

# Pond Ecology

## *Water Babies*

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Post-visit activity, all grades

Adapted from Shelburne Farms Project Seasons, Deborah Parella

### Objective

Students will learn about the different stages in various water animals' life cycles and will recognize juvenile and adult stages in different animal groups.

### Materials

- Baby pictures of students
- Animal Cards depicting water animals in their juvenile and adult stages (examples could include a duck, turtle, frog, salamander, mosquito, dragonfly, beaver, or racoon)

### Background

When mammals are born, they look much like smaller versions of adults. For some animals however, the change from juvenile to adult is dramatic and you might not even be able to recognize they are the same animal. This change in form is called metamorphosis. Animals like frogs and dragonflies go through gradual or incomplete metamorphosis. The young vaguely resemble the adult counterparts and gradually change. Insects like butterflies and mosquitoes go through complete metamorphosis. They hatch from eggs into larvae whose primary purpose is to eat and grow. When they reach a certain size, they form pupae, a stage during which complex changes occur, rearranging their whole-body structure. The creatures that emerge look nothing like their former larvae selves.

## Procedure

1. Ask the students to bring in baby pictures of themselves. Students should write their names on the back of their pictures. Tell them not to show anyone their picture, as the class will be using them for a guessing activity.
2. Collect the pictures and display them together in a central location. Explain to the students that people are mammals and mammal babies look like the adults they become. Ask the students what things change in people's and other mammals' appearances as they get older. What features tend to remain the same?
3. Explain to the students that you will hold up their baby pictures one at a time. They will need to look at each picture and try to match it to the correct classmate. Remind them to look at features which tend to remain the same. Continue until they match all pictures.
4. Tell the students they will now be doing a matching activity with water animals. Explain that in some groups of animals, the young look very similar to the adults and may only differ in size. In other groups, the young look very different from the adults. These latter animals are said to undergo metamorphosis as they change in form. Can the children think of any examples? (Caterpillar to butterfly, tadpole to frog, etc.)
5. Pass out cards to the students with pictures of different water animals. Ask the students not to show their cards to each other. Explain that some of the cards are pictures of adult animals and others are pictures of their young. Have the students look at their picture carefully for clues to which stage of the life cycle their card represents. Ask them to divide themselves into two groups according to their card: one for adults, the other for juveniles. You may have to help students divide themselves up into two groups.
6. Within these groups, have the students show their cards to each other. Have the students who represent the adult animals discuss what they think their animal looked like when it was a juvenile. Did it look similar, or did it undergo metamorphosis? Have the students with pictures of the juveniles do the same. What might their animal look like as an adult?

7. When the students have finished their discussions, bring the two groups together. Explain that each of them has a match in the other group. Have the students stand in two lines facing each other. Have them all hold up their cards simultaneously. Give them time to observe all the cards. When you say, "Go," have each student find their match.
  
8. Review their choices. Which animals were easiest to match? Which animals were more difficult? What types of animals do not go through extreme changes between a juvenile and an adult? (Mammals, reptiles, and birds). Which animals undergo metamorphosis and experience lots of changes? (Insects and amphibians)

## Extension

Watch the life cycle of a frog, mealworm, or butterfly.