



Geography Unit - Year 5



INVESTIGATION BOOKLET

- The influence of people, including Aboriginal and Torres Strait Islander Peoples, on the environmental characteristics of Australian places ([ACHASSK112](#))
- The environmental and human influences on the location and characteristics of a place and the management of spaces within them ([ACHASSK113](#))

PART A: Posing questions

1. Pose 2 – 3 questions that, after investigation, would give us answers to how healthy your local creek is.

2. What negative impacts do you think are impacting on your creek?

3. What would tell you that your creek is unhealthy?

4. How could you find out how healthy your creek is?

5. Describe what you think a healthy creek looks like.

PART B: Scientific testing

Visit the creek.

Use the observation and water quality data collection worksheets to scientifically test the creek. Take them down to the creek with a clipboard and pencil to record your findings.



Name: _____

Date: _____

Part A: Observation of testing site.

Site 1 restoration level (circle): Restored Not restored

Location: _____

Ecology

1. What animal life would you expect to see in and around the creek area?

2. How much canopy cover is there over and around the creek? Tick.

Little canopy cover
(lots of sunlight gets through)

Moderate canopy cover

Lots of canopy cover
(little sunlight gets through)

3. Imagine an area that is about 4m x 4m square with one edge of your square being the creek bank. Fill in the table below to describe the habitat and plant life by the creek at ground level.

Type of plant/habitat	Abundance at ground level (%)	Prevents erosion. (✓)
Trees		
Shrubs/small plants		
Grasses		
Woody debris/leaf litter		
Bare earth		
Total:	100%	

4. Can you see any evidence of erosion? What do you think has caused it? What would help to prevent this?

5. How complex is the waterway? Are there lots of different places for aquatic life to live in e.g. riffles, ponds, instream vegetation (submerged, emergent, floating), overhanging vegetation, logs, rocks etc.

Climate

6. Describe the weather today, over the past week and over the past month. Consider the temperature and rainfall.

	Today	Past Week	Past Month
Temperature			
Rainfall			

7. Describe the level and colour of the water in the creek?

Level: _____

Colour: _____

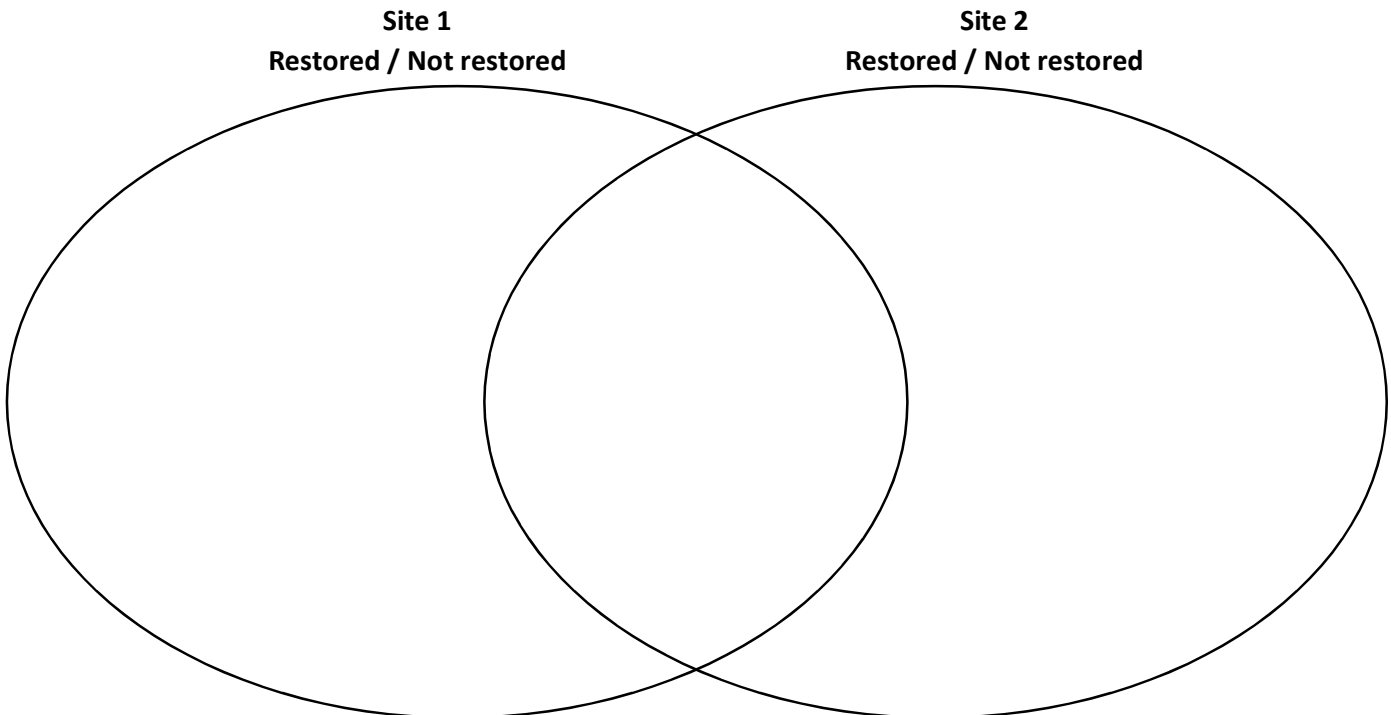
8. Do you think the weather has impacted on the level and colour of the water? Yes / No
Explain your answer.

Part B: Comparison of testing site with another area of the creek.

Describe the differences and similarities between the two sites. Consider shade, types of plants, abundance of plants, complexity of habitat, evidence of erosion etc.

Site 2 restoration level (circle): Restored Not restored

Location: _____



Part C: Water Quality Analysis

Record the results of the water quality analysis in the table below.

Date: _____

Site (circle): Site 1 Site 2

Site restoration level (circle): Restored Not restored

Location: _____

	Site 1	Site 2		Site 1	Site 2
Upstream / Downstream					
Depth (m)			Temperature (°C)		
Width (m)			pH		
Flow			Conductivity (µS/cm)		
Visibility			Dissolved O₂ (mg/L)		
Odour			Turbidity (NTU)		
Foaming					
Algae (% cover)					

PART B: Analysis of testing

1. Use your observational data findings and the 'Guidelines for water quality testing' information to assess how healthy your creek is. Complete the table below.

Indicator	Result	Tick the level		
		Low	Normal	Above
Water Temperature (°C)				
pH				
Conductivity (µS/cm)				
Dissolved O ₂ (mg/L)				
Turbidity (NTU)				
Algae %				
Colour				
Foaming				
Odour				
Visible pollutants				
Lab results				
Ammonia N				
Total Nitrogen (N)				
Total Phosphorus (P)				

2. Look at the results that are above or below normal levels. Use the 'Analysing the results' sheet to analyse what it could mean. Complete the table.

Indicator	Above or Below	What could this indicate	What actions would reduce the impact
e.g. pH	e.g. above	- point source pollution or alkali in the waterway e.g. industrial waste	Educate community about the impact of dumping rubbish and storm water pollution prevention.

PART C: Propose a course of action, plan what you need to do and ‘take action’.

NB: If you found all indicators fell in the ‘normal’ range, this doesn’t mean that there isn’t anything we can do. Water quality and creek ecology fluctuate daily and therefore we can still choose a course of action to improve the local creek even further.

1. Choose an action to improve the health of your creek.

2. Why are you choosing this action? What evidence led you to choose this course of action? Explain.

3. Explain in detail how your action will impact the environmental characteristics of places locally and globally. Consider comparing ‘in action’ with ‘action’.

4. Plan:

Proposal: What do you propose to do and why?

Equipment required:

People you will need to talk to:

Safety considerations:

Time frames:

Are there any costs involved? Are there any problems to consider?

PART D: Reflection

Have you enjoyed this unit of work? Why?

What did you enjoy doing the most?

What have you learnt from this unit?

Will you make any changes to your daily lives? If yes, what would they be. If no, why not?

