



«Science Lesson Plans

I WILL Survive!

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Description

Learners explore the importance of animal adaptations, and identify varying types of adaptations. They perform simple tests to determine how earthworms are adapted for their habitat.

Grade Level

2nd-4th grade

Lesson Objective

The student will identify needs of animals.

The student will know structural adaptations that allow animals to survive in an environment.

The student will understand that adaptations are physical features or behaviors that help organisms survive.

The student will understand that adaptations are passed from generation to generation.

The student will understand that structures of living things are adapted to their function in specific environments.

The student will use reference materials to obtain information related to science concepts.

The student will use a variety of tools to observe and study minute details of objects.

The student will pose questions about objects, organisms, and events in the environment.

The student will compare and contrast observations and results.

The student will develop descriptions and explanations using evidence.

GLEs

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

4.1.A All populations living together within a community interact with one another and with their environment in order to maintain a balanced ecosystem.

4.3.C Natural selection is the process of sorting individuals based on their ability to survive and reproduce with

7.1.A Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to use appropriate investigative methods in order to obtain evidence relevant to the explanation.

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

7.1.C Evidence is used to formulate explanations.

7.1.D Scientific inquiry includes evaluation of explanations (hypotheses, laws, theories) in light of scientific principles and understandings.

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

Depth of Knowledge

Level 4

Instructional Strategies

Modeling- Reading Comprehension Strategies- using Think Alouds

Nonlinguistic Representation-creating diagram

Cooperative learning- partner and group work

Generating and Testing Hypotheses

Time Needed

5 days (30-45 minutes per class period)

Materials

Bird Beak Materials:

Beaks: (5 of each item) pliers, chopsticks, tweezers, staple remover, wrench, slotted spoons, measu

Food: gummy worms (or fake worms), sunflower seeds, Styrofoam peanuts, rice, marshmallows,

Other items needed: potting soil, shallow pans, string, log, pictures of various birds with correspondii environment/habitat and food source

Missing Moths Materials:

Newspaper for background and camouflaged moths

Colored paper for assorted moths

Display board

Cover sheet to cover moths

Plain white moths (optional for extension)

Worm Lab Materials:Moisture:

one moist paper towel (4)

One dry paper towel (4)

3 worms per group (12 total)

Timer (4)

Experimental chamber with lid (4)

Light:

Two moist paper towels per group (8 total)

3 worms per pair (12 total)

A piece of black construction paper (4)

Flashlight (4)

Timer (4)

Experimental chamber with lid (4)

Odor:

two moist paper towels per group (8 total)

Eye dropper (4)

Ammonia (4)

3 worms per pair (12 total)

Timer (4)

Experimental chamber with lid (4)

Safety goggles (8)

Other Materials:

Construction paper for foldable book (Day 3) – one piece per student

Paper for Evaluation poster (Day 5) – one piece per student or per pair of students


Student Pages

 [Animal Adaptation Cards](#)

 [Bird Picture Cards](#)

 [Missing Moths](#)

 [Worm Experiment – light \(with worm observation page\)](#)

 [Worm Experiment – odor \(with worm observation page\)](#)

 [Worm Experiment – moisture \(with worm observation page\)](#)


 [Planet Environments \(teacher page\)](#)

 [Evaluation Rubric](#)

Academic Vocabulary

adaptations, competition, survival, defense mechanisms, camouflage, mimicry, structure

Lesson Plan

 [I Will Survive Unit](#)- select link to view complete/printable lesson

Time Needed

This lesson will take several class periods. Suggested schedule as follows:

Day 1: Engage with *Oh Deer!* game and read aloud, *What Do You Do When Something Wants To Eat You?* of what animals need to survive.

Day 2: Explore with the Bird Beak simulation **Explain** physical structure adaptations.

Day 3: Explain physical adaptations using Missing Moths and the student textbook. **Elaborate** with *Explodin Facts About How Animals Adapt*. **Evaluate** with a picture/word sort.

Day 4: Elaborate with *Diary of a Worm* and a worm experiment. Students **explain** results of experiment to th

Day 5: Evaluate with Create an Animal Project and Adaptation Bingo.

Resources

Internet Resources

Animal Adaptations Game - http://www.ecokids.ca/pub/eco_info/topics/climate/adaptations/index.cfm

Camouflage Field Book – <http://www.harcourtschool.com/activity/camouflage/camouflage.html>

Book Resources

Lauber, Patricia. *Fur, Feathers and Flippers: How Animals Live Where They Do*

George, Jean Craighead. *One Day in the Desert*

Hibbert, Adam. *A Freshwater Pond*

Butterfield, Moira. *Animals in Hot Places*

Arnosky, Jim. *I See Animals Hiding*

Literature links

1. **Title:** Diary of a Worm, **Author:** Doreen Cronin, **Illustrator:** Harry Bliss, **Publisher:** HarperCollins, **Year:**
2. **Title:** What Do You Do When Something Wants to Eat You?, **Author/Illustrator:** Steve Jenkins, **Publish Books,** **Year:** 2001, **Genre:** Nonfiction Narrative
3. **Title:** Exploding Ants: Amazing Facts About How Animals Adapt, **Author:** Joanne Settel, **Publisher:** Sim Children's Publishing, **Year:** 1999, **Genre:** Nonfiction Narrative

Text book link(s)

4th Grade – Chapter 1, Lesson 5, pp. 26-33

3rd Grade – Chapter 2, Lesson 3, pp. 48-53

2nd Grade – Chapter 2, Lessons 2-6, pp. 42-51

Leveled Readers: *Desert Plants* (2nd), *How Animals Live* (3rd), *Animal Ways of Life* (3rd), *Exoskeleton Ecosystems Change* (5th), *Changes in Ecosystems* (5th)

Key concepts: [adapt](#) [adaptations](#) [body structure](#) [camouflage](#) [mimicry](#)

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