



LESSON 1

LET'S FIND OUT HOW TO SPRING INTO MAINE

**HANDS - ON DISTANCE LEARNING
PROVIDED BY DOWNEAST INSTITUTE**

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LET'S FIND OUT HOW TO SPRING INTO MAINE
(HANDS - ON DISTANCE LEARNING provided by Downeast
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Observation is one of the first skills needed in the scientific method of learning. This lesson trains us to observe and collect data about our world. We live in a beautiful place and you have some time right now to learn about it in a new way. If you come to DEI later on please bring your research - we would like to hear about it.

Materials:

- Meter stick, yardstick or ruler
- 4 rocks the size of an egg
- Small sheets of paper (small notebook) and pencil
- Magnifying lens (optional)

Lesson - Part 1

1. Make an observation area that scientists call a quadrat. First, walk around outside to find an area you want to study. Spend some time finding a spot that is safe. Make a square in this spot by marking off sides 1 meter (about 3 feet) long. Use your feet and estimate if you can't measure with a tool yet. Place a rock on each corner of the square you make.
2. Study what is inside your quadrat for a few minutes. Try to look as closely as you can to find something that you could not see standing up. Observe as long as you like. Use a magnifying lens if you have one.
3. Put your name, date, and time on a small sheet of paper. Then draw or write about what you saw in the quadrat. Go back inside for this part if it is easier.
4. Put your paper (notebook) where you can find it next time.

Lesson - Part 2

1. Examine your quadrat every other day. Be a good observer.
2. Write your name, date, and time on a page or sheet of paper.
3. Try to find something you did not see before or try to find something that looks different or try to find something missing. Draw or write on a new piece of paper or on a new notebook page. You might choose to answer one or more of these questions or suggestions: What colors did you see? Did you see plants or animals? Is something else in the quadrat now? How do you think it got there? What do you think the weather has been like since the last time you looked at your quadrat? Why? Find something that you did not see before.
4. Put your papers and pencil where you can find it next time.
5. Keep all of your observation papers to take back to your teacher.

Lesson - Part 3

1. If your quadrat is missing when you go out, don't worry, make a new one. Be sure to tell us what happened in your notebook or on your paper.
2. Keep doing your observations so you can share them later on. Always remember your name, date, and time.

DEI Connections/Real Life Applications

Scientists study many species in their fieldwork by looking at what they can find in a specific area of land, rock, water, sky, vegetation or more. A quadrat is very helpful to them and can be as large or as small as the scientist chooses. Studies often document data found in the same area over a period of time. At DEI, we study the shore using quadrats and often place them on the shoreline in a specific way. Quadrats may be placed at the low, middle or high intertidal areas to study seaweeds, other plants, and other marine species. They are sometimes placed randomly along a measured tape that we call a transect line.

Adaptations, Extensions, and Helpful Hints - Include photographs if you can; make at least one statement about what you have learned and document it on a separate page in your notebook, "Today I learned . . ."; make the project into a science notebook; decorate the cover of your notebook; decorate the outside edge of your quadrat, but keep in mind that if you decorate too much you may be keeping little creatures out; watch your quadrat on a sunny day then a cloudy day to look for differences; watch your quadrat at different times of the day and at the same times, looking for differences or similarities. If you live in an area where there is little open ground, study a tree branch or a bush, same size area if you can. If you want to, make another area of study, face a certain direction, and document what you can see from side to the other side each time you do an observation; start looking for and listing changes - new birds, plant growth, buds on trees, insects moving. Listen to nature's sounds and write down what you hear. Talk to an older family member or friend who lived in your town years ago - ask them what they remember about spring - write down what they tell you and put it in your notebook.

Maine Learning Results for Science:

- PreK-2:** B1a - Making observations
C1b - Collecting information
C1c - Sharing information
E1a - Similarities and differences
- Grades 3-5:** B1c - Metric measurement
C1c - Collecting information
C1d - Communicating findings
- Grades 6-8:** C1b - Locating information
C1e - Evaluating information
C1g - Interpreting information
E1a - Use physical characteristics to differentiate
- Grades 9-12:** C1c - Create and present findings
C1c - Synthesize information gathered from fieldwork
E1a - Structure & relatedness