



# Once I was an egg

## LESSON

**GRADE LEVEL** Grade 4 to 7

**CATEGORY** Plants, Animals, and Habitats

**TOPIC** Frog development and environmental stressors

### TIME

45 minutes

### MATERIALS

- story lines
- scrapbook/notebook
- writing materials/glue

### GROUP SIZE

In small groups or individual

### SUBJECTS

Language Arts, Science

### SETTING

Classroom

### SKILLS

Reasoning, synthesis, communicating, teamwork

### KEYWORDS

Habitat, life cycle, impacts, wetlands, stewardship

## Overview

By piecing together sentences representing pond breeding amphibian lifestages, seasonal behavior, and environmental impacts in the correct order students will demonstrate their understanding of a frog's lifecycle.

## Objectives

Students will be able to:

- Demonstrate knowledge of the developmental stages a frog goes through from egg to breeding adult
- Demonstrate understanding of environmental impacts to pond breeding amphibians

## Background

Amphibians depend on aquatic habitat including wetlands, ponds, and marshes to complete their lifecycle, reproduce and disperse. Amphibians are also very sensitive to pollution that can easily be absorbed through their skin. Wetland habitats occur in low lying areas – the same part of the landscape that humans choose to build roads and housing. Recognizing amphibian breeding habitat will help students understand the potential impacts of human land use and the importance of habitat stewardship.

## Procedure

1. Discuss with students the stages in the life cycle of frogs. Review a frog's predators and prey. Discuss stresses on a pond that affect a frog's survival.
2. Divide students into groups of 2 or 3 or have them work individually.
3. Give each group a copy of the story lines and have them cut and paste them into a story that makes sense. For shorter versions of the story you could reduce the number of statements used. i.e. For a simpler story, you may only want to use 20 statements: 1, 2, 3, 5, 6, 8, 10, 11, 12, 13, 14, 15, 21, 23, 25, 27, 28, 30, 32 and 33. For a basic story you may only want to have the students sort ten statements: 1, 3, 5, 6, 13, 14, 21, 28, 32 and 33.

4. Have students share their versions of the story with the class.
5. Assessment – Examine whether or not the students have been able to identify, sort and arrange to pieces into the correct sequence

## Extensions

Have students draw pictures to complement the story lines and make a storybook that could be read to other classes of students, or just kept in the class as a reference.

## Story of the lifecycle of a frog

1. You are one egg in a cluster of hundreds. Some hungry fish are hanging around. Don't wiggle in your see-through egg and maybe they won't eat you.
2. The sun has moved over the pond. Half of the egg cluster is sitting in the sun. Some of the eggs do not survive because they dry out.
3. You hatch safely into a tadpole.
4. The sun has caused algae to grow in the pond. You have plenty of fresh, slimy green algae to eat.
5. You grow legs, your tail is absorbed, your eyelids appear, your gills are absorbed and lungs develop.
6. You hop out of the water and take your first jumps on land.
7. A big bullfrog hops out near you and eats the mosquito you were about to catch.
8. The trees are cut down on one side of the pond. The water starts to dry up so you have to move to the other side of the pond.
9. El Niño changes the weather pattern. It's too hot and dry for you to eat. You lose weight.
10. The weather pattern changes again. Heavy rains put more water in your pond.
11. Heavy rains wash oil into the pond from a nearby road. It kills some of your friends but you survive.
12. You move to a new pond because yours has become polluted.
13. Winter is coming so you hibernate in the mud of your new pond.
14. Winter turns to spring and as the temperature warms up, you begin to practice your croaking.
15. The mosquitoes are beginning to hatch. You're looking forward to a huge meal.
16. You're so full of tasty mosquitoes that you take time to rest on a lily pad.
17. A pesticide truck sprays your pond to kill the mosquitoes. The spray burns your sensitive skin and leaves you without food.
18. You and your friends decide to move to another pond. Migrating across the road, five of your friends are run over but you make it across.
19. Suddenly a whole bunch of people with nets are wading through the pond. They are collecting your friends and putting them in containers with lids. You dive to the bottom of the pond to escape possible capture.
20. Thank goodness you won't be frog legs on someone's plate! The frog hunters are gone. You croak with joy.
21. You hear the singing of a male near by, and go to find a suitable mate. You lay 350 eggs and your mate fertilizes them..
22. Global climate change brings more extreme weather. It's a hot and dry summer and only a few of your eggs survive.
23. The eggs shaded by the brush and huge pine trees survive and escape damage from the sun's ultraviolet rays.
24. It's a nice warm day and you rest on your lily pad.
25. Snakes, salamanders and bullfrogs eat more than half of your eggs.
26. The warm weather makes the mayflies hatch. You eat a dozen in just a few minutes.
27. A group of local citizens keep your pond from being drained for a housing development.
28. Finally 75 of your eggs survive and hatch into tadpoles.
29. Thirty of your tadpoles escape being eaten by a Great Blue Heron.
30. A protected wetland acts as a filter for pollution before it washes into your pond.
31. Suddenly, a human hand grabs you from the water. After giving you a kiss, they gently place you in the water. Thank goodness their hands were wet and they didn't hurt your sensitive skin.
32. Twenty of your 75 tadpoles finally grow legs and leave the water.
33. Congratulations! You've completed the life cycle!



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