



Lesson Plan: An Introduction To BC's FrogWatch Program

**Note: this field trip activity requires the additional planning and parental assistance associated with out-of-school activities.*

Note:

This activity builds on the Endangered Species theme found in the May/June 2007 issue of Green Star!

Grades: 4-7

Materials:

- Internet for researching purposes (optional)
- Clipboard and paper
- Pens, pencils, colours
- Camera (optional)
- Appropriate field trip wear

Keywords:

- Amphibian
- Metamorphosis
- Bio-indicator
- Yellow-listed
- Herpetologists

Frogs are an important part of the ecosystem. They need a healthy environment to complete their life cycle from egg to adult frog, and are well known for their sensitivity to pollution, living in water and on the land. ****Please refer to The Life of a Frog Teacher's Backgrounder (January Green Star lesson plan) for more information on frogs and their role as bio-indicators.**

Ten years ago, when scientists began to notice a decline in the numbers of amphibians, especially frogs, it became obvious that something was very wrong - entire populations and even species of frogs seemed to be disappearing, even from apparently pristine areas! Canadian herpetologists (scientists who study amphibians and reptiles) are studying declines in various species, hoping to determine causes and possible solutions. Volunteer monitoring programs are important because they are often the first signal that a particular species is declining.

This activity is linked to **FrogWatch**, a program dedicated to tracking frog and toad observations in BC. Students will attempt frog observations at a local pond or wetland and report such findings to BC FrogWatch.

Objective:

After completing this lesson, students will have not only learned valuable field skills, but will also gain a greater appreciation for frogs, the environments they habituate and the care needed to keep our ecosystems intact. With the background information provided, students will also learn the key characteristics of frogs and amphibians, the role they play as bio-indicators, and the various conditions that cause harm to frogs and the ecosystems.

Procedure:

1. Read *The Life of a Frog Teacher's Backgrounder*. This information is meant to supplement a teachers understanding of frogs and amphibians, how frogs have become known as bio-indicators, and causes for their decline in population.
2. Outline for students the key characteristics of amphibians and frogs. Referring to the Teacher's Backgrounder, include life cycle, habitat, and environmental concerns. Depending on students' reading ability, you may want to provide students with this material.
3. Become familiar with the frogs in your area. Refer to the Sierra Club of Canada, BC Chapter Ecoprovince map or visit the Environmental Stewardship Division of the Ministry of Environment for the list of frogs that can be found in the various parts of B.C.
 - Ecoprovince Map: sierraclub.ca/bc/programs/education
 - Min. of Environment: <http://www.env.gov.bc.ca/wld/frogwatch/whoswho/whoswho.htm>

Learn the frog calls. Visit the FrogWatch site to hear the unique calls of frogs and toads in BC and become familiar with their sounds. You might even want to record these calls for play back in the field. <http://www.naturewatch.ca/english/frogwatch/bc/steps.html>

4. Prepare to take your students to a local pond or wetland. Steps for this part in the procedure are not included here, however students should be equipped with notebooks or clipboards on which to record their results, should be dressed appropriately, and should be aware of all safety precautions associated with a field trip.

Divide your class into study groups, possibly separating those that might contribute additional noise if put together. If you are not already familiar with the pond site, visit it in your own time. Mark areas where the different groups will be located (5 to 10 meters apart) and have this mapped for your own reference. Provide students with useful tips in observation:

- Suggest students settle comfortably where they can sit for some time
- Encourage silent observation with little to no talk or movement
- Be sure to have a parent/volunteer for each small group

Other considerations: In British Columbia, frogs and toads call from April to June. Choose a suitable location and listen for three minutes (or longer if possible). While dusk is the best time to monitor, fear not - some species call during the day, especially after rain!

5. Once students are assembled near the pond or wetland, remind them that their quiet observation will produce greater results. Have them quietly locate their observation posts and monitor students by visiting each group.
6. Listen for frogs and toads. Have students record their observations on paper, writing down descriptive words for sounds or calls, including details like how frequent the succession, how loud, and approximate locations. The following "abundance codes" should be used:
 1. No frogs or toads seen or heard
 2. Frog (s) or toads (s) seen but not heard
 3. Individuals can be counted, calls not overlapping
 4. Some individuals can be counted, other calls overlapping
 5. Full chorus, calls continuous and overlapping, individuals not distinguishable
7. Additional Activity: If time permits, have the students sketch their location of study, including the various plants and landforms in this habitat.
8. Collect all observation sheets. Information can be shared with FrogWatch BC by recording information onto their *FrogWatch Sighting Form*. Visit their site at: <http://www.env.gov.bc.ca/wld/frogwatch/howto/howto.htm>.

Evaluation:

Students will submit their field notes for marking. While notes often come back from the field dirty or wet, teachers should look for neatness and legibility of printing, the amount of detail provided, and other necessities such as name(s), date, and location. Remember, a good note taker records more, not less, than is needed!

If sketches were made, these too can be evaluated for creativity and detail. Drawings can be returned to the student for further development. Artwork should be fixed up, coloured and can be mounted on construction paper to be artistically displayed in the classroom or hallway.

Follow-up Activities:

Further research into frogs of B.C. and the some of the threats facing them today can be conducted. Some useful websites include:

- Environmental Stewardship Division of the Ministry of Environment:
<http://www.env.gov.bc.ca/wld/>
- FrogWatch hosted by Nature Watch:
http://www.naturewatch.ca/english/select_province.html
- Frogland and All About Frogs: <http://allaboutfrogs.org/>
- A Frog's Life:
http://www.cwmb.sa.gov.au/KWC/programs/a_frogs_life/info.htm

Pond habitat can also be studied. Insects and aquatic creatures are critical to this ecosystem. Research what plants, insects and water animals belong to this food web to better understand the needs of frogs. The more we know about an ecosystem, the more we are able to help the animals that live there.