
Animals and Their Adaptations



Fourth-Grade Teacher Resource Guide

Table of Contents

Lesson summary	1
Vocabulary	1
Language Arts Crossword Puzzle.....	2-3
Language Arts Word Search.....	4-5
Extension Activities	6
Education Standards	7-8

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

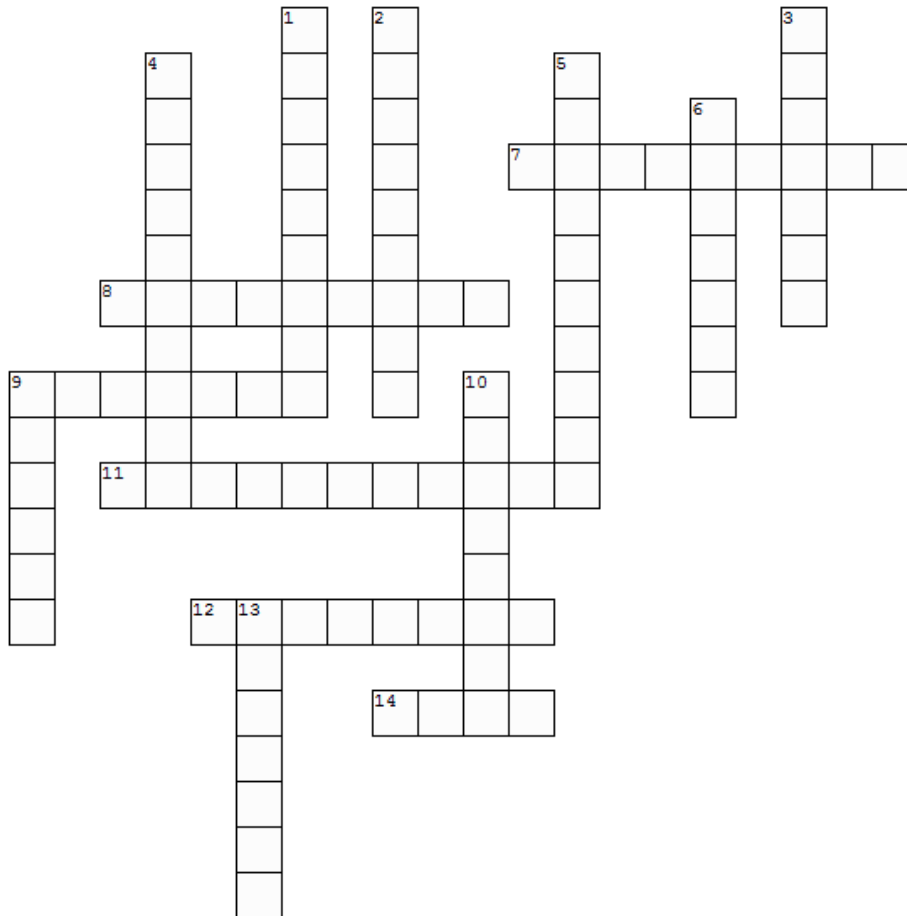
Predator: an animal that hunts and eats other animals

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

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.

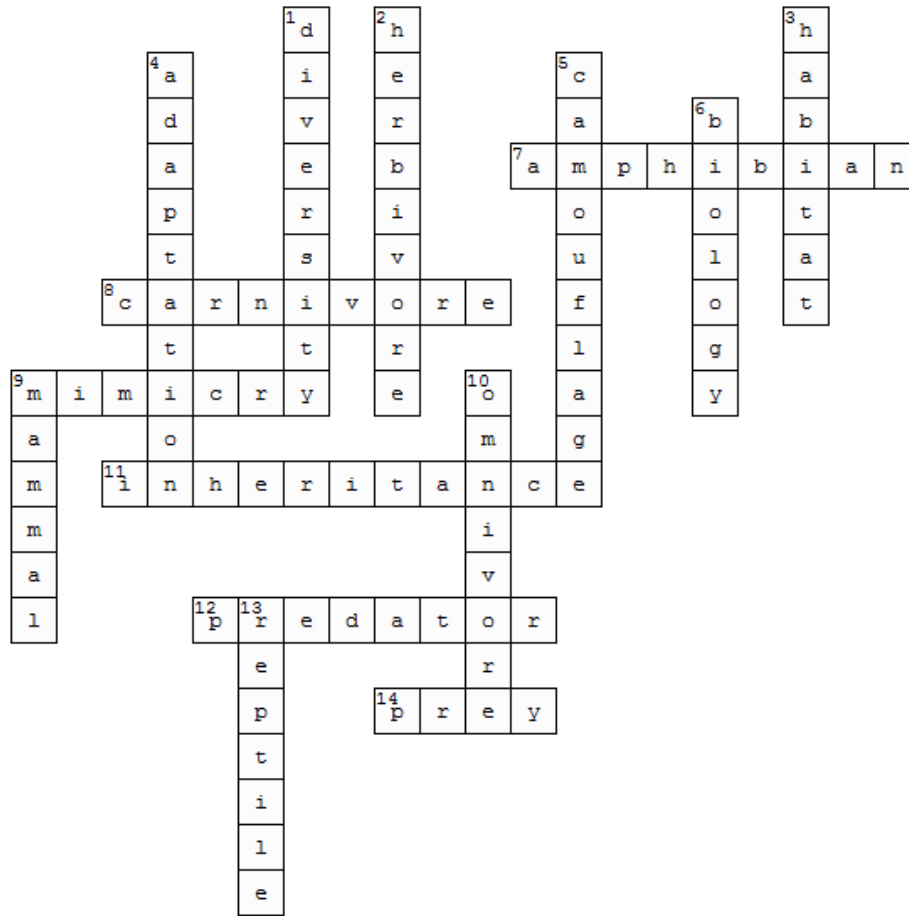
Across

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

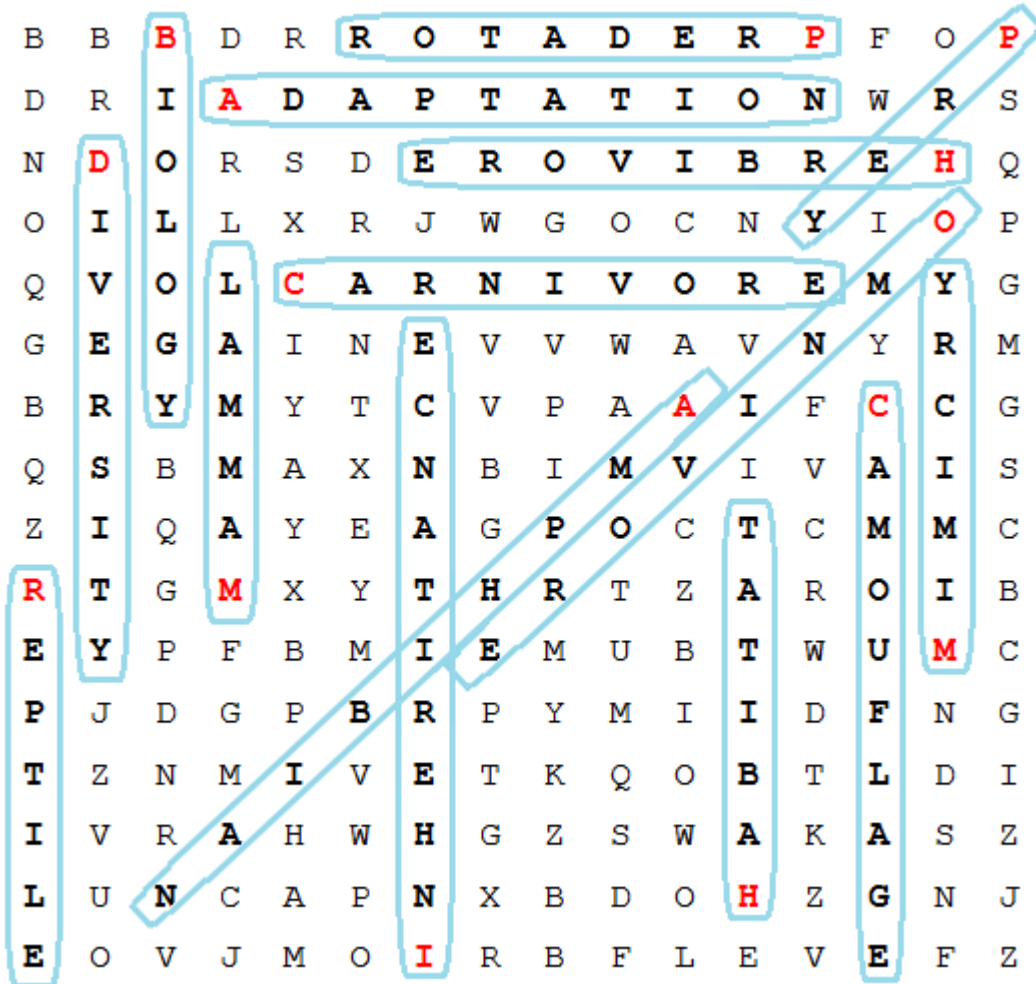
Word Bank

ADAPTATION
AMPHIBIAN
BIOLOGY
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DIVERSITY
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MAMMAL

MIMICRY
OMNIVORE
PREDATOR
PREY
REPTILE

Answer Key
Language Arts Word Search
Animals and their Adaptations



Word Bank

ADAPTATION
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BIOLOGY
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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 10

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 below.

California Science Content Standards Fourth Grade:

Life Sciences: 2. All organisms need energy and matter to live and grow. As a basis for understanding this concept:

- b.** *Students know* producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.
- c.** *Students know* decomposers, including many fungi, insects, and microorganisms, recycle matter from dead plants and animals.

3. Living organisms depend on one another and on their environment for survival. As a basis for understanding this concept:

- b.** *Students know* that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.
- c.** *Students know* many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter.

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

Common Core Fourth Grade:

Speaking and Listening Standards: Students will...

- 1.** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.
 - a.** Come to discussions prepared, having read or studied required 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 and carry out assigned roles.
 - c.** Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.

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

Next Generation Science Standards Fourth Grade:

Structure, Function and Information Processing

- **4-LS1-1:** Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
- **4-LS1-2:** Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

Disciplinary Core Ideas: LS1.A: Structure and Function

Energy

- **4-PS3-2:** Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

Disciplinary Core Ideas: PS3.A: Definitions of Energy, **PS3.B:** Conservation of Energy and Energy Transfer

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