# SURVIVING IN A CHANGING WORLD

**Stage 3: Science & Technology**
**ST3-4LW-S, ST3-11DI-T**

Adaptations are the remarkable features that have evolved in animals over millions of years to help them survive in their environment but what happens when that environment starts to change? Plastic bag or jellyfish? It can be hard for animals to tell the difference! At the Zoo students will observe a range of animal adaptations and discuss the challenges facing our wildlife today.

## OUTLINE

### AT SCHOOL

Students identify, investigate and observe a native Australian animal that lives in or around their school. Students use creative thinking techniques to create a concept map and investigate waste in their school.

### AT THE ZOO

Students explore the Zoo and observe the behavioural and structural adaptations in a variety of animals. Taronga's scaffold is available to guide student learning.

### ZOO WORKSHOP

In this workshop, students will observe a range of animals' adaptations and use animals at Taronga Zoo's Wildlife Hospital as a case study in considering how adaptations are challenged by today's changing environments

### BACK AT SCHOOL

Review student concept maps by considering how the animals that live around their school can be assisted to grow and survive, using their adaptations. Design and create a mechanism of communication to engage the whole school in supporting the local wildlife.

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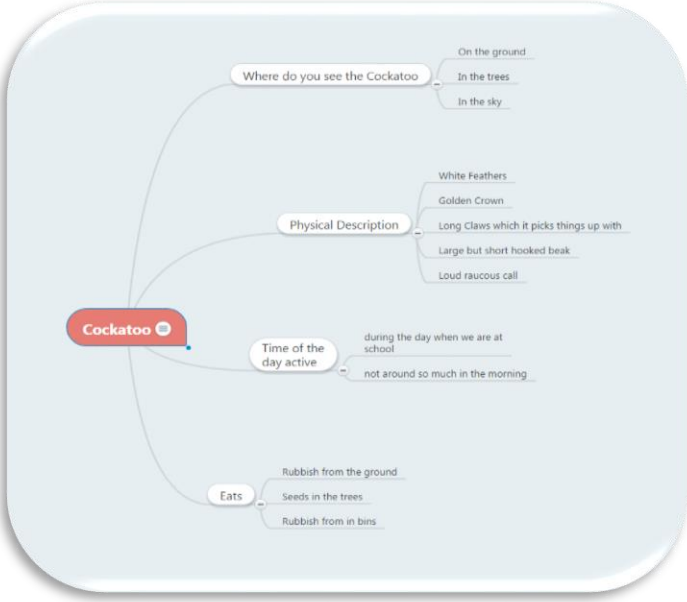
# AT SCHOOL - BEFORE THE ZOO

Observe and understand structural and behavioural adaptations of animals that survive in your school

## ANIMALS HAVE ADAPTATIONS TO SURVIVE!

Students select an animal that they can locate around their school grounds that they find fascinating!

1. Observe this animal and use these observations to develop a 'concept map' that demonstrates their current understanding about this animal's shelter, diet, predators, relationship with other living things and daily behavior (nocturnal, diurnal, crepuscular). Consider grouping observations into behavioural and structural adaptations.
2. Discuss how plastic rubbish may impact the animal given it has these adaptations (e.g. a skink that lives on the ground may mistake plastic for food and ingest it).
3. Carry out **a waste audit** of the school, for students to become aware of the scale and composition of their waste.
4. Investigate the **rate of decomposition** of each of the types of rubbish from the waste audit.




### CONCEPT MAP BUILDING!

Have you thought about using any of these excellent concept mapping resources….
http://popplet.com/
https://bubbl.us/
www.mindmeister.com
www.mindmup.com

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# AT THE ZOO

A guided (or self-guided) exploration

## SELF-GUIDED EXPLORATION

- Explore the Zoo and observe the behavioural and structural adaptations of a range of animals.
- Use the **Taronga  Zoo Adaptations scaffold** (on page 5) to guide your learning.

## ZOO WORKSHOP

- Participate in an interactive workshop which explicitly teaches the concepts of adaptations.
- Meet Australian animals and learn about the behavioural and structural adaptations they have which allow them to survive in the Australian environment.
- Explore how human impacts can challenge these animals ability to survive in the wild.
- Students will examine closely the work of the Taranga Wildlife Hospital to understand how the growth and survival of living things is affected by plastic in the environment.

Photo Melbourne Zoo, Poster Take 3

## CONSIDER

- Ways to apply your knowledge of adaptations when considering how you can play a part in reducing the impact of plastic on Australian native animals that live in your community.

*Reduce, Re-Use, Recycle*

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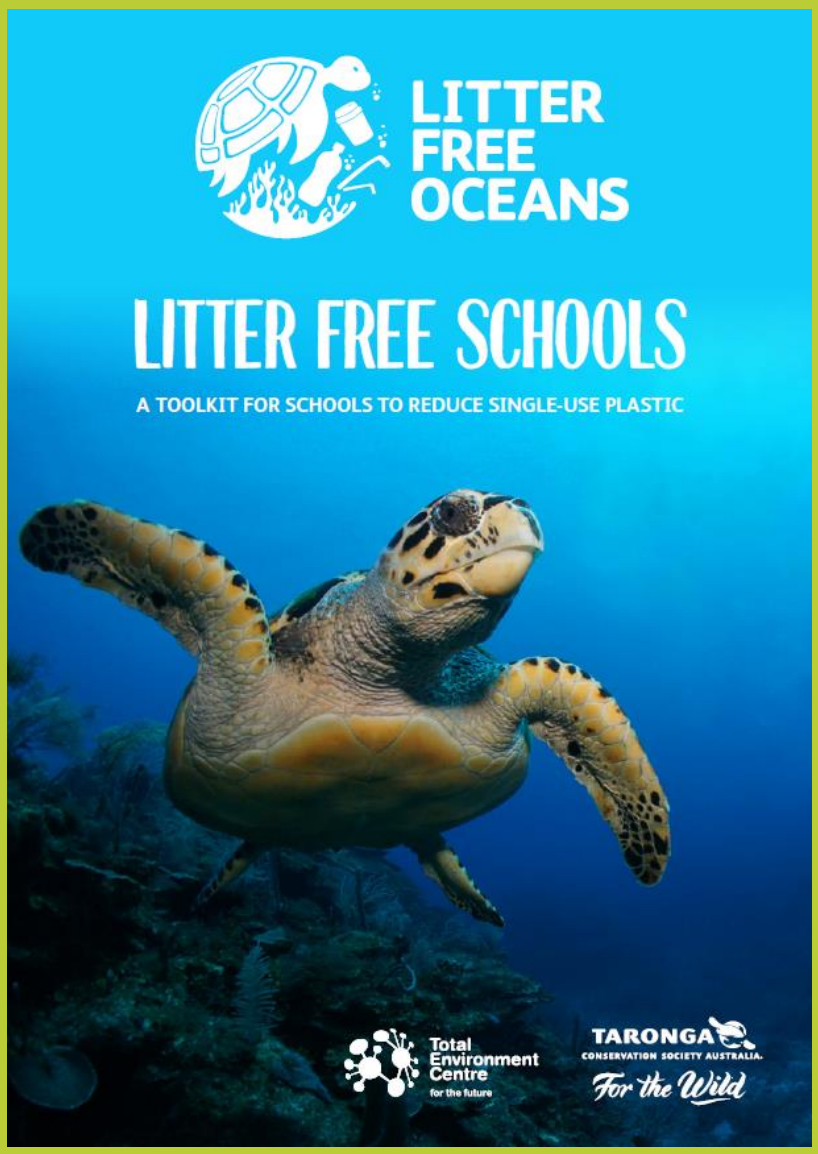
# BACK AT SCHOOL - AFTER THE ZOO

## TAKE ACTION!

Visit https://taronga.org.au/litter-free-oceans/ and register for your Schools Toolkit for some great Litter Free Oceans resources and ideas!




## PLASTIC PREDATOR FILM

Consider and discuss the 'Plastic Predator' film as it moves through many different ecosystems.

## EXTENSION: CREATE AN ANIMAL!

Design an animal that has adaptations to survive in your playground!

- Think about the body parts and body coverings it would need to survive.
- What would its camouflage be?
- What is it's diet and what sort of teeth would it have?
- How would it move and what sort of legs and feet would it have?
- What time of the day is this animal active, and why?
- What adaptations does your animal have that helps it survive plastic waste in its habitat?

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# TARONGA ZOO ADAPTATIONS SCAFFOLD

Adaptations are the behavioural or structural features of an animal that assist it to survive in its habitat. They include such things as body parts, body coverings and time of the day the animal is active. Observe and analyse 1 or 2 of the animals at Taronga Zoo to understand their amazing animal adaptations.

| Name of Animal: | |
|---|---|
| In which habitat(s) can this animal be found in the wild? e.g. tropical rainforest, ocean, alpine | |
| What sort of climate (temperature/weather) is typical of this habitat? | |
| Where in the habitat does this animal live? e.g. in the trees, on the ground | |
| Draw and name a structural adaptation this animal has to assist their survival in this habitat. | |
| Name a behavioural adaptation this animal has to assist their survival in their habitat. | |
| Describe the physical conditions that Taronga has included in the enclosure to accommodate this animal's structural and behavioural adaptations. | |