



Excursion to Tomato Lake 6: Gathering information about vegetation at Tomato Lake (Mathematics)



Tomato Lake, an Aboriginal Perspective Across the Curriculum (APAC) sequence of activities for K – 7:

- Excursion to Tomato Lake 1: history of Tomato Lake (T & E)
- Excursion to Tomato Lake 2: safety at Tomato Lake (Health & Physical Education)
- Excursion to Tomato Lake 3: focus on Aboriginal names for flora and fauna (LOTE)
- Excursion to Tomato Lake 4: focus on art (The Arts)
- Excursion to Tomato Lake 5: meeting place (English)
- **Excursion to Tomato Lake 6: gathering information about vegetation at Tomato Lake (Mathematics)**

CURRICULUM INFORMATION

PHASE OF DEVELOPMENT

Early Childhood	Middle Childhood	Early Adolescence	Late Adolescence
	✓	✓	

MAJOR LEARNING AREAS

The Arts	English	H & PE	LOTE	Maths	Science	S & E	T & E
✓	✓	✓	✓	✓ ✓	✓	✓	✓

VALUES

Pursuit of knowledge & commitment to achievement of potential	Self acceptance & respect of self	Respect & concern for others & their rights	Social & civic responsibility	Environmental responsibility
✓	✓	✓	✓	✓

DISTRICT

This lesson has been developed by teachers in the following district:
Canning

TOPIC INFORMATION

PURPOSE

To provide students with an opportunity to explore Tomato Lake from an Aboriginal perspective.

STUDENT OUTCOMES

Students:

- understand their own biology and that of other living things, and recognize the interdependence of life (Science – Life and Living).
- **use direct and indirect measurement and estimation skills to describe, compare, evaluate, plan and construct (Mathematics – Measurement).**
- demonstrate self-management skills which enable them to make informed decisions for healthy, active lifestyles (Health & Physical Education – Self Management Skills).





- understand that people's actions and values are shaped by their understanding and interpretation of the past (Society & Environment – Time, Continuity and Change).
- design, adapt, use and present information that is appropriate to achieving solutions to technology challenges (Technology & Environment – Information).
- comprehend and communicate in the target language through listening and responding and speaking (Languages Other Than English – Listening and Responding and Speaking).
- generate artworks that communicate ideas (The Arts – Art Ideas; Art Skills and Processes; Art Responses and Arts in Society).
- write for a range of forms using conventions appropriate to audience, purpose and context. (English – Writing).

KEY BACKGROUND POINTS

Tomato Lake measures approximately 350 metres (North-West/South-East axis) by approximately 80 metres. It is located in a recently landscaped park between Oats Street, President Street and Kambalda Way, in Kewdale.

As far as could be ascertained, no permanent camps were located in recent times in the vicinity of the swamp which has been drained and landscaped to form the existing lake. It was, however, a favoured turtle-fishing site for Aboriginal people from the Guildford area and was visited frequently for that purpose. Men would dive for the turtles and fish while the boys were taught these skills. Women would make baskets from reeds and bushes, and nets to catch fish and gather food in the area.

Read the Department of Education and Training booklet, *Tomato Lake*, for information about many aspects of Tomato Lake.

CULTURAL & PROTOCOL CONSIDERATIONS

It is vital that teachers consult Aboriginal Elders in their community and/or the District Advisory Council. Also consult with the Aboriginal personnel in your school and District Education Office Aboriginal Services team to learn correct protocols before teaching Aboriginal culture and/or language (e. g. Noongar language to be taught by a Noongar person; Torres Strait languages to be taught by a Torres Strait Islander ...). Pay particular attention to how people should conduct themselves in the environment.

RESOURCES

Medium	Author, producer, developer etc	Title	Source
booklet	Department of Education and Training	<i>Tomato Lake</i>	check with District Education Office

TEACHING AND LEARNING STRATEGIES

TEACHING RESOURCES

- digital camera
- student copies of **Learning Guide 1: Tomato Lake excursion tasks**
- grid paper (4 sheets per student)
- clipboards, pencils
- measuring tools (e. g. measuring tape, rulers ...)





LESSON STEPS

The lesson in this series titled **Excursion to Tomato Lake 1: history of Tomato Lake (T & E)** provides an excellent introduction to the series and also a background for the excursions. We suggest you complete that lesson prior to this.

Please use the following ideas in ways that best suit your students' needs.

Preparation:

- **Organise** excursion to Tomato Lake according to DET guidelines and your school policy (or you may adapt it and base this lesson on a previous excursion).
- **Consult** with Aboriginal elders and/or the Aboriginal personnel in your school and District Education Office Aboriginal Services team to learn protocols, and examine early records of maps and pictures of area.
- **Where possible, include** Aboriginal staff members, parents or community members in your excursion to Tomato Lake, ideally one per group as you will be around water.
- **Arrange** for a Noongar speaker to accompany you and provide names of plants, animals and other things in the environment.
- **Explain** to students before leaving school what you are going to do on the excursion and on return to school.
- **Organise** students to be responsible for taking photos on the excursion.
- **Check and organise** student health records as a variety of insects may be found around lake.
- **Organise** medical kit and mobile phone.
- **Ensure** all students have lunches, snacks and water for day excursion.

Implementation

Before leaving the class

Whole class

- **Teach** students about safety issues when walking near water and check appropriate shoes.
- **Discuss** issues of removing items from area and about taking care not to damage vegetation.
- **Organise** students into groups or pairs with an adult allocated to each group or pair, and ensure students relate to each other.
- **Distribute** student copies of **Learning Guide 1: Tomato Lake excursion tasks**.
- **Discuss** outcomes, measuring techniques, tasks, learning/research expectations of excursion and remind students of data they should gather for activities on return to classroom.
- **Explain** mathematical terms on the learning guide.
- **Ask** Aboriginal co-teacher to talk about species the students may find, and discuss how these may have been used traditionally.
- **Explain** procedures and behaviours students are expected to follow on the excursion.

Embark on your excursion!

Plan follow-up lessons to use the data collected, these may include graphs to compare numbers of the different species; tables to compare measurements, quantities ... ; compare dimensions (length and width) of leaves collected, and record findings; identification of species found (ask Aboriginal teachers to identify them or find out for you), and discussions of how these may have been used traditionally ...

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LEARNING GUIDE 1: Tomato Lake excursion tasks

Student's name: _____ Date _____

STUDENT OUTCOMES

(what you'll achieve through completing these tasks)

The student uses estimation as part of practical measuring tasks including indirect estimation of quantities.

- Use estimation when direct measurement is impossible or impractical (e. g. estimate the number of different plants found at Tomato Lake, and how many of each type).
- Use estimation as a checking process of more accurate numerical measurements (like counting to find out how many different plants and how many of each type of plant).

The student compares attributes of shapes and objects in a quantitative way.

- Compare the relationship between lengths and widths of a leaf.

MEASURING TECHNIQUES

How to measure attributes of things you find:

- Use a ruler or tape measure for accurate measurement.
- Compare and order length and width using standard units (e. g. cms, metres ...)
- Superimpose (place on top of) regular and irregular shapes on a grid to compare areas.

CHECKLIST FOR THE EXCURSION

- You need to take a clipboard, pencils, measuring tools, grid paper (4 sheets).

At Tomato Lake:

- **Explore, gather and record information** about different types of leaves and vegetation you find around Tomato Lake.
- **Record by drawing/tracing** leaf shapes, and **writing** in measurements of leaves (length and width).
- **Keep a record** of different types of trees, shrubs and other water plants – also try to count and record (use a tally) the number of each type of vegetation you find.
- **Take pictures** of the different types of vegetation you find for naming and recording on graphs, in follow up lessons.
- **Check** you have collected expected information.

QUESTIONS TO ANSWER

- How many different types of trees can be found in area?
- How many different types of shrubs?
- How many other types of plants are there?
- How many of each type of tree can you see and count?

SELF-ASSESSMENT

Reflect on and answer the following questions, include a sentence to explain your answers. E. g. Note how well you did something; note something you were unable to do and why; point out things you enjoyed ...

- Have you behaved according to the guidelines agreed on for the excursion?

- Have you co-operated with your partner/group members and adult supervisor?

- Have you completed all the tasks on this sheet (measuring and drawing tasks)?

- Have you joined in oral activities and discussions.
