Mary Queen of Peace School
Science Curriculum Grade 3 (2012)

Subject	Grade	Unit Name
Science	3	Earth, Sun, and Moon

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

1A Forms of energy have a source, a means of transfer (work and heat), and a receiver.

1C Electromagnetic energy from the Sun (solar radiation) is a major source of energy on Earth.

6A The Earth, Sun, and Moon are a part of a larger system that includes other planets and celestial bodies.

8.1 B Advances in technology often result in an improved data collection and an increase in scientific information

8.2 A People of different gender and ethnicity have contributed to scientific discoveries and the invention of technological innovations

Understandings

How to identify sources of light energy and how they are transferred and received through space

The necessary components of producing a shadow

The role of the Sun as a primary source of light and energy

How the moon is a reflection of light

Essential Questions

What are the sources of light and how do they produce energy? How does this energy move?

How are shadows formed?

What is the job of our Sun? Why is it a necessity of life?

How do we see the moon's light?

Knowledge

Identify sources of light energy

Observe light being transferred from the source to the receiver through space

Identify the three things (light source, object, and surface) necessary to produce a shadow

Identify the Sun as the primary source of light and food energy on earth

Describe our Sun as a star because it provides light energy to the solar system

Observe and identify the moon as a reflection of light

Skills

Record and reflect observations.

Oral presentation skills

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Record the stages of the Moon over a month's time

Construct the different phases of the moon

Report of famous astrologer (biography)

Other Evidence

Test

Contribution to class discussion

Class notes and notes from reading

Key Criteria

TEXT HERE

Grade

3

Subject

Science

Unit Name

Animal Food Chains

Stage 3: LEARNING PLAN

Stage 1: DESIRED RESULTS

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Curriculum Template

Established Goals / Content Standards

4A As energy flows through the ecosystem, all organisms capture a portion of that energy and transform it to a form they can use

8.3 A People, alone or in groups, are always making discoveries about nature and inventing new ways to solve problems and get work done

Understandings

Plants use the sun to produce their own food.

How to classify producers, consumers (omnivores, consumers, and herbivores), and decomposers by their characteristics.

The role and progression of a food chain as well as the effects of a missing factor in the food chain.

Essential Questions

How do plants use the sun to produce their own food?

What characteristics determine if an animal is producer, consumer, or decomposer?

Describe the sequence of a food chain beginning with the sun and ending with an omnivore.

How does removing an organism from the food chain effect the ecosystem?

Knowledge

Identify sunlight as the primary source of energy plants use to produce their own food.

Classify populations of organisms as producers or consumers by the role they serve in the ecosystem.

Sequence the flow of energy through a food chain beginning with the sun.

Predict the possible effects of removing an organism from a food chain.

Skills

How to order events in sequential order.

Critical thinking and the use of cause and effects.

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Sort animals into omnivores, consumers, and herbivores according to their diet.

Group experiments

Other Evidence

Test

Contribution to class discussion

Class notes and notes from reading

Key Criteria

Stage 3: LEARNING PLAN

TEXT HERE

Mary Queen of Peace School
Curriculum Template

Subject	Grade	Unit Name
Science	3	Matter and Energy

Stage 1: DESIRED RESULTS
Established Goals / Content Standards

1.1 D Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter
1.2 A Forms of energy have a source, a means of transfer, and a receiver
7.1 A Scientific inquiry includes the ability of students to form a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation
7.1 C Scientific inquiry includes evaluation of explanations in light of evidence and scientific principles
8.1. A Designed objects are used to do things better or more easily and to do some things that could not otherwise be done at all

Understandings

Identify object by the properties that make a substance a solid, liquid, or gas
The temperature and physical properties of water as a solid and liquid
The effect that heat can have on objects
The different sources of thermal energy
How to record data (quantitative and qualitative) to support reasoning

Essential Questions

What properties make a substance a solid, liquid, or gas?

How does water change according to its temperature?

What effect does heat have on objects?

What are the different sources of thermal energy?

Knowledge

Compare the observable physical properties of solids, liquids, or gases
Identify everyday objects/substances as solid, liquid, or gas
Measure and compare the temperature of water when it exists as a solid to its temperature when it exists as a liquid
Investigate and observe that water can change from a liquid to a solid, and back again to a liquid, as the result of temperature changes
Describe the changes in the physical properties of water when frozen or melted (shape and volume)
Predict and investigate the effect of heat on objects and materials
Identify sources of thermal energy that can cause solids to change to liquids, and liquids to change to gas

Skills

The use of cause and effect

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Other Evidence

Test

Contribution to class discussion

Key Criteria

Stage 3: LEARNING PLAN

TEXT HERE

Mary Queen of Peace School
Curriculum Template

Subject
Science

Grade
3

Unit Name
Characteristics and interactions of plants

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

3.1.A Organisms have basic needs for survival

3.1.B Organisms progress through life cycles unique to different types of organisms

3.1.D Plants and animals have different structures that serve similar functions necessary for the survival of the organism

3.2.C Complex multicellular organisms have systems that interact to carry out life processes through physical and chemical means

3.3.D There is heritable variation within every species of organism

7.1.B Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations

Understandings

Basic needs of most plants

Stages in the life cycle from seed to death or flowering

How to identify the major organs and functions

The path that water and nutrients move through in a plant

Similarities and differences between plants and their offspring

Essential Questions

What are the basic needs of most plants?

What are the stages of plant life from seed to death or flowering?

What are the major organs of a plant? What are their functions?

How do water and nutrients travel throughout a plant?

How are plants and their offspring alike? How are plants and their offspring different?

Knowledge

The needs for plants are air, water, light, nutrients, and temperature

The stages of a plant are seed germination, growth and development, reproduction, and death

The functions of roots, stems, flowers, and leaves

Skills

Knowledge of sequencing

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Other Evidence

Test

Contribution to class discussion

Class notes and notes from reading

Key Criteria

Subject
Science

Grade
3

Unit Name
Water Cycle

Stage 3: LEARNING PLAN

Stage 1: DESIRED RESULTS

Mary Queen of Peace School
Curriculum Template

Established Goals / Content Standards

1.1 D Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter

5.1 C The atmosphere is composed of a mixture of gases, including water vapor, and minute particles

5.2 E Changes in the form of water as it moves through Earth's systems are described as the water cycle

7.1 D The nature of science relies upon communication of results and justification of explanations

Understandings

The process of how water evaporates, changing from liquid to gas

The process of how clouds are formed, and of what they are composed.

The role, property, and movement of wind.

Essential Questions

How does water evaporate? What happens in each stage of the water cycle?

How are clouds formed? Where does precipitation come from?

What is wind and from where does it come?

Knowledge

Observe and identify that water evaporates

Identify that liquid water can change into a gas in the air

Identify that clouds are composed of tiny droplets of water

Identify air as a substance that surrounds us, taking up space, and moves around us as wind

Describe clouds and precipitation as forms of water

Skills

The use of sequencing skills.

The use of charts and diagrams to explain cycles.

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Other Evidence

Test

Contribution to class discussion

Class notes and notes from reading

Key Criteria