

6 LESSONS

TERM THREE

DATA COMPARISON AND INTERPRETATION

- Learning Objectives
- Background
- 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 about dependent and independent variables

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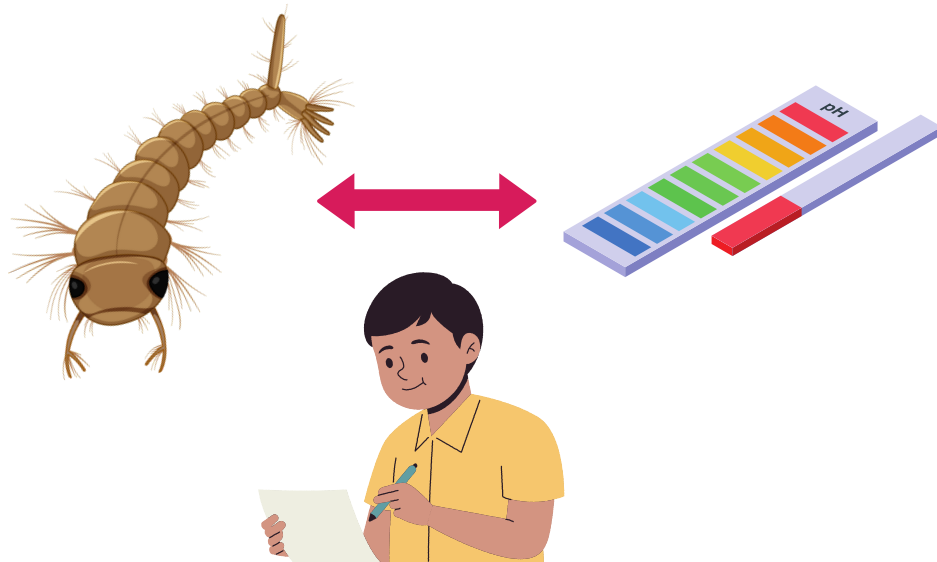
CURRICULUM

See how this lesson maps with the Australian curriculum

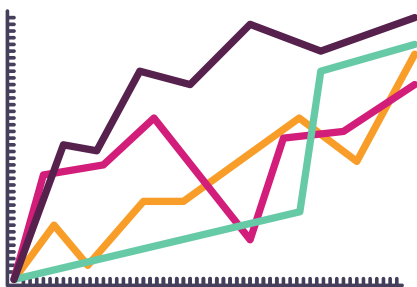
Learning Objectives

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

- (1) Compare the data collected from water quality testing and the water bugs survey.
- (2) Graph dependent and independent variables in a line graph and discuss the relationship between the two and interpret findings in relation to wetland health.
- (3) Interpret the results of eDNA sampling (conducted in Lesson 2).



Compare



Graph

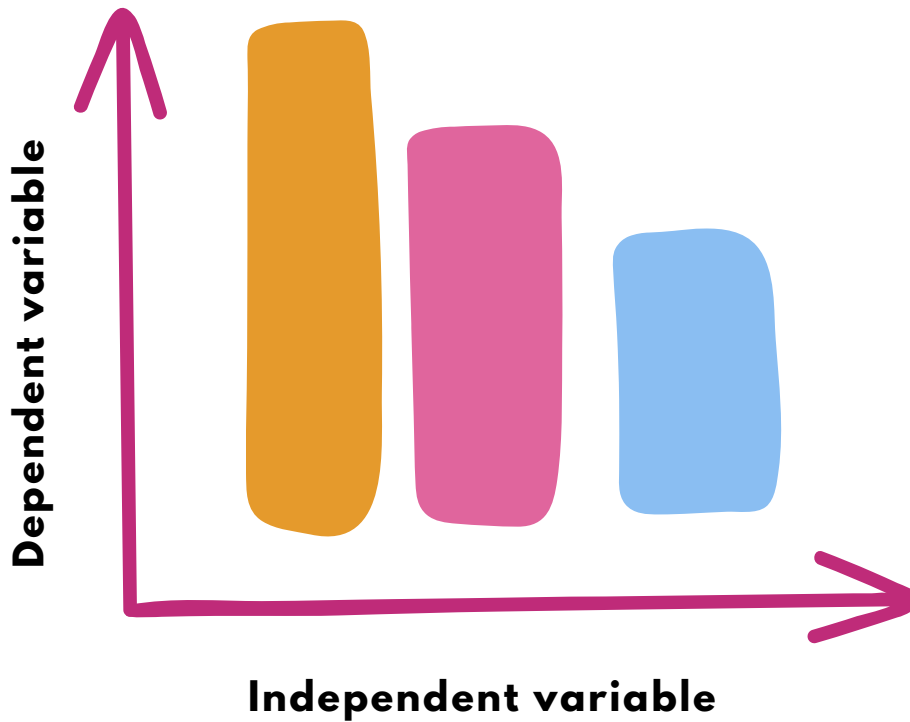


Interpret

Background Information

Independent variable: a variable that is unchanged by other variables being measured.

Dependent variable: the variable that changes as a result of the independent variable.



Classroom Activities

ACTIVITY 1

(1A) Guide students in identifying independent and dependent variables in both the water bug survey and water quality testing.

(1B) Student's graph how the abundance of water bugs is impacted by water quality parameters. Student's learn the difference between dependent and independent variables and how to graph them.

(1C) Discuss how changes in water bug populations may correlate with changes in water quality parameters.



Graph



Discuss

ACTIVITY 2

(2A) Students interpret the results of the eDNA testing.

(2B) Students should compare their findings with existing literature concerning species distributions. Students should recognise species within their inherent distribution and those that occur outside their expected range.



Classroom Activities

ACTIVITY 3

(3A) Involve students in a class discussion around their results.

Q: What do the sensitivity scores tell us about the health of the wetland?

Q: What do the water quality results tell us about the health of our local wetland?

Q: How might the results impact the freshwater turtles at the wetland?

(3B) Students suggest ways to improve the health of the wetland.



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)

AC9M5ST02: interpret line graphs representing change over time; discuss the relationships that are represented and conclusions that can be made.

Strand: Literacy (Year 6)

AC9M6ST01: interpret and compare data sets for ordinal and nominal categorical, discrete and continuous numerical variables using comparative displays or visualisations and digital tools; compare distributions in terms of mode, range and shape.