
Aquatic Habitat Exploration



Second-Grade Teacher Resource Guide

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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

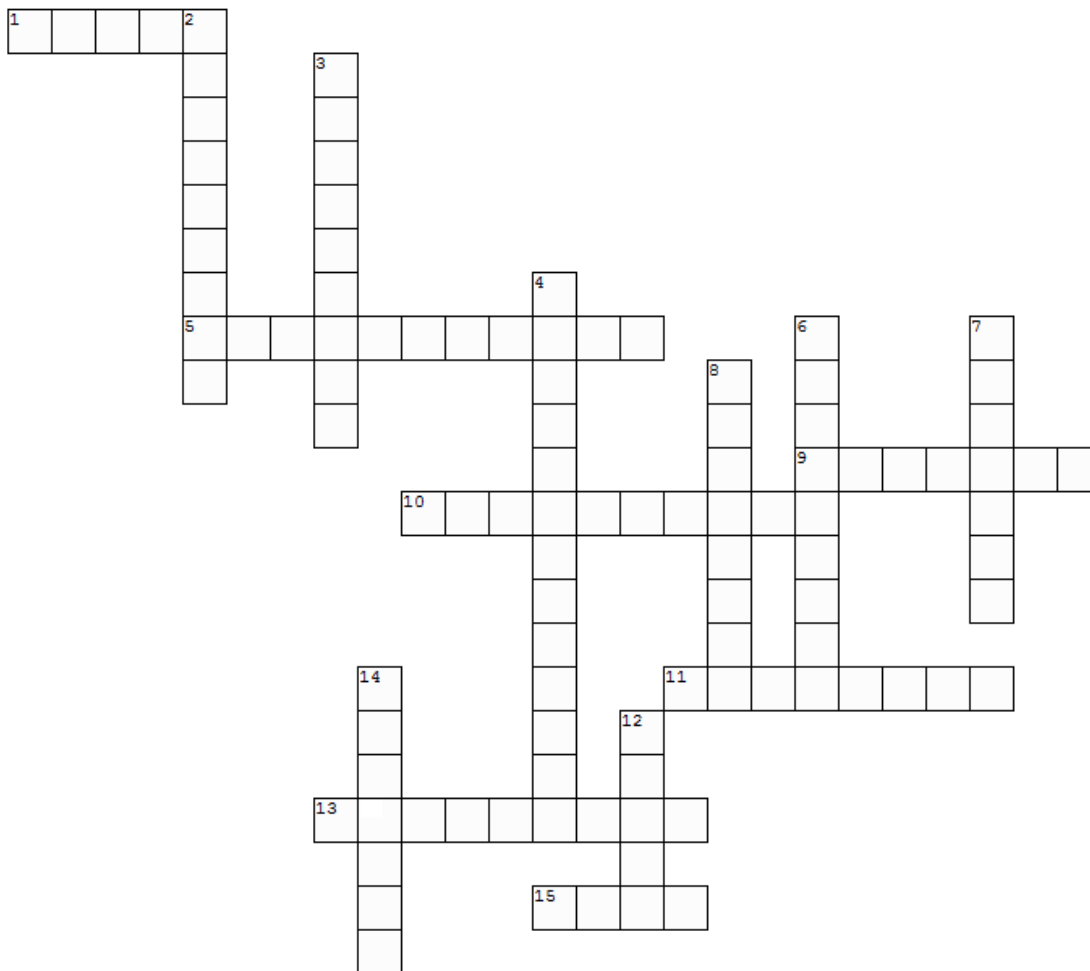
Producer: an organism that takes energy from light to produce living compounds

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.

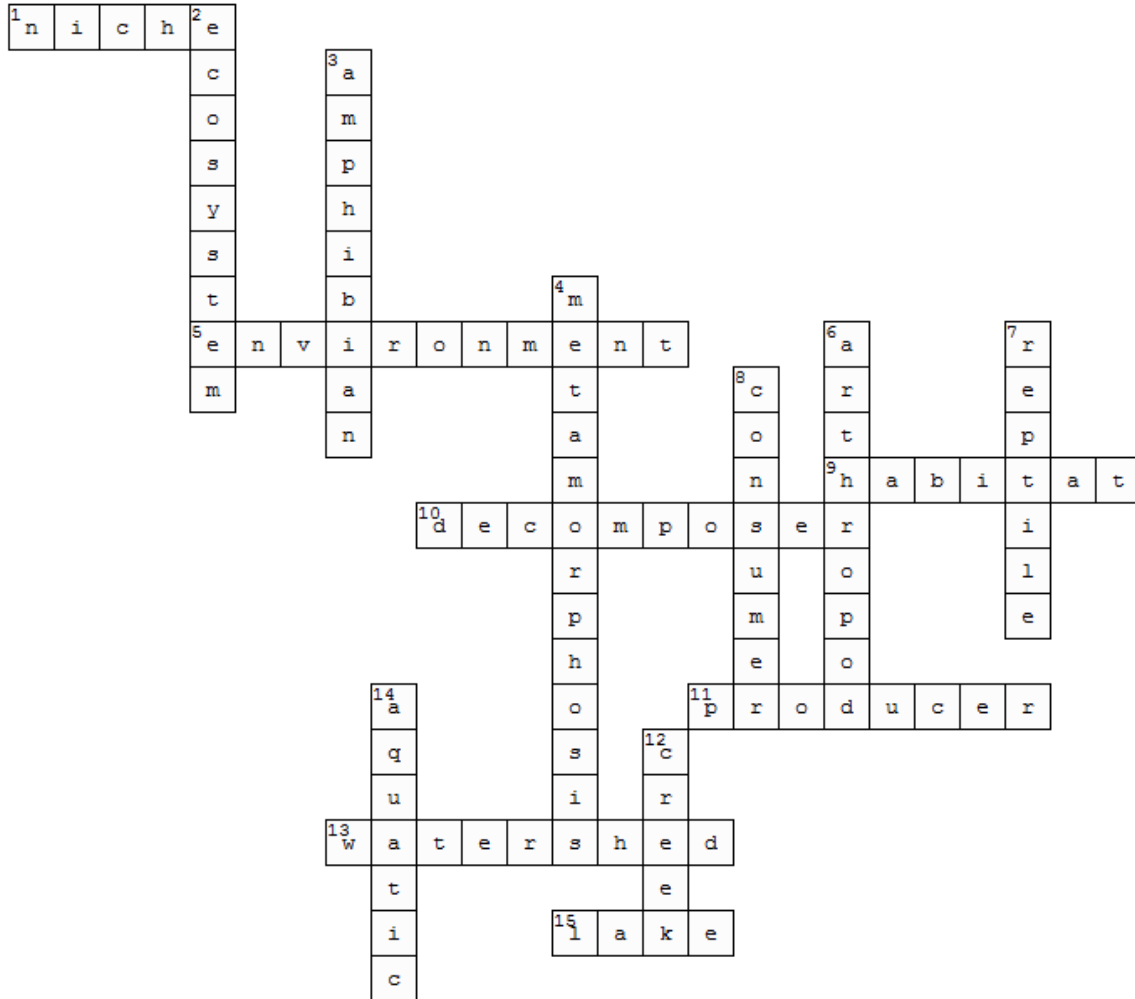
Down

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.

Definitions based on www.dictionary.reference.com

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

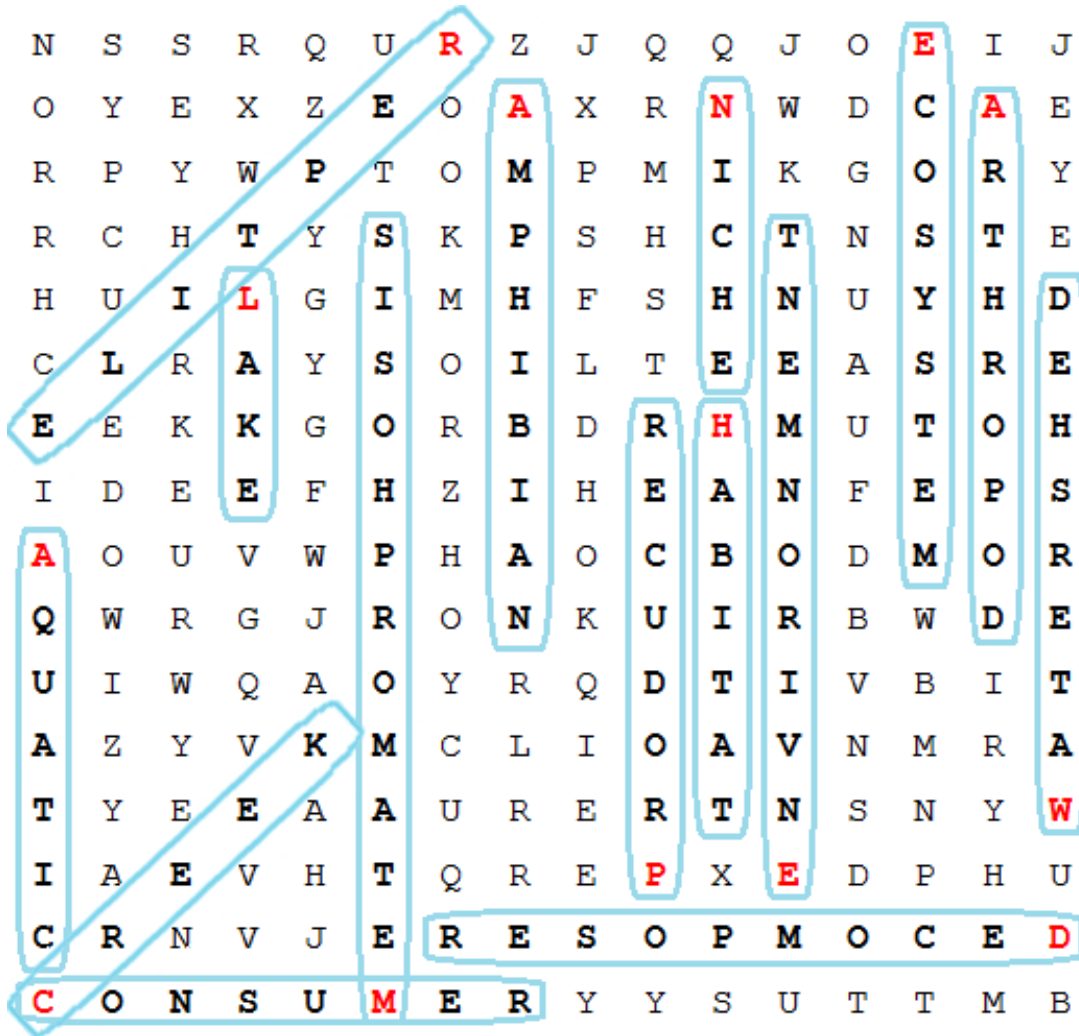
Word Bank

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
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WATERSHE

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>

Aquatic Habitat Exploration: Education Standards

The following page cites 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 Second Grade:

Life Sciences: 2. Plants and animals have predictable life cycles. As a basis for understanding this concept:

- a. *Students know* that organisms reproduce offspring of their own kind and that the offspring resemble their parents and one another.
- b. *Students know* the sequential stages of life cycles are different for different animals, such as butterflies, frogs, and mice.
- c. *Students know* many characteristics of an organism are inherited from the parents. Some characteristics are caused or influenced by the environment.
- d. *Students know* there is variation among individuals of one kind within a population.

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

Common Core Second Grade:

Speaking and Listening Standards: Students will...

1. Participate in collaborative conversations with diverse partners about grade 2 topics with peers and adults in small and larger groups.
 - a. Follow agreed-upon rules for discussions.
 - b. Build on others' talk in conversations by linking their topics to the remarks of others.
 - c. Ask for clarification and further information as needed about the topics under discussion.
2. Recount or describe key information from information presented orally.
3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or clarify something that is not understood.

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

Next Generation Science Standards Second Grade:

Interdependent Relationships in Ecosystems

- **2-LS4-1:** Make observations of plants and animals to compare the diversity of life in different habitats.
 - **Science and Engineering Practices:**
 - **Planning and Carrying Out Investigations:** Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.
-Make observations (firsthand or from media) to collect data which can be used to make comparisons. (2-LS4-1)
 - **Scientific Knowledge is Based on Empirical Evidence:** Scientists look for patterns and order when making observations about the world. (2-LS4-1)
 - **Disciplinary core ideas:**
 - **LS4.D: Biodiversity and Humans:** There are many different kinds of living things in any area, and they exist in different places on land and in water. (2-LS4-1)

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