Name: _____ Date: _____

GREEN ORANGE BLUE BRONZE SILVER GOLD

Science: Indigenous Research Methodology – Water in our Environment

How much do you know about water in your environment? Have you seen and understood where water goes and how it shapes your school?

In this activity you will be closely observing Country and using an Indigenous Research Method to explore how water travels through 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 how water has and is shaping our world.

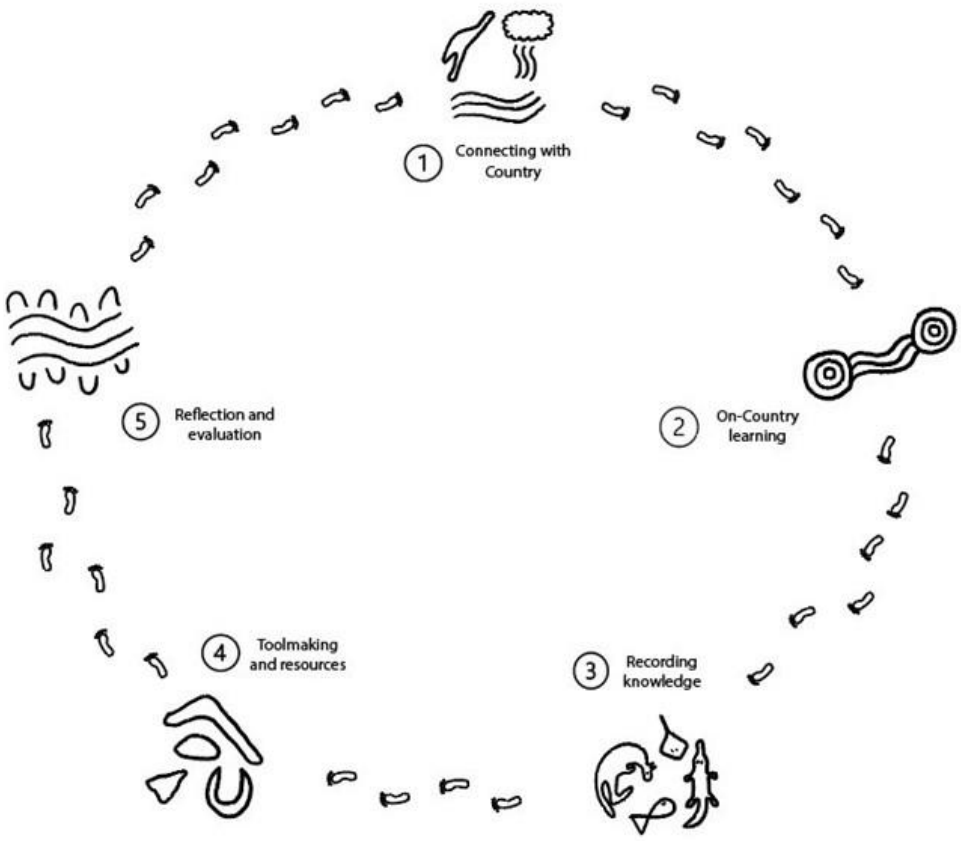

Figure 1: Indigenous Research Methodology[1]

[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 the movement of water in your environment and conduct an investigation using an Indigenous Research Methodology.
Inquiry question	**How does water move through and shape the school grounds?**

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 issues have you seen or heard of from the media or classroom discussions?

Make any sketches here:

Connecting with Country

What do you know about the way water moves on Country?

What have you seen or heard about water?

Make any sketches here:

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

How do you think the movement of water will be different in each site?
Why do you think this will happen?

The water will:

Inquiry question

How does water move through and shape the school grounds?

Procedure – watering can

1. Choose 4 places around the school to test, select areas with different surfaces, like grass, dirt, concrete, or gravel. Write them in the boxes below.

Site 1	Site 2
Site 3	**Site 4**

2. Fill the watering can 2L of water.
3. Walk to the first place you picked.
4. Notice what the area looks like and write your observations in your results table or on your map.
5. Slowly pour all the water from the watering can onto one spot on the ground.
6. Watch what happens to the water and write it down in your results table.
7. Repeat steps 2 – 6 for each of the test spots.

Equipment

(your group will need)

- Watering can
- Access to refill station
- Wet weather gear

Safety note: Wear weather appropriate clothing and sun protection.

Inquiry question

How does water move through and shape the school grounds?

Procedure – Rainy day

1. Choose 4 places around the school to test, select areas with different surfaces, like grass, dirt, concrete, or gravel. Write them in the boxes below.

Site 1	Site 2
Site 3	**Site 4**

2. Walk to the first place you picked.
3. Notice what the area looks like and write your observations in your results table or on your map.
4. Watch the rainwater and note if it soaks into the ground, forms puddles, or flows away. Record your observation.
5. Repeat steps 2 – 4 for all sites.

Equipment

(your group will need)

— Wet weather gear

Safety note: Wear weather appropriate clothing and sun protection.

Recording Knowledge

Record observations

Results

Sample	Site description	Water Observations
Example : Centre of school oval	Example: Short, green grass (1.5cm) Dry dirt under the grass Slight slope from the centre of the oval down to the edges of the oval	Example: Water pools on surface of oval Most of the water trickles east. Trickle stops after 2m and water soaks into soil. Some water soaks in where it was poured

Toolmaking and resources

Create a site map

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 poured water (or watched rain fall) in this environment?

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

Discussion

What do your results tell you about how water moves and shapes the Country you are on? What evidence do you have?

How does water movement on Country 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 the way water moves in your local environment, was it supported by the data you collected from conversations?

Extension activity

1. Create recommendations for water management on site.
2. Design a rain garden on site.

Additional Inquiry Task

Research local, or Australian, Dreaming stories related to water – what do you think they are telling us about water on Country?

Bedtime Stories | Common Ground