International Center for Leadership in Education

Gold Seal Lesson

Author(s): Denise Comins			*Lesson Title: Soil Study*			
Grade Span			*ICLE Application Model*			
K-4	*5-8*	*9-12*	*A*	*B*	*C*	*D*
X					*X*	

Instructional Focus:

Writing
Students write for a variety of purposes and audiences with sophistication and complexity appropriate to the grade level.

Basic Concepts and Knowledge
Students develop an understanding of scientific concepts using facts, theories, principles, and models.

Science as Inquiry
Students demonstrate knowledge and skills necessary to perform scientific inquiry.

Habits of Mind
Students develop habits of mind including curiosity, open-mindedness and persistence.

Performance Task

The students will be put into small groups and given a small zip-lock bag and a small shovel and asked to dig up a sample of soil. When the students are ready, put out plates or newspapers and have them examine the soil using small magnifying glasses. Students will record their findings and describe in writing the way it looks.

Discuss with the students the different things that can be found in soil (decaying matter, bits of rock, mineral, etc.) Have the students complete their soil study by seeing what materials make up their samples. Give each group a jar with a top to put their soil in with some water. When shaken, the heaviest particles settle on the bottom, the lighter on top. Have students once again sketch and describe the sample.

When students are finished, they will write a paragraph about explaining what they did and what they learned about their soil sample.

ICLE Essential Skills

Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios. (ela 40)

Understand and use graphs, charts, and visuals to enhance informational writing and oral presentations. (ela 29)

Present information in well-organized fashion that will be clear to the target audience. (ela 11)

Understand and use graphics such as graphs, charts, visual aids, white space, bold print, headers and other graphics to enhance meaning. (ela 56)

Apply in writing the rules and conventions of grammar, usage, punctuation, paragraphing and spelling. (ela 1)

Identify the components of soil and other factors that influence soil texture, fertility, and resistance to erosion (e.g., plant roots and debris, bacteria, fungi, worms, rodents). (s 38)

Exhibit good data management skills by collecting, organizing, and graphing data. (s 19)

Know and apply the principles of scientific inquiry. (*Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures*.) (Not Ranked s114)

Scoring Guide:

4 Points-
Student lists 3 or more different materials found in soil
Student attaches all notes and sketches to report
Student has a good topic sentence will supporting details
Student has few mechanical errors
Student's paragraph flows smoothly

3 Points-
Student lists 3 or more materials found in soil
Student attaches most notes and sketches
Student has a topic sentence with some supporting details
Student has some mechanical errors
Student's paragraph flows smoothly

2 Points-
Student lists 2 or more materials found in soil
Student attaches some notes and sketches to report
Student attempts a topic sentence with few details
Student has many mechanical errors
Paragraph confusing to the reader in places
Student's report has few sentences that flow smoothly

1 Point-
Student lists 1 or no materials found in soil
Student attaches few sketches to report
Student has no topic sentence
Student has many mechanical errors
Student's report difficult to read and understand

Keywords

English Language Arts	Mathematics	Science
Reading	**Algebra**	**Earth Science** **Earth** **Earth Materials** **Minerals** **Nature** **Rocks** **Scientific Inquiry** **Soils**
Writing **Capitalization** **Conventions** **Editing** **Grammar** **Mechanics** **Note Taking** **Organization** **Punctuation** **Technical Writing**	**Geometry**	**Life Science**
Communications	**Statistics**	**Chemistry**
Literature	**Calculus**	**Physics**
Other	**Trigonometry**	**Other**
	Other	