
Animals and Their Adaptations



Third-Grade Teacher Resource Guide

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Lesson Summary: The *Animals and Their Adaptations* program provides students with an opportunity to touch and examine live animals and natural specimens from a variety of taxonomic groups, including arthropods, amphibians, reptiles, and mammals. During the animal presentations, students will participate in an instructor-led group discussion emphasizing each animal's diet, ecological role, habitat, and physical adaptations (structure and function) needed for survival.

Vocabulary: Below are words and concepts that relate to the *Animals and Their Adaptations* program.

Adaptation (in biology): a change in either the structure or functions of an organism over time that better enables it to survive and reproduce in its environment. An adaptation can be structural (e.g., talons for seizing prey), physiological (e.g., ability to change color), or behavioral.

Amphibian: a cold-blooded animal that starts life in a wet environment but can live on land once it matures

Arthropod: an animal with an exoskeleton and jointed legs

Biology: the science that is concerned with the growth, development, and functioning of living things

Camouflage: something (such as color or shape) that protects an animal from attack or helps it to surprise others by making the animal difficult to see against the area surrounding it

Carnivore: an animal that feeds primarily on meat

Diversity: the state or condition of being unlike; dissimilarity or variety

Ecosystem: a community of living things, together with their environment

Environment: everything around an animal, its natural surroundings including the air, water, soil, and plants

Habitat: the particular natural environment (place) where an animal or plant is usually found.

Herbivore: an animal that feeds solely on plants

Inheritance: the genetic process of passing characteristics to succeeding generations, or the characteristics thus transmitted

Mammal: a warm-blooded animal that has a body more or less covered by hair, gives live birth, and nourishes its young with milk from the mammary glands of the female

Mimicry: the imitation by an organism of its environment or of other organisms as a means of survival. **Also: mimic**

Niche: the role or part that an animal plays in its habitat or environment

Omnivore: an animal that feeds on both plants and animals

Poisonous: dangerous to bite; containing chemicals that harm the body when eaten

Predator: an animal that hunts and eats other animals

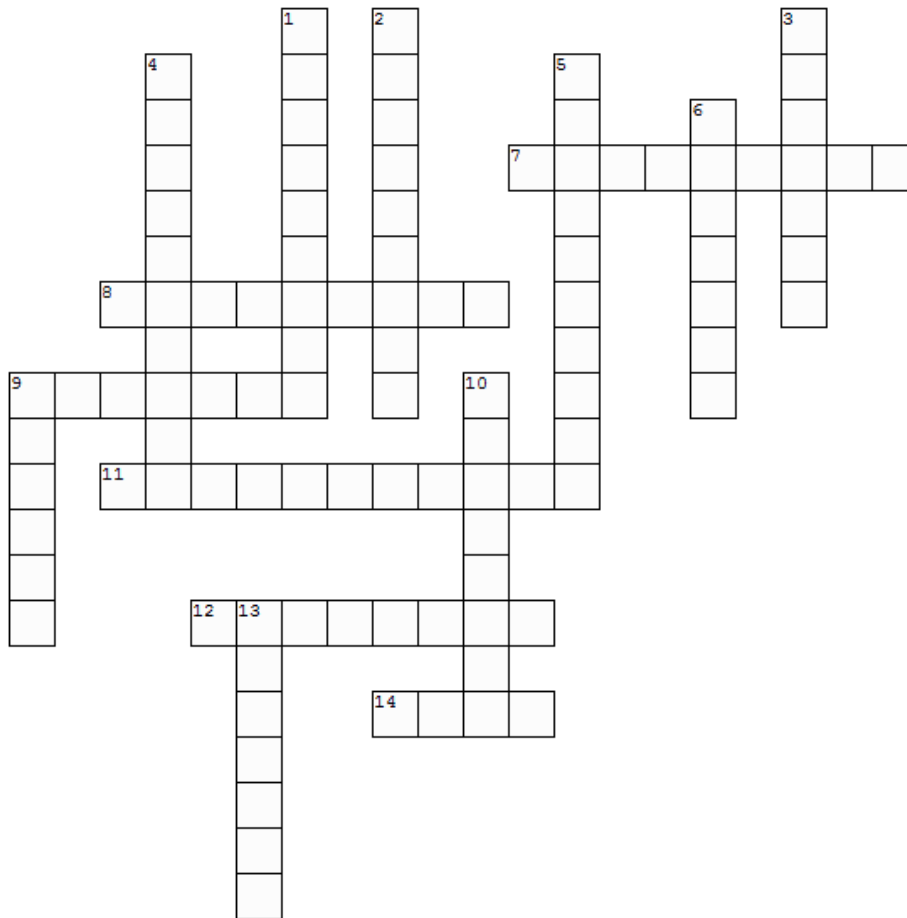
Prey: an animal that is hunted or killed by another animal for food

Reptile: a cold-blooded animal with dry scaly skin that typically lays soft-shelled eggs on land

Venomous: dangerous to be bitten by; capable of biting, stinging, or otherwise wounding other creatures with harmful chemicals

Definitions based on www.dictionary.reference.com

Language Arts Crossword Puzzle Animals and their Adaptations



- ADAPTATION AMPHIBIAN BIOLOGY CAMOUFLAGE CARNIVORE
DIVERSITY HABITAT HERBIVORE INHERITANCE MAMMAL MIMICRY
OMNIVORE PREDATOR PREY REPTILE

Down

1. The state or condition of being unlike; having many different individuals within a group.
2. An animal that eats only plants.
3. The natural environment of a plant or animal.
4. A change in an organism over time that better enables that type of organism to survive and multiply.
5. Something (such as color or shape) that protects an animal from attack by making the animal difficult to see in the area around it.
6. The science of all living things, including the study of plants and animals and how they develop and survive.
9. A warm-blooded animal more or less covered by hair that gives live birth, and nourishes its young with milk.
10. An animal that eats both plants and animals.

13. A cold-blooded animal with dry scaly skin that typically lays soft-shelled eggs on land.

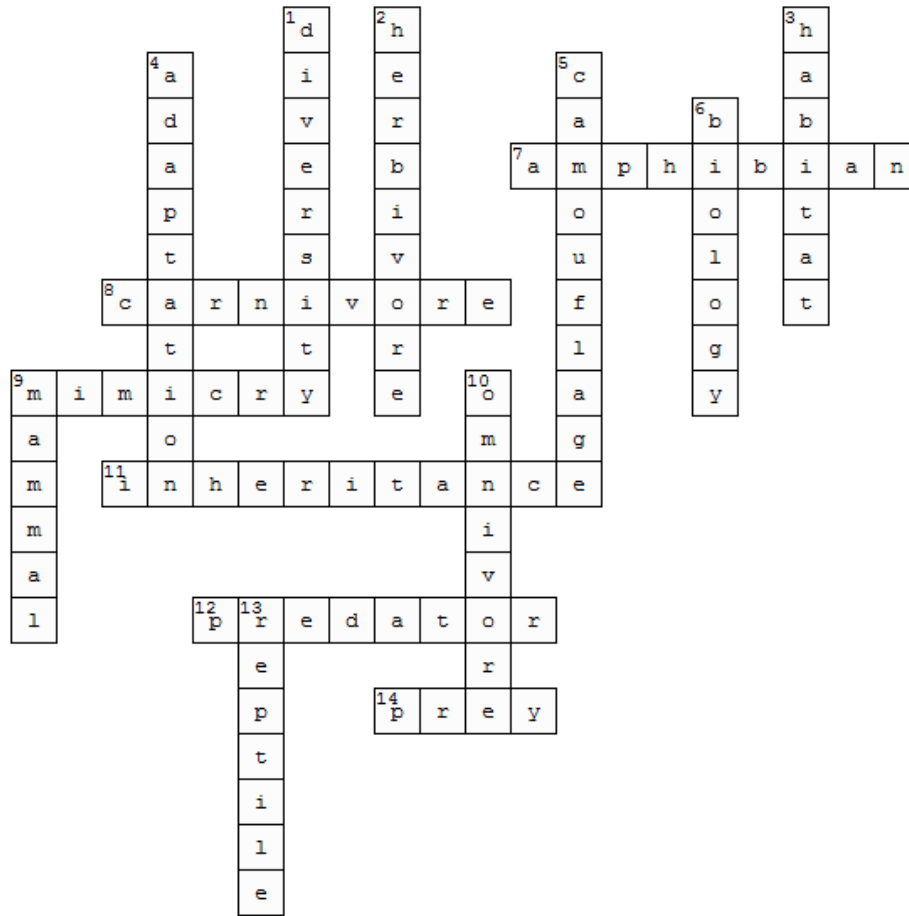
Across

7. A cold-blooded animal that starts life in a wet environment but can live on land once it matures.
8. An animal that eats only meat.
9. Something about an animal's behavior or appearance that is like another organism and helps to protect it from being eaten.
11. The genetic process that results in animals passing on certain traits (characteristics) to the next generation (their babies.)
12. An animal that hunts and eats other animals.
14. An animal that is hunted and killed for food.

Answer Key

Language Arts Crossword Puzzle

Animals and their Adaptations



Down

1. The state or condition of being unlike; having many different individuals within a group. (**diversity**)
2. An animal that eats only plants. (**herbivore**)
3. The particular natural environment (place) where an animal or plant is usually found. (**habitat**)
4. A change in an organism over time that better enables that type of organism to survive and multiply. (**adaptation**)
5. Something (such as color or shape) that protects an animal from attack by making the animal difficult to see in the area around it. (**camouflage**)
6. The science of all living things, including the study of plants and animals and how they develop and survive. (**biology**)
9. A warm-blooded animal more or less covered by hair that gives live birth, and nourishes its young with milk. (**mammal**)
10. An animal that eats both plants and animals. (**omnivore**)
13. A cold-blooded animal with dry scaly skin that typically lays soft-shelled eggs on land. (**reptile**)

Across

7. A cold-blooded animal that starts life in a wet environment but can live on land once it matures. (**amphibian**)
8. An animal that eats only meat. (**carnivore**)
9. Something about an animal's behavior or appearance that is like another organism and helps to protect it from being eaten. (**mimicry**)
11. The genetic process that results in animals passing on certain traits (characteristics) to the next generation (their babies.) (**inheritance**)
12. An animal that hunts and eats other animals. (**predator**)
14. An animal that is hunted and killed for food. (**prey**)

Language Arts Word Search

Animals and their Adaptations

Circle the vocabulary in the word search below. Can you find all the animal-related words?

B	B	B	D	R	R	O	T	A	D	E	R	P	F	O	P
D	R	I	A	D	A	P	T	A	T	I	O	N	W	R	S
N	D	O	R	S	D	E	R	O	V	I	B	R	E	H	Q
O	I	L	L	X	R	J	W	G	O	C	N	Y	I	O	P
Q	V	O	L	C	A	R	N	I	V	O	R	E	M	Y	G
G	E	G	A	I	N	E	V	V	W	A	V	N	Y	R	M
B	R	Y	M	Y	T	C	V	P	A	A	I	F	C	C	G
Q	S	B	M	A	X	N	B	I	M	V	I	V	A	I	S
Z	I	Q	A	Y	E	A	G	P	O	C	T	C	M	M	C
R	T	G	M	X	Y	T	H	R	T	Z	A	R	O	I	B
E	Y	P	F	B	M	I	E	M	U	B	T	W	U	M	C
P	J	D	G	P	B	R	P	Y	M	I	I	D	F	N	G
T	Z	N	M	I	V	E	T	K	Q	O	B	T	L	D	I
I	V	R	A	H	W	H	G	Z	S	W	A	K	A	S	Z
L	U	N	C	A	P	N	X	B	D	O	H	Z	G	N	J
E	O	V	J	M	O	I	R	B	F	L	E	V	E	F	Z

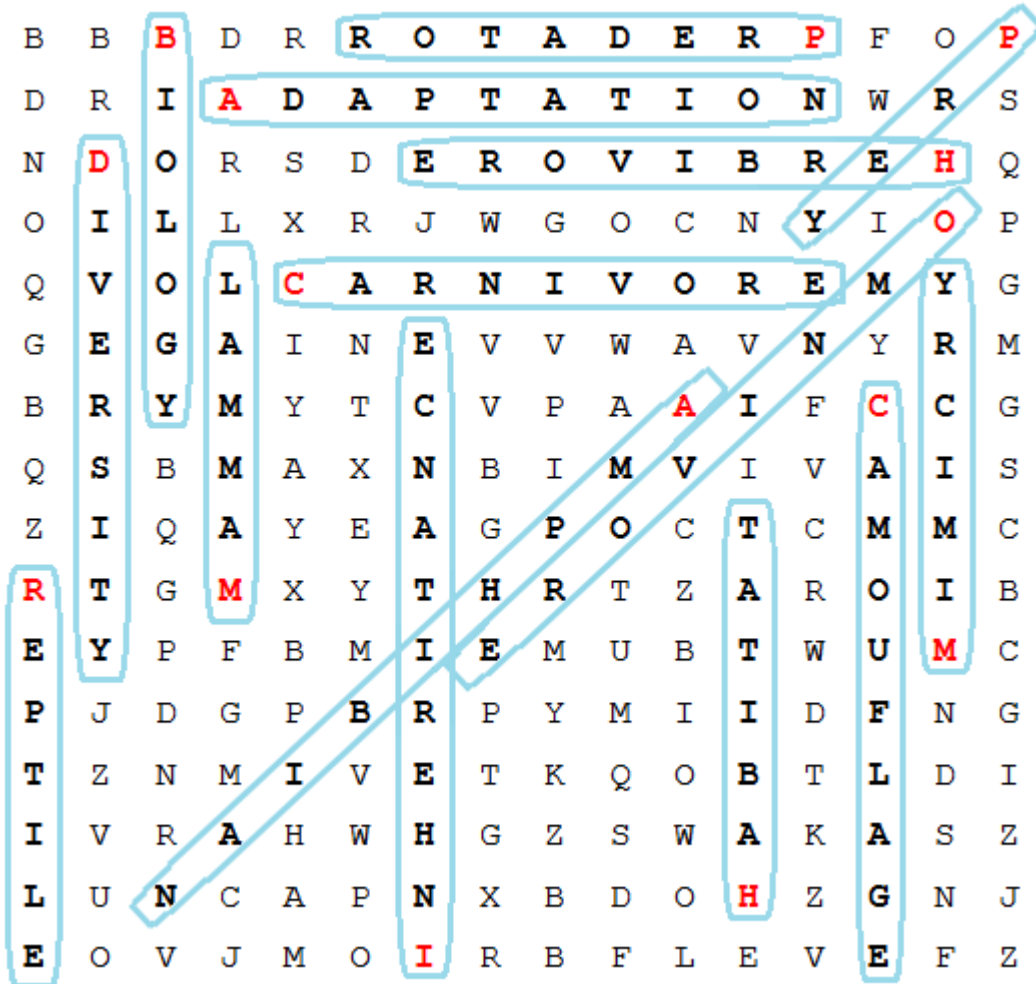
Word Bank

ADAPTATION
AMPHIBIAN
BIOLOGY
CAMOUFLAGE
CARNIVORE

DIVERSITY
HABITAT
HERBIVORE
INHERITANCE
MAMMAL

MIMICRY
OMNIVORE
PREDATOR
PREY
REPTILE

Answer Key
Language Arts Word Search
Animals and their Adaptations



Word Bank

ADAPTATION
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Animals and Their Adaptations: Extension Activities

The extension activities listed below are from RAFT (Resource Area For Teaching). RAFT educational content is available online (www.raftbayarea.org) at no cost and is aligned to California Science Standards and Next Generation Science Standards. Below is a selection of post-visit activities from RAFT to build on student learning about animals and adaptations.

[RAFT Idea: Blubber Gloves - Resource Area For Teaching](#)

Grades Covered: Pre-K through 12

Subjects Covered: Physical Science, Life Science

Curriculum Topics: Marine mammals, Environments, Ecology, Adaptations

Description: Adaptations in physical structure or behavior may improve an organism's chance for survival.

www.raftbayarea.org/ideas/Blubber%20Gloves.pdf

[RAFT Idea: Baby, It's Cold Outside - Resource Area For Teaching](#)

Grades Covered: K through 6

Subjects Covered: Life Science

Curriculum Topics: Environments, Habitats, Adaptations

Description: This diorama helps students visualize life and ecology in an arctic environment.

<http://www.raftbayarea.org/ideas/Baby,%20It's%20Cold%20Outside.pdf>

[RAFT Idea: What Makes a Bird - Resource Area For Teaching](#)

Grades Covered: Pre-K through 3

Subjects Covered: Life Science

Curriculum Topics: Animals, Environments, Sorting & Classifying

Description: In this activity primary learners learn how to sort animals into two categories.

www.raftbayarea.org/ideas/What%20Makes%20a%20Bird.pdf

[RAFT Idea: Camouflage - Resource Area For Teaching](#)

Grades Covered: K through 12

Subjects Covered: Life Science

Curriculum Topics: Natural Selection, Ecosystems, Probability, Design

Description: In this activity, students will see the benefits of taking a closer look at the world around them.

www.raftbayarea.org/ideas/Camouflage.pdf

Animals and Their Adaptations: Education Standards

Our Animals and Their Adaptations program will contribute to students' ability to meet the California Science Content Standards, Common Core, and Next Generation Science Standards listed on the following pages.

California Science Content Standards Third Grade:

Life Sciences: 3. Adaptations in physical structure or behavior may improve an organism's chance for survival. As a basis for understanding this concept:

- a. *Students know* plants and have structures that serve different functions in growth, survival, and reproduction.
- b. *Students know* examples of diverse life forms in different environments, such as oceans, deserts, tundra, forests, grasslands and wetlands.
- c. *Students know* that living things cause changes in the environment in which they live: some of these changes are detrimental to the organism or other organisms, and some are beneficial.
- d. *Students know* when the environment changes, some plants and animals survive and reproduce, others die or move to new locations.

Excerpted from CA State Standards <http://www.cde.ca.gov/>

Common Core Third Grade:

Speaking and Listening Standards: Students will...

1. Engage effectively in a range of collaborative discussions with diverse partners on *grade 3 topics and texts*, building on others' ideas and expressing their own clearly.
 - a. Come to discussions prepared, having read or studied material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
 - b. Follow agreed-upon rules for discussions.
 - c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.
 - d. Explain their own ideas and understanding in light of the discussion.
2. Determine the main ideas and supporting details of information presented orally.
3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

Excerpted from Common Core Standards <http://www.corestandards.org/>

Next Generation Science Standards Third Grade:

Interdependent Relationships in Ecosystems

- **3-LS4-3:** Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
 - **Science and Engineering Practices:**
 - **Engaging in an argument from evidence:** Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed worlds.
- Use materials Construct an argument with evidence. (3-LS4-3)
 - **Disciplinary core ideas:**

Animals and their Adaptations: Education Standards

- **LS4.C: Adaptation:** For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3)
 - **Crosscutting Concepts**
 - **Cause and Effect:** Cause and effect relationships are routinely identified and used to explain change. (3-LS4-3)
- **3-LS4-2:** Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
 - **Science and Engineering Practices:**
 - **Constructing explanations and designing solutions:** Builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.
-Use evidence (e.g., observations, patterns) to construct an explanation. (3-LS4-2)
 - **Disciplinary core ideas:**
 - **LS4.B: Natural Selection:** Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (3-LS4-2)
 - **Crosscutting Concepts:**
 - **Cause and Effect:** Cause and effect relationships are routinely identified and used to explain change. (3-LS4-2)

Other Topics Covered:

- **Disciplinary Core Ideas**
 - **LS1.B: Growth and Development of Organisms:** Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (3-LS1-1)
 - **LS3.A: Inheritance of Traits** Other characteristics result from individuals' interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment. (3-LS3-2)
 - **LS3.B: Variation of Traits** The environment also affects the traits that an organism develops. (3-LS3-2)
- **Crosscutting Concepts**
 - **Patterns:** Patterns of change can be used to make predictions. (3-LS1-1)
 - **Cause and Effect:** Cause and effect relationships are routinely identified and used to explain change. (3-LS3-2)

Excerpted from NGSS <http://www.nextgenscience.org/>