

Lesson 1: Introduction to Earthworms (or whatever animal plant you are studying)

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Grade Level

Kindergarten

Lesson Overview

The first lesson, a research and learning lesson, will need to be done for each animal or plant in your unit. Each lesson will likely take 30-60 minutes. This means if you are introducing 4 animals and 3 plants, you will have 7 different Lesson 1s – each lasting 30-60 minutes.

For this lesson, we will research worms. Examples of other animals or plants you might use for other lesson 1s are: goldfish, guppies, land and water snails, earth worms, red worms, night crawlers, pill bugs and sow bugs, tadpoles/frogs, chicks, elodea, ferns. The teacher should be mindful of addressing the NGSS Disciplinary Core Idea that all living creatures have needs to survive. Further, it will be helpful to introduce and reintroduce the definition of an ecosystem each time an animal is introduced to give background knowledge for the design challenge presented in Lesson 2.

Choose activities that make sense for your class. Find out how much children already know.

Learning Objectives and/or Standards

- To use observations to describe patterns of what and animals (including humans) need to survive. (NGSS K-LS1-1)
- To ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. (NGSS K-2-ETS1-1)

Preparation

Acquire materials
Prepare habitat for worms

Prepare Animal/Plants Needs (and Considerations) chart

	Needs			Consideration		
	Take in Food	Water	Light	Ideal Shelter	Human Handling	Ecosystem Impact
Worm						
Plant						
Etc.						

Materials and Resources

- simple non-fiction book on worms (e.g., Earthworms by Sue Barraclough)
- 100 earthworms
- soil
- container
- oatmeal
- Animal/Plant Needs Chart
- (optional) video about worms
- (optional) games or puzzles about worms
- (optional) photographs of worms
- (optional) guest speaker for children to interview

Activity 1: Activate Prior Knowledge (10 minutes)

In a whole class setting, tell the children we are beginning to study animals and plants and today we will begin learning about earthworms. Ask children to think about what they know about earthworms. Prompt children to turn to a partner and share what they know. Listen in on various conversations and call on various children to share out what they know. Teacher should take notes about what children say.

Activity 2: Observation/Touching of Worms (10 minutes)

Invite children to use their eyes to observe the earthworms. Use design thinking language that we are “empathizing” with the earthworms by “noticing and caring.” We are “observing” and “immersing” ourselves, trying to learn what they need, like, dislike, etc. Teacher should take notes about things children say. If children want to touch the worm, show children how to carefully handle the worms so not to injure them.

Activity 3: Read Book (10 minutes)

Read a simple non-fiction text (e.g. Earthworms by Sue Barraclough) that addresses the needs of earthworms.

Activity 4: Needs (and Considerations) Chart (5 minutes)

The teacher will serve as the scribe and call on students to help fill in the Needs (and Considerations) Chart (see chart in Preparation section of this lesson plan). This could be on chart paper or smart board.

Optional Learning Activities To Consider (5 minutes)

If teacher feels the students need more information about Earthworms, consider showing an informational video, doing a shared writing activity, introducing a puzzle or game, show various photographs of worms, or invite an expert guest speaker for children to interview.

Troubleshooting

Be prepared to nurture children's fear or discomfort with the earthworms. Be prepared to address if children mishandle the worms. Consider how you will handle a worm being injured or killed.

There may be content confusion over NGSS Disciplinary Core Concepts such as "All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow." E.g., you have the chance at this point to talk about the fact that plants make their own food.

Assessment

Teacher should use informal observations (during think/pair/share and classroom discussions) to evaluate students' grasp of material. For students who need more knowledge, consider re-reading the book at another time, providing more time to play and explore with the worms, and/or use some of the optional activities listed above.