

Is Soil Alive?

Lesson Plan

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Summary: In this inquiry students will observe soil samples. Students will then form hypotheses as to whether or not soil is alive. Students will also read and discuss information about soil and components of soil. After completing the observations, readings, and discussions, students will be able to state whether or not they believe soil is alive and list the four components of soil.

Day 1:

Ready...

- Copy a class set of the Think Sheet, Data Sheet, and Family Page.
- Gather the following materials:
 - Soil samples (from worm bin or other source)
 - paper plates
 - hand lenses
- Review related resources

Get Set...

- Catch interest. Hold up a baggy of soil and pose the question: Is this alive?
- Introduce Is Soil Alive to your students. "This activity will challenge you to..."
 - hypothesis whether or not soil is alive
 - record your observations of soil and its composition
 - determine the various parts on soil
- Tell the students how the lesson will be instructed:
 - Whole class discussion
 - Small group observation
 - Individually record observations and produce your own hypothesis
- Tell the students how you expect them to respond:
 - Raise hand to ask a question or make a comment
 - Respectful listening and use of appropriate voices

Go!!!

- Show soil sample and pose the question "Is soil alive?"
- As a class discuss the characteristic of living and nonliving things. Make a list on the board or chart paper. Using this list students should be directed to record the characteristics of living and nonliving things.
- Instruct students to record their own hypothesis on the Think Sheet: "I think soil is _____ because _____."
- Distribute, share and discuss Is Soil Alive Data Sheet. Explain that each small group will be making observations of their soil sample. Direct students to list each part of soil they observe and record if it's alive or not.
- Distribute materials including soil samples on plates and hand lenses.
- Direct students to make and record their soil observations.

- After student groups have recorded at least three parts of soil, as a class discuss and list the parts of soil observed by each group. Discuss each part and whether the part is or is not alive. Also, discuss if living items are actually part of soil or just live in soil. (You may have to clarify that once living or dead materials are not alive).
- Direct students to revise their hypothesis according to their observations and class discussion.
- As a class discuss students' hypotheses.

Day 2:

Ready...

- Copy from Harcourt Science Grade 3 workbook page 93

Get Set...

- Review previous days observations of soil
- Tell the students we will be reading information for our science books about soil
- Tell students at the end of our reading and discussion they will be able to...

Go!!!

- As a class read and discuss pages C58-59 and C62-65
- Use the check questions as a lead in to class discussions.
- Read and discuss the review questions on p C65

Put It All Together...

- Summarize the Main Points:
 - There are 4 components of soil (for third grade purposes).
 - The components include weathered rock, humus, water, and air.
 - Soil is not alive if you consider the above to be the only components of soil.
- Compliment the students on using materials appropriately, taking care of themselves, others, and our environment.
- Assess understanding through observation, class discussion, by reviewing hypothesis from day one, and using Harcourt Science Workbook p 93 as an open book quiz.

Related Resources:

- DiscoverySchool.com (The Dirt on Soil)
- A Handful of Dirt* by Raymond Bial
- Harcourt Science* (Earth Science Grade 3)