
Life in a Pond



Second-Grade Teacher Resource Guide

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Life in a Pond: Lesson Summary and Vocabulary

Lesson Summary: YSI's *Life in a Pond* program allows students to touch and examine aquatic animals and acquire a greater understanding of the pond's unique ecology. The presentation focuses on both instructor-led discussion and hands-on activities. Students will first work as a group to put together a model of a pond. They will discuss the role of each plant, animal, and object in forming an interactive system, and come to understand how the food chain is sustained. Discussion will continue as the instructor presents live examples, touching on the physical adaptations, diets, roles, and growth of different aquatic organisms. Throughout the program, students will be challenged to use their critical thinking skills to answer a wide range of open-ended questions and construct a comprehensive picture of life within our local ponds.

Vocabulary: Below are words and concepts that relate to the *Life in a Pond* program.

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

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

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

Fresh Water: inland water that does not contain large quantities of salt like the ocean

Larva (Entomology): the wingless, feeding stage of an insect that undergoes complete metamorphosis

Metamorphosis (Biology): major changes in form from one stage to the next in the life cycle of an organism

Nymph (Entomology): the young of an insect that does not undergo complete metamorphosis, usually differs from the adult in that it is smaller and does not have wings

Pond: a still body of fresh water that is smaller, and shallower than a **lake**. Ponds and lakes form in natural or man-made depressions or from building banks or dams around an area.

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

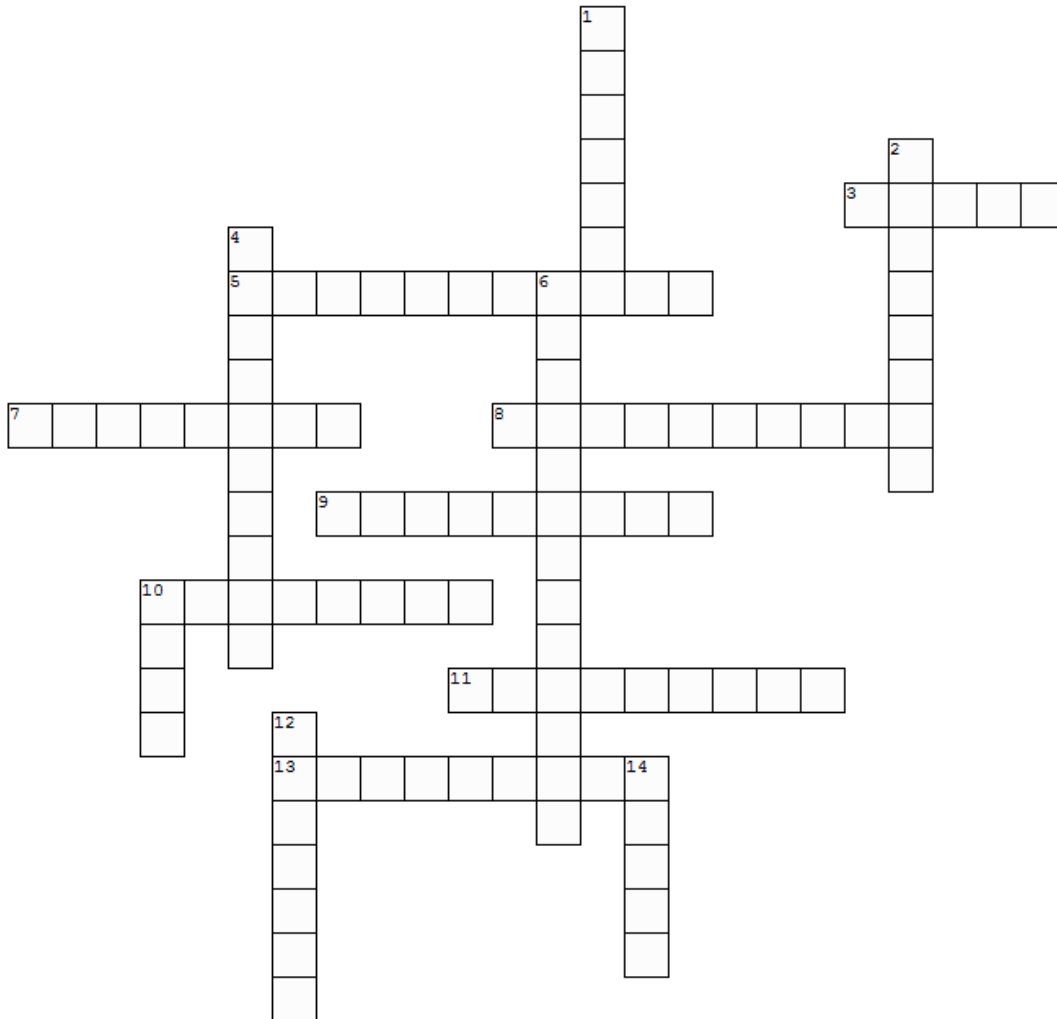
Reptile: a cold-blooded animal with dry scaly skin that typically lays soft-shelled eggs on land

River: a large flowing body of fresh water; smaller flowing bodies of water are called **creeks** or **streams**

Water Cycle: the circulation of the earth's water, in which water **evaporates** from the oceans into the atmosphere, **condenses** to form clouds, falls as **precipitation** (rain, snow, sleet), and returns to the oceans via fresh water bodies on land

Definitions based on www.dictionary.reference.com

Life in a Pond Language Arts Crossword Puzzle



- | | | | | | | |
|---------------|----------|-------------|----------|------------|-----------|------------|
| TRAIT | NICHE | ARTHROPOD | HABITAT | AMPHIBIAN | ECOSYSTEM | CAMOUFLAGE |
| ENVIRONMENT | PRODUCER | INHERITANCE | PREDATOR | DECOMPOSER | REPTILE | PREY |
| METAMORPHOSIS | | | CONSUMER | | | |

Down

1. A cold-blooded animal with scales.
2. An organism that uses sunlight, water, and air to make its own food.
4. An animal that feeds on dead matter and breaks it down into parts of the soil.
6. Changes in an animal's form from birth to adult
10. An animal that is hunted, caught, and eaten by another animal.
12. The natural environment of a plant or animal.
14. The part of an ecological system occupied by a particular organism, or the functions of that organism in the system.

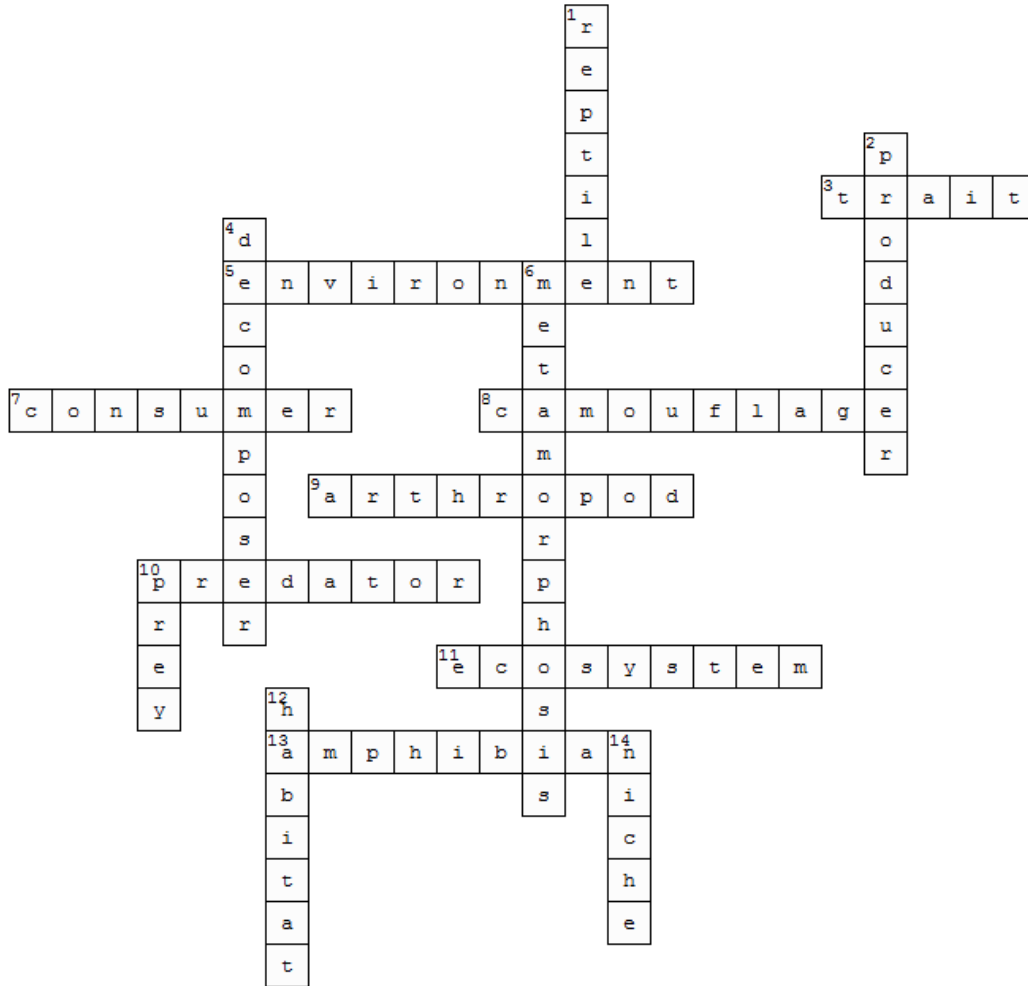
Across

3. A distinguishing feature or characteristic, as of one's appearance, personality, or nature.
5. The sum of everything that surrounds animals and humans in the natural world.
7. An organism that receives energy to live by consuming other organisms.
8. Blending in with an environment.
9. An animal with an exoskeleton and jointed legs.
10. An animal that hunts and eats other animals.
11. A community of living things, together with their environment.
13. An animal that lives both in the water and on land.

Answer Key

Life in a Pond

Language Arts Crossword Puzzle



Down

1. A cold-blooded animal with scales (**reptile**).
2. An organism that uses sunlight, water, and air to make its own food (**producer**).
4. An animal that feeds on dead matter and breaks it down into simpler compounds (**decomposer**).
6. Changes in an animal's form from birth to adult (**metamorphosis**).
10. The object of a hunt or pursuit, usually one animal caught and eaten by another (**prey**).
12. The natural environment of a plant or animal (**habitat**).
14. The part of an ecological system occupied by a particular organism, or the functions of that organism in the system (**niche**).

Across

3. A distinguishing feature or characteristic, as of one's appearance, personality, or nature (**trait**).
5. The sum of everything that surrounds animals and humans in the natural world (**environment**).
7. An organism that receives energy to live by consuming other organisms (**consumer**).
8. Blending in with an environment (**camouflage**).
9. An animal with an exoskeleton and jointed legs (**arthropod**).
10. An animal that hunts and eats other animals (**predator**).
11. A community of living things, together with their environment (**ecosystem**).
13. An animal that lives both in the water and on land (**amphibian**).

Life in a Pond Language Arts Word Search

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

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

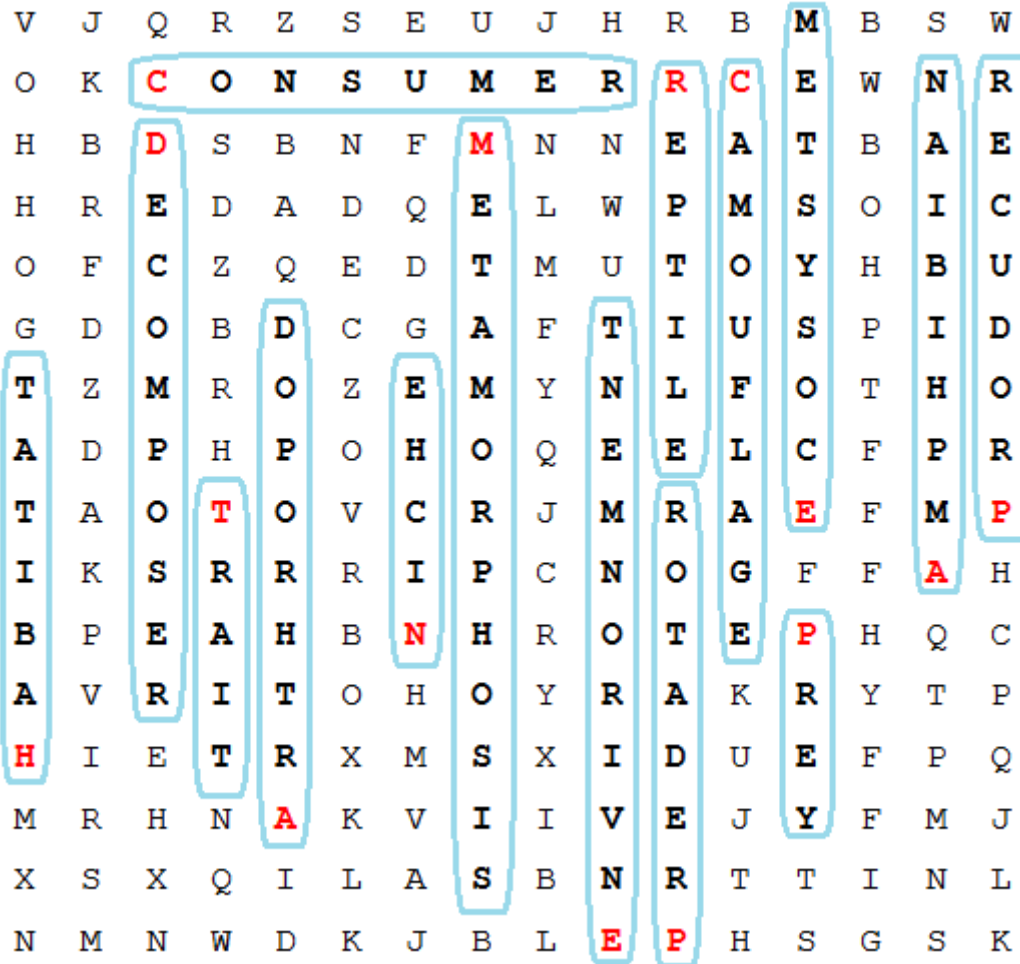
Word Bank

AMPHIBIAN
ARTHROPOD
CAMOUFLAGE
CONSUMER
DECOMPOSER

ECOSYSTEM
ENVIRONMENT
HABITAT
METAMORPHOSIS
INHERITANCE

PREDATOR
PREY
PRODUCER
REPTILE
TRAIT

Answer Key
Life in a Pond
Language Arts Word Search



Word Bank

AMPHIBIAN
ARTHROPOD
CAMOUFLAGE
CONSUMER
DECOMPOSER

ECOSYSTEM
ENVIRONMENT
HABITAT
METAMORPHOSIS
NICHE

PREDATOR
PREY
PRODUCER
REPTILE
TRAIT

Life in a Pond: 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 life in a pond.

[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 Our oceans have an entire world of aquatic life, and provide a home to thousands of species...

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

[RAFT Idea Land or Water – Resource Area For Teaching – RAFT Bay Area](#)

Grades Covered: Pre-K through 3

Subjects Covered: Life Science

Curriculum topics: Animals, Environments, Sorting and Classifying

Primary learners can sort animals into two categories in this activity: those that live on the land, and those that live in the water...

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

[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.

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

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

Life in a Pond: Education Standards

Our Life in a Pond 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 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/>