



pets in the
classroom

Lizard Lunch

Adapted from	Lizard Lunch
Pet: Lizard	Class: 3-5

<p>Brief Overview: Students will learn about the energy roles of organisms and their connections within food chains. The goal is for students to deepen their understanding of the difference between consumers and producers and how they obtain energy by dissecting "lizard guts" in the activity. Students will analyze the contents of a lizard's stomach and identify organisms as either producers or consumers. They will also determine the energy role the lizard has in the ecosystem (herbivore, omnivore, carnivore).</p> <p><i>(Note: The "guts" are made of slime and plastic plants/insects/animals cut into pieces.)</i></p>	<p>Lesson Breakdown Lesson 1: Learn About Lizards Lesson 2: Lizard Lunch Dissection</p>
<p>Essential Question How do the "guts" of a lizard reveal its role in the food chain?</p>	

<p>Subjects</p> <ul style="list-style-type: none"><input checked="" type="checkbox"/> Science<input checked="" type="checkbox"/> ELA<input type="checkbox"/> Math<input type="checkbox"/> STEM<input type="checkbox"/> Art<input type="checkbox"/> Other	<p>Stem Connections</p> <p>Science: Technology: Engineering: Math:</p>
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Performance Expectations/ Standards

NGSS Standards:

3-LS4-3: Make a model to describe the relationship between producers, consumers, and decomposers in an ecosystem.

5-LS1-1: Support an argument that plants get energy from the sun and animals get energy from eating things (including plants).

3-LS4-4: Understand that producers and consumers play different roles in an ecosystem.

CCSS ELA and Math Standards:

ELA RI.3.7: Use information from multiple sources to create a summary of a topic.

ELA W.3.2: Write informative texts to examine a topic and convey ideas and information clearly.

I CAN statements

- differentiate between producers and consumers in an ecosystem.
- analyze the contents of a simulated lizard stomach to identify the organisms it has eaten.
- classify the lizard as a herbivore, omnivore, or carnivore based on its dietary analysis.
- use evidence to create a simple food chain that includes the lizard and its prey.
- communicate my findings in a written report or class presentation.

Materials

- [Lizard Lunch Student Worksheet](#)
- Simulated lizard stomachs: Use resealable bags filled with a mix of dried beans, peas, seeds, leaves, twigs, and small toys/plastic insects in slime. (Adapt contents based on your chosen lizard species and local ecosystem.)
- Plastic baggies
- Rubber bands
- Magnifying glasses
- Tweezers
- Toothpicks
- Gloves (optional)
- Identification charts with pictures of common plants and animals in your local ecosystem
- Drawing paper, pencils, colored pencils
- Chart paper and markers

Teacher Background

Masters of Adaptation in the Food Web

Lizards are a diverse group of reptiles found in almost every terrestrial habitat imaginable, making them excellent subjects for studying food webs and chains. Their varied diets and adaptability provide a fascinating window into the interconnectedness of ecosystems.

Types of Lizards:

- **Herbivores:** Iguanas, chuckwallas, and tortoises munch on leaves, fruits, and flowers, extracting energy directly from plants.
- **Omnivores:** Many geckos, skinks, and anoles feed on a mix of insects, invertebrates, and even occasional fruits and seeds.
- **Carnivores:** Komodo dragons, monitor lizards, and some vipers prey on larger animals like rodents, birds, and even small mammals.

Food Webs vs. Food Chains:

Food Webs: Complex networks of interconnected food chains, showing how multiple organisms interact and transfer energy across different trophic levels (producers, herbivores, carnivores, etc.). Lizards often occupy multiple roles within a food web, depending on their size, habitat, and prey availability.

Food Chains: Simpler linear sequences that track the flow of energy from producers (plants) through consumers (herbivores, carnivores, etc.). A single lizard species may be part of several different food chains within a larger food web.

Key Points for Teachers:

- **Adaptation:** Lizards exhibit diverse physical and behavioral adaptations related to their food sources. Chameleons have sticky tongues for catching insects, geckos have sharp claws for climbing and hunting, and some lizards even change color to blend with their environment.
- **Energy Transfer:** Explain how energy flows through the food chain, with each level losing some energy as heat. Students can calculate simple energy pyramids to visualize this transfer.
- **Food Web Dynamics:** Discuss how changes in one population can impact others in the food web. For example, a decline in insects might affect lizard populations that rely on them as prey.
- **Conservation Connection:** Emphasize the importance of protecting lizards and their habitats. Lizards play vital roles in ecosystem balance and control insect populations. Their decline can have cascading effects on other organisms and disrupt the delicate equilibrium of food webs.

Lesson 1: Learning About Lizards

Time	Materials	Activity
35 mins	Computers, books about lizards	<p>In small groups or individually, have the students research the diets of 4 lizards in the wild: bearded dragon, chameleon, tegu, and iguana</p> <p>Students will fill in the charts on their worksheets with the specific types of plants and organisms that each lizard eats.</p> <p>Students must list at least 5 different foods for each lizard.</p>
10 mins	Lizard Lunch Student Worksheet	<p>Facilitate a class discussion:</p> <p>What did you notice that the lizards had in common in their diets?</p> <p>What is the difference between the bearded dragon's diet in captivity vs. the wild?</p>

Lesson 2: Lizard Lunch Dissection

Time	Materials	Activity
	<p>Slime (store bought or homemade)</p> <p>Plastic plants, insects and animals. (*If you cannot find a certain insect or animal, print pictures and laminate them.)</p> <p>Plastic baggies</p> <p>Rubber bands</p>	<p>Before class Preparation</p> <p>Sort the animals into groups for each lizard.</p> <p>Cut the food into small pieces.</p> <p>Mix the pieces into the slime.</p> <p>Put into the plastic baggie and use the rubber band to seal the bag</p> <p>Lizard Lunches:</p> <p>Bearded Dragon: ants, beetles, insects, fruit, leaves, small lizards(omnivore)</p> <p>Green Iguanas: flowers, leaves, fruit (herbivore)</p> <p>Chameleons: grasshoppers, praying mantis, crickets, small lizards (carnivore)</p> <p>Tegus: insects, spiders, snails, fruits, seeds, reptile and bird eggs (omnivore)</p>
25 mins	<p>Simulated lizard stomachs</p> <p>Lizard Lunch Student Worksheet</p>	<p>Have the students work in pairs or small groups.</p> <p>Explain to the students that they will be dissecting simulated lizard guts. They will use scissors to cut the "stomach" of the lizard open. They will use the tweezers to</p>

		get the really small pieces from the slime.
10 mins		Students complete the worksheet and create a food chain.
10 mins	Lizard Lunch Student Worksheet	Share results with the class! Each group will share what lizard lunch they dissected. Discuss which lizards were herbivores, omnivores, and carnivores.

Differentiation

For students who need additional support:

- Provide students with pre-labeled pictures of the "gut" contents for easier identification.
- Offer sentence starters or graphic organizers to support report writing.
- Create a tactile model of the food chain using yarn or string to connect different food web components.

For students who need additional challenges:

- Write a creative story from the perspective of the lizard, describing its adventures and encounters with other animals in its food chain.
- Allow groups to choose different lizard species with varying diets to explore.

Assessment				
Criteria	4 Points	3 Points	2 Points	1 Point
Accuracy:	Food chain accurately depicts the lizard's role as either herbivore, omnivore, or carnivore, based on its prey choices. All organisms involved are correctly identified.	Food chain includes the lizard at the correct level, but may contain minor inaccuracies in prey choices or organism identification.	Food chain has some errors in the lizard's placement or prey selection. Some organism identification may be incorrect.	Food chain makes significant errors in the lizard's role or prey choices. Many organisms may be misidentified.

Complexity:	Food chain extends beyond a simple two-link chain, including at least three trophic levels (producer, herbivore, lizard). Arrows clearly show the direction of energy flow.	Food chain includes at least two trophic levels, but may be a simple two-link chain or lack directional arrows.	Food chain only depicts a single trophic level or lacks clear direction of energy flow.	Food chain is incomplete or lacks significant detail.
Explanation:	Student provides a clear and concise written explanation of their food chain, justifying the lizard's role and choice of prey. Explanation demonstrates understanding of energy flow and food web concepts.	Student offers a basic explanation of their food chain, but may lack justification or show limited understanding of energy flow.	Student's explanation is unclear or incomplete, and/or demonstrates inaccurate understanding of food web concepts.	Student does not provide an explanation of their food chain.

Extension

- Research a specific lizard species found in your local area and create a detailed food web map showcasing its connections within the ecosystem.
- Design a poster campaign raising awareness about the importance of protecting biodiversity and maintaining healthy food chains.