



# Task 1: Zoo – Vertebrate Classification

## Research Task

**Due Date:** Term 1, Week 10, Tuesday 31st March at 3:00 pm

**Task Distributed:** 10<sup>th</sup> March 2026

**Unit:** Cells and Classification

**Task Type:** Research assignment

**Task Weighting:** 20%

**Outcomes:** SC4-CLS-01, SC4-WS-01, SC4-WS-04, SC4-WS-08

### Task Description

#### Background

The work of scientists involves planning and carrying out investigations and then communicating their findings and conclusions. This assessment task will allow you the opportunity to practice working scientifically.

Imagine that you are a zoologist who works for Taronga Zoo, and are responsible for maintaining the enclosures of various animals at the Zoo. There is a new Manager at the zoo, and you need to explain the key needs of some of the animals housed at the Zoo. You will communicate this information in a formal word-processed report.

Shortly after the new Manager start work at Taronga Zoo, one of the animals you look after has been placed on the endangered animal list. This means that a new enclosure will need to be designed for this animal. You are responsible for designing and creating this new enclosure to house and breed your endangered animal. You can present your design in your chosen method e.g. a poster (digital or physical), pamphlet, video, Slides or a physical enclosure.

#### What you need to do:

##### **BEFORE the Taronga Zoo excursion**

(a) Conduct research to define the main FEATURES of the five classes of invertebrates:

- Mammal
- Amphibian
- Fish
- Reptile
- Bird

(b) Access the Taronga Zoo Sydney website (<https://taronga.org.au/sydney-zoo/animals>). Scroll down and click on 'Our animals'. Scroll the range of categories (Australian animals, Marine animals, African animals, Asian animals, Reptiles and Amphibians, Other regions), and choose:

**1 BIRD, 1 REPTILE AND 1 MAMMAL** found at the zoo. For each record the following information:

- a) Scientific name (*this is the two word name of the Genus and Species*)
- b) Scientific classification (*you may need to conduct further research to find this*)
- c) Habitat (2-3 sentences)
- d) Insert an image for each of your chosen organisms

### **DURING the Taronga Zoo Excursion**

- a) When visiting the THREE animals at the zoo that you selected during your research, record the information provided by the zoo on the plaques at the exhibit.
- b) Observe the THREE animals, and record THREE detailed structural or behavioural observations for each animal. *Note: if you are unable to attend the excursion, or there were limitations during the visit and you did not observe your chosen enclosure, use the information provided on the Taronga website or through additional research.*

### **AFTER the Taronga Zoo Excursion**

Use the research you conducted before the zoo visit, as well as the information you collected while at the zoo, to complete the following:

### **PART A: Report on Google Docs**

Your report should include the following sections:

- a) Features of the 5 classes of invertebrates
- b) Detailed information for the THREE chosen animals – 1 BIRD, 1 REPTILE AND 1 MAMMAL. For each animal, this should include:
  - i. Information collected during research, listed above
  - ii. Record of the exhibit plaques at the zoo (photo or written notes)
  - iii. THREE detailed structural or behavioural observations
- c) Bibliography – a list of the sources used for the research parts of your report, presented in Harvard Referencing format.

**Harvard referencing** is a citation style used by students, writers and researchers to legally incorporate other people's quotes, findings and ideas into their own work to validate their conclusions. It includes formatting rules for in-text citations and listing different types of sources in a reference list. The web addresses below will help generate your references in the correct format. Once in the correct format, they are listed in alphabetical order by author surname.

<https://www.citethisforme.com/citation-generator/harvard>

<https://www.mybib.com/tools/harvard-referencing-generator>

### **PART B: Endangered animal enclosure, choice of how presented**

Assume that one of your animals has now been placed on the endangered animal list. Design and create a new enclosure for Taronga Zoo to house and breed this animal, and that you can present to Zoo Management.

You can present this as a physical or digital poster, pamphlet, video, Slides or a physical enclosure.

You must include the following information:

- a) A visual representation (plan or picture) of your enclosure
- b) Appropriate living conditions (For example: space, temperature, light, food, etc.)
- c) Public viewing considerations
- d) Paragraph/s to explain why you have included each of these features in your enclosure.

<b>Checklist – Have you?</b>	<b>Completed</b> ✓
Answered pre-excursion research questions	
Used science language, correct punctuation, sentences and paragraphs	
Picked ONE MAMMAL, ONE BIRD and ONE REPTILE from the Zoo website	
Recorded information on each of your animals	
Included an image of each animal with your research	
Downloaded the Taronga Zoo app so you can access the map while at the zoo	
Circled on your map where your three animals are found	
Saved your pre-excursion work so you can access it after the excursion	

# NESA Glossary of Key Words

Understand the verb associated with the task. The verb will provide an understanding of the detail needed to successfully answer the question.

- **Classify** Arrange or include in classes/categories
- **Describe** Provide characteristics and features
- **Explain** Relate cause and effect; make the relationships between things evident; provide why and/or how
- **Justify** Support an argument or conclusion
- **Propose** Put forward (for example a point of view, idea, argument, suggestion) for consideration or action

Check the NESA Glossary of Key Words for further guidance <https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/hsc/hsc-student-guide/glossary-keywords>

## Details of Submission

- Students are to submit their research task by uploading the task onto the Google Classroom. Part A report should be completed using Google Docs, while Part B Enclosure can be submitted in different formats, however:
  - If you have constructed a physical model or a poster as part of your report, you should include photographs within your digital report.
  - If you are using a different program for Part B, such as Canva, you should download the file as a PDF, and upload the PDF into your submission.
- Students should use headings and/or sub-headings in their tasks to help organise their research and ensure they address the necessary sections required.
- Late submissions will lose marks at the rate of 10% per day overdue to a maximum of 50% loss. All students MUST submit their assignments, regardless of how late.
- A marking criterion is attached to the end of this document detailing how marks will be allocated. In order to achieve top marks, please be sure to refer to the marking criteria prior to starting, during and again before submitting your assessment task.

## Teacher Feedback and Student Self-Reflection

- The task will typically be returned to students within 4 weeks of the due date.
- At this time feedback including information on how to improve will be provided through mechanisms such as marking criteria, and/or written comments.
- Students can clarify or seek further feedback by speaker with their teacher or the assessment marker.
- You will also receive feedback on your literacy performance based on the criteria in the school's literacy marking rubric. The marks achieved for literacy will account for between 10% – 20% of the maximum task value.

Upon return of the task, students will also be expected to complete a self-reflection.

At the time students receive their assessment mark and teacher feedback, students will be required to complete a self-reflection worksheet. Self-reflection is an important part of the learning process as it provides an opportunity to reflect on the strength of their performance, as well as areas that have been identified requiring development in future tasks.

## How does this link to my learning?

- Classification is based on observation. Students will apply their knowledge of classification and their observation skills to classify three animals that they observe at Taronga Zoo. Furthermore, students will communicate their ideas and knowledge by creatively designing an enclosure that improves on the existing enclosure at Taronga Zoo.
- Students will strengthen skills in the areas of making scientific observations, collection and processing of firsthand information, research, and presentation of findings.
- This task will be used to determine the school report component describing level of success related to the NSW Education Standards Authority (NESA) 7-10 Science syllabus outcome: “presents science ideas, findings and information to a given audience using appropriate scientific language, text types and representations (SC4-9WS)”

## Assessment Procedures

All students should be fully aware of the School Assessment Procedures for their year group. These were provided at the beginning of the school year and are available off the school website under the Learning Tab for each year group.

	Outcome	Component	Limited	Basic	Sound	High	Outstanding	Total
<p><b>PRE – EXCURSION RESEARCH</b></p> <p><b>SC4-14LW</b> relates the structure and function of living things to their classification survival and reproduction</p> <p><b>SC4-7WS</b> processes and analyses data from a first-hand investigation and secondary sources to identify trends, patterns and relationships, and draw conclusions</p>	Defines the features of a mammal	Not Included	Only one feature defined	TWO features defined	THREE OR MORE features defined			
		0	1	2	3			
	Defines the features of an amphibian	Not Included	Only one feature defined	TWO features defined	THREE OR MORE features defined			
		0	1	2	3			
	Defines the features of a fish	Not Included	Only one feature defined	TWO features defined	THREE OR MORE features defined			
		0	1	2	3			
	Defines the features of a reptile	Not Included	Only one feature defined	TWO features defined	THREE OR MORE features defined			
		0	1	2	3			
	Defines the features of a bird	Not Included	Only one feature defined	TWO features defined	THREE OR MORE features defined			
		0	1	2	3			
	Correctly identifies a bird, reptile and a mammal	Not Included	Only ONE correctly identified	TWO Correctly identified	All THREE correctly identified			
		0	1	2	3			
	Correctly identifies animal's scientific name	Not Included	Only ONE classified with their scientific name	TWO Correctly classified with their scientific name	All THREE classified with their scientific name			
		0	1	2	3			
	Correctly identifies the animal's scientific classification	Not classified	ONE animal correctly classified	TWO correctly classified animals	All THREE animals correctly classified			
		0	1	2	3			
	Correctly identifies the habitat of each chosen animal	No habitat mentioned	Only ONE animal has information on their habitat	TWO animals have information on their habitat	All THREE have information on their habitat			
		0	2	4	6			
Correctly inserts an image of each of the chosen animals	Not Included	Insert ONE image of a chosen animal	Inserts images of TWO animals	Inserts image of all THREE animals				
	0	1	2	3				

AT TARONGA ZOO	<b>SC4-7WS</b> processes and analyses data from a first-hand investigation and secondary sources to identify trends, patterns and relationships, and draw conclusions	Records information on chosen animals from plaques at the zoo	Not Included	Records information for only ONE animal chosen	Records information for TWO of their chosen animals	Records information for all THREE of their chosen animals		
			0	1	2	3		
		Makes observations of their chosen animals at the zoo	No Observations	Makes observations of only ONE animal at the zoo	Makes observations of TWO of their chosen animals at the zoo	Makes observations of all THREE of their chosen animals at the zoo		
			0	1	2	3		

	Outcome	Component	Limited	Basic	Sound	High	Outstanding	Total	
AFTE R THE ZOO	<b>SC4-14LW</b> relates the structure and function of living things to their classification survival and reproduction	Detailed report containing interesting facts on each of the chosen THREE animals	Not Included	Report contains information on only ONE of the chosen animals	Report contains information on TWO of the chosen animals	Report contains information on all THREE of your chosen animals.			
			0	1	2	3			
		Visual Representation of your enclosure	Not Included	Simplistic visual representation included	Detailed visual representation included	Detailed and creative visual representation included			
			0	1	2	3			
	<b>SC4-9WS</b> presents science ideas, findings and information to a given audience using appropriate scientific language, text types and representations	Enclose contains appropriate living conditions	Not Included	TWO appropriate living conditions included	THREE appropriate living conditions included	FOUR appropriate living conditions included			
			0	1	2	3			
		Public Viewing Considerations	Not Included	Simplistic public viewing access/area	Detailed public viewing access/area	Detailed and creative public viewing access/area			
			0	1	2	3			
		Explanation of enclosure inclusions	Not Included	Explanation of some of the enclosure features	Explanation of most of the enclosure features	Explanation of all of the enclosure features			
			0	1	2	3			
		Bibliography	Bibliography not submitted	Bibliography submitted but not in Harvard style	Bibliography submitted in the appropriate style (Harvard style)				
			0	1	2				
	Literacy								/5
	Total mark								/61

# Literacy Rubric

Literacy Outcomes	Elementary achievement You have:	Limited achievement You have:	Satisfactory achievement You have:	High achievement You have:	Outstanding achievement You have:
<b>Vocabulary</b> <i>Uses technical vocabulary to explain concepts and/or range of precise and appropriate words for effect</i>	Very limited response. Few content words used.	Only simple words are used.	Some precise and technical words are used.	Sustained use of precise and technical words.	Sustained, consistent and fluent use of precise and technical words.
	0	0.25	0.5	0.75	1
<b>Punctuation</b> <i>Use of correct and appropriate sentence and other punctuation for effect, and to aid in reading of the text</i>	No evidence of correct sentence punctuation.	Sentence punctuation is correctly used in at least one place - <i>one sentence is punctuated correctly.</i>	Some correct sentence level punctuation (at least 50%). May attempt other punctuation where it is required.	Mostly correct sentence level punctuation (80%) and at least two correct examples of other punctuation.	Writing contains accurate use of all applicable punctuation.
	0	0.25	0.5	0.75	1
<b>Sentences &amp; Cohesion</b> <i>The intentional construction of a variety of sentences to match purpose and audience, and the control of multiple sentence threads across the whole text.</i>	No clear evidence of sentences: a list of words OR text fragments.	At least one sentence is used correctly. Some meaning can be construed from the text.	Some correct formation of sentences. Mainly uses simple and compound sentences, but may attempt more complex structures.	Most sentences are correct. Range of sentence types and connectives are evident, but with varied effectiveness.	All sentences are correct, effective and controlled, and include a range of sentence types and connectives (complex sentences and other sophisticated structures)
	0	0.25	0.5	0.75	1
<b>Paragraphs</b> <i>Paragraphs are used to effectively structure information and partition events and ideas</i>	No correct use of paragraphing; may be a block of text or random breaks.	Ideas are separated; paragraphs may contain some unrelated ideas.	At least ONE paragraph is well structured and develops an idea	Writing is organised into paragraphs that assist the reader to digest chunks of the text, but may not be linked or executed effectively.	All components of the paragraphs are evident and paragraphing is consistent and well-developed across the whole text.
	0	0.25	0.5	0.75	1
<b>Text Structure</b> <i>Uses features of the appropriate text type</i>	No evidence of the structural features of the appropriate text type. <i>No attempt to write in the appropriate text type and/or response is off task.</i>	Minimal evidence of the structural features - <i>1 component evident</i> - of the appropriate text type.	Some evidence of the structural features - <i>2 components evident</i> - of the appropriate text type.	Substantial evidence of the structural features - <i>all components evident but there may be some lapses</i> - of the appropriate text type.	Coherent and controlled use of <i>all</i> the appropriate structural features of the text type.
	0	0.25	0.5	0.75	1
	Level of response is well below syllabus expectation	Level of response is below syllabus expectation	Level of response is equivalent to syllabus expectation	Level of response is above syllabus expectation	Level of response is well above syllabus expectation