

# Living World - Design and Produce Task

**Assessment** - ST3-1WS-S, ST3-2DP-T, ST3-4LW-S (Science & Technology)  
EN3-2A, EN3-3A, EN3-6B, EN3-9E (English)

## **Problem:**

*A small ecological disaster has occurred on Tuggerah Lakes that impacts the bird life near Saltwater Creek. How could you provide nesting grounds in an alternate location to help them survive until the impacted area has been cleaned up?*



## **Research:**

There is a large variety of bird species that call the Tuggerah Lakes Estuary home and some species that migrate to the lake at different times throughout the year.

- What kinds of birds inhabit the Tuggerah Lakes Estuary?

Choose one bird species that inhabit the Tuggerah Lakes Estuary environment and research information to help you answer the following questions:

1. What does your bird species look like? Provide a detailed description, including a labelled diagram.
2. What type of environment does this bird species inhabit? Provide a detailed description, including images to support.
3. Where might this bird species nest? What kind of 'nest' do they use? Include diagrams or images to support.

4. Does the bird species migrate to or from other places or environments? Explain why.
5. What structural and behavioural adaptations does this animal have? How does this help them survive in this environment?
6. What are the major food sources for this bird species?
7. What is the biggest threat to their survival? Why might this be?

### **Scientific Report:**

Compile the research information you have gathered about your bird species using the scientific report template (Google Classroom). Your scientific report should include:

- **Introduction** (1 paragraph)
  - Engaging and informative
  - Begins with a Sizzling Start and includes informative information
    - E.g. *The lush green mangroves swayed back and forth in the gentle breeze. The water splashed over the roots peeking out from the sand. Mangroves are a unique plant species found mostly in Australia. Did you know...*
- **Body** (7 paragraphs)
  - Use subheadings - the questions can be used to build these.
  - Topic sentences for each paragraph.
  - Strong supporting information that is relevant to the topic sentence, including facts and statistics.
  - Include technical vocabulary.
  - **Non-negotiable:** Spelling, punctuation, grammar, neat and easy to read work in your own words.
- **Conclusion** (1 paragraph)
  - End with impact. You could try one of the following techniques:
    - **Circular reference:** End with a reference to the beginning. Refer to the hook you used to get the reader's attention at the beginning, but with a twist. 'If you live on land, you should care about the ocean.'
    - **Summarise what was said, then ask the reader to do more research.** 'We've seen how plastic gets into oceans and what it does there. To discover more about how to prevent ocean pollution, visit [www.ecowatch.com](http://www.ecowatch.com)'
    - **End with a call to action.** 'Next time you see a plastic bag in a gutter, remember to save the life of a seal and stick that bag in a bin.'
    - **Focus on the future.** What does this information mean for future generations? Will there be no sea life left? (BONUS: Did we mention, you can end an essay with a question, too?)
    - **Surprise the reader** – or startle them with humour. 'So the next time a seagull steals your chips, let him have them. You owe him that at least.'

## **Design:**

Create a design for an alternate nesting grounds for your bird species, including:

1. What requirements does your bird species need in the alternate environment?
2. What resources might be required to create this alternate environment?
3. How might we source or use these sustainably?
4. What components of the design needs to be functional (fit for purpose)?
5. What components are purely aesthetic? Why are they included?
6. Create a series of labelled and annotated drawings to show your design from different angles. Include identification of the major features of your design.

## **Produce:**

Gather resources to develop a prototype of the alternate environment you designed. Can you create this prototype sustainably?

- Gather equipment and resources you need to create your prototype (HOME TASK). Think about:
  - What materials will it be made out of?
  - How will you put these materials together?
  - What tools are required to help you create this prototype?
  - Can you use recycled materials to create your prototype?
- Develop and construct your prototype (SCHOOL TASK).