

Unit 3: Connecting Places, Connecting People

WEEK 4 Lesson 1

Science and Engineering: Quadrat Study 5

Observing Solid Objects

This lesson connects to and continues the year-long Quadrat Study.

Big Idea	Every place has many stories.
S & E Guiding Question	What can we observe in one small area over time?
Content Objective	I can use my five senses to make observations about the physical objects in my quadrat (2-PS1-1, Practice 6).
Language Objective	I can describe solid materials and their properties in speaking and writing. (W.2.2.a, L.6.2.a)
Vocabulary	distribution: the way something is shared in a group or spread over an area isolate: to set apart quadrat: a small area of habitat, usually selected to collect data about the distribution of plants or animals
Materials and Preparation	<p>This lesson occurs outdoors. Review any outdoor safety agreements.</p> <p>Review children’s entries in Science and Engineering packets from the previous quadrat study. Select a few that show different and informative observations.</p> <ul style="list-style-type: none">● hula hoops or equivalent lengths of rope or twine knotted to enclose a circle, one for each child● Science and Engineering packets● writing and drawing tools, in one or more containers to carry outdoors● chart paper and markers● hand lenses
Opening	<i>Today we’re going back out to the schoolyard to continue our</i>

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<p>12 minutes</p>	<p><i>quadrat study. Remember, in a quadrat study scientists study the distribution of objects or organisms in an area—or how many of something there are.</i></p> <p><i>When we last observed the quadrats, you did some investigations to see how wind and water change the shape of the land. Today, we will pay attention to the physical properties of objects in your quadrat and think about how they got to that specific place. For example, you might find a rock. You can write and draw about the physical properties of that rock, such as its hardness, its color, and what it feels like. Then, write and draw about where that rock might have come from. Is it naturally occurring, or did a person or animal put it there? Some other objects and materials you might observe are wood chips, sand, dirt, pebbles, concrete, asphalt, or playground turf, bits of plants... [add as appropriate].</i></p> <p>Distribute packets. Take the children out to the schoolyard with quadrat markers (hula hoops/ropes) and writing and drawing tools.</p> <p>Direct children to return to their same spots.</p>
<p>Investigation 16 minutes</p>	<p>Once outside, offer reminders as needed for placing quadrat markers on the ground. Point out a few solid objects that children might record.</p> <p>As children work, circulate to support their investigation and representation. Ask the following questions.</p> <ul style="list-style-type: none"> ● <i>What solid objects do you observe?</i> ● <i>How do you think those objects got there?</i> ● <i>Do you think this object is naturally occurring, or did it come from someplace else?</i> ● <i>Why do you think people decided to put this here?</i> ● <i>Do you think this object could be a small piece of a larger object in this area?</i> <p>Bring the children back indoors.</p>
<p>Discussion</p>	<p><i>Children will look at and discuss each other’s work during the next quadrat study lesson, in Week 8.</i></p>
<p>Closing 1 minute</p>	<p><i>What solid objects did you find in your quadrat?</i></p> <p>Invite children to name solid objects they found, encouraging them to use the Me, too signal to make connections with each other.</p>
<p>Standards and Practices</p>	<p>W.2.2.a With guidance and support from adults and peers, focus on a topic</p>

	<p>and strengthen writing as needed by revising and editing.</p> <p>L.6.2.a Use words and phrases acquired through conversations, reading, and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy, that makes me happy).</p> <p>2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.</p>
<p>Ongoing assessment</p>	<p>As children work to record their observations, take note of the physical properties they observe and record.</p> <p>Review children’s packets.</p> <p>How do children describe the solid objects they observe? What details do they include in their observations?</p> <p>This is a year-long investigation. As children continue this work, look for greater details in their drawing and writing and increasingly meaningful connections to current unit content.</p>

Notes