



Quarrybrook

EXPERIENTIAL EDUCATION CENTER

Program Title: **Counting and Patterns**

Audience: K2 students

Program Theme: We will begin with a trail walk to gather various natural items, counting objects in groups of fives and tens along the way. Students will then count, sort, and arrange the items in different patterns. By the end, students will be creating patterns of their own to share with the group.

Program Goals: Students will practice counting and sorting objects and will recognize and copy patterns.

NOTE – *For teachers choosing this field class, please let us know where your students are in terms of counting and working with patterns, so we can adjust the content to fit your group’s abilities and needs.*

Next Generation/Common Core Connections:

Mathematical Concepts Explored:

- Counting and Cardinality – Knowing number names and the count sequence; count to tell the number of objects; compare numbers
- Measurement and Data – Describe and compare measurable attributes; classify objects and count the number of objects in categories
- Geometry – Identify and describe shapes; analyze, compare, create, and compose shapes

Program Outline:

Activity 1: GATHERING NATURAL OBJECTS (40 min.) – Students will go on a forest walk where they will look for specific natural objects. We will give them a list to work from. Combining math and life science, students will learn about what certain animals like to eat and then search for those items in their natural locations. Together, we will collect them in quantities of fives and tens.

Objectives: Students will identify preferred foods for three to five temperate forest animals. Students will also practice counting in groups of fives and tens, up to the number 40.

Intended Outcomes: Students will have collected a tangible assortment of objects, counted in fives and tens.



All adults will be needed to help the students find the items on the list, and to also steer them away from any plants or objects that should not be handled.

Activity 2: COPY A PATTERN (30 min.) – Once we have collected all the items, students will begin organizing them in various ways. This activity will combine counting with pattern recognition. Once we have re-counted and grouped our objects, the instructor will arrange multiple items into a particular pattern. Students will be asked to recreate the pattern in their own space in front of them.

Objectives: Students will count and sort their objects in fives and tens. Students will then recognize and copy a pattern of the collected objects.

Intended Outcomes: Students will show their understanding by counting aloud, and by their own deliberate arrangement of objects.



Teachers and other adults will be helpful in guiding the students through pattern recognition and imitation.

Conclusion/Wrap-up: PATTERN GAME (20 min.) – For this activity, students will be split into small groups, according to the number of available adults. These sub-groups will be given time to explore the immediate area and collect all the natural items they want, in order to create their own patterns. Once gathered, each sub-group will bring their items back and start to form their new patterns on the ground. Students will be encouraged to think back on all of the item collection, counting, and pattern-making activities we have done so far. Once all of the small groups have laid out their unique patterns, we will gather together and do a gallery walk of each group’s work. Students will have a chance to present their ideas out loud.



All adults will work with a sub-group and assist with exploring, collecting, and pattern making.