

7 LESSONS

TERM ONE

WETLAND OBSERVATIONS

- Learning Objectives
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- Activities
- Curriculum Mapping

Photo credit: Marilyn Connell





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LEARNING OBJECTIVES

Here, you will find the learning objectives for this lesson.

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CLASSROOM ACTIVITIES

There are three activities for this lesson.

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BACKGROUND INFORMATION

Learn more about different survey techniques.

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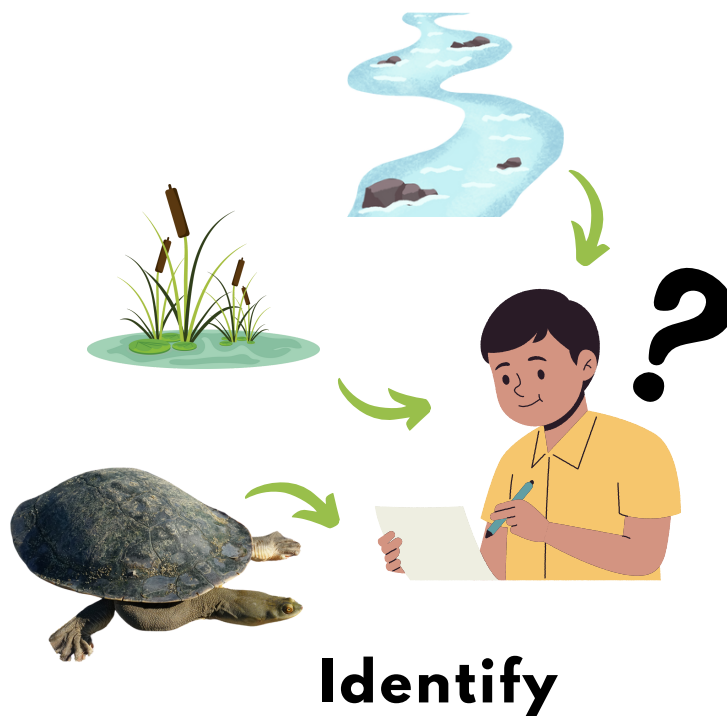
CURRICULUM

See how this lesson maps with the Australian curriculum

Learning Objectives

At the end of the lesson, students will be able to:

- (1) Identify in real-time, habitats used by freshwater turtles;
- (2) Collect data on the distribution and abundance of flora at their local wetland using a transect;
- (3) Assess the health of the wetland based on observations.



Collect



Assess

Background Information

Transect: a linear sampling method used to study changes in ecosystems by recording observations along a path.

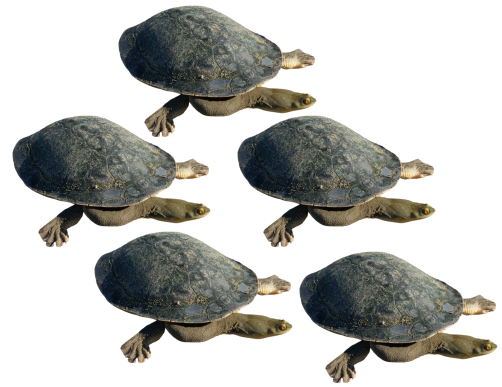
Abundance: refers to the number of individuals per species present.

Diversity: refers to the number of different types of organisms present.

Distribution: where individuals of a species occur.



Transect



Abundance



Diversity



Distribution

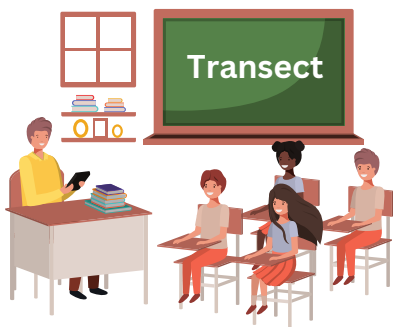
Classroom Activities

ACTIVITY 1

(1A) Begin with a discussion on biodiversity, highlighting the importance of understanding the distribution and abundance of plant and animal species in a wetland.

(1B) Introduce the concept of a transect: a linear sampling method used to study changes in ecosystems by recording observations along a designated path.

(1C) Discuss the purpose of using transects in ecological studies and how they help scientists understand distribution patterns and abundance.



Introduce



Discuss

ACTIVITY 2: After visiting the wetland

(2A) Have each group create a visual representation of their data, such as bar graphs or pie charts, showcasing the distribution and abundance of flora along the transect.

(2B) Facilitate a class discussion on the patterns observed and what these patterns might indicate about the wetland ecosystem.



Visualise



Discuss

Classroom Activities

ACTIVITY 2 - Continued

(2C) Students reflect on their wetland visit and write about what they observed at the wetland. Students propose one action they can take to contribute to wetland conservation.



Reflect and Write

Wetland Activities

ACTIVITY 3

Students walk around their local wetland and observe the riparian and aquatic zones, taking note of abiotic and biotic factors and habitats utilised by freshwater turtles.

Students conduct a transect study and record the abundance and distribution of flora at the wetland.

- Explain the procedure for setting up and conducting a transect. Emphasise the need for consistency and accuracy in data collection.
- Demonstrate how to use measuring tapes or rulers to mark out equal intervals along the transect line.
- Discuss the importance of careful observation and identification of flora within the sampling area.
- Take students to the chosen wetland area and divide them into small groups.
- Each group will be responsible for setting up and conducting a transect in a designated section of the wetland.
- Instruct students to use flags or stakes to mark the transect line and intervals along the line for data collection.

Wetland Activities

- Guide students as they walk along the transect line, recording observations of flora at each designated interval.
- Encourage students to use field guides for accurate identification and scientific terminology.
- Emphasise the importance of recording not just the presence but also the abundance of each species.

Students assess the health of the wetland by observing the following:

- Water quality
- Vegetation – diversity and abundance of both riparian and aquatic vegetation.
- Wildlife presence – birds, invertebrates, fish, turtles etc.
- Extent of erosion – observe the stability of bank of the wetland.
- Human disturbances – presence of litter or pollution.



Australian Curriculum addressed in this Lesson



Science

Strand: Science Understanding (Year 5)

Sub-strand: Biological Sciences

AC9S5U01: examine how particular structural features and behaviours of living things enable their survival in specific habitats.

Strand: Science inquiry

Sub-strand: Questioning and predicting

AC9S5I01: pose investigable questions to identify patterns and test relationships and make reasoned predictions.

Sub-strand: Planning and conducting

AC9S5I03: use equipment to observe, measure and record data with reasonable precision, using digital tools as appropriate.

Sub-strand: Processing, modelling and analysing

AC9S5I04: construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and describe patterns, trends and relationships.

Sub-strand: Evaluating

AC9S5I05: compare methods and findings with those of others, recognise possible sources of error, pose questions for further investigation and select evidence to draw reasoned conclusions.

Australian Curriculum addressed in this Lesson



Science - continued

Strand: Science Understanding (Year 6)

Sub-strand: Biological Sciences

AC9S6U01: investigate the physical conditions of a habitat and analyse how the growth and survival of living things is affected by changing physical conditions.

Strand: Science inquiry

Sub-strand: Questioning and predicting

AC9S6I01: pose investigable questions to identify patterns and test relationships and made reasonable predictions.

Sub-strand: Planning and conducting

AC9S6I03: use equipment to observe, measure and record data with reasonable precision, using digital tools as appropriate.

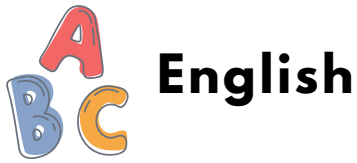
Sub-strand: Processing, modelling and analysing

AC9S6I04: construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and describe patterns, trends and relationships.

Sub-strand: Evaluating

AC9S6I05: compare methods and findings with those of others, recognise possible sources of error, pose questions for further investigation and select evidence to draw reasoned conclusions.

Australian Curriculum addressed in this Lesson



Strand: Literacy (Year 5)

Sub-strand: Creating texts

AC9E5LY06: plan, create, edit and publish written and multimodal texts whose purposes may be imaginative, informative and persuasive, developing ideas using visual features, text structure appropriate to the topic and purpose, text connectives, expanded noun groups, specialist and technical vocabulary, and punctuation including dialogue punctuation.

Strand: Literacy (Year 6)

Sub-strand: Creating texts

AC9E6LY06: plan, create, edit and publish written and multimodal texts whose purposes may be imaginative, informative and persuasive, using paragraphs, a variety of complex sentences, expanded verb groups, tense, topic-specific and vivid vocabulary, punctuation, spelling and visual features.