THE TENTH CHALLENGE
WALKING WITH MISKWAADESI
Who lives in your neighbourhood wetland?
How healthy are our wet places—could Miskwaadesi live there?
What role does the frog play in keeping a wetland healthy?
Go out and listen for frogs and record when you hear them welcome the new season with their songs.
Complete the pond study and give your wetland its very own health report card.

“…my 10th challenge is to come down to the water. It is spring and the first birds are coming back. The frogs are beginning to sing their thanksgiving song of joy. Come down to the water. Listen to the frogs—what are they saying? Record the frog clans that live in your waterways. Look at the little creatures who live in and around the water. Come down to the water and become close to the spirit of the water and the land.”

Miskwaadesi’s 10th challenge.
### EXPECTATIONS

#### PRACTICING THE LEARNING | FOLLOWING THE FOOTSTEPS

<table>
<thead>
<tr>
<th>TITLE OF ACTIVITY</th>
<th>ONTARIO CURRICULUM EXPECTATION</th>
<th>WORKSHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting Ready to Go</td>
<td>4s4, 4s10, 4s6</td>
<td>Planning and gathering equipment</td>
</tr>
<tr>
<td>A Visit to the Pond</td>
<td>4s21, 4s15, 4s6</td>
<td>Field trip</td>
</tr>
</tbody>
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#### DEMONSTRATING THE LEARNING | MAKING OUR OWN FOOTSTEPS

<table>
<thead>
<tr>
<th>TITLE OF ACTIVITY</th>
<th>ONTARIO CURRICULUM EXPECTATION</th>
<th>WORKSHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frog Watch</td>
<td>4s6, 4s19</td>
<td>Field trip and survey worksheet</td>
</tr>
<tr>
<td>Wetland Report Card</td>
<td>4s4, 4s14</td>
<td>Chart/table</td>
</tr>
<tr>
<td>Journal Reflection</td>
<td>4s5, 4s15</td>
<td></td>
</tr>
</tbody>
</table>

#### ONE STEP MORE (individual student optional adventures in learning)

1. Monitor frog calls for two weeks

### WORD WALL:

- amphibian, invertebrate, crayfish, damselfly, sowbug, planarian, Mayfly, caddisfly, water penny, stonefly, dobsonfly, crayfish, clam, cranefly, beetle, leech, midge, worm, pouch snail, blackfly, larva
10th CHALLENGE
Ways of Knowing Guide – Relationship – The Waters – pg 78

ADOPT-A-POND CURRICULUM LINK Frogcall CD
http://www.torontozoo.com/adoptapond/frogs.asp
Frogwatch Ontario and frog calls

http://www.torontozoo.com/adoptapond/
Aboutamphibians.asp?am=5
For individual species call sounds
http://www.turtleislandconservation.com
Frog calls in Anishinaabe and Haudenosaunee

http://torontozoo.com/adoptapond/FrogwatchOntario.asp

http://www.naturewatch.ca/english/
frogwatch/on/intro.html
Frogwatch website

http://www.naturewatch.ca/cgi-bin/quiz/step1.
asp?language=english
Amphibian and Reptile online quiz - check this out!!
“Kokom Annie - my 10th challenge is to come down to the water. It is spring and the first birds are coming back. The frogs are beginning to sing their thanksgiving song of joy. Come down to the water. Listen to the frogs - what are they saying? Record the frog clans that live in your waterways. Look at the little creatures who live in and around the water. Come down to the water and become close to the spirit of the water and the land.”

Kokom Annie went to find her rubber boots in the back closet. There they were standing waiting in the corner. A home-made net and a white basin from the buck store were sitting by the door. Auntie Lily and Waubun were coming down the path. It was a bright spring afternoon in Wasauksing and it was time to count the frogs.

“Ahniin Lily, Ahniin Waubun. What a beautiful day! Look at the little poster that I got at the band office from the environment department - it shows all the frogs that we might see and it’s laminated too so it won’t get wet. I listened to the frog call tape last night - did you know that the children at the school are going to listen to it this week in their Ojibway language class - the tape is in Ojibway!”

“Ah-ho Kokom. Good to know. I was asked to take some of the grade 4’s out for a short walk down to the edge of the water every afternoon next week to listen for frogs. The students are going to listen to the tape and practice filling in the papers. They are really happy to be included in the Frogwatch program. Hey, I like that basin you found - it’s white so we will be able to see all those little swimmers that we catch in our net.”
“I brought my bug book and some bush tea in case we get thirsty,” said Lily. “I am anxious to see if I can find some more medicine plants near the shore because I have used up all of my flu and cold medicine that we picked last year. Let’s get going! We have to practice so that we will be good at this before the grade 4’s come down to the water with us next week.”

Kokom Annie, Lily and Waubun walked down the path to the road and turned towards the water. Kokom had brought tobacco and she spoke about the importance of putting tobacco on the water to thank and honour the water. Together they set their nets and basins and notebooks on the big mishomis rock that waited for them at the edge of the marsh. Soon they were busy scooping marsh water into the basin to look for signs of life in the water. The sun shone down on the group as they worked away. There was lots of laughter and chatting as the work was being done. Waubun took some pictures to send to Nodin and Seegwun in the city.

As they scooped they counted the tiny insect babies that they saw. Soon they had their report card finished. They had found lots of insects from the B category and a few from A and C. When they looked at their chart they decided that the big wetland would get a “B”. That was pretty good news. It meant that the wetland was fairly healthy and maybe this spring it would need a litter cleanup followed by some water testing in the summer. From the far side of the marsh came the ‘peep, peep’ of the
spring peepers calling and singing a song of joy and thanksgiving for the return of the spring. The marsh was waking up! Miskwaadesi would soon wake and swim up from the mud and the plant roots at the bottom of the marsh. Another season of life had come back to the watershed.

“Next week when we come back, I will ask Waubun to bring his i-pod and that little digital recorder so that we can record some of the sounds of spring in our wetland” thought Kokom as she gently returned the insect babies to the water and rinsed out the basin. “I will have to listen to those frog tapes a few more times so that I am ready when we go walking next week. This is going to be fun, listening for frogs while we are out walking for our health. That’s what I really like about the return of spring- the weather is nice in the evenings for walking.”

Kokom sat on the mishomis rock for a few moments listening and watching the signs of spring and thinking of Miskwaadesi.
Teachers are encouraged to explore the Adopt-a-Pond’s Wetland Curriculum for background information on amphibians see: http://www.torontozoo.com/adoptapond/wetland-Curr/d1-amphib-background.asp

Obtain an English frog call CD from the Toronto Zoo’s Adopta-A-Pond programme by sending an email request to: aap@torontozoo.com or Ojibway or Mohawk language frog call CD from the Turtle Island Conservation programme by sending an email request to turtleisland@torontozoo.ca.

There are several teachings and stories about frogs and toads in the traditions of the First Nations see: http://www.firstpeople.us/american-indian/results.html?cx=partner-pub-6193843553852498%3Ac5cvsj-6w5k&cof=FORID%3A10&ie=ISO-8859-1&q=frog&sa=Search#1083 for several pages of frog stories from all over Turtle Island.

This particular website is an excellent one for student research. Download several of the teachings and stories and use them as literacy activities in the classroom.

The website http://www.nativeonline.com/legends.html also contains some frog teachings to share with students.

Frogs, toads and salamanders are three species that share habitat with Miskwaadesi. Miskwaadesi speaks on behalf of the frogs and toads in the watershed, awakening us to the difficulties experienced by the amphibians in our waterways today. Because they live both on land and in water, amphibians are unique to the water world. They must have clean fresh water to thrive and survive, much like the turtles. Scientists have expressed concern with the decline worldwide in amphibian populations and this decline seems to be parallel to the decline in turtle species and numbers. Since both groups of animals depend so much on the water, it is thought that water issues have caused the decline in both species.

The 10th challenge asks us to investigate the water world by conducting a shoreline study and by participating in the FrogWatch program that monitors frog populations. Students are provided with amphibian call sounds that they can learn before the field trip into the watershed.

Teachers are asked to develop within their students a respect for the tiny insects and plants that make their homes in the water world. Students should be cautioned to stay out of the water, particularly at this time of the year when many of the insects and small animals have just emerged from their winter resting time and there are many tiny eggs and insect larvae in the mud/clay at the bottom of the water. Students need to understand the importance of scooping very carefully with their dip nets to minimize damage to the life in the water and they are asked to show respect to the small macroinvertebrates that they see in the basins and buckets.
Teachers are also asked to return the insects and small animals and plants back into their home with care and consideration when students have finished looking at them.

Teachers are encouraged to give students a few moments to sit quietly on their own by the edge of the water to think about the healing power of water (see student reflection for the water teaching).

Teachers may use the following website for background information on a simple way of determining the health of the water by observing the little creatures that spend so much of their life in the water - http://www.dep.state.fl.us/water/bioassess/bugind.htm
Click on the 3 bug identification cards to view outline pix of the group one taxa (A+ on the Report Card); group two taxa (B on the Report Card) and group three taxa (C on the Report Card). Download each page, print, and laminate for student use on the field trip.

Teachers may also visit this website to view levels of taxa that indicate healthy waterways. http://www.state.ky.us/nrepc/water/bioindpg.htm.

MY WATERSHED REPORT CARD - HOW HEALTHY IS IT?

<table>
<thead>
<tr>
<th>A+</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayfly</td>
<td>Crayfish</td>
<td></td>
</tr>
<tr>
<td>Caddisfly</td>
<td>Clam</td>
<td>Leech</td>
</tr>
<tr>
<td>Waterpenny</td>
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<td>Midge larva</td>
</tr>
<tr>
<td>Planarian</td>
<td>Sowbug</td>
<td>Aquatic Worm</td>
</tr>
<tr>
<td>Dobsonfly</td>
<td>Whirligig Beetle</td>
<td>Pouch Snail</td>
</tr>
<tr>
<td>Stonefly</td>
<td>Damselfly and Dragonfly larvae</td>
<td>Blackfly larva</td>
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</tbody>
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http://www.dep.state.fl.us/water/bioassess/bugind.htm

Click on the 3 bug identification cards to view outline pix of the group one taxa (A+ on the Report Card); group two taxa (B on the Report Card) and group three taxa (C on the Report Card). Download each page, print, and laminate for student use on the field trip.

Teachers may also visit this website to view levels of taxa that indicate healthy waterways. http://www.state.ky.us/nrepc/water/bioindpg.htm.
**MATERIALS FOR FIELD TRIP**

**pH Scale**

**ACIDIC**

- 0: Lemons
- 1: Vinegar
- 2: Rain
- 3: Distilled Water

**NEUTRAL**

- 4: Baking Soda
- 5: Rain
- 6: Distilled Water

**ALKALINE**

- 7: Ammonia
- 8: Rain
- 9: Distilled Water
- 10: Ammonia
- 11: Ammonia
- 12: Ammonia
- 13: Ammonia
- 14: Ammonia

**pH water test strips (available with swimming pool supplies) - one per group. pH will tell you how acidic or basic the water is. Some animal and plant species are very sensitive to a high acidic pH; others are very sensitive to a high alkaline pH.**

**benthic cards - powerpoint presentation - benthic life in a wetland (macroinvertebrates) compiled by Lynette Dawson, Environmental Water Quality/technician.**

**nets - pond nets or simple nets made from coat hangers formed into a circle with old panty hose (nylon stockings) pulled over top of the hanger to form a net - one per group**

**white basin (available at dollar-type stores) - one per group**

**laminated copy of macroinvertebrates for student identification**
1. GETTING READY TO GO

Plan a field trip to the wetland/water area.
Make sure all trip forms have been completed.
Students will need rubber boots or suitable footwear.
Take one thermometer to take the water and air temperature.
Prepare for groups of 3-4 students.

Each group will need 1 white basin, a net, laminated ‘critter’ card or pond identification book; small magnifying glass; student journals and pencils; camera (optional). Record frog calls in a small notebook or journal.

To make your own nets see http://www.torontozoo.com/adoptapond/wetland-Curr/g1-field.asp “Wetland Curriculum Resources Unit 7: Get Wet”

To test pH of the water (a good indicator of what species can/cannot live in the water) get a simple pH test kit from a pool supply store or hardware store.

Before the trip, ask students to predict what they might find at the waterway - evidence of animal life (visual sightings; sounds; evidence of nibbles and chews on plants, etc; evidence of human interaction with the waterway (positive and negative).

When students arrive at the study area, give them a few moments to look around for those evidences of life in the water world. What kind of work might need to be done to improve the water for the plants and animals, such as cleaning up trash and litter.
2. A VISIT TO THE POND
When the class arrives at the water’s edge, students should use their senses to observe the wetland area. Look, listen, smell, feel, but try not to talk in a loud voice because human voices carry over the water and can frighten the animals that live around and in the water. Students should cup their hands behind their ears (“make animal ears”) and quietly turn their faces to scan the wetland area. The sounds will be magnified significantly. Students can record what they hear and see.

Many animals and insects will notice that there are humans about and the animals will become quiet. If students sit down lower than the level of cattails or grasses/shrubs growing around the water, the animals will begin to move about again and students will have an opportunity to hear and possibly see more species.

Sit quietly and listen for the frogs to call. If any frogs are seen, record them for the Frogwatch tally.

Ask students to look around and to think of ways in which the animals and plants in this wet community depend upon one another, and remind students to look for evidence of biodiversity within the water community.

When students have had a chance to look and listen, share the equipment that will be needed for the water survey.

Each group of students needs to set up their basin in a safe and secure area near the water. Half fill the basin with water from the wetland. Each student should take a turn dipping their net into the water (try to scoop along the bottom where many of the insect babies live).

Carefully empty the contents of the net into the basin. Use the mini field guides to identify the insects that are seen.

Do not keep the insects out of the water environment for very long. Some insects can crawl out of the water/basin. Return all water and living critters to the water in a good way when everyone in the group has had an opportunity to view the life in the water.
1. FROG WATCH

Read some of the frog and toad teachings and legends to begin to develop an understanding of how important these little amphibian brothers and sisters have been to our First Nations. Look at this website for some of the teachings:

http://www.firstpeople.us/FP-Html-Legends/ At this site, type “frog” in the search engine and you will see many teachings and stories about frogs from all around Turtle Island. Read some. Share them with a friend. Which one did you like the best?

Read the article on “Frog” (see worksheet 10b to find out about the First Nations peoples of the Northwest Coast and their relationship with frogs.

Now, it’s time to take part in FROG WATCH - this is your opportunity to become involved in an active project that is looking and listening for signs and sounds of frogs and toads. Have you listened to the tape or to the frog calls on the internet? Do you have your journal or a small notebook handy? Are you dressed for the cooler weather of the early spring? As the weather becomes warm enough for the spring peepers to begin to sing, you will also hear several bird species that are returning to your part of Turtle Island. You can keep track of the bird songs that you hear as well.
One of the very first birds of spring to return to the waterways is the beautiful red winged blackbird. The male blackbirds arrive when there is still ice on the ponds and waterways, and some of the old people say that it is the blackbirds’ calling that wakes up those little spring peepers and encourages them to start climbing out of their mud beds to join the new season.

Another one of our teachings 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 will tell us that this teaching is very accurate - when the temperature has warmed up enough in the waterways and wetlands that the first frog singers come out, the sap in the maple trees is beginning to get cloudy and the sweetness is fading from the sap.

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, so is the little humble spring peeper, welcoming the spring and waking up the water world. Some people say that the song of the spring peeper guides the early insect-eating birds (snipe or woodcock and nighthawks) back to the meadows and edges of the waterways.

Record the sounds that you hear. Record the time that you hear them and take the temperature of the air and the water and record that as well.

2. MY WETLAND REPORT CARD
Use worksheet 10a to help with this.

Gather up some of the small insects that live in the water. Scoop them into the white basin that you are using. Use your i.d. sheets to identify which insect larvae and adults you have found. From your sample you will be able to determine if your waterway is and A, B, or C depending on the species that you have found. To get an A on the Wetland Report Card, the water has to have lots of oxygen in it. To get a B, the water needs to have a good supply of oxygen. If your waterway only gets a C that means that there is not very much oxygen in the water for the little ones to breathe. Water that is oxygen-deprived cannot support much life and is not considered very healthy. Sometimes a lack of oxygen means that the water is not flowing (stagnant) or that there is some kind of pollutant in the water that is using up the available oxygen.

How does your water measure up?
3. JOURNAL REFLECTION
What did you enjoy the most about your trip to the water today?
What do you think the frogs, toads, and birds are saying when they sing?
Were you surprised with the report card mark that your waterway received? If it is healthy, how can you keep it that way, and if it is not, how can you make it a healthier place for everything to live?

Find a quiet place to sit by the edge of the water - somewhere that you can focus on the water and its healing powers. There is a teaching that encourages us to go down to running or moving water when things are troubling or bothering you. The teaching says that the sound of the water flowing is good for you. Talk to the water. Tell it what is bothering or troubling you. Put down your tobacco as you do this, and the water will take away those troubles and the water will soothe and comfort you. When you leave the water, you will have a new outlook or perspective and you will be at peace. What thoughts do you have after you have had an opportunity to sit by the water?

Create a suitable symbol to attach to the cover of your duo-tang to show that you have completed this challenge. As a class, decide upon a suitable symbol to use to cover the 10th scute on the turtle shell poster.
DID YOU LEARN SOMETHING THAT MADE YOU WANT TO DO MORE?

FrogWatch

1. MONITOR FROG CALLS FOR TWO WEEKS
Get your frog call CD and Amphibians of Ontario Identifier guides in English, Ojibway or Mohawk from Adopt-A-Pond aap@torontozoo.com or Turtle Island Conservation at turtleisland@torontozoo.ca.

Going out for a walk you will begin to notice patterns - such as, the frogs start to call in the late afternoon to early evening and continue until dawn or until the temperature gets too cold. There is a definite order in the way the frogs wake up in the spring and start to call. Keep careful track of which days each frog can be heard. Keep the information for next year and compare the data. What do you notice? Give a copy of this year’s data to the next class and challenge them to add to your information.

**Student Worksheet**

10A - WETLAND REPORT CARD

WORK WITH YOUR GROUP. Scoop your net into the water. Carefully place everything from the net into the basin. What did you find? Record the numbers of each insect in your basin on your report card. When you are finished, carefully return all of the critters to the water. Make sure that any mud or sand from the bottom also goes back into the water! Compare your report card with the other groups.

<table>
<thead>
<tr>
<th>A+</th>
<th>NOT AS MUCH</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOTS OF OXYGEN AND CLEAN WATER</td>
<td>OXYGEN</td>
<td>WATER MAYBE POLLUTED</td>
</tr>
<tr>
<td>Mayfly</td>
<td>Crayfish</td>
<td>Leech</td>
</tr>
<tr>
<td>Caddisfly</td>
<td>Clam</td>
<td>Midge larva</td>
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<td>Waterpenny</td>
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<tr>
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<tr>
<td>Dobsonfly</td>
<td>Whirligig Beetle</td>
<td>Blackfly larva</td>
</tr>
<tr>
<td>Stonefly</td>
<td>Damsel fly and Dragonfly larvae</td>
<td></td>
</tr>
</tbody>
</table>

**A+**

**LOTS OF OXYGEN AND CLEAN WATER**

- Mayfly
- Caddisfly
- Waterpenny
- Planarian
- Dobsonfly
- Stonefly

**B**

**NOT AS MUCH OXYGEN**

- Crayfish
- Clam
- Crane fly
- Sowbug
- Whirligig Beetle
- Damsel fly and Dragonfly larvae

**C**

**VERY LITTLE OXYGEN WATER MAYBE POLLUTED**

- Leech
- Midge larva
- Aquatic Worm
- Pouch Snail
- Blackfly larva
<table>
<thead>
<tr>
<th><strong>A+</strong></th>
<th><strong>B</strong></th>
<th><strong>C</strong></th>
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<tbody>
<tr>
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<td>Midge larvae</td>
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<td>Snail</td>
<td>Sowbug and Scuds</td>
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<tr>
<td>Dobsonfly larva</td>
<td>Beetle larvae</td>
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<tr>
<td>Stonefly nymph</td>
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<td>Blackfly larva</td>
</tr>
<tr>
<td>Riffle Beetle</td>
<td>Dragonfly larvae</td>
<td></td>
</tr>
</tbody>
</table>
FROG

“Frog is a creature of great importance in Northwest Coast art and culture. As a creature that lives in two worlds, water and land, Frog is revered for his adaptability, knowledge and power to traverse worlds and inhabit both natural and supernatural realms. Frogs are primary spirit helpers of shamans. A great communicator, frog often represents the common ground or voice of the people. Frog’s songs are believed to contain diving power and magic. When show in art as touching or sharing his tongue with another creature, Frog represents an exchange of knowledge and power. Frog designs are commonly used as decorative elements, so that frog faces, for example, peek out from another creature’s ears, mouth, or hands. In symbolic terms the emergence of frog from these orifices may represent an eruption of magic and unseen interior and other worlds.”
Frog is often associated with copper and great wealth. Legendary Haida princes are said to have attended feasts wearing necklace chains made of living frogs. The Haida carved Frog on house poles to prevent them from falling over. They also included them in many other carvings, from feast bowls to totem poles. Frogs on Haida Gwaii B.C.’s Queen Charlotte Islands, are actually northern toads. One Haida name for Frog (toad) is “crab of the woods”.

Many legends are attached to this whimsical little animal. The Tlingit of Alaska tell of it’s distribution in a story about a chief’s daughter who made fun of Frog. She was then lured into his lake by Frog in human form, who then married her. Her angry parents drained the lake and scattered Frogs in every direction. Some B.C. First nations told that Frog announces the end of the winter dance season. It is said that when the last snowflakes of winter touch the ground they turn into Frogs. Then the Native people know that there is only six weeks until the Salmon begin returning to the rivers and summer begins.
One story about Frog tells he was volcano woman’s only child. One day frog saw evil men hunting only for pleasure rather than necessity. When the men noticed Frog they killed him. Volcano woman erupted in her sorrow and fury, crying great tears of lava. She destroyed the earth, but in time it would be born again even stronger and more fertile.

Yet another Frog legend says a village was starving because no one could catch any fish or game, so a warrior went out to try to find some food. No one had been successful for a long time. The warrior met a bird who instructed him to follow, so he could help him. The bird brought him to a frog, who let the warrior wear his skin. With the Frog skin, the warrior was able to get enough food for the whole village but, as time passed, the warrior was fully transformed into a Frog, and he went to sea. There he could live and catch fish and other seafood. Until his days were no longer, he provided these foods to his village.”

Source: Hill’s Native Art
1. What frogs did you hear calling?

2. Where were they calling from?

3. What did they sound like?

4. Write down your reflections here…