
Aquatic Habitat Exploration



Third-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

Aquatic Habitat Exploration: Lesson Summary and Vocabulary

Lesson Summary: YSI's *Aquatic Habitat Exploration* program allows students to examine aquatic animals and acquire a greater understanding of the water-based environments around them. Students will discuss the composition of our local lakes and creeks and the way living and nonliving features combine to form an interactive ecosystem. They will be offered a chance to touch different arthropods, amphibians, and reptiles that live in and around our aquatic habitats. After learning about the creatures that might be found nearby, students will take a short hike. At the creek or lake, they will have the chance to apply their knowledge hands-on by looking for aquatic organisms and attempting to identify them with instructor aid. Throughout the program, students will be challenged to use their critical thinking skills to work through a wide range of open-ended questions and activities about aquatic habitats and the life that inhabits them.

Vocabulary: These are words and concepts that relate to the YSI *Aquatic Habitat Exploration* program.

Amphibian: a cold-blooded animal that starts its life in water or a very wet environment but when mature can live on land

Aquatic: consisting of, relating to, or being in water

Arthropod: an animal with an exoskeleton and jointed legs

Consumer: an organism that receives energy to live by consuming other organisms

Creek: a flowing body of water smaller than a river; stream.

Decomposer: an animal that feeds on dead matter and breaks it down into simpler compounds

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

Environment: the sum of everything that surrounds animals and humans in the natural world, including the air, the water, and the soil

Habitat: the natural environment of a plant or animal

Lake: a stationary body of fresh water surrounded by land.

Metamorphosis: rapid changes in an animal's form after it is born or hatched

Niche: the part of an ecological system occupied by a particular organism, or the functions of that organism in the system

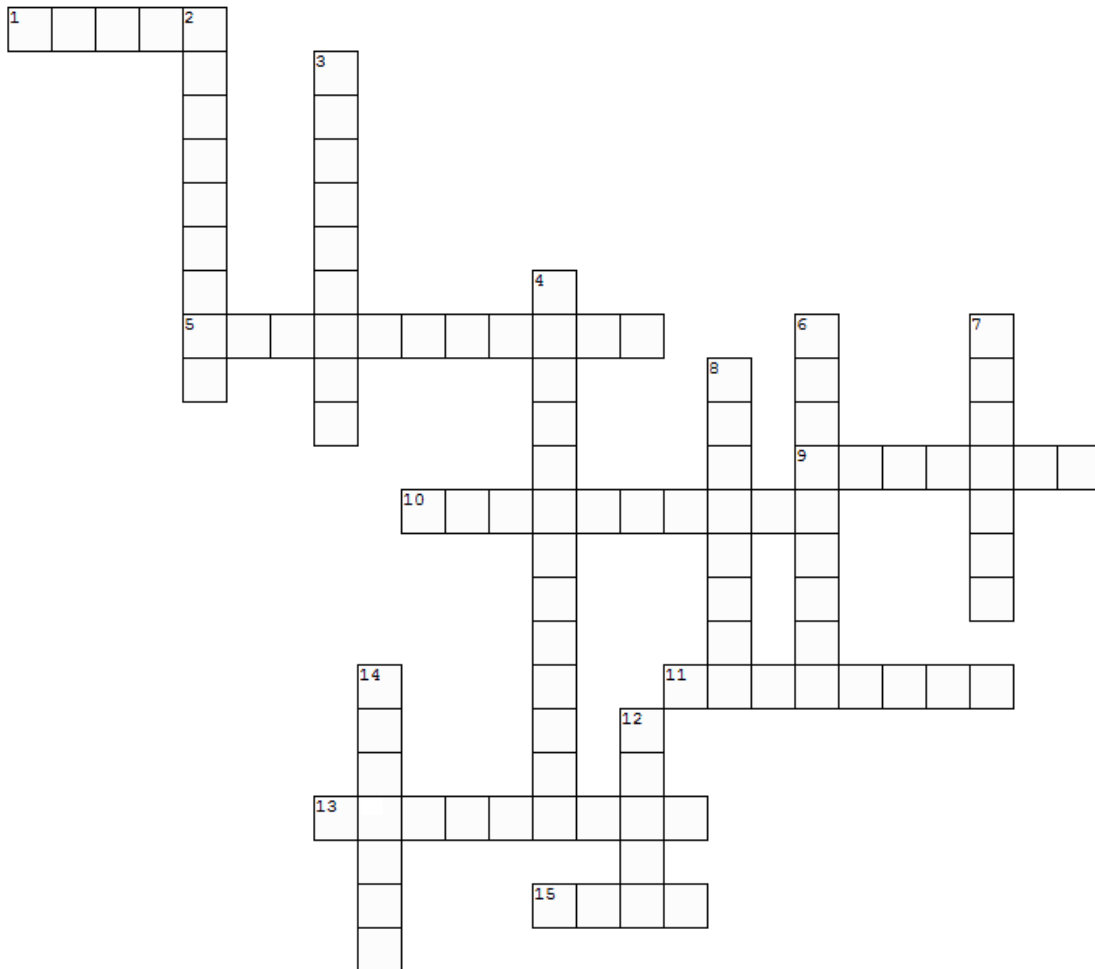
Producer: an organism that takes energy from light to produce living compounds

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

Watershed: the area that all of the rain water in a region drains into

Definitions based on www.dictionary.reference.com

Aquatic Habitat Exploration Language Arts Crossword Puzzle



- | | | | | | | |
|-------------|---------------|-----------|-----------|-----------|------------|-------|
| ENVIRONMENT | CREEK | WATERSHED | ARTHROPOD | LAKE | DECOMPOSER | NICHE |
| ECOSYSTEM | METAMORPHOSIS | REPTILE | AQUATIC | AMPHIBIAN | PRODUCER | |
| | | CONSUMER | HABITAT | | | |

Across

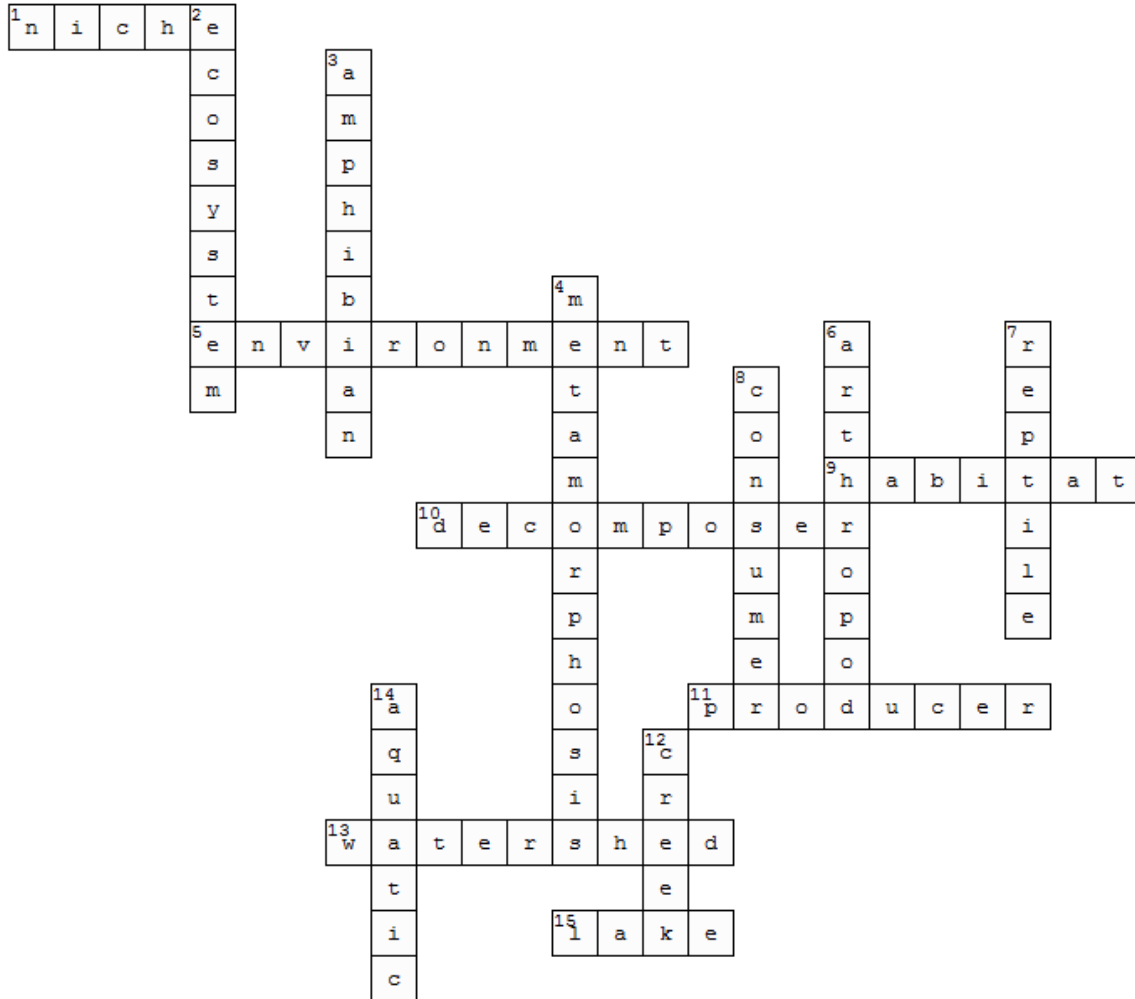
1. The part of ecosystem occupied by an organism or how it helps the system.
5. Everything that surrounds animals and humans in the natural world, including the air, the water, and the soil.
9. The natural environment of a plant or animal.
10. An animal that feeds on dead matter and breaks it down into parts of the soil.
11. An organism that uses sunlight, water, and air to make its own food.
13. The area that all of the rain water in a region drains into.
15. A large body of fresh water that stays in one place.

Down

2. A community of living things, together with their environment.
3. An animal that starts its life in the water but later can live on land.
4. Changes in an animal's form from birth to adult.
6. An animal with an exoskeleton and jointed legs.
7. A cold-blooded animal with scales.
8. An organism that receives energy to live by eating other organisms.
12. A flowing body of water smaller than a river, similar to a stream.
14. Made up of, relating to, or being in water.

Answer Key

Aquatic Habitat Exploration Language Arts Crossword Puzzle



Across

1. The part of ecosystem occupied by an organism or how it helps the system (**niche**).
5. Everything that surrounds animals and humans in the natural world, including the air, the water, and the soil (**environment**).
9. The natural environment of a plant or animal (**habitat**).
10. An animal that feeds on dead matter and breaks it down into parts of the soil (**decomposer**).
11. An organism that uses sunlight, water, and air to make its own food (**producer**).
13. The area that all of the rain water in a region drains into (**watershed**).
15. A large body of fresh water that stays in one place (**lake**).

Down

2. A community of living things, together with their environment (**ecosystem**).
3. An animal that starts its life in the water but later can live on land (**amphibian**).
4. Changes in an animal's form from birth to adult (**metamorphosis**).
6. An animal with an exoskeleton and jointed legs (**arthropod**).
7. A cold-blooded animal with scales (**reptile**).
8. An organism that receives energy to live by eating other organisms (**consumer**).
12. A flowing body of water smaller than a river similar to a stream (**creek**).
14. Made up of, relating to, or being in water (**aquatic**).

Aquatic Habitat Exploration Language Arts Word Search

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

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

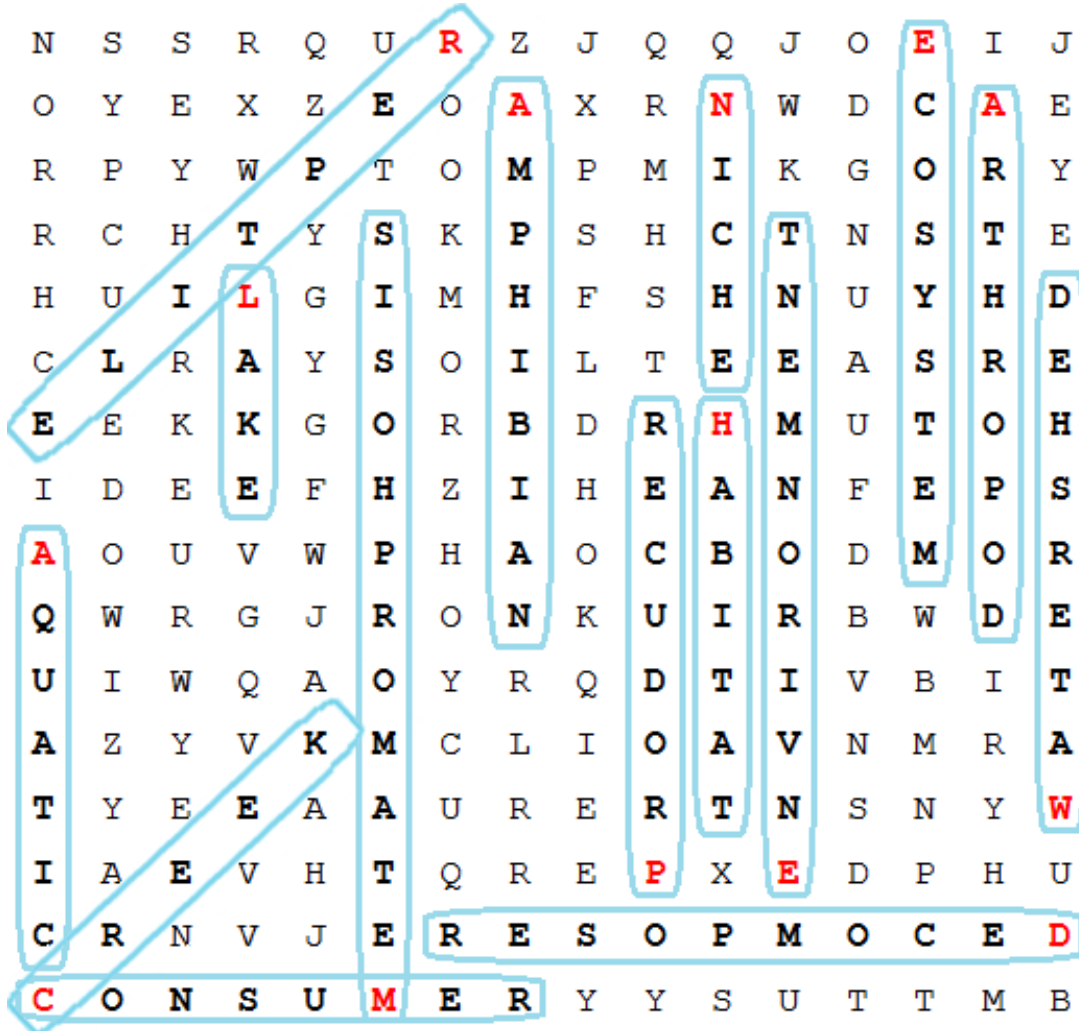
Word Bank

AMPHIBIAN
AQUATIC
ARTHROPOD
CONSUMER
CREEK

DECOMPOSER
ECOSYSTEM
ENVIRONMENT
HABITAT
LAKE

METAMORPHOSIS
NICHE
PRODUCER
REPTILE
WATERSHED

Answer Key
Aquatic Habitat Exploration
Language Arts Word Search



Word Bank

AMPHIBIAN
AQUATIC
ARTHROPOD
CONSUMER
CREEK

DECOMPOSER
ECOSYSTEM
ENVIRONMENT
HABITAT
LAKE

METAMORPHOSIS
NICHE
PRODUCER
REPTILE
WATERSHED

Aquatic Habitat Exploration: 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 extend student learning about aquatic creatures and the habitats they belong to.

[RAFT Idea: Bug Pooter - Resource Area For Teaching - RAFT Bay Area](#)

Grades Covered: K through 10

Subjects Covered: Life Science

Curriculum topics: Arthropods, Observation, Classification, Insects

Description: A safe, humane way to collect and observe small creatures...

<http://www.raftbayarea.org/ideas/Bug%20Pooter.pdf>

[RAFT Idea: Mini Ice Mountains – Resource Area For Teaching – RAFT Bay Area](#)

Grades Covered: K through 10

Subjects Covered: Physical Science, Earth/Space Science

Curriculum topics: Landforms, Erosion, Patterns in Nature, Phases of Matter

Description: Use “mini mountains” of ice to observe how lakes, rivers, streams, and ice caves are formed...

<http://www.raftbayarea.org/ideas/Mini%20Ice%20Mountains.pdf>

[RAFT Idea: Ocean in a Box – Resource Area For Teaching – RAFT Bay Area](#)

Grades Covered: K through 6

Subjects Covered: Life Science, Earth/Space Science, Art

Curriculum topics: Oceanography, Environments, Ecology

Description: Our oceans have an entire world of aquatic life ...

<http://www.raftbayarea.org/ideas/Ocean%20in%20a%20Box.pdf>

[RAFT Idea: Water Cycle in 3D – Resource Area For Teaching – RAFT Bay Area](#)

Grades Covered: Pre-K through 12

Subjects Covered: Physical Science, Earth/Space Science

Curriculum topics: Water Cycle, Weather, Atmosphere

Description: Students use a circular format to create a realistic model of all phases of the water cycle ...

<http://www.raftbayarea.org/ideas/Land%20or%20Water.pdf>

Aquatic Habitat Exploration: Education Standards

The following pages cite California Science Content Standards, Common Core Standards, and Next Generation Science Standards which students will be exposed to during the program.

California Science Content Standards Third Grade:

Physical Sciences: 1. Energy and matter have multiple forms and can be changed from one form to another. As a basis for understanding this concept:

a. *Students know* energy comes to the earth in the form of light.

2. Light has a source and travels in a direction. As a basis for understanding this concept:

a. *Students know* sunlight can be blocked to create shadows.

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 animals 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* 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.

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, 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/>

Aquatic Habitat Exploration: Education Standards

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:**
 - **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)

Inheritance and Variations of Traits: Life Cycles and Traits

- **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)

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