



UNIT ONE



TURTLES OF ONTARIO



UNIT ONE: TURTLES OF ONTARIO

Science Expectations met in this unit:

Activity Number: Activity Name	Strand	Specific Expectations		
		Understanding Basic Concepts	Developing Skills of Inquiry, Design and Communication	Relating Science and Technology to the World Outside the School
1: Turtle Trading Cards	Grade 1 – Characteristics and Needs of Living Things	5		
	Grade 2 – Growth and Changes in Animals	1, 3, 4, 8	1, 3, 4	1, 4
	Grade 6 – Diversity of Living Things		3,5	5
2: Turtle Identification	Grade 6 – Diversity of Living Things		3, 5	5
	Grade 7 – Interactions Within Ecosystems	2	1,3 5	
3: One of These Things Is Not Like The Other	Grade 2 – Growth and Changes in Animals	1,3	3, 4, 5	
	Grade 6 – Diversity of Living Things	1, 3	3, 4, 5	3, 5
4: Guess Who?	Grade 2 – Growth and Changes in Animals	1, 3	3, 5	
	Grade 6 – Diversity of Living Things	3	3, 5	5
	Grade 7 – Interactions Within Ecosystems	2	1, 3, 5	

SECTION ONE: Turtles of Ontario Fact Sheets

BLANDING'S TURTLE



Scientific Name:	<i>Emys (Emydoidea) blandingii</i>	<u><i>Emys (Emydoidea)</i></u>
Class:	Reptilia	<u><i>blandingii</i></u>
Order:	Testudines	<i>emydos</i> = freshwater turtle
Family:	Emydidae	<i>oidea</i> = like
Genus:	<i>Emys (Emydoidea)</i>	<i>blandingii</i> = Dr. W.
Species:	<i>blandingii</i>	Blanding who collected this turtle for its original description

Description

- Adults are usually between 12.5-18 cm in **carapace** length;
- Smooth, domed, black to greyish-brown carapace with numerous yellow streaks or spots that become obscured in older turtles;
- **Plastron** is either almost completely black or yellow with a dark, large blotch in the corner of each **scute**;
- The plastron is hinged to protect the head of the turtle when recoiled;
- The chin and throat are bright yellow;
- Eyes are protruding.

Feeding

- **Omnivorous**;
- Feed on crayfish, insects, fish, frogs and plants.

Breeding

- Females mature after 14 years;
- Nests are dug in sandy areas between late May to July and have been observed in soil, on muskrat huts, roadsides and gravel sites;
- Females lay a single clutch of 6-11 oval, dull white, hard-shelled eggs;
- Hatchlings emerge in the fall and are 3-4 cm in length;
- The temperature of the egg in the nest determines gender of hatchling.

Habitat

Blanding's turtles live in soft-bottomed, highly productive waters with dense aquatic vegetation.

Distribution



- *Ontario:*
- *Canada:* Isolated populations in southern Ontario, western Quebec and Nova Scotia;
- *USA:* Limited to the Great Lakes region with some populations along the Atlantic Coast and west to Nebraska.

Interesting Facts and Behaviour

- Bask on muskrat houses, logs, driftwood and stumps. Occasionally bask on land;
- Pattern on the carapace imitates ***duckweed*** and provides great camouflage at the surface of the water;
- Can live up to 25 years and some reports state that it could live up to 70 years!
- Hibernate under water in mud and may even be found at entrances to muskrat houses.

Status

The Blanding's turtle (Ontario population) is not designated at risk provincially in Ontario or by **COSEWIC**. The Blanding's turtle (Nova Scotia population) was designated threatened by **COSEWIC** in 1993.

Conservation Concerns

- Will abandon basking sites and nests if disturbed;
- Traffic mortalities;
- High nest predation;
- Loss of wetland habitat.

NORTHERN MAP TURTLE



Scientific Name:	<i>Graptemys geographica geographica</i>	<u><i>Graptemys geographica</i></u> <u><i>geographica</i></u>
Class:	Reptilia	<i>graptos</i> = inscribed or painted
Order:	Testudines	<i>emydos</i> = fresh-water tortoise
Family:	Emydidae	<i>geo</i> = earth
Genus:	Graptemys	<i>graphe</i> = line drawing
Species:	<i>geographica</i>	
Subspecies:	<i>geographica</i>	

Description

- Smaller males range from 9-15.9 cm and females range from 18-27.3 cm in carapace length;
- The carapace is oval with a **serrated** back edge and a slightly raised **keel**;
- The carapace is brown with fine yellow lines running down its surface (resembling a map), which may be faded in older turtles;
- The plastron is yellow in colour;
- Head and limbs have light yellow and dark stripes;
- Yellow spot, variable in size, behind each eye.

Feeding

- Males feed from May through to August or September. Breeding females begin feeding after eggs are laid (usually July);
- The preferred food source is molluscs. Insects, fish carrion and plant material are also eaten.

Breeding

- Females require 10 years to reach maturity;
- Breeding occurs in late fall or early spring near **hibernacula**;
- Females dig nests from May to July;
- In Ontario, one clutch of up to 17 eggs is laid. Eggs are laid within 100 m of the shoreline;
- Hatching occurs 60-75 days after eggs are laid. The temperature of the egg within the nest determines the gender of a hatchling.

Habitat

Map turtles inhabit larger rivers and lakes with slow moving, high quality water (an ideal environment for their primary food source, molluscs) and a soft bottom.

Distribution

- *Ontario:*



- *Canada:* Widespread in Great Lakes/St. Lawrence watershed from southern Ontario into Quebec;
- *USA:* Found in northwest Vermont west to the Mississippi drainage of Minnesota and south to Arkansas and northern Alabama.

Interesting Facts and Behaviour

- **Home range** size is greater for females (up to 70 ha) than males (up to 30 ha) and includes areas for hibernating, basking, nesting and feeding;
- At night, adults rest on submerged logs in deep water to avoid predators;
- Adults hibernate communally in the deepest water available;
- Known for their communal basking, many individuals may be found piled up together on partially submerged logs, branches or rocks near deep water. Basking is important for the successful development of the eggs in pregnant females;
- Predators include foxes, racoons and otters, ring-billed gulls, crows, mink, coyote, grackles and red-winged blackbirds. In rare cases, grackles have been seen removing the leeches from adult turtles.

Status

The northern map turtle is not designated at risk provincially in Ontario. It was designated a species of special concern by **COSEWIC** in 2002.

Conservation Concerns

- Vulnerable to shoreline development, which destroys nesting habitat, and to water pollution due to the turtle's dependence on molluscs as a food source;
- Adult females are susceptible to traffic mortalities as they wander in search of potential nesting sites;
- Loss of the aquatic corridors the species requires for movement.

COMMON MUSK TURTLE (a.k.a. STINKPOT)



Scientific Name:	<i>Sternotherus odoratus</i>	<u><i>Sternotherus odoratus</i></u>
Class:	Reptilia	<i>sternon</i> = chest or breast
Order:	Testudines	<i>thairus</i> = hinge (in reference to hinge across plastron)
Family:	Kinosternidae	<i>odorus</i> = fragrant (in reference to the musky smell when handled)
Genus:	<i>Sternotherus</i>	
Species:	<i>odoratus</i>	

Description

- Musk turtles are usually between 5.1-11.5 cm in carapace length;
- Dome-shaped, smooth carapace that is light olive to black in colour;
- Plastron is small, yellow-brown with a single **hinge**. The front part of the plastron has limited movement and allows only partial protection;
- Each side of the head has single yellow stripes above and below the eye;
- Chin and throat are covered with **barbels**.

Feeding

- Omnivorous, often scavenging for food;
- Bottom feeders whose diet consists of algae, **carrion**, small **invertebrates**, fish eggs, minnows and tadpoles.

Breeding

- Adults mature between 3-7 years of age;
- Breeding occurs year-round, but mainly in the spring; females are able to store sperm if mating occurs in the fall;
- Nesting occurs from May to July. The nests are very shallow, and sometimes exposed;
- The female lays a single clutch of 2-5 hard-shelled, white, oval eggs;
- Hatchlings emerge in the fall and are usually 2 cm in length;
- The temperature of the egg within the nest determines a hatchling's gender.

Habitat

The common musk turtle prefers to live in the shallow areas of soft-bottomed, slow moving water such as rivers, lakes and ponds. It is rarely seen on land or basking.

Distribution

- *Ontario:*



- *Canada:* Southern Ontario, and at some locations in Quebec near the Ottawa River;
- *USA:* Southern Maine south through peninsular Florida, west to central Texas and northern Wisconsin.

Interesting Facts and Behaviour

- Also referred to as the 'Stinkpot' because of the musky odour it produces when it is handled;
- **Nocturnal** but may be active throughout other parts of the day;
- Rarely leaves the water and therefore rarely seen basking. Usually covered in a thin layer of algae;
- May climb trees or branches overhanging the water;
- Very aggressive when handled;
- Hibernate in muddy sediments during the winter;
- Ontario's smallest turtle.

Status

The common musk turtle is not designated at risk provincially in Ontario. It was designated as a threatened species by **COSEWIC** in 2002.

Conservation Concerns

- Occasionally caught by anglers using minnows or worms on hooks;
- Habitat loss and fragmentation.

COMMON SNAPPING TURTLE



Scientific Name:	<i>Chelydra serpentina serpentina</i>
Class:	Reptilia
Order:	Testudines
Family:	Chelydridae
Genus:	Chelydra
Species:	serpentina
Subspecies:	serpentina (Common)

*Chelydra serpentina
serpentina*

Chelydros = a mythological
water serpent

chelon = a tortoise
serpensis = serpent

Description

- Largest freshwater turtle in Canada. Adults are usually 20.3-36 cm in carapace length and weigh between 4.5-16 kg. Some individuals can reach sizes in excess of 47cm in shell length. Largest ever recorded lived in Toronto Zoo and weighed 32 kg;
- Carapace can be light brown to black in colour;
- Young turtles have three longitudinal keels (raised ridges) while older turtles may be smooth;
- The plastron is yellowish, very small and cross-shaped. It does not offer much protection for the turtle's underbelly;
- Head has two barbels on chin, and the neck is covered with rounded **tubercles**;
- Serrated tail is crocodilian in appearance and is the same length as or longer than the carapace.

Feeding

- Omnivorous, often scavenging for food;
- Main staples are fish, invertebrates and plants, but diet can include salamanders, toads, frogs, tadpoles, small turtles, snakes, young waterfowl, small mammals and carrion;
- Sharp beak and strong jaws.

Breeding

- In Ontario, females do not breed until they are 17-19 years old, but it is size, more than age, that determines when a female is capable of breeding;
- Females build nests in May or June in gravel, sand, soil or mulch. Turtles seen on land or crossing roads at this time of year are usually females searching for egg-laying sites;
- Females lay a single clutch of between 20-40 eggs. The eggs resemble ping-pong balls;
- Eggs hatch in the fall and hatchlings are 2-3 cm in length. They immediately hide under the leaf litter and/or move towards water;
- Eggs may not hatch at all if fall temperatures are cold;
- The temperature of the egg within the nest determines the gender of a hatchling.

Habitat

The common snapping turtle prefers slow-moving water with a soft bottom and plenty of vegetation. It is found in many freshwater habitats, especially shallow ponds, rivers, streams, canals and lakes.

Distribution

- *Ontario:*



- *Canada:* Occur from the Maritimes west into southern Saskatchewan and parts of southern Alberta. New Brunswick populations are isolated.
- *USA:* It is found in all areas of the United States east of the Rocky Mountains.

Interesting Facts and Behaviour

- Snapping turtles rarely leave the water. They swim away from danger or people when in the water;
- On land, the common snapping turtle is vulnerable due to its small lower shell and therefore may become aggressive;
- Hibernate in the muddy bottom of a wetland, under logs or under overhanging banks of ponds, streams or lakes;

- Can release a foul-smelling liquid from glands under the carapace;
- World's largest common snapping turtle (32 kg) was once a resident of the Toronto Zoo;
- Ontario's largest turtle.

Status

The common snapping turtle is not designated as a species at risk provincially in Ontario or by **COSEWIC**.

Conservation Concerns

- Traffic mortalities as females search for nest sites;
- In some areas the common snapping turtle is considered a food delicacy. Many populations are impacted by over-trapping;
- Often persecuted due to misinformation on its perceived threat to game fish and ducks, as well as to people (especially swimmers). It does not bite swimmers.