be more plentiful? Where in the field will you find each plant (shade or sun)?*
- Instruct students to place a hula hoop every 10m starting from the edge.
- Once hoops are in place, students count the number of plantains and dandelions found in each and record their results. **NOTE:** if the centre of the plant is visible inside the hoop, count it.

Follow-up (plus Adaptations and Extensions)

- Have each group make charts and graphs to summarize and display their results. Compare the results. Were there similarities or differences? Why?
- Ask the students to reflect on other observations they made while doing the activity; e.g. Did you notice any patterns? (*Dandelions grow best in full sun and plantains are more abundant in shade.*); What is it about the plant that allowed for these patterns? Were the sizes of the dandelions the same? Were there bigger dandelions found in specific hula hoops?
- Investigate shade and sun loving plants and use the information to plan a garden (butterfly, vegetable, native species, First Nations, etc). When planning the garden, consider: What are companion plants? What would be an optimal layout for your garden to ensure success?
- To adapt this activity for younger students, an adult in each group would be beneficial.