
Life in a Pond



Pre-Kindergarten 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

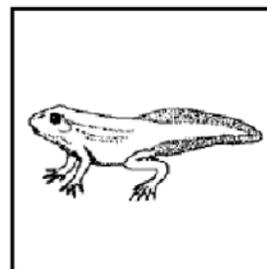
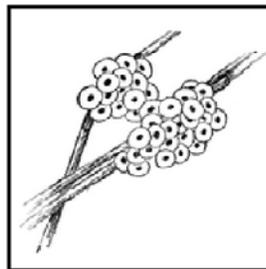
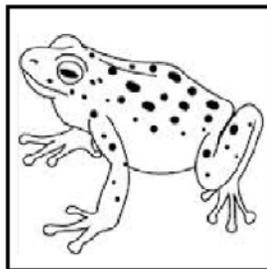
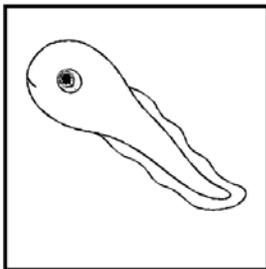
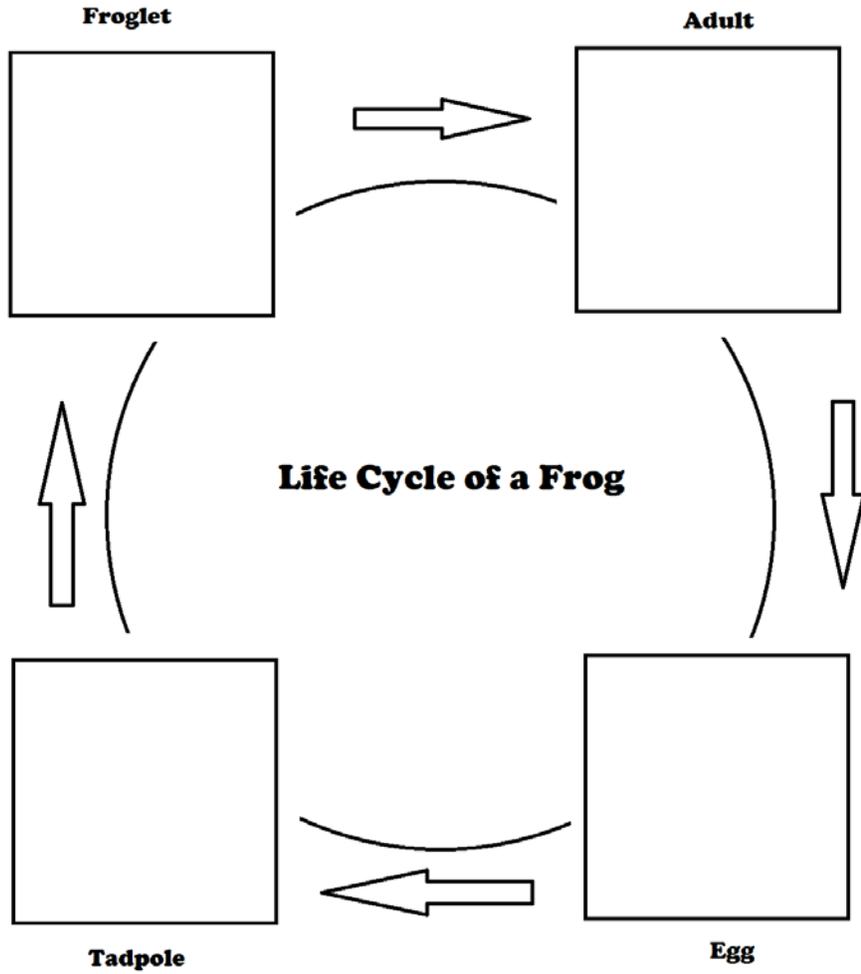
River: a large flowing body of fresh water; smaller flowing bodies of water are called **creeks** or **streams**

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 Activity Page

Color, cut and paste each picture into the correct box



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 following standards from the Head Start Framework for 3-5 year olds:

Physical Development & Health: Health Knowledge & Practice

- Follows basic health and safety rules and responds appropriately to harmful or unsafe situations.
- Participates in structured and unstructured physical activities.

Gross Motor Skills

- Develops motor control and balance for a range of physical activities, such as walking, propelling a wheelchair or mobility device, skipping, running, climbing, and hopping.

Fine Motor Skills

- Develops hand strength and dexterity.
- Manipulates a range of objects such as blocks or books.

Social & Emotional Development: Social Relationships

- Cooperates with others.
- Uses socially appropriate behavior with peers and adults, such as helping, sharing, and taking turns.
- Recognizes how actions affect others and accepts consequences of one's actions.

Self-regulation

- Follows simple rules, routines, and directions.

Emotional & Behavioral Health

- Adapts to new environments with appropriate emotions and behaviors.

Approaches to Learning: Initiative & Curiosity

- Demonstrates eagerness to learn about and discuss a range of topics, ideas, and tasks.
- Asks questions and seeks new information

Cooperation

- Helps, shares, and cooperates in a group.

Logic & Reasoning: Reasoning and Problem Solving

- Recognizes cause and effect relationships.
- Classifies, compares, and contrasts objects, events, and experiences.
- Uses past knowledge to build new knowledge.

Language Development: Receptive Language

- Attends to language during conversations, songs, stories, or other learning experiences.
- Comprehends increasingly complex and varied vocabulary.
- Comprehends different forms of language, such as questions or exclamations.

Mathematics Knowledge & Skills: Number Concepts & Quantities

- Recognizes numbers and quantities in the everyday environment.

Life in a Pond: Education Standards

Geometry & Spatial Sense

- Compares objects in size and shape.
- Understands directionality, order, and position of objects, such as up, down, in front, behind.

Measurement & Comparison

- Compares objects using attributes of length, weight, and size (bigger, longer, taller, heavier).
- Uses nonstandard and standard techniques and tools to measure and compare.

Science Knowledge & Skills Scientific Skills & Method

- Uses senses and tools, including technology, to gather information, investigate materials and observe processes and relationships.
- Observes and discusses common properties, differences, and comparisons among objects.
- Participates in simple investigations to form hypotheses, gather observations, draw conclusions, and form generalizations.

Conceptual Knowledge of the Natural & Physical World

- Observes, describes, and discusses living things and natural processes.
- Observes, describes, and discusses properties of materials and transformation of substances.

Social Studies Knowledge & Skills: People & the Environment

- Recognizes aspects of the environment, such as roads, buildings, trees, gardens, bodies of water, or land formations.
- Recognizes that people share the environment with other people, animals, and plants.
- Understands that people can take care of the environment through activities, such as recycling

Excerpted from: <http://www.acf.hhs.gov/programs/ohs/resource/hs-child-development-early-learning-framework>