

Nature by Numbers

Primary Level Activities (ages 5-8)

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Basic Description:

This activity introduces the concept of numbers found in the natural world, and underlines the wonder and necessity of the diversity of different plants.

Materials:

- Small sheets of paper for the children to mark numbers from 1-20 (or more)
- something hard to write on (i.e.: clipboard)
- pencils for the class

Time Allotment: 40 min- 1 hour.

Depending on the level of the group, this activity can last from 15 to 30 minutes. The more assistance the children need, the longer you should plan for the activity.

- Introduction/ Pairing up- 10 minutes
- Activity- 15- 30 minutes
- Debrief and sharing of results- 10-15 minutes

Procedure:

Introduction:

- Bring the class to location on the grounds where there is a diversity of plants/habitats (formal garden, field, treed area)
- Suggest to the students that plants have numbers hidden in them everywhere- ask the students where they might find things in sets of 2 (i.e.: a twig branching into a fork, a bundle of red pine needles, a twinleaf leaflets, twinflower blossoms, etc). Ensure the class knows they are looking for natural things occurring in pairs or triplets, etc, not the actual number hiding in the garden.
- Present the activity as a kind of scavenger hunt for the hidden numbers and patterns in nature, starting at the number 1 and counting as high as they can find.
- Encourage the students to write the name of, or draw a small picture of the found item representing each number. Parent helpers may be able to help younger students with this.

Activity:

- Have the teacher of the class put the students into pairs, and assign 2 or 3 sets of pairs go searching with a parent volunteer or their teacher
- Set some kind of boundaries to keep the searchers within view
- Give the groups as much time as they need to have discovered at least 5 to 10 items or until a significant number of searchers get bored or distracted, whichever comes first

Follow-up/Discussion:

- Bring the class back into a seated (or standing) circle
- Ask all the pairs who found something occurring singly to raise their hands (hopefully, all will do so). Get a few pairs to share what they found, asking “Who else found that too?” Continue this as high as you can go.
- If the group is still engaged, ask individuals, which was their favourite plant? Why? What surprised them about their search for numbers? Encourage even the quieter kids to share what they liked. When time is up, or stories have run out, congratulate everyone for doing a great job
- Consider pointing out that the garden makes sure to have lots of different kinds of plants, and with so many kinds of plants, we can be sure to find all kinds of patterns- just like nature does in the wild.

Extensions:

- Back in the classroom, consider doing math sums with pictures of some of the plants found (i.e.: Twinleaf [2] + Twinleaf [2] = Evening Primrose [4], Clover leaf [3] – Grass stalk [1] = Jack pine needle bundle [2])
- During a math period, bring the class out to the grassy playing field to repeat the activity. Have the children compare how easy it was to find numbers in their schoolyard than at the Arboretum/Botanical Garden (of course, it should be much harder on the school playing field). Have the students make suggestions as to why it might be more difficult (fewer types of plants to choose from).

