
All About Owls



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

All About Owls: Lesson Summary and Vocabulary

Lesson Summary: The *All About Owls* program allows students to touch and examine samples of the owl order while learning about their characteristics and development. The presentation focuses on both instructor-led discussion and hands-on activities. Students will work as a group to experiment with types of ‘beaks’, observing the functions and variations in each. Discussion will continue as the instructor presents live examples, covering the owls’ physical adaptations, diets, habitats, and roles both in nature and with humans. Students will get more hands-on experience dissecting an owl pellet and learning about what and how owls eat. Throughout the program, students will be challenged to use their critical thinking skills to answer a wide range of open-ended questions and expand their understanding of owls and birds as a whole.

Vocabulary: Below are words and concepts that relate to the *All About Owls* program.

Adaptation: 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.

Beak: The hard projecting mouthpart that birds use to eat their food

Camouflage: Something (such as color or shape) that protects an animal from attack by making the animal difficult to see in the area around it

Diurnal: Awake during the day and asleep during the night

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

Gizzard: A pouch at the back of a bird’s stomach that helps grind down food with the aid of grit

Native: Belonging to or originating from a specific location or habitat; local

Nocturnal: Awake during the night and asleep during the day

Owl: A predatory bird belonging to the order *Strigiformes*

Pellet: In birds, a mass of regurgitated food formed in the gizzard that contains the inedible portions of their meal

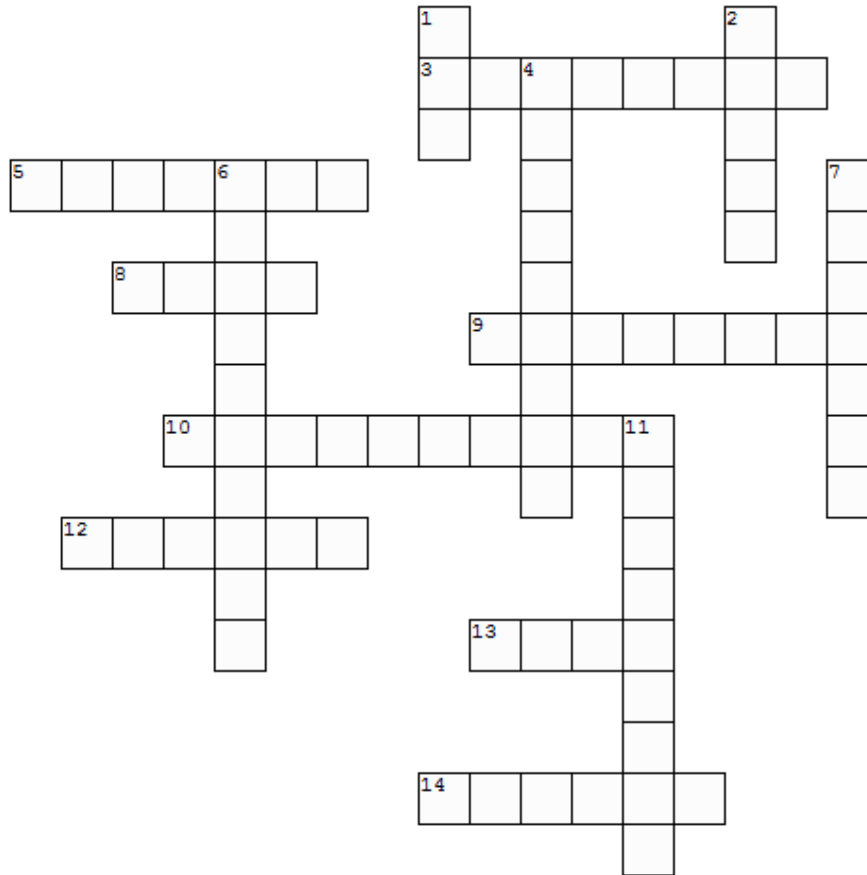
Predator: An animal that hunts and eats other animals

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

Talon: A sharp hooked claw of a bird of prey or other predator

Wingspan: The distance between the tips of a bird’s extended wings

All About Owls Language Arts Crossword Puzzle



PREY	ECOSYSTEM	PREDATOR	CAMOUFLAGE	PREDATOR	WINGSPAN	GIZZARD	
BEAK	OWL	ADAPTATION	NATIVE	TALON	PELLET	NOCTURNAL	DIURNAL

Down

1. A nocturnal predatory bird belonging to the order *Strigiformes*.
- 2 A sharp hooked claw of a bird of prey or other predator
4. Awake during the night and asleep during the day
6. In biology, a change in an organism over time that better enables it to survive and multiply
7. Awake during the day and asleep during the night
11. A community of living things, together with their environment

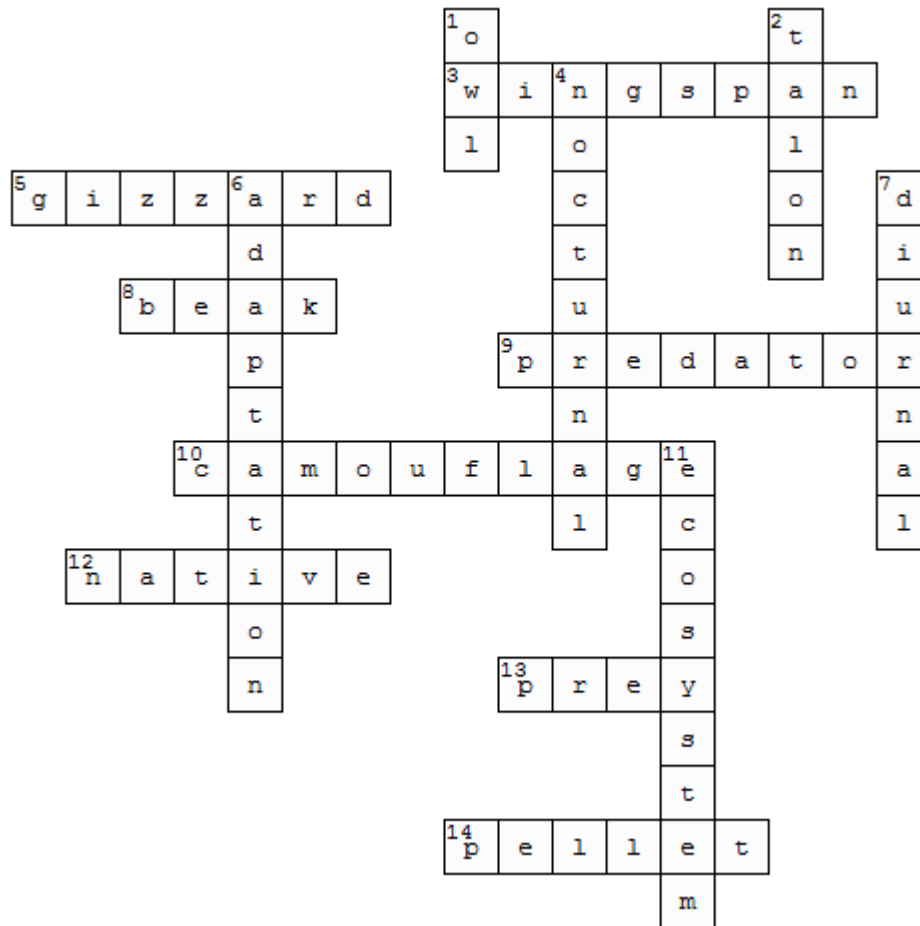
Across

3. The distance between the tips of a bird's extended wings
5. A pouch at the back of a bird's stomach that helps grind down food with the aid of grit
8. The hard projecting mouthpart that birds use to eat their food
9. An animal that hunts and eats other animals
10. Something that helps an animal blend in with the place where it lives
12. Belonging to or originating from a specific location or habitat; local
13. The object of a hunt or pursuit, usually one animal caught and eaten by another.
14. In birds, a mass of regurgitated food formed in the gizzard that contains the inedible portions of their meal

Answer Key

All About Owls

Language Arts Crossword Puzzle



Down

1. A nocturnal predatory bird belonging to the order *Strigiformes* (**owl**)
2. A sharp hooked claw of a bird of prey or other predator (**talon**)
4. Awake during the night and asleep during the day (**nocturnal**)
6. In biology, a change in an organism over time that better enables it to survive and multiply (**adaptation**)
7. Awake during the day and asleep during the night (**diurnal**)
11. A community of living things, together with their environment (**ecosystem**)

Across

3. The distance between the tips of a bird's extended wings (**wingspan**)
5. A pouch at the back of a bird's stomach that helps grind down food with the aid of grit (**gizzard**).
8. The hard projecting mouthpart that birds use to eat their food (**beak**)
9. An animal that hunts and eats other animals (**predator**)
10. Something that helps an animal blend in with the place where it lives (**camouflage**)
12. Belonging to or originating from a specific location or habitat; local (**native**)
13. The object of a hunt or pursuit, usually one animal caught and eaten by another (**prey**)
14. In birds, a mass of regurgitated food formed in the gizzard that contains the inedible portions of their meal (**pellet**)

All About Owls Language Arts Word Search

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

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

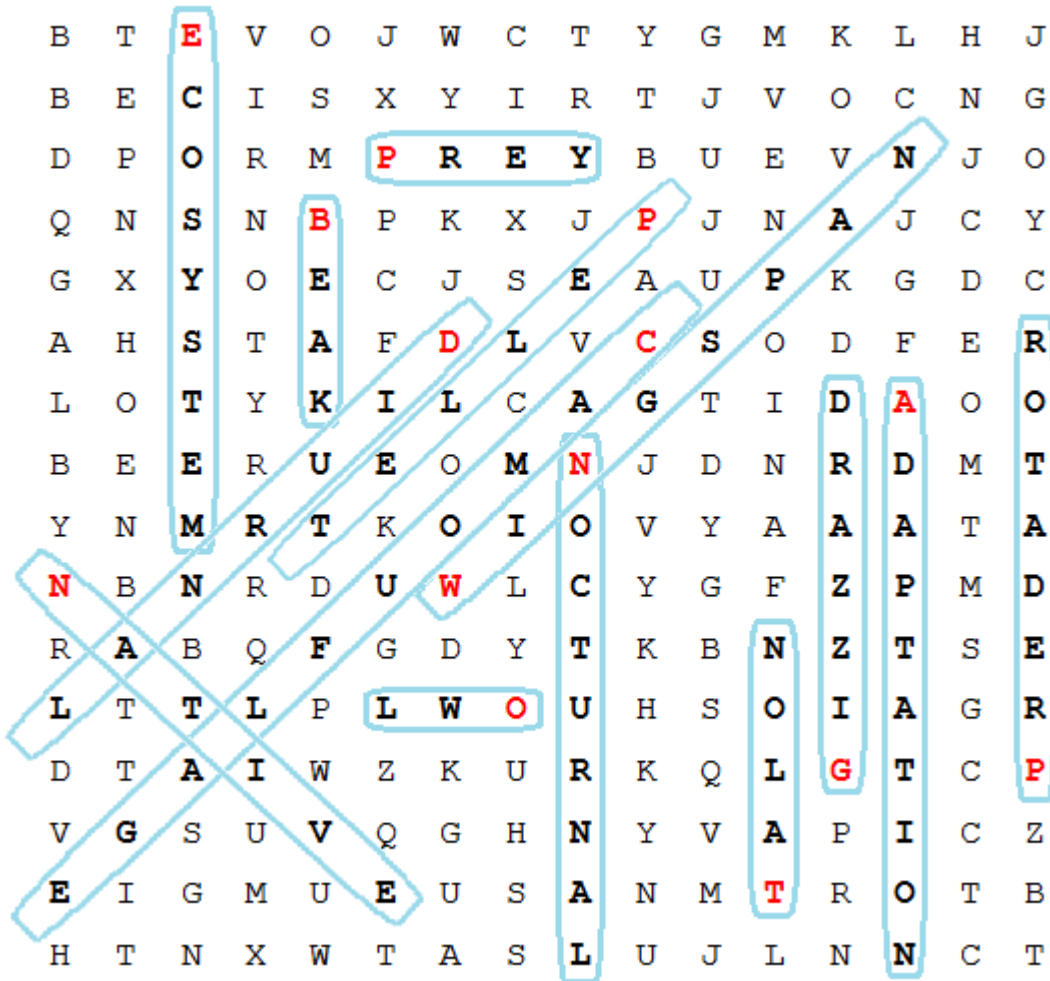
Word Bank

ADAPTATION
BEAK
CAMOUFLAGE
DIURNAL
ECOSYSTEM

GIZZARD
NATIVE
NOCTURNAL
OWL
PELLET

PREDATOR
PREY
TALON
WINGSPAN

Answer Key
All About Owls
Language Arts Word Search



Word Bank

ADAPTATION
BEAK
CAMOUFLAGE
DIURNAL
ECOSYSTEM

GIZZARD
NATIVE
NOCTURNAL
OWL
PELLET

PREDATOR
PREY
TALON
WINGSPAN

All About Owls: 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: Nesting Like a Birdbrain - Resource Area For Teaching](#)

Grades Covered: 3 through 8

Subjects Covered: Life Science

Curriculum Topics: Ecology, Adaptations, Natural Selection

Description: In this activity, students try to build the best nests using only their ‘beaks’

<http://www.raftbayarea.org/ideas/Nesting%20Like%20a%20Birdbrain.pdf>

[RAFT Idea: Evolution Through Natural Selection - Resource Area For Teaching](#)

Grades Covered: 3 through 12

Subjects Covered: Life Science

Curriculum Topics: Adaptation, Evolution, Fitness, Natural Selection, Predator-Prey Interactions, Variation

Description: In this activity, students simulate natural selection and observe evolution in action.

<http://www.raftbayarea.org/ideas/Evolution%20by%20Natural%20Selection.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

All About Owls: Education Standards

This page shows California Science Content Standards, Common Core, and Next Generation Science Standards, which students will be exposed to during the program.

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:

- a. Students know plants are the primary source of matter and energy entering most food chains.
- 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:

- a. Students know ecosystems can be characterized by their living and nonliving components.
- 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.
- d. Students know that most microorganisms do not cause disease and that many are beneficial.

Investigation and Experimentation: 6. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:

- a. Differentiate observation from inference (interpretation) and know scientists' explanations come partly from what they observe and partly from how they interpret their observations.
- b. Measure and estimate the weight, length, or volume of objects.
- c. Formulate and justify predictions based on cause-and-effect relationships.

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 to clarify or follow up on information, and make

All About Owls: Education Standards

- comments that contribute to the discussion and link to the remarks of others.
- d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
 3. Identify the reasons and evidence a speaker or media source provides to support particular points.

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.
 - **Science and Engineering Practices**
 - **Engaging in Argument from Evidence:** 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
 - Construct an argument with evidence, data, and/or a model. (4-LS1-1)
 - **Disciplinary Core Ideas**
 - **LS1.A: Structure and Function:** Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (4-LS1-1)
 - **Crosscutting Concepts**
 - **Systems and System Models:** A system can be described in terms of its components and their interactions. (4-LS1-1)
- **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.
 - **Science and Engineering Practices**
 - **Developing and Using Models:** builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.
 - Use a model to test interactions concerning the functioning of a natural system. (4-LS1-2).
 - **Disciplinary Core Ideas**
 - **LS1.D: Information Processing:** Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal’s brain. Animals are able to use their perceptions and memories to guide their actions. (4-LS1-2)
 - **Crosscutting Concepts**
 - **Systems and System Models:** A system can be described in terms of its components and their interactions. (4-LS1-2)

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