

Mary Queen of Peace School
Science Curriculum Grade 2 (2012)

Subject Science	Grade 2	Unit Name Earth's Surface
		Author(s) Joan Wehking

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

- 5.1A The earth's crust is composed of various materials
- 5.2A The earth's surface features are changed by external processes
- 5.3A Earth's natural resources are affected by human activity
- 7.1B Gathering evidence from qualitative and quantitative observations

Understandings

- The earth's crust is composed of various materials
- The earth's surface changes
- Human activity affects the earth's natural resources

Essential Questions

- What are natural resources?
- What are rocks and minerals?
- What is soil?
- What are some kinds of land and water?
- How can people help protect the earth?
- How do people use rocks, soil, and water?

Knowledge

- The earth has many natural resources.
- The earth's surface is made up of many different types of rock.
- How soil is formed.
- How people use water.

Skills

- Classify different resources.
- Use a graphic organizer to show how people use rocks, soil, plants, and water.
- Observe and describe physical properties of rocks.
- Observe and describe ways humans use Earth's materials.
- Observe and identify slow changes in the Earth's surface due to erosion, decay, freezing, etc.
- Describe how tools have helped scientists make better observations, measurements, or equipment for investigation

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

- Create their own compost jar using leaves, food scraps grass and water.
- Have students collect rock/soil from their backyard and compare and contrast.

Other Evidence

- Quiz on vocabulary words
- Write a "resource" poem using a word web
- Arrange events in sequence; making paper

Key Criteria

- The earth's surface contains many natural resources that people use to meet their needs.

Stage 3: LEARNING PLAN

Lessons, Resources, Experiences

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Mary Queen of Peace School
Science Curriculum Grade 2 (2012)

Subject Science	Grade 2	Unit Name Energy
		Author(s) Joan Wehking

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

1 2A Forms of energy have a source.
8 1A Designed objects are used to simplify life.

Understandings

Sound can change according to its surroundings.

Essential Questions

What is sound?
How do sounds vary?
How does sound travel?
How can we make different sounds?

Knowledge

There are ways to change the pitch of sound.
The ear serves as a receiver of sound.

Skills

Describe different ways to change the pitch of sound.
Describe how to change the loudness of sound.
Investigate how to make sound using common objects;
rolling pin, plastic bottle, tin can, rubber band.

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Design and construct a musical instrument using materials (cardboard, wood, plastic, metal)

Other Evidence

Observe the sound that certain objects make and match sound to object.

Key Criteria

Stage 3: LEARNING PLAN

Lessons, Resources, Experiences

Mary Queen of Peace School
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Subject Science	Grade 2	Unit Name Habitats
		Author(s) Joan Wehking

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

7 1B Students formulate testable questions and explanations
7 1C Evaluations of explanations
8 3A People invent new ways to solve problems

Understandings

What a habitat is.
A habitat is a place where plants and animals live and meet their needs.

Essential Questions

What is a habitat?
What are different land habitats?
What are different water habitats?
How do plants and animals help each other?
How do people help the environment?

Knowledge

Know that different habitats meet the needs of different plants and animals.
Habitats can be changes by weather conditions.
People can prevent or reverse effects of pollution.

Skills

Describe and compare the similarities and differences of land and water habitats.
Provide examples of animals meeting their needs in different water and land habitats.
Give examples of ways people can make less pollution.

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Create a student book where students draw habitats for animals.
Create a poster board using computer/magazine pictures describing different habitats

Other Evidence

Quiz and worksheets on habitats

Key Criteria

Stage 3: LEARNING PLAN

Lessons, Resources, Experiences

Mary Queen of Peace School
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Subject Science	Grade 2	Unit Name Living Things
		Author(s) Joan Wehking

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

3.1 B Organisms progress through life cycles
3 D There is a heritable variation within every species of organism

Understandings

Identify changes in life cycles; birth, development, death
Identify how animals are same and different
Identify the similarities and differences among animal parents and offspring
Distinguish between living and non-living
How a plant is affected by it's environment
How do plants grow and change

Essential Questions

How do animals grow and change?
How are animals the same; how are they different?
How are animals the same and different from their parents?
What do living things need to live?
How are some ways a plant may change?
How do plants grow and change?

Knowledge

Living organisms grow and change and have basic needs.

Skills

Use a graphic organizer to show similarities and differences between animal and plant life
Relate and discuss life changes in a baby sibling, pet
Predict what a plant or animal will look like

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Create a Life Cycle mobile, displaying different stages of an animal's life cycle.
Create a "Living and Non-living " book identifying what makes it living and non-living

Other Evidence

Record observations on the life cycle of different animals; frog, butterfly, dog.
Discussion and responses to essential questions
Quiz on life cycles

Key Criteria

Demonstrated understanding of life cycles of plants and animals

Stage 3: LEARNING PLAN

Lessons, Resources, Experiences

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Mary Queen of Peace School
Science Curriculum Grade 2 (2012)

Subject Science	Grade 2	Unit Name Matter
		Author(s) Joan Wehking

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

1 1A Classifying objects according to their properties
1 1B Properties of mixtures depend on concentrations
7 1D Communication of results
1 1A Describe properties using tools

Understandings

Matter has observable properties in three forms; solid, liquid or gas.
Matter can change.

Essential Questions

What is matter?
What are solids?
What are liquids?
What are gases?

Knowledge

Everything is made of matter.
Matter has observable properties.

Skills

Identify and describe properties of matter.
Use a graphic organizer to compare and contrast solids.
Recognize properties of a gas.
Identify two properties all liquids have.

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Collect object in the room and describe color, texture, shape, and size.
Use interior/exterior thermometer to measure temperature.

Other Evidence

Make predictions on which objects will sink or float.
Blow bubbles and describe the shape the gas takes.
Use a graph (bar, pictograph) to show evaporation

Key Criteria

Stage 3: LEARNING PLAN

Lessons, Resources, Experiences

Mary Queen of Peace School
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Subject Science	Grade 2	Unit Name Space and weather
		Author(s) Joan Wehking

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

7.1 C Scientific inquiry
8.1B Advances in technology improve data collection

Understandings

The sun, the moon, and stars are observable objects located beyond the Earth's atmosphere.
Weather conditions such as temperature and rainfall are constantly changing. The effects of these changes can be observed and measured.

Essential Questions

What causes day and night?
What causes the seasons?
How does weather change?
What is the water cycle?
How do we measure weather conditions?

Knowledge

The earth is affected by changes in space and in the atmosphere.
Day and night, and seasons are caused by changes in the position of Earth and the moon.
Changes in weather conditions can be observed and measured.

Skills

To use instruments to measure changes in weather conditions.
Observe current weather conditions and predict what might come next.

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Create a weather log recording temperature and weather conditions.
Make a four seasons book.
Use a rain gauge and check it daily

Other Evidence

Complete a worksheet on cause and effect describing seasons
Write about a trip to the moon.

Key Criteria

Stage 3: LEARNING PLAN

Lessons, Resources, Experiences

"The Magic School Bus Lost in the Solar System"
"How Many Stars in the Sky"
"Energy From the Sun"
"The Water Cycle"
"The Big Storm"