

From Spawn to Tree Frog; 12 weeks of discovery in the classroom



The primary target audience for the project are the 19 five and six year old students in my class. The secondary audience are the 57 other kindergarten students in the school and then finally over 450 students ages six to twelve, teachers, support staff and school and school board administrators who take interest in the progress of the tadpoles, as well as parents and visitors to the school.

Abstract

St. Lambert Elementary School is near the Saint Laurence River across from Montreal. At one time, Saint-Lambert was called “Mouilleped” as it was a wetland where children could easily find frogs and salamanders in their natural habitat. Development around the island of Montreal has eliminated many of the marshes critical to the survival of Frogs, notably the “Boreal Chorus Frog” *Pseudacris Maculata*. Having access to a pond with a very healthy and varied frog population about 100 km from Montreal, about 18 years ago I decided to introduce my students to the life cycle of the “Spring Peeper” (*Pseudacris Crucifer*).

The **goals** of the project are to expose students, their families and the school population to the fragility of wetlands and the species that populate them. This is accomplished by raising about thirty frogs in a small wading pool in the school hallway. Students are exposed to the vocabulary associated with the habitat, physical characteristics of the frogs and more. They become aware of the needs of the spawn, tadpoles and frogs with regards to feeding and maintaining an adequate ecosystem. A major goal is for children to learn to observe, and to ask questions.

Activities integrated in the project include Art, Language Arts, Science and Technology, Music and Motor Development.

Outcomes: This project takes place from April to June. The students have the opportunity to see the metamorphosis as it takes place. Students (and parents) become more enthusiastic and curious while looking for wildlife during our weekly nature walks. Some children choose to spend free time sitting by the pool observing and telling visitors about the frogs. The project strengthens our bond with parents who are invited to visit the project during an open house, but who may also come to visit after school with their children. I post information so that parents can learn more about the vulnerability about frogs in general. We are very happy that many parents report an increase in outside of school outdoor activities with their families.



Description of the project

The project begins when the ice has melted on the pond south of Saint-Lambert and the frogs can be heard calling to one another. That weekend I collect as small a clump as possible of spawn (eggs) from a large as possible collection (My goal is to take a tiny fraction of the eggs from the pond). The eggs are transported with pond water to the school.

Monday, I place a small aquarium with the spawn and 2 liters of pond water in the middle of my circle of students. The children lie on their tummies shoulder to shoulder so all can see well. After several minutes of observations and excited discussion the children sit up and I ask if anyone knows what is in the water. The responses are numerous and varied depending on the group.

Using chart paper I begin a diary for our observations. Day 1 being the Sunday that I collected the spawn. Using the Smart Board I show some photos of the pond where it was collected. I draw a picture of the clump of spawn. I write all the information that the children propose. We draw a picture of what the spawn look like in the aquarium, date the page and call it Day 2.

Because it is so much warmer inside the classroom, the spawn quickly change from small black balls to ovals with tails and then they hatch. It never takes more than a week. Each time their shape changes we do a class diary entry.

The aquarium is moved to a safe but easily observable shelf and an air pump is installed to keep the water oxygenated. We use the aquarium until the tadpoles have hatched, eaten their egg sacs and are beginning to eat gold fish food flakes, pellets as well as lettuce softened in the microwave oven. They are also very fond of frozen mosquito larvae.

We begin reading documentaries about frogs, we also read about wetlands, insects and the other creatures that live around the ponds, and many more books are available in the reading corner (The students especially enjoy “adult” guidebooks about amphibians and insects. Large labels are made and posted around the class to expose the children to new vocabulary associated with the habitat, physical characteristics of the frogs and more. (For my students this means learning the vocabulary in French which might be their second or third language.

A few days after the tadpoles hatch I start a discussion with the students about whether or not the tadpoles like living in an aquarium. I try to get their suggestions for what would make the tadpoles more comfortable as they grow. Using our chart paper diary we do a page entitled Habitat. We establish that we need a much larger basin, mud, rocks, aquatic plants, light, good air circulation, insects, food and the air pump.

(At this time if there are too many tadpoles I carefully return some to their pond of origin)

We install a small children’s pool on top of my sand table and line it with Kraft paper covered with a large (medium gauge) plastic sheet. The children help to pour buckets of tap water in the pool to a depth of about 10 cm). That evening I go to the last surviving wetland in my town (Where unfortunately I have never seen or heard a frog) and collect some duck weed, some mud and a tangle of vegetation from the edge of the pond and if possible a cattail plant. The next morning we carefully put the pond muck in the pool and add a smooth rock to provide a place for the growing tadpoles to rest. We move the air pump to the pool to help the suspended matter to settle and go to lunch. We are all very excited when the water is clear enough for the tadpoles to be moved to their new pond. The tadpoles stay in the pool for several weeks until their back legs are fully developed, and the front legs are barely emerging. This seems to be the optimal time to catch and transport the tadpoles / frogs back to their pond of origin so that they can adapt to feeding themselves before they are ready to explore outside the pond. (They become too fragile to transport once fully developed.)

During the weeks the tadpoles are with us they become part of the daily routine. The student helper of the day is responsible for feeding, and many students enjoy the role of guide for the many visitors. The students are encouraged to bring associated materials to school (books, puzzles, films, photos). The class centers include frog themed activities. We do **not** handle the frogs, and all the students explain that rule to visitors.

- Music is explored with the different sounds associated with different types of frogs and the sounds heard at a pond. A frog shaped ‘Guiro’ instrument is used to recreate the chirping sound that tree frogs make. Many songs are sung, including: “La grenouille qui a la trouille” (Frimousse, mon baluchon de chansons monfrimousse.com)

- Art activities include drawing, painting, sculpture and collage. Links can be made to Monet's pond life as well as frogs found in illustrations in children's literature.
- Language Arts are encouraged through journal writing, stories, documentaries, poems and songs.



- Science and technology are exploited with regards to the physical development of the frogs, but also with the mechanical aspect of the air pump that is essential for their survival. Lego Wedo robotics are used to make tadpoles and frogs that can be programmed to move and make sounds.

- Fine motor development is explored with puzzles, Legos, etc while gross motor development is encouraged through songs, dancing and games.



- Older children often write about the project as one of the fondest memories of elementary school.





As we know that children will find frogs during holidays with their parents, so we discuss the importance of never touching a frog while wearing sunscreen, of being gentle and handling frogs as little as possible. We also talk about the importance of leaving frogs in their habitat (comparing the size of a swimming pool for tree frog tadpoles with what would be needed for fully developed frogs that jump).

In order to continue this ESD activity, I have been encouraging younger teachers in the school to participate in the project with me. We will also continue share about 10 eggs per year with with a young teacher who started a project of her own after seeing pictures of my pool. She has been sharing information within the french kindergarten teachers network. I was very pleased that in 2018 my project was chosen to be published in the following web site <https://biogenus.ca/projets-scolaires-inspirants/elevage-de-rainettes-a-lecole/> and hope that it will inspire other teachers in their work.