

Anoka Hennepin K-12 Curriculum Unit Plan

Department: Science

Course/Grade Level: Kindergarten

Unit Title: Animals and Plants (Life Science)

Number of Lessons/Days: 17 sessions (30 minute)

Unit Summary: Students engage in hands on interactions with animals and plants. They grow and observe various plants from the seed stage all the way to growing plant to learn their parts and needs. Students also learn to care for multiple small animals as they investigate their behavior, compare and contrast their characteristics, and observe them in many different environments. Students create a habitat for plants and animals and care for the natural system as they learn about world around them!

DESIRED RESULTS (STAGE 1)

Program Understanding and/or Minnesota State/Local/Core Standards and Technology Standard(s) addressed:

- II. Students will understand that there is a diversity of life forms, which are interdependent and inter-connected.
- IV. Students will understand that the study of science involves processes that unify science disciplines and provide students with ideas and structures to help them understand the natural world.
- V. Students will understand that the process of inquiry is the collection of information verified through observation and experimentation which allow scientists to critically analyze, draw conclusions and make inferences about the natural world.
- VI. Students will understand that scientists use various communications to share knowledge and promote understanding about our natural world.

MN Standards and Benchmarks

- 0.1.1.2. Scientific inquiry is a set of interrelated processes used to pose questions about the natural world and investigate phenomena.
 - 0.1.1.2.1 Use observations to develop an accurate description of a natural phenomenon and compare one's observations and descriptions with those of others.
- 0.4.1.1 Living things are diverse with many different observable characteristics.
 - 0.4.1.1.1 Observe and compare plants and animals.
 - 0.4.1.1.2 Identify the external parts of a variety of plants and animals including humans. *For example:* Heads, legs, eyes and ears on humans and animals; flowers, stems and roots on many plants.
 - 0.4.1.1.3 Differentiate between living and nonliving things. *For example:* Sort live organisms (or pictures of organisms) into groups of those that grow and reproduce and need air, food and water, and those that don't.
- 0.4.2.1. Natural systems have many components that interact to maintain the living systems.
 - 0.4.2.1.1 Observe a natural system or its model and identify living and nonliving components in that system. *For example:* A wetland, prairie, garden or aquarium.

Overarching Understanding(s) from Curriculum Map/Course Understandings:

Students will understand that....

- plants and animals have many different observable characteristics, which allow them to be classified.
- living things interact with their habitat in order to survive.
- scientists ask questions and make observations to gather data and learn about their world.
- scientists work individually and collaboratively to understand the natural world and learn from one another.
- some objects occur in nature; others have been designed by people and are used to learn about the world and solve problems.

Topical Understanding(s) Specific to Unit:

Students will understand that....

- living things are diverse with many different observable characteristics.
- natural systems have many components that interact to maintain the living system.
- scientists ask questions and make observations to gather data and learn about plants and animals.
- scientists observe and describe plants and animals and share their observations with others.

Essential Question(s) from Curriculum Map/Course Essential Questions:

To understand, student will need to consider such questions as...

- How and why do we sort plants and animals?
- What do living things need to survive?
- How do I make an observation?
- How do I work with others?
- How do I share ideas and ask questions?

Topical Essential Questions for Unit:

To understand, student will need to consider such questions as...

- How are living things different from nonliving things?
- How and why do we sort plants and animals?
- What do plants and animals need to grow?
- How do I use my five senses to make observations of plants and animals?
- How do I work with others to share ideas and ask questions?

To understand, student will need to...

know... Student will need to know the following in order to... (e.g. facts, concepts, generalizations, rules, theories, principles)

- living things have many things that are the same and different about them.
- living things have different parts that can be identified.
- the differences between living and nonliving.
- most living things need water, food, air, space, and shelter to survive.
- living things interact with their environment (wetland, prairie, etc.)
- observations include words, pictures, and labels.
- properties are characteristics used to describe plants and/or animals (color, size, etc.).
- scientists work together to share and compare information.
- some objects occur in nature and others have been designed and processed by people.

Essential new vocabulary:

- **animal parts** - head, body, legs, tail (or not)
- **carapace** - the hard shell of an isopod
- **clitellum** - a band around an earthworm's body
- **compare** - to look at what is the same (used in context throughout the unit)
- **contrast** - to look at what is different (used in context throughout the unit)
- **habitat** - a place that has everything a living thing needs to live
- **isopod** - an animal with a segmented body and seven pairs of legs
- **living** - alive, not dead
- **nonliving** - not alive
- **observe** - to learn about something using your five senses (used in context throughout the unit)
- **plant parts** - flower, leaves, roots, seed, stems
- **segment** - a section of an animal's body
- **terrarium** - a container where land plants and animals can live
- **worm** - a long, soft, segmented animal with no bones

Common misunderstanding(s):

- Only moving things are living.
- Living things are dependent on people to supply them with food and shelter.
- Objects must be doing something to interact with a system.
- Trees are nonliving.
- Seeds are not plants.

be able to... (Students will be able to DO... skills, procedures, processes)

- observe different plants and animals, identify external parts and compare/contrast how they are alike and different.
- identify and sort living and nonliving things.
- observe and describe a natural system or its model and identify living and nonliving components in that system.
- share and compare observations with others.