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## ACTIVITY: NATURE NUMERACY

### CHALLENGE

Numeracy skills can be practiced anywhere. It is a lot of fun to find Math in nature. Can you demonstrate your numeracy skills by making fractions with found objects in your backyard or in nearby nature? Practice nature measurement, graphing, patterns and estimation. Find a beautiful spot that you can use as your Nature Math gallery to show off your creative numeracy skills. Before or after Nature Numeracy, can you be creative with Nature Art? Look for the [Nature Art Activity](#) to try out as well.

### MATERIALS

- Journal or Paper and pencil
- Camera (*optional*)
- Measuring tape and a ruler

### EXPLORE

What loose materials (such as rocks, seeds, twigs, petals, leaves, shells, feathers and litter) can you find that you might use to practice your numeracy skills without damaging the local environment? Please do not pick living plants, use items that are no longer alive. What things in nature can you measure, use to make fractions and use to make patterns?

### MAKE IT HAPPEN

Using the found materials from nature, create your Nature Numeracy by arranging, balancing, building, combining, placing, graphing, measuring and estimating. Try out these Nature Numeracy challenges:

#### **Math Concepts to Practice in Nature**

1. Organize, count and graph the different materials that you used to create your Nature Art.
2. Bring a ruler or measuring tape outside with you to practice your measurement skills. You could choose several things in nature and measure them then put them in order of smallest to largest.
3. Use your estimation skills by estimating the height of a tree? Start with smaller things first so that you can use your measuring tape or ruler to check how well you did and figure out how long it really is.
4. Can you make fractions out of different items you see in nature? How many parts make one whole?
5. What kinds of patterns can you find that exist in nature? What patterns can you make on your own out of found materials?

See some examples of Nature Numeracy below.

### SHARE

Record your Nature Numeracy in your journal or by taking a photograph. It is fun to write down your results. Invite others to view your math. Encourage feedback and discuss your creative process.

## REFLECT

What were the three best things about this experience? Why? What can you say that you learned during these activities? Explain. What ideas do you have for the next time you create Nature Numeracy?

## EXTEND & ADAPT

**Extend:** Can you think of other ways to practice Nature Numeracy? Do you know what Fibonacci Patterns in Nature are? Look this concept up online and then see if you can find this pattern in nature (Hint: look up Fibonacci Spiral).

**Adapt:** If you are not able to get outside to create Nature Numeracy, you can use materials in your house to create fractions, measure, estimate, and create patterns. Make sure your record what you created and what you learned.



**Nature Math: Measurement - Can you find interesting things in nature to measure? How many centimetres and how many inches long are they?**



**Use sticks to represent equivalent fractions. One stick equals one whole, or 1/1, three sticks are three thirds, or 3/3, and four sticks are four fourths, or 4/4.**



**Practice fractions by using one long stick to represent the division line between your denominator and your numerator. Here is 1 equal part over three equal parts (1/3)**



**Can you see patterns in nature? Learning about and being able to find patterns is a very important skill in Math. Try to make some Nature Math patterns for yourself.**

