### Steps:

Split the students into small groups of three or four students. Distribute the thermometers, basins, nets, identification books, magnifying glasses, and 'Wetland Report Card'.

At the water, have students take the air temperature in their groups. The teacher should take the temperature of the water. Record these on the 'Wetland Report Card' sheet. Have each group of students set up their basin in a safe and secure area near the water. Students fill the basin halfway with water from the wetland. Each student should take a turn dipping their net into the water. Students should try to scoop along the bottom where many of the insects live. Students carefully empty the contents of the net into the basin and should use the 'Wetland Report Card-Identification' to identify the insects that are collected. Students should circle the insects found in each category to interpret the health of the water.

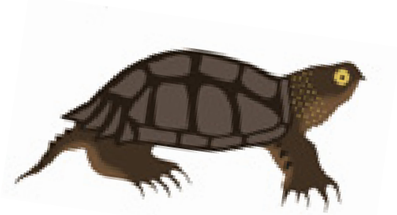
From the samples, students can determine the water's health, based on the amount of dissolved oxygen. Wetlands are split into categories A, B, and C. An A on the 'Wetland Report Card' reveals that the water has high levels of oxygen, B reveals a good supply of oxygen, and C reveals low levels of oxygen. A lack of oxygen may reveal that the water is stagnant, or that there is some kind of pollutant in the water which uses up the available oxygen.

Ensure that students do not keep the insects out of the water environment for long. Some insects can crawl out of the basin. Return all water and living critters to the water when everyone in the group has had an opportunity to view the life in the water.

Students should understand the importance of scooping carefully with their nets to minimize damage to the life in the water. They are asked to show respect to the small macroinvertebrates that they see in the basins and buckets.

When students are done examining the water quality ensure all materials are packed up. Back in the classroom, students share the health of the water they interpreted with the class. Answer the following questions:

1. Did all areas of the wetland have the same grade on the 'Wetland Report Card'?
2. What factors in the wetland could change the results of the report card?
3. Why is it important that there be enough oxygen in the water?



# CURRICULUM ACTIVITY CHAPTER ELEVEN

# TURTLE TALLY

## TEACHER BACKGROUND

Most turtles are found in and around water, taking part in different types of behaviour. This includes swimming, basking, and eating. Turtles typically bask on logs, rocks, and other surfaces exposed to the sun around the wetland. The Wood turtle is the only terrestrial turtle in Ontario.

Most Ontario turtles nest in late May and early June. Female turtles lay their eggs in nests in well drained soils which consequently absorb water through incubation. However, eggs within drier soils typically lose water. Moist, well-drained, loose material makes digging easier, promotes air circulation, provides moisture, and is less likely to harden. Turtles may choose sites with different material depending on climatic conditions of the year.

The availability of water during incubation influences incubation time, hatchling size, locomotion speed, and body composition. Incubation temperature also affects hatchling size, growth rate, and other characteristics. The sex of many turtles is determined by incubation temperature. Eggs incubated at higher temperatures produce females, while eggs incubated at lower temperatures produce males.

Typically, nests are found in predominantly open, exposed sites with minimal vegetative cover. These exposed sites have increased nest success compared to those with more cover. However, nearby grasses and ground cover increase the probability of hatchling survival.

### How to complete Turtle Tally:

Turtle Tally submissions are made at the Adopt-A-Pond website: *http://www.torontozoo.com/adoptapond/TurtleTally.asp?t=form*

To complete a Turtle Tally, the following information is required:

- Observation date and time
- Species observed and number of turtles observed
- Observation/location description (an accurate account of the sighting including place name or Postal Code)
- Latitude and Longitude
- Habitat type (lake, pond, river, fen, bog, marsh, shoreline, forest, etc.)
- Turtle behaviour (basking, swimming, walking, nesting, crossing road, dead on road, etc.)
- Personal information (name, address, phone, email)

# ACTIVITY

## 11.1 TURTLE TALLY

Using the activity-based learning strategy, surveying, and the thinking skills strategy, graphing, this activity incorporates physical activity, mathematics, science, and conservation awareness.

### Materials:

- *Laminated Turtle Identifiers from the Toronto Zoo*
- *Turtle Tally sheet (located in Activity Worksheets section of document)Flagging Tape*
- *Binoculars (optional)*

### Steps:

Distribute and collect permission forms for the Turtle 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, review the different turtle species from the Turtle Identifier