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SOIL mAGic KIT

TABLE OF LESSONS and STUDENT OBJECTIVES

MATH

LESSON #1 SOIL LOGIC PUZZLE

1. Use logical thinking to solve problems.

LESSON #2 GEOMETRIC SHAPES

1. Identify and locate geometric shapes and patterns.

LESSON #3 SOIL EROSION

1. Use computation skills and reading of graphs to learn about soil.
2. Demonstrate the principles of soil erosion through a bar graph.
3. Express percentages, fractions and decimals.
4. Computation of large numbers.

LESSON #4 A SLICE OF PLANET EARTH

1. Express percentages, fractions and decimals.

LESSON #5 AGRICULTURE MEASURES UP

1. Students will be able to add and subtract whole numbers.
2. Students will be able to multiply any two decimals.
3. Students will be able to measure lengths to the nearest millimeter or 1/8 inch.
4. Students will be able to write terminating decimals as fractions and vice versa.

ENGLISH / LANGUAGE ARTS

LESSON #1 SHOW WHAT YOU KNOW

1. Summarize and make generalizations from content and relate to purpose of material.
2. Describe the physical characteristics of soil.
3. Explain the importance of soil in everyday life.

LESSON #2 SAY IT WITH SOIL

1. Communicate ideas in writing to accomplish a variety of purposes.
2. Demonstrate, through writing, how soil interconnects with all living things.

LESSON #3 SURVIVING THE DUST BOWL

1. Identify the challenges agriculture faced during the Dustbowl.
2. Identify the emotional and financial effects the Dustbowl had on the agricultural community.

SOCIAL STUDIES

LESSON #1 THE DUST BOWL

1. Explain when and where the Dust Bowl occurred.
2. Explain the causes of the Dust Bowl.
3. Identify what caused many farm families to leave their farms.
4. Identify the recovery efforts that were most responsible for ending the Dust Bowl.

LESSON #2 THE SOIL GETS HUNGRY TOO

1. Explain the role of commercial fertilizers in food production.
2. Identify the ingredients in fertilizer.

LESSON #3 CROP ROTATION

1. Describe the practice and benefits of crop rotation.
2. Define legumes and explain how they benefit the soil.

LESSON #4 THE WEALTH OF ILLINOIS

1. Identify the State symbols of Illinois.
2. Identify the geographic location of Illinois counties.
3. Explain the process of how a bill becomes a law.
4. Determine the chronological order of State symbols of Illinois.
5. Create a flow chart.

SCIENCE

LESSON #1 WHAT IS SOIL?

1. Recognize that soil is made up of specific components, including mineral matter (sand, silt and clay), water, air and organic matter.
2. Recognize that soil is made up of different-sized particles that define its texture.
3. Relate the effect of the different-sized particles on the properties of soil.

LESSON #2 SOIL SLURRY

1. Recognize that soil is made up of different-sized particles that will define its texture.
2. Explain why different soil particles form layers.
3. Use appropriate increments to measure soil layer thickness.

LESSON #3 EDIBLE SOIL PROFILE

1. Recognize that soil is made up of different layers.
2. Identify the components of a soil profile.

LESSON #4 SOIL pH

1. Recognize that physical differences are present from different soil areas.
2. Observe and record data from an experiment.

3. Recognize that chemical differences are present in soils from different areas.