Share the information from the first table. Discuss with students the differing amounts of water available around the world and ask students if they think there will be enough for everyone on each continent to share equitably.

Divide the classroom into six areas, not continents, including Turtle Island (North and Central America), South America, Europe, Asia, Africa, Australia and the South Pacific. Label each area.

To divide students into six population groups, multiply the number of students in the class by the percentage of the population in the world from the right side of the first table.

From the second table, provide each continental area with the appropriate liquid amounts, measured out using a measuring cup or granulated cylinder. Students at each continent must equally share the amount of liquid that is provided to them by filling up each individual's cup.

Ask each group of students if the proportion of freshwater available seemed sufficient for daily life. Have each group reflect on the unequal distribution of water in the world and answer the following questions:

1. What kinds of changes would people have to make in their lives if they had to live with less water?
2. How might their lives be different?
3. How would they treat fresh water if there was not very much to share?

## 9.4 COMMITMENT STRING

This activity incorporates Traditional Knowledge, artistic expression, and conservation potential.

### Materials:

- *Coloured beads (including blue and green)*
- *String or yarn*
- *Cut of leather (felt, cloth, cardboard etc. could be used as well)*

### Steps:

Prior to the activity, cut out leather shapes (two sets of a circle and one set of water droplets for the class). One set of circles needs an X through the middle, with permanent marker, separating the circle into four quadrants.

Explain to the class the importance of a commitment string (information provided in Teacher Background). Also, explain the importance of the circle leather shape with an X through the middle. This circle reminds humankind about the importance of living a balanced life—physical, spiritual, mental, and emotional.

As a class, discuss the ecological and cultural importance of water preservation. Make a list of a few actions that can be taken to help preserve water and improve the health of the environment. Students individually make a list of ten to fifteen actions that they can take to improve these areas.

From the list, students assign various colours and colour combinations to represent their positive actions.

Distribute thirty centimetres of yarn or string, enough beads to thread a commitment string, and the various leather shapes to each student.

Students begin the commitment string by tying a knot at the end of their string, leaving about three centimetres hanging down so that it will fray—representing each student's ancestors.

Have students thread the round disk of leather to represent the earth and then choose beads to represent their personal commitment to improve the earth's health.

Students add the piece of leather cut into a water drop shape. Above the water drop, students add beads to represent their personal commitment to improve the water's health.

Next, students add the piece of leather cut into a circle with an X drawn across it. Students choose a special bead that will represent them individually. Students tie a knot into the top of the string to hold everything together.

When students are finished, they each share their commitment string with the class. The strings can be gathered together and tied to hang in the classroom and then to be displayed at the Celebration (Chapter Thirteen).




# CURRICULUM ACTIVITY CHAPTER TEN
# FROG FRIENDS
## TEACHER BACKGROUND

While many animals are difficult to see in wetlands, frogs can be heard and identified by their calls. One of the first birds to return to the wetland in the spring is the Red-winged Blackbird. The male Blackbirds arrive when there is still ice on the water. Some say it is the Blackbirds' calling that wakes up the Spring Peepers and encourages them to start climbing out of their mud beds to join the new season. Another teaching says that the tiny little Spring Peeper was given the great responsibility to wake up his frog and toad relations with his beautiful voice. Just as the maple tree is the leader of the trees, and indicates when the seasons are changing, it is the humble Spring Peeper who welcomes the spring and wakes up the water world. Some people say that the song of the Spring Peeper guides the early insect-eating birds, like the Snipe, Woodcock, and Nighthawks, back to the meadows and edges of the waterways.

Another First Nations teaching says that when the Spring Peepers start to call, it is time to take the spiles out of the maple trees because sap season is coming to an end. Scientists agree with this teaching. When the temperature warms up enough, the sap in the maple trees gets cloudy and the sweetness fades from the sap.

### Amphibians:

The word "amphibian" is derived from the Greek words "amphi" and "bios" which mean two lives, referring to the aquatic tadpole and the terrestrial adult stages of all salamanders, newts, frogs, and toads. Amphibians all lay eggs and are characterized by their smooth, moist skin. Amphibians do not drink because they absorb water and much of the oxygen they need through their skin. Some species are active at night and avoid the drying effects of the sun, while others shelter in moist habitats under logs, rocks, leaves, mosses, and ferns. Amphibians shed their skin about once a week. Amphibians are highly advanced animals that are superbly adaptable to their environments. Information about amphibians can be found at *http://www.torontozoo.com/AdoptAPond/AmphibianResources.asp*

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Teachers can obtain an English Frog Calls CD from the Toronto Zoo's Adopt-A-Pond programme by sending an email request to <aap@torontozoo.com>, or an Ojibway or Mohawk language Frog Calls CD from the Turtle Island Conservation programme by sending an email request to <turtleisland@torontozoo.ca>

Frogs, toads and salamanders are three types of amphibians that share habitats with turtles. Because amphibians live both on land and in water, they are unique to the water world. They must have clean fresh water to thrive and survive, much like turtles.

Scientists have expressed concern for the worldwide decline in amphibian populations and this decline

seems to be parallel to the decline in turtles. Since both groups of wetland wildlife depend on the water, it is thought that water issues have caused the decline in both species.

### Wetland Report Card Information:

Oxygenated water is important for wetland species. The different levels of oxygen in water signify the potential health of the water.

### Dissolved Oxygen (DO):

There are several ways in which oxygen becomes dissolved into water. This includes diffusion from the atmosphere, aeration of water through movement, and the by-product of photosynthesis. Lower DO levels in water may signify that molecules of warm water move more quickly. This results in oxygen molecules being pushed out of the spaces between moving water molecules. Another signifier of low DO levels includes high levels of bacteria or decaying algae as the excess amount of biological oxygen demand uses up DO. A last reason for decreased DO includes fertilizer runoff from farm fields and lawns.

### Additional Resources:

**Frog Watch website by Adopt-A-Pond**
*http://www.torontozoo.com/adoptapond/FrogwatchOntario.asp*



# ACTIVITY

## 10.1 A VISIT TO THE POND

Activities A and B require visits to a wetland. Teachers can choose to do both activities in one wetland visit, or designate two visits to spend more time at the wetland and complete both activities.

### A) Frog Watch

### Materials:

- *Frog Calls CD (from the Toronto Zoo)*
- *'Frog Calls in My Wetland' worksheet (located in Activity Worksheets section of document)*
- *Camera (one per teacher; optional)*
- *Writing tools*

### Steps:

Distribute and collect permission forms for the Frog Walk. Ensure parents are aware of the clothing requirements for the day. Remind students to be respectful of their surroundings, not disturb the wildlife, and to pick up any litter they see on the walk.

Before the walk, listen to the Frog Calls CD to allow students to become familiar with the different frog calls. Assign one or two students to learn one call that they will represent. Before the walk, have them imitate the calls for the class (using the suggested ways to imitate calls). It is not expected for students to memorize all calls, but familiarity will stimulate learning in the wetland.

Split the students up into small groups for the walk and distribute the 'Frog Calls in My Wetland' worksheet. When at the water, give students time to use their senses to observe the wetland area. They should look, listen, and smell without speaking loudly. To help hear the sounds in the wetland, students should cup their hands behind their ears ("make animal ears") and quietly turn their faces to scan the wetland area.

Sit quietly and listen for the frogs to call. If any frogs are seen, record them on the 'Frog Calls in my Wetland' sheet and submit the sighting to FrogWatch-Ontario.

Ask students to look around and to think of ways in which the animals and plants in this wetland community depend upon one another. Remind students to look for evidence of biodiversity.

When students are finished listening to frog calls, ensure each student has made notes on their worksheet. Make sure students leave the wetland with all of their supplies. Back in the classroom, use the students' sightings to create a class bar graph or pictograph of all the frogs in the wetland. Students should create an individual bar graph of their sightings to be evaluated.

Note: Teachers may play the Frog Calls CD to the class over a month-long period. Have students report the sightings and calls they hear at night, on the way home from school, or over the weekends. Over the course of the month (April/May/ June), record these statistics on a bar graph to show the students the diversity of frog populations and frog populated areas.

### B) Wetland Report Card

After students have recorded the frogs calls identified, they can take part in the Wetland Report Card activity. If there is limited time, this can become a second activity.

### Materials:

- *Thermometer*
- *Basin (for each group of students)*
- *Net (for each group of students)*
- *Pond identification book (for each group of students; optional)*
- *Magnifying glass (for each group of students)*
- *'Wetland Report Card – Identification' (located in Activity Worksheets section of document)*