

TURTLES IN SCHOOLS

TERM 3 WORKBOOK

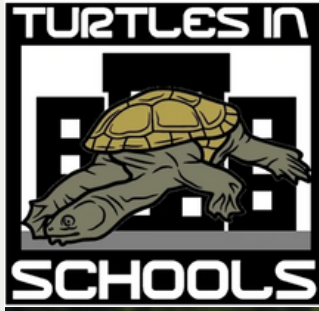


Photo credit: Bellinghen Riverwatch



1 Million Turtles

COMMUNITY CONSERVATION PROGRAM

A large white rectangular box with a thick black border. Inside the box, there are three horizontal lines for writing. In the bottom right corner of the box, there is a cartoon illustration of a yellow pencil with a pink eraser and a sharpened lead tip.



Photo credit: Dr James Van Dyke

TURTLES IN SCHOOLS

Produced by the
1 Million Turtles Community
Conservation Program
and funded by
The Foundation for National
Parks and Wildlife.

In the pages that follow, you will find a comprehensive set of lesson plans.

Our initiative is not just about imparting knowledge but fostering a deep connection between students and their natural environment and instilling a sense of responsibility and awareness of freshwater turtles and their conservation.

As we embark on this educational venture, we extend our gratitude to educators, students, and all those who champion the cause of conservation. The Turtles in Schools Program is not just a curriculum; it is a movement to inspire the next generation of environmental custodians.

Thank you,

**1 Million Turtles Community
Conservation Program**

Test your Understanding

Read the following passage and answer the questions on the following page:

The health of our local rivers, creeks, and wetlands depends on maintaining water quality. Water quality can be measured by various parameters like pH, dissolved oxygen, salinity, temperature, and nutrient levels (ammonia, nitrate, nitrite, and phosphorus). Healthy water quality is essential for all organisms in the ecosystem, including freshwater turtles.



However, a hidden group plays a crucial role in the connection between water quality and these turtles: macroinvertebrates. Macroinvertebrates are small animals without backbones, like water bugs and insect larvae. Different macroinvertebrate species have varying sensitivities to changes in water quality. Some thrive in clean, well-oxygenated water, while others can tolerate slightly more polluted conditions. This sensitivity makes macroinvertebrates excellent indicators of water quality.

Freshwater turtles occupy various positions within the food web, including primary consumers and secondary consumers. Australian freshwater turtles species rely upon macroinvertebrates as a food source to varying degrees. Some species like the Murray River short-necked turtle, are omnivores and feed on both plants and macroinvertebrates. Others, like the Eastern long-neck turtle, are specialised carnivores that consume macroinvertebrates and fish.

By monitoring both water quality and macroinvertebrate populations, we gain valuable insights into the health of freshwater ecosystems. A decline in macroinvertebrate diversity serves as an early warning sign of potential water quality issues that could impact freshwater turtles and the entire food web. This knowledge allows us to make informed decisions about water management, ensuring clean water for ourselves and a healthy environment for all its inhabitants, including freshwater turtles.

Test your Understanding

Questions:

Q1: What are some examples of water quality parameters?

Q2: What is a macroinvertebrate? What can macroinvertebrates tell us about water quality?

Q3: Explain the significance of monitoring both water quality and macroinvertebrate populations for the conservation of freshwater turtles.

Test your Knowledge

Questions:

Q1: Which of the following is NOT a water quality parameter commonly measured in freshwater ecosystems?

- (a) Temperature
- (b) Salinity
- (c) Species richness
- (d) pH

Q2: What does species abundance refer to?

- (a) The number of different species present in the ecosystem.
- (b) The total biomass of all organisms in the ecosystem.
- (c) The relative frequency or proportion of individuals of each species in the ecosystem.
- (d) The variety of habitats available to different species in the ecosystem.

Q3: Which of the following organisms is typically a primary consumer in a freshwater food chain?

- (a) Herbivorous fish
- (b) Carnivorous fish
- (c) Scavenging insects
- (d) Decomposing bacteria

Q4: A food web illustrates:

- (a) The flow of energy from one organism to another in a straight line.
- (b) The interconnected feeding relationships among organisms in an ecosystem.
- (c) The competition between different species for resources.
- (d) The hierarchy of trophic levels within an ecosystem.

Test your Knowledge

Questions:

Q5: How might changes in macroinvertebrate populations impact the availability of food for freshwater turtles?

Q6: Draw an aquatic food chain and label the different trophic levels. Include a freshwater turtle in your drawing.

Classroom Activities

ACTIVITY

What I Know (K), What I Want to Know (W), What I Learnt (L)

Materials:

- Large chart paper divided into 3 sections labeled "K" (Know), "W" (Want to Know), and "L" (Learnt).
- Markers or pens

Instructions:

(1A) Brainstorm what you Know (K) about wetlands and freshwater turtles. Write them in the "What I Know" column.

(1B) Write questions of "What I Want to Know" in the Want to Know (W) column.

What I Know
(K)

Want to Know
(W)

What I Learnt
(L)



Classroom Activities

ACTIVITY

What I Know (K), What I Want to Know (W), What I Learnt (L)

Materials:

- Large chart paper divided into 3 sections labeled "K" (Know), "W" (Want to Know), and "L" (Learnt).
- Markers or pens

Instructions:

(1A) Revisit your Know, Want to Know and Learnt chart and complete the Learnt (L) column.

What I Know
(K)



Want to Know
(W)



What I Learnt
(L)

