LESSON

5

TERM THREE

ABUNDANCE AND SPECIES RICHNESS

- Learning Objectives
- Background
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Learning Objectives

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

(1) Calculate the abundance and species richness of macroinvertebrates;
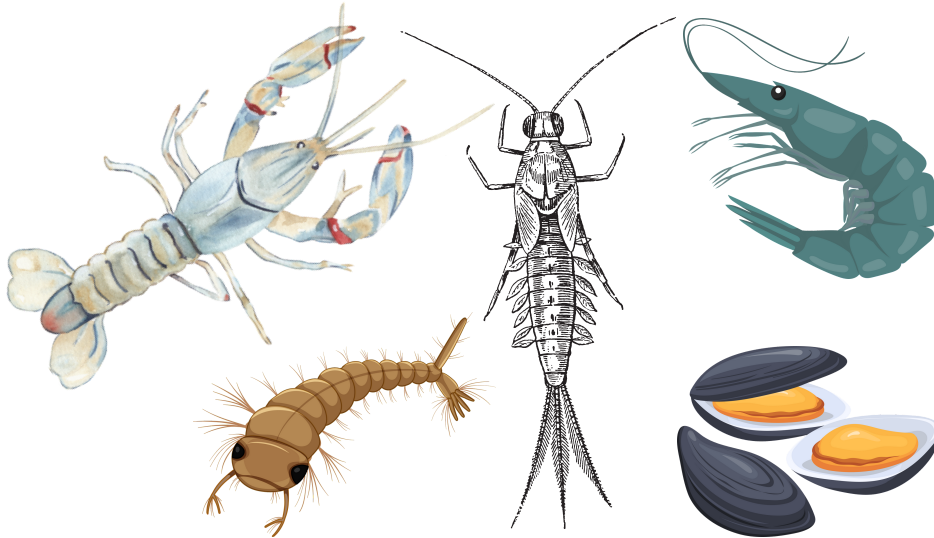
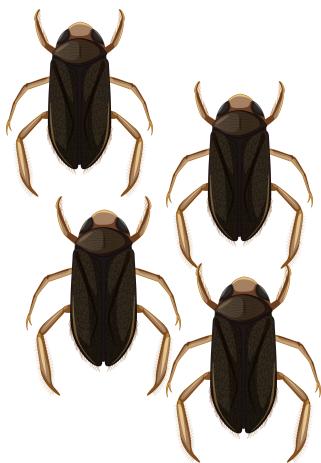(2) Draw a water bug to scale.

Calculate

Draw

Background Information

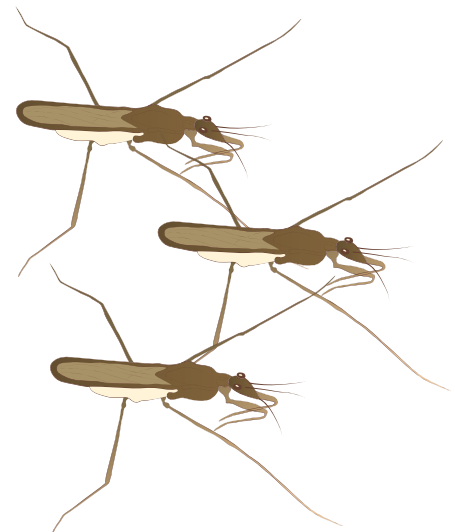*Abundance:* refers to the number individuals per species present.

Species richness: refers to the number of different species present.

Species richness

Abundance

Classroom Activities

ACTIVITY 1

(1A) Students calculate the abundance and species richness of macroinvertebrates sampled from the wetland (all sites combined).
Abundance - Calculate the total number of individuals per species, sampled from the wetland. Students will have an abundance value for each species.
Species richness - Calculate the number of different species sampled from the wetland.

ACTIVITY 2

(2A) Students determine the health of each site using the SIGNAL (Stream Invertebrate Grade Number - Average Level) score equation, from the Waterbug Blitz Education Resource.

Link to Waterbug Blitz Education Resource, page 40: https://www.peekdesigns.com.au/wp-content/uploads/2020/08/WaterbugBlitzEducationResource-FINAL.pdf (Copy and paste into browser).

(2B) Students compare the score for their site to those of their classmates and interpret their findings.

ACTIVITY 3

(3A) If available, set up microscopes for students to view the subsample of macroinvertebrates collected from the wetland.

If a microscope is unavailable, students can use the camera on their mobile phone or iPad to capture an image of the macroinvertebrate. Teachers may decide to purchase a macro lens for their class to attach to their phones when taking photos.

(3B) Ask students to draw one of the sampled water bugs from the previous lesson. Draw the water bug to scale.

Australian Curriculum addressed in this Lesson

Science

Strand: Science inquiry (Year 5)
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.

Strand: Science inquiry (Year 6)
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

Mathematics

Strand: Statistics (Year 5)

AC9M5ST03: plan and conduct statistical investigations by posing questions or identifying a problem and collecting relevant data; choose appropriate displays and interpret the data; communicate findings within the context of the investigation.

Strand: Stastics (Year 6)

AC9M6ST03: plan and conduct statistical investigations by posing and refining questions or identifying a problem and collecting relevant data; analyse and interpret the data and communicate findings within the context of the investigation.