

**LESA
Science Curriculum
2008**

1. Strand: Unifying Concepts and Processes	(NSES, IL 12)
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A. Standard: Systems, Order, and Organization

<u>The student will know:</u>	<u>The student will be able to:</u>	<u>Suggested Activities</u>	<u>Suggested Resources</u>
1. The difference between living and non-living objects.	1. Characterize living and non-living groups.	1. Use flash cards that have different objects on them, and have students place them under the correct title, living or non-living.	MySci series, Powder Valley Museum

C. Standard: Change, Constancy, and Measurement

<u>The student will know:</u>	<u>The student will be able to:</u>	<u>Suggested Activities</u>	<u>Suggested Resources</u>
1. Changes and constancy can be measured using proper tools or observation.	1. Note changes, constancy, and measurement of weather.	1. Have students use thermometers and graph changes in weather over a period of time.	

E. Standard: Form and Function

<u>The student will know:</u>	<u>The student will be able to:</u>	<u>Suggested Activities</u>	<u>Suggested Resources</u>
1. The skeleton inside us gives us our shape.	1. Identify the basic parts of the skeleton and their function.	1. Students construct a skeleton with moveable parts (joints) and non-moveable parts (bones).	

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3. Strand: Physical Science	(NSES, IL 12, MO 1, 2)
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A. Standard: Properties of Object and Materials

<u>The student will know:</u>	<u>The student will be able to:</u>	<u>Suggested Activities</u>	<u>Suggested Resources</u>
1. Objects can be described by properties such as size, shape, and color.	1. Identify physical properties of objects and sort according to specific properties.	1. Sort common objects (buttons, rocks, blocks, counting bears) according to size, color, or shape.	<i>M&M's Counting Book</i>
2. The differences between solids, liquids, and gases.	2. Identify solids, liquids, and gases by their properties.	2. Using water, the students can make ice cubes and can observe a steam vaporizer(gas).	
3. Physical properties can change.	3. Identify and observe changes in physical matter.	3. Make magic muck.	Magic muck recipe: 1/3 cup water with 5 drops food color, 3/4 cup corn starch. Put water in bowl, slowly add corn starch into water. Let sit for 3 minutes. Don't stir! Muck will look like a solid until you pick it up, then it is a liquid.

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B. Standard: Position And Motion of Objects

The student will know:

1. An object's position can be described in relation to another object (above, below, left, right, behind, or in front of).

2. How an object can move.

The student will be able to:

1. Describe the position of the object in relation to other objects.

2. Tell and show how an object moves.

Suggested Activities

1. Place blocks in a pattern, have students identify the position of each block.

2. Use a ball and a cone and have students chart how the object move the same and or differently.

Suggested Resources

C. Standard: Light, Heat, Electricity, and Magnetism

The student will know:

1. The sun is the main source of light.

2. Know the relationship between light and shadows.

The student will be able to:

1. Predict how sunlight will affect the temperature of air and water.

2. Observe that as light changes its position an objects shadow changes its position.

Suggested Activities

1. Chart the temperature of the air and water in different times of the day.

2. Place an object in the sun and do drawing of the shadows at various times of the day.

Suggested Resources

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4. Strand: Life Science

(NSES, IL12, MO 1, 2)

A. Standard: Characteristics of Organisms

The student will know:

1. Plants and animals are living things.

2. What plants and animals need to grow.

3. That animals have different skin coverings.

The student will be able to:

1. Identify living things around them.

2. List what plants need to grow: soil, light, water, and air.

3. Identify animals that have fur, feathers, scales, and skin.

Suggested Activities

1. Discuss the difference between a pet dog and a stuffed dog. The living rose and a plastic rose.

2. Experiment by growing plants in various environments, i.e. student has a plant that he/she waters and one he doesn't. Student charts observations.

3. Use pictures of different animals and have students sort animals by their body coverings.

Suggested Resources

Field Trip to Purina Farms

Clifford and the Little Seed, Scholastic book series
Missouri Conservation "Seeds"

St. Louis Zoo

Grade level: Kindergarten

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B. Standard: Life Cycles of Organisms

The student will know:

1. Organisms go through life cycles.

2. Plants develop from seeds.

The student will be able to:

1. Observe and record the phases of the life cycles of various organisms.

2. Describe how a seed grows into a plant.

Suggested Activities

1. Observe the life cycle of the tadpole.

2. Grow a lima bean in a plastic bag and chart the plant's growth.

Suggested Resources

Local bait store

Missouri Botanical Gardens
Missouri Conservation
Department

C. Standard: Organisms and Environments

The student will know:

1. That some animals live on land and some live in water.

The student will be able to:

1. Name animals that live in water and on land.

Suggested Activities

1. The Bible lesson of creation and the song "The Seven Days of Creation".

Suggested Resources

By God's Zoo, Gaither Kids
Series Publisher:
Springhouse, MySci Series

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5. Strand: Earth and Space Science	(NSES, IL12, MO 5, 6)
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A. Standard: Properties of Earth Materials

<u>The student will know:</u>	<u>The student will be able to:</u>	<u>Suggested Activities</u>	<u>Suggested Resources</u>
1. Various textures of materials.	1. Identify hard, soft, smooth, and rough textures of materials.	1. Students explore sandpaper, carpet swatches, fleece, corduroy, etc., and make a list of words describing the various textures.	Local hardware stores and fabric stores

B. Standard: Objects in the Sky

<u>The student will know:</u>	<u>The student will be able to:</u>	<u>Suggested Activities</u>	<u>Suggested Resources</u>
1. That sun, moon, and stars are objects in the sky.	1. Identify sun, moon, and stars and list two characterizes of each.	1. Bible lesson of the Wise men following the star.	St. Louis Planetarium, <i>Goodnight Moon</i> by Margaret Wise Brown, "Twinkle, Twinkle, Little Star"

C. Standard: Changes in Earth and Sky

<u>The student will know:</u>	<u>The student will be able to:</u>	<u>Suggested Activities</u>	<u>Suggested Resources</u>
1. That seasons are changes in the earth (summer, spring, winter, and fall).	1. List characteristics of summer, spring, winter, and fall.	1. Students construct pie chart, naming clothing worn in spring, summer, winter, and fall.	

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6. Strand: Science and Technology

(NSES, IL13, MO 8)

A. Standard: Abilities of Technological Design

The student will know:

1 Objects of technology.

The student will be able to:

1. Recognize and identify computers, DVD's, I-Pods, and play stations as objects of technology.

Suggested Activities

1. With teacher guidance students take apart an old computer tower and explore the parts.

Suggested Resources

C. Standard: Abilities to Distinguish Between Natural Objects and Objects Made by Humans

The student will know:

1. The differences between natural objects and objects made by humans.

The student will be able to:

1. Add using natural objects and add using a calculator.

Suggested Activities

1. Teacher-directed activities using stones and addition activities using a calculator.

Grade level: Kindergarten

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7. Strand: Science in Personal and Social Perspectives	(NSES, IL 12, MO 8)
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A. Standard: Personal Health

The student will know:

1. Good hygiene will promote good health.

The student will be able to:

1. Identify behaviors that promote good health.

Suggested Activities

1. How to groom, bath, brush teeth.

Suggested Resources

LESA Health Curriculum Guide 2006-07, Bernstein Bears Book Series, Colgate Dental Health Kit

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D. Standard: Changes in the Environment

The student will know:

1. How the rain can affect the soil.

The student will be able:

1. To identify the effects of rain on the soil.

Suggested Activities

1. Soil Erosion Experiment

This experiment is as simple as it sounds.

1 – Take some soil, make a little mountain at least 8 inches high, with steep walls and a flat top. With a hose, water it down, avoiding direct jets. You will see the borders slide down and the heap of mound of soil progressively take the typical profile of a true mountain. Observe and describe what happens during this artificial rain.

2 - Redo the test. This time insert an impermeable clay layer on top of the mountain and then some regular soil: the lake of water on the clay layer should give rise to a sudden landslide of liquid mud.

3 - Build another mountain with stones, clay, sand, and ground in different positions. Observe the different behavior of the materials towards the artificial rain.

4 - Sow grass on a new "mountain" and pour water on it after the grass has grown.

Suggested Resources



Grade level: Kindergarten

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F. Standard: Natural Hazards

The student will know:

1. How to follow directions during a fire, tornado, and/or earthquake drill.

The student will be able to:

1. Follow directions and know where to go for each drill. (meeting places).

Suggested Activities

1. Practice these drills on a regular basis.

Suggested Resources

Natural Disasters Books by Scholastic