Name: _____ Date: _____

GREEN ORANGE BLUE BRONZE SILVER GOLD

# Science: Biodiversity

**Diversity is an essential element of a thriving ecosystem, and in Aboriginal and Torres Strait Islander cultures, it is our responsibility to care for the diverse life forms in our environment.**

In this activity you will be closely observing Country and using an Indigenous Research Method to explore the biodiversity in your environment. Just like the CSIRO scientists who are using these methods to study Australia's water and its history, you will collect data from your own observations On Country to learn about the biodiversity around you.

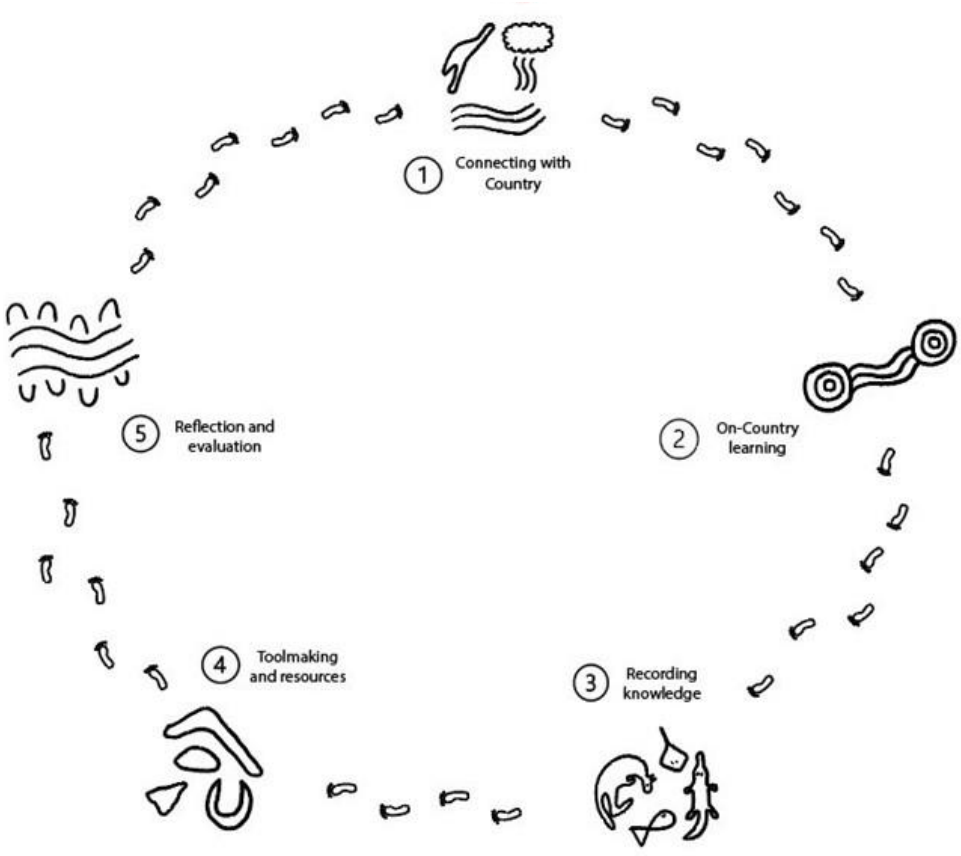


Figure 1: Indigenous Research Methodology[1]

[1]Fabila M, Moggridge B, Braedon P, Akeroyd M, Connolly M, Court Z, Gilbey S (2025). Indigenous research methodology for drought resilience, CSIRO, Australia.

| | |
|---|---|
| **Aim** | In this activity you will explore biodiversity in your school and conduct an investigation using the Indigenous Research Methodology – you will be collecting information by observing and being part of Country. |
| **Inquiry question** | **Which areas of the school have the most biodiversity?** |

### Connecting with Country

Who are the Traditional Owners of the Country you are on?

What does Country mean to you?

What observations have you made of Country?

What have you seen or heard of from the media or classroom discussions about biodiversity?

### Connecting with Country

What do you know about biodiversity?

Where do you find the most/least diversity?

What do you think the impacts of decreasing biodiversity could be?

What changes have you observed over time?

**On-Country learning**

Conducting investigation on Country

**Fair Test**

A scientific experiment must be a fair test. That means that in the experiment, only one variable is *changed*, at least one is *measured* or *observed*, and as much as possible, all other variables are kept the same.

**How will you ensure this experiment is a fair test?**

In this investigation, I am going to:

Change _____ ,and

observe _____

while keeping _____ The same.

## Prediction

Which areas of the school do you think will have the most biodiversity? Why do you think this area/s will have the greatest diversity?

The most diverse space/s will be:

**On-Country learning**

Conducting investigation on Country

**Inquiry question**

## Which areas of the school have the most biodiversity?

1. Choose four sites on school grounds to investigate. Write them into the table below.

| Site 1 | Site 2 |
|---|---|
| | |
| **Site 3** | **Site 4** |
| | |

2. Go to site one.
3. Measure a 2m x 2m quadrat.
4. Record your observations of habitats, plants, birds, invertebrates and vertebrates within your quadrat.
5. Repeat for Sites 2, 3 and 4.

**Equipment**

(your group will need)

- Tape measure
- Magnifying glass
- Results table

**Safety note:** This investigation involves working outside. Ensure sun and weather protection.

### Recording Knowledge

Record your observations: include sightings and any evidence e.g. scratchings, footprints or scat.
Name species you can identify.

# Results

| | Plants | Birds | Vertebrates | Invertebrates | Observations |
|---|---|---|---|---|---|
| Site 1 | | | | | |
| Site 2 | | | | | |
| Site 3 | | | | | |
| Site 4 | | | | | |

## Toolmaking and resources

Conducting investigation on Country

## Results

Annotated site map or descriptive results

## Reflection and evaluation

Reflect on what you have learnt, develop new ideas to build knowledge.

## Analysis

What did you observe when you surveyed the different life forms on school grounds?

Do your results support your prediction? Why or why not?

## Discussion

What do your results tell you about biodiversity at school? What evidence do you have?

How does the diversity of life at school impact you?

## Evaluation

Are your results reliable, why, or why not?

Describe any problems you encountered during this investigation and outline what changes you would make to overcome them next time.

If you were going to do this investigation again, what changes would you make?

## Conclusion

What conclusion can you make about biodiversity? Was it supported by the data you collected from conversations?

## Extension activity

1. Use google maps to conduct a tree survey on school grounds.
2. Create recommendations for increasing biodiversity on site.
3. Design a garden to improve biodiversity.
4. Repeat the inquiry at different times of year – create a longitudinal data set that helps you understand and predict your environment.

## Additional Inquiry Task

Research local or Australian Dreaming stories related to biodiversity – what do you think they are telling us about life on Country?
Bedtime Stories | Common Ground

Investigate how biodiversity can protect ecosystems in extreme weather events.