



Fighting Extinction Challenge Teacher Answers

Middle Years 5-8

Wurundjeri Investigation

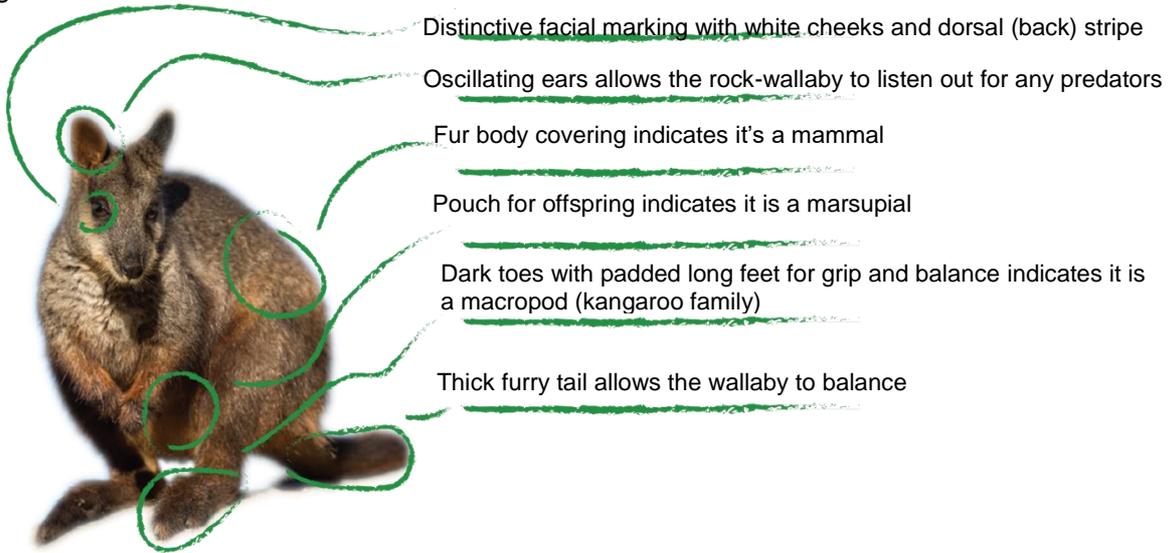
We are all custodians of the land just as the Wurundjeri people have been for thousands of years.

During your independent investigation around Healesville Sanctuary today look for ways that the Wurundjeri people lived on and cared for country and record these observations in the box below.

Look (what you saw) 	Hear (what you heard) 	I wonder...(questions to ask an expert or investigate back at school) 
<ul style="list-style-type: none">• Bunjil• Waa• Mindi• Signs about plant uses• Signs about animal dreaming stories• Sculptures• Scar Tree• Bark Canoe• Gunyah• Information about Coranderrk• William Barak sculpture• Information about William Barak• Artefacts (eg eel trap, marngrook, possum skin cloak)	<ul style="list-style-type: none">• Soundscapes• Information from education officers• Dreaming stories at feature shows• Information about Wurundjeri Seasons• Didjeridoo	

Animal Classification and Structural Adaptations

In order for us to understand how living organisms are related, they are arranged into different groups. The more features that a group of animals share, the more specific the group is. For example, the Brush-tailed rock-wallaby below has been classified by looking at its significant structural features that help it to survive including:



Common Name: **Brush Tailed Rock wallaby** Scientific Name: **Petrogale penicillata** Family: **Macropodidae**
Order: **Diprotodontia** IUCN Status: **Endangered/ Threatened** Threat: **Habitat Loss and introduced predators**

Task

1. **Describe** the structural adaptations that help the dingo to survive.
2. **Classify** this species based on your observations, zoo signs, keeper talks or videos.

Sharp teeth and strong jaws to shred prey

Tan to dark orange colored fur

Flat, tapering mid-length and does not curve over the back, but is carried low, small white markings on tip

White markings on feet, strong broad paws and sharp claws



Common Name: **Dingo** Scientific Name: **Canis Lupis** Family: **Canidae** Order: **Carnivora**
Conservation Status: **Threatened** Threats: **Interbreeding with domestic dogs & habitat destruction**

4. **Observe** another chosen animal and sketch its physical structures and classify the species



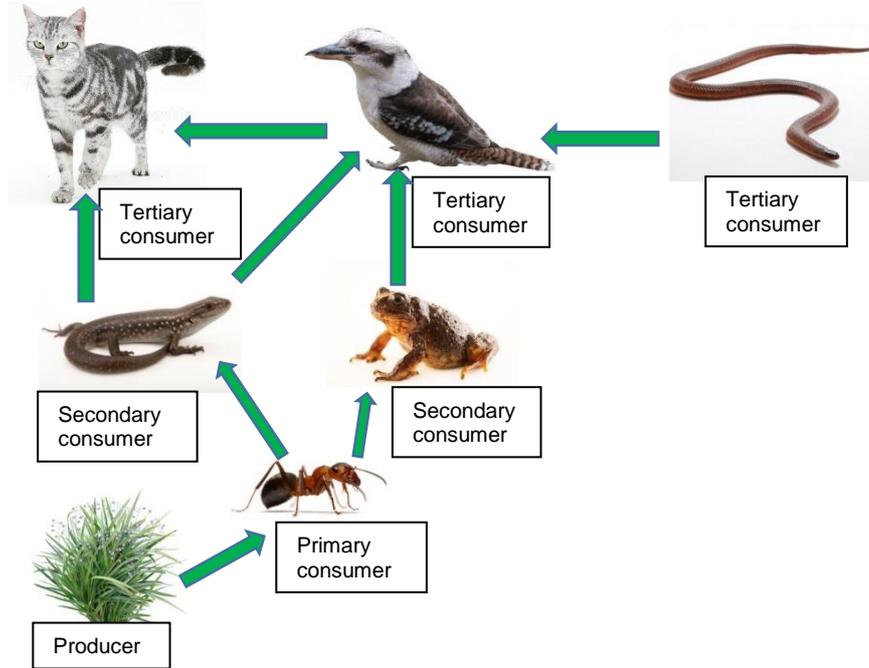
Common Name:
Scientific Name:
Family:
Order:
Conservation Status:

Food Webs

A **food web** (or **food cycle**) is a graphical representation of what-eats-what in an ecological community. Another name for **food web** is consumer-resource system where energy transfers are absorbed from one organism to the next. (See example below). Arrows point to the animal doing the eating.

Task

1. **Study** the food web of the Guthega Skink below. Based on your observations, zoo signs, keeper talks or videos at the Reptile House, what would happen to this food web if the Guthega Skink became extinct? It would cause the collapse of the entire food web. Primary consumers or herbivores, which feed on producers directly, would die off and higher level consumers would suffer.



2. **Explain** what are some of the human impacts facing the Guthega Skinks survival?

Human impacts to the Guthega include, construction and maintenance of ski resorts and roads, grazing & trampling by exotic herbivores such as feral horses, cattle and frequent hot fires caused by climate change and poor fire management.

3. **Investigate** the food web of the Helmeted Honeyeater and sketch it below. Include **labels** and **diagram**



4. **Explain** why the Helmeted Honeyeater is so important and its relationship with producers?

The Helmeted Honeyeater cleans **lerps** (insects) from foliage on plants, behind bark and it's a primary pollinator for trees i.e. Manna Gum, Mountain Swamp Gum and Swamp Gum, which provide are the primary sources of nectar in its diet.

Fighting Extinction Challenge Investigation – Places of interest

- 👁️ **Observe** your group leader's map and locate the **6 locally endangered species** below.



Record as much information about each animal by *observing* the animal, *listening* to stories and *asking questions* of our keepers, educators and volunteers. Look out for the interpretive signage or videos located around the Sanctuary to help you answer the questions below.

FE species	Animal Class e.g. class, family, status	Habitat e.g. type of habitat features, distribution	Threats e.g. Human Impacts	Adaptations e.g. body features and behavior that help it survive
 <p>Nocturnal House – Leadbeaters Possum</p>	<ul style="list-style-type: none"> • Class: Mammalia • Family: Petauridae • Status: Critically endangered – around 50 left in the wild. 	<ul style="list-style-type: none"> • Distribution: Central Highlands and Yellingbo, Victoria. • Habitat: wet sclerophyll old growth forest, Snow Gum and Mountain Ash forests • Dense vegetation of melaleuca to enable connectivity through the forest 	<ul style="list-style-type: none"> • Habitat destruction • Draining of wetlands • Introduced deer that graze in possum habitat • Logging • Bushfires • Climate Change events 	<ul style="list-style-type: none"> • Sharp claws and rigid pads on their paws allow the possum to grip, run and jump across branches • The Leadbeater's possums repeat a high pitched "alarm hiss" when fighting or being threatened • Club shaped tail to collect and carry bark for nests
 <p>Fighting Extinction Aviary – Helmeted Honeyeater</p>	<ul style="list-style-type: none"> • Class: Aves • Family: Meliphagidae • Status: Critically endangered - 200 left in wild 	<ul style="list-style-type: none"> • Distribution: Yellingbo Nature Reserve Victoria • Habitat: streamside swamp forest 	<ul style="list-style-type: none"> • Logging • Grazing from introduced animals and livestock • Drought • Wildfire • Disease • Introduced birds and competition • Poor drainage in habitat 	<ul style="list-style-type: none"> • Eats sap, insects and nectar from trees and can move their tongues 10 times per second. • Fast flyer • Camouflage against flowers and foliage • Builds nest out of cobwebs, sticks and feathers
 <p>Fighting Extinction Aviary – Southern Corroboree Frog</p>	<ul style="list-style-type: none"> • Class: Amphibia • Southern Corroboree Frog (<i>Pseudophryne corroboree</i>) and the Northern Corroboree Frog (<i>Pseudophryne pengilleyi</i>) • Status: around 50 - 100 left in the wild – Critically endangered 	<ul style="list-style-type: none"> • Habitat: small seasonal wetlands and surrounding vegetation in the Australian Alps above 750 meters. • Distribution: Kosciusko N.P & Brindabella Ranges 	<ul style="list-style-type: none"> • Disease caused by the amphibian Chytrid Fungus • Habitat destruction from hard hooved introduced animals • Wildfires • Climate Change 	<ul style="list-style-type: none"> • The Corroboree Frog produces its own toxic poison to repel predators • Walks rather than jumps • Winter torpor: inactive during the winter • Camouflage into sphagnum moss
 <p>Woodlands track - Brush-Tailed Rock-wallaby</p>	<ul style="list-style-type: none"> • Family: Macropodidae • Class: Mammalia • Status: Endangered 	<ul style="list-style-type: none"> • Distribution: Great Dividing Range from southeast Queensland to Western Victoria's Grampians • Habitat: Rocky escarpments, granite outcrops and cliffs, which have caves and ledges for shelter 	<ul style="list-style-type: none"> • Clearing of native vegetation • Exotic plant invasion • Changed patterns of fire • Introduced Predators (foxes and cats) 	<ul style="list-style-type: none"> • The Wallabies can climb low hanging branches with their sharp claws and strong legs. They can also climb almost vertical rocks • Camouflage into the shadows of rock escarpments
 <p>Woodlands track - Tasmanian Devil</p>	<ul style="list-style-type: none"> • Family: Dasyuridae • Class: Mammalia • Status: Endangered estimated at 10,000 to 25,000 individuals in the wild. 	<ul style="list-style-type: none"> • Habitat: Sclerophyll forest and coastal woodlands • Distribution: found in all habitats on the island of Tasmania 	<ul style="list-style-type: none"> • Devil Facial Tumour Disease (DFTD) • Habitat destruction • Vehicle collisions • Wildfire 	<ul style="list-style-type: none"> • Tassie Devils can eat bone, fur and cartilage with their strong jaws • Can smell dead decaying matter from over 2km • Dark coat helps them camouflage at night • Pouch to keep young
 <p>Reptile House – Guthega Skink</p>	<ul style="list-style-type: none"> • Family: Scincidae • Class: Reptilia • Status: Endangered 	<ul style="list-style-type: none"> • Habitat: Alpine Tussock grasslands, heathlands and snow gum woodlands • Distribution: Snowy Mountains in the vicinity of Mt Kosciuszko, New South Wales (NSW), and from the Bogong High Plains in Victoria. Lives 1600 m above sea level 	<ul style="list-style-type: none"> • Habitat destruction 	<ul style="list-style-type: none"> • The Guthega Skink has a clever way of surviving the cold winter temperature in its alpine habitat by burrowing under the rocks. • Small size and colour helps it camouflage amongst rocks

