

A U S T R A L I A N D I N O S A U R S

Australia Post Collecting Month

ROARING INTO THE CRETACEOUS PERIOD!

TEACHER
GUIDE
Upper Primary
Years 4-6



Truett

The Australian Dinosaurs Teacher Guide is a fun and engaging resource for teaching students about the Australian Age of Dinosaurs, featured in a new series of stamps by Australia Post.

Developed by Australia Post, this curriculum-aligned resource for middle and upper primary will help you and your students learn about the history of prehistoric Australia.

BACKGROUND

Investigating stamps is a great way to learn about Australia's rich history. This year, Australia Post has focused Stamp Collecting Month on Australian Dinosaurs, after the 2021 naming of a dinosaur discovered in Queensland, *Australotitan cooperensis* (affectionately known as Cooper before this). The dinosaurs found deep within the landscape of Australia are evidence of the country's prehistoric history and bring with them a wealth of interesting facts and stories.

LESSON STRUCTURE

Each activity in this guide has been designed for teachers to pick and choose what is most suitable for their current programming requirements and student ability levels. There is no set duration for the experiences, some tasks will take longer than a single lesson and educators are encouraged to adapt where needed.

LESSON	LEARNING AREA	
1 Gondwana Year 4	Geography The importance of environments, including natural vegetation, to animals and people (ACHASSK088)	Geography - Researching Locate and collect information and data from different sources, including observations (ACHASSI074)
2 Law of the Land: Predators and Prey Year 4	Science - Biological Sciences Living things depend on each other and the environment to survive (ACSSU073)	Mathematics - Measurement Use scaled instruments to measure and compare lengths, masses, capacities and temperatures (ACMMG084)
3 Writing History Years 5-6	Geography The environmental and human influences on the location and characteristics of a place and the management of spaces within them (ACHASS113)	English - Creating Texts Plan, draft and publish imaginative, informative and persuasive texts, choosing and experimenting with text structures, language features, images and digital resources appropriate to purpose and audience (ACE 1714)
4 Aussie Adaptations Years 5-6	Science - Biological Sciences Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)	Science - Biological Sciences The growth and survival of living things are affected by physical conditions of their environment (ACSSU094)
5 Prehistoric Places Years 5-6	Geography The importance of environments, including natural vegetation, to animals and people (ACHASSK088)	Visual Arts Present artworks and describe how they have used visual conventions to represent their ideas (ACAVAM112)

General Capabilities

- Literacy
- Numeracy
- Critical and Creative Thinking
- Information and Communication Technology Capability
- Personal and Social Capability

Cross-Curriculum Priority

- Sustainability

01.1

The biosphere is a dynamic system providing conditions that sustain life on Earth.

01.2

All life forms, including human life, are connected through ecosystems on which they depend for their wellbeing and survival.

01.9

Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.

Diamantinasaurus matildae

Di-ah-man-teen-ah-sore-us mah-till-day

Type

Titanosaurian sauropod.

Period

Mid-Cretaceous period, around 100 to 95 million years ago.

Discovered

Central Queensland near Winton in 2005. 30 per cent of the skeleton has been recovered, making it the most complete Cretaceous sauropod ever found in Australia.

Appearance and Interesting Facts

A plant eater, or herbivore. This huge, four-legged, long-necked dinosaur is estimated to have measured 16-20 metres in length and 2.5-3 metres tall at the hips; at the head it would have been 7 metres or more. Nicknamed 'Matilda' after 'Waltzing Matilda' which Banjo Paterson wrote in Winton.



Australovenator wintonensis

Oss-trah-low-ven-ah-tore win-ton-enn-siss

Type

A megaraptorid theropod.

Period

Mid-Cretaceous period, around 100 to 95 million years ago.

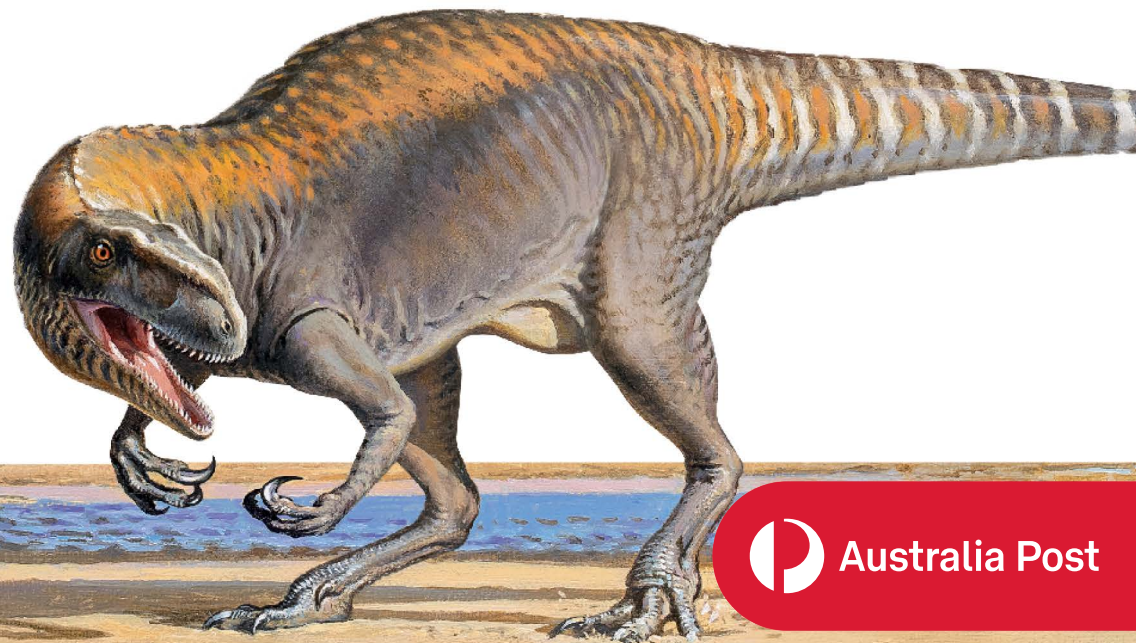
Discovered

Found near Winton, Queensland. 20 per cent of the skeleton has been recovered, making it the most complete carnivorous dinosaur ever found in Australia.

Appearance and Interesting Facts

A two-legged (bipedal) dinosaur, its arms were shorter than its legs. But as theropods go, the arms of *Australovenator* were rather long and muscular. Measuring 1.5 metres high and 5-6 metres long. As a swift predator, it was equipped with three curved claws on each hand and sharp teeth.

Nicknamed 'Banjo' as its skeleton was found intermingled with the bones of the *Diamantinasaurus* specimen nicknamed 'Matilda'. A claw of this dinosaur was also found in Early Cretaceous rocks of Victoria.



Ferrodraco lentoni

Fair-row-dray-co len-ton-eye

Type

An anhanguerian pterosaur (interestingly, this is not a dinosaur but a flying reptile).

Period

Late-Cretaceous period, around 96 million years ago.

Discovered

In the Winton region of central western Queensland in 2017.

Appearance and Interesting Facts

This flying reptile had a wingspan of about 4 metres and lived around lakes and rivers eating mainly fish. This new fossil discovery includes a partial skull, five partial neck vertebrae, and bones from both the left and right wings.



Kunbarrasaurus ieversi

Kuhn-bah-rah-sore-uss eye-vers-eye

Type

A parankylosaurian ankylosaur.

Period

Early Cretaceous period, 103-101 million years ago.

Discovered

In 1989 near Richmond in north-western Queensland. It is the most complete ankylosaurian skeleton from the entirety of the Gondwanan continents.

Appearance and Interesting Facts

A squat, armoured plant eater. About the size of a sheep with a parrot-like beak. Covered in bony armour on the head, back, abdomen, legs and along its long tail. The remains of this individual's last meal were found in its stomach region.



Elaphrosaurine theropod

EL-ah-fro-SAWR-eene theh-ruh-pod

Type

An elaphrosaurine theropod dinosaur. It is related to Elaphrosaurus from Tanzania, Limusaurus from China, and Huinculsaurus from Argentina. It is not yet assigned to any genus because of its incompleteness.

Period

Early Cretaceous period, around 110 to 107 years ago. During this period, the climate of the Cape Otway region was cold, indicating that this animal could tolerate near-polar temperatures.

Discovered

Cape Otway in Victoria in 2015.

Appearance and Interesting Facts

A slender body, long neck, stubby arms and possibly toothless skull. It probably had a plant-based diet and did not hunt prey. Evidence suggests that the elaphrosaurine theropods started life eating a range of foods, including possibly tiny monotremes, insects and fruits, but lost their teeth as they aged, to be replaced by a horny beak.



ACTIVITY 1 GONDWANA

ACTIVITY OVERVIEW

Students investigate the supercontinent of Gondwana and the extent of the changes to the environment over hundreds of millions of years. Students consider the different types of environments in which the Australian dinosaurs lived. The activity concludes with drawing a map of the land to indicate where the Australian dinosaurs lived.

Learning Intentions

In this lesson students will:

- discuss and research the importance of unique Australian environments
- complete a mapping exercise to indicate the locations where Australian dinosaurs have been found

Guiding Questions

Comprehend

What modern continents made up Gondwana?

Application

How would you explain the habitats of Australia's dinosaurs?

Synthesise

Can you map the places Australian dinosaurs lived, how have Earth's landmasses changed over time?

You will need:

- Access to the internet or library
- Pens or pencils
- Prehistoric fact cards
- Scissors
- Gondwana worksheet

Vocabulary

- Gondwana
- bogs
- reptiles
- amphibians
- continents

ACTIVITY 1 GONDWANA

Step 1 - Learn

Gondwana no longer exists as it did millions of years ago. Investigate which modern continents were part of Gondwana.

Step 2 - Think

100 million years ago Southern Australia (now Victoria and Tasmania) had many fast flowing rivers, forests and bogs. The landscape was home to many animals.

Read the prehistoric fact cards and note down which dinosaur lived in Southern Australia during this time.

Step 3 - Explore

In Queensland, 98-95 million years ago, the land was covered in conifer forests, rivers, billabongs and mud flats. Small mammals, reptiles and amphibians probably lived in the undergrowth - but dinosaurs dominated the land.

Read the prehistoric fact cards to discover which dinosaurs lived in Queensland during this time.

Draw a map of Australia to show where each of the creatures lived.

Step 4 - Go Further

Use the worksheet to cut out the continents and countries of South America, Africa, India, Arabia, Antarctica, Australia-New Guinea and New Zealand.

Piece them together into how Gondwana used to be formed.



ACTIVITY 2

LAW OF THE LAND: PREDATORS AND PREY

ACTIVITY OVERVIEW

In this activity students will take a deep dive into *Australovenator* and investigate why this dinosaur was a great predator. They will learn about the relationship between predator and prey in addition to exploring the dimensions of 'Banjo'.

Learning Intentions

In this lesson students will:

- discuss the relationship between predator and prey
- explore the physical dimensions of 'Banjo' the dinosaur
- predict, record and measure to scale

Guiding Questions

Comprehend

What is the difference between predator and prey?

Application

Can you use the information provided to measure the physical dimensions of Banjo?

Synthesise

Predict what may have happened between Banjo and Matilda?

You will need:

- Prehistoric fact cards
- Tape measures or rulers
- Trundle wheels
- Chalk

Vocabulary

- predator
- prey
- ornithopods
- scale

ACTIVITY 2

LAW OF THE LAND: PREDATORS AND PREY

Step 1 - Learn

Banjo the dinosaur was a ferocious predator. Having long, muscular arms meant that *Australovenator* was a great hugger but its cuddles could kill. Banjo had three curved claws on each hand, long muscular legs for chasing prey and small blade-like teeth and most likely hunted other dinosaurs.

Step 3 - Explore

Predict and record how big Banjo was in comparison to things we find in our world today e.g. transport, animals, buildings. In pairs, students use a ruler or measuring tape to measure the length and height of Banjo.

Step 4 - Go Further

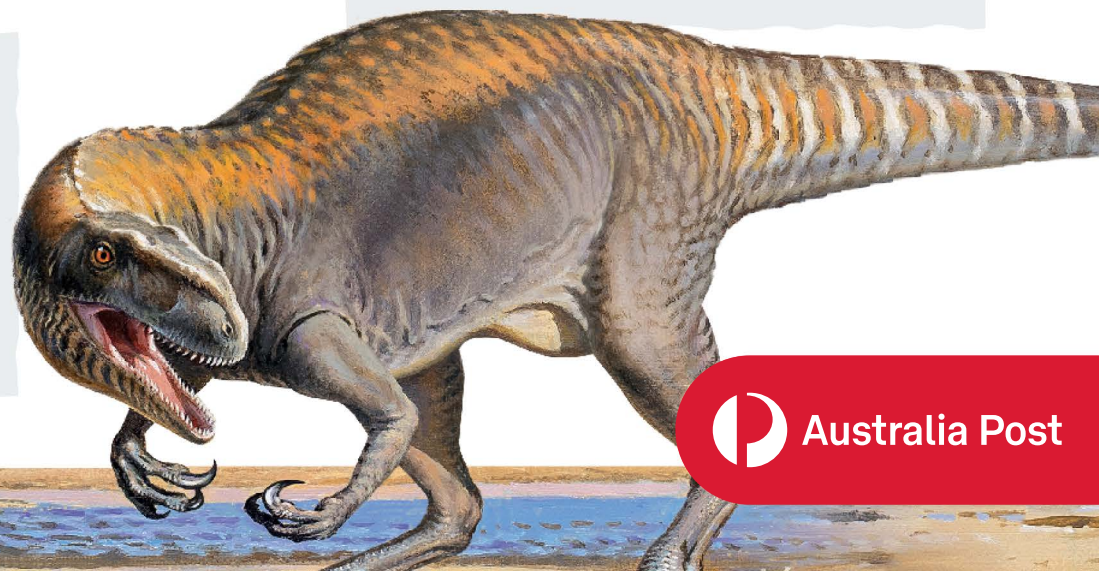
In the school courtyard, as a class use chalk to sketch out the life size (to scale) measurements of the 5 dinosaurs discovered in Australia.

Compare and contrast their measurements, order in ascending height.

What are some similarities and differences between the biggest to smallest?

Step 2 - Think

Banjo's bones were found alongside those of Matilda. What differences can you see between Matilda and Banjo? Who is the predator and who is the prey? What do you think happened to Banjo and Matilda?



ACTIVITY 3

WRITING HISTORY

ACTIVITY OVERVIEW

In this activity, students will discuss the role of a palaeontologist and learn about the impacts of erosion. They will then create a job advert for a palaeontologist who will hunt for new Australian dinosaurs.

Learning Intentions

In this lesson students will:

- discuss the role of a palaeontologist and analyse the skills and experience needed to become one
- understand how coastal erosion works and the impact on the environment

Guiding Questions

Comprehend

Who are palaeontologists and what do they do?

Application

What is erosion and how does it impact our environment?

Synthesise

What steps could be taken to minimise the impact of erosion, and what might that mean for new fossil discoveries?

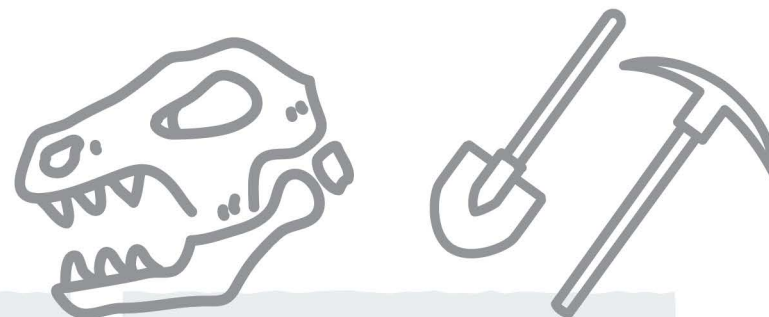
You will need:

- Prehistoric fact cards
- Job advert worksheet

Vocabulary

- palaeontologist
- elaphrosaurine theropod
- fossils
- erosion
- discovery

ACTIVITY 3 WRITING HISTORY



Step 1 - Learn

A palaeontologist is someone who studies the history of life on Earth. They do this by looking at fossils. The rocks on the Victorian coastline where the elaphrosaurine theropod was found are eroding due to the sea and the waves that wash over them again and again.

Step 2 - Think

Many dinosaur fossils have been found in Australia. Students use the Dinosaur fact cards to find out where in Australia the elaphrosaurine theropod was discovered.

Step 4 - Go Further

What does the word erosion mean? How might the sea and erosion help with new discoveries? Research this further.

Step 3 - Investigate

Investigate the job of a paleontologist.

Create a Paleontologist Wanted job advertisement using the worksheet.

What skills, experience and personality traits are needed to do the job?



ACTIVITY 4

AUSSIE ADAPTATIONS

ACTIVITY OVERVIEW

Students will investigate the physical features of the flying reptile, *Ferrodraco* - particularly the function of its interlocking teeth which were curved and cone like. As a creative task, students will complete a labelled diagram of *Ferrodraco* and then build a small model of its head using papier-mâché.

Learning Intentions

In this lesson students will:

- discuss the different characteristics of *Ferrodraco*'s physical body and why these physical features were needed
- label a diagram
- create a model of a diagram using papier-mâché or modelling clay

Guiding Questions

Comprehend

What body parts made Ferrodraco unique, and why?

Application

For what different purposes would Ferrodraco have used its interlocking teeth and jaw?

Synthesise

How would you plan, design and create your own Ferrodraco model?

You will need:

- *Ferrodraco* fact card
- Paper and pencils
- Modeling materials such as clay or items for papier-mâché
- Paint

Vocabulary

- interlocking
- teeth
- cone
- predator
- wingspan

ACTIVITY 4

AUSSIE ADAPTATIONS

Step 1 - Learn

Ferrodraco had interlocking teeth which were curved and cone like. At the front of the mouth they were long and straight, and at the back they were small and hooked. A mouth perfect for trapping fish.

Step 2 - Think

Students read the *Ferrodraco* fact card.

Which Australian birds does *Ferrodraco* look like?

A flying reptile, *Ferrodraco*'s body was similar in some ways to animals we have on Earth today. Compare the wing structure of *Ferrodraco* and a similar creature today, such as a bat.

Step 3 - Investigate

Look carefully at *Ferrodraco*'s mouth. What makes it unique and different?

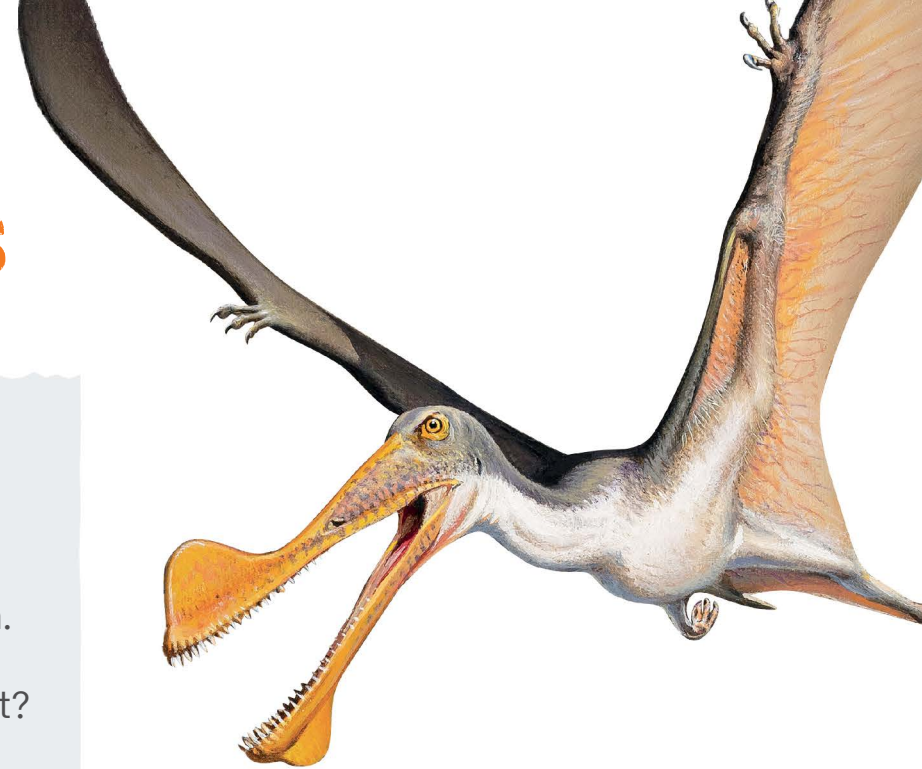
Draw a diagram of *Ferrodraco*'s head and label the parts.

Pay close attention to the:

Interlocking teeth

Front teeth

Back teeth



Step 4 - Go Further

Students use their completed labelled diagram of *Ferrodraco* to plan and build a small model of its head.

Use papier-mâché or modelling clay.

Paint the final model in colours they think *Ferrodraco* might have been.

ACTIVITY 5 PREHISTORIC PLACES

ACTIVITY OVERVIEW

In Digging for Dinosaurs, students will discuss the environment in which *Diamantinasaurus* lived, considering the importance of the natural environment to this specific dinosaur. Students will then complete a visualisation task of drawing the natural habitat of 'Matilda' the dinosaur.

Learning Intentions

In this lesson students will:

- discuss the importance of natural environments
- creatively interpret the habitat of 'Matilda' the dinosaur
- understand how climates can affect the suitability of habitats for living things

Guiding Questions

Comprehend

What was the Australian environment like 95 million years ago?

Application

Why are diverse environments important?

Synthesise

Imagine the world of Matilda - how can you present this visually?

You will need:

- Prehistoric fact cards
- Optional student choice:
- Pens, paper, paints, coloured pencils
 - Collage or construction materials
 - Computer design software

Vocabulary

- undergrowth
- mammals
- habitat
- billabong
- climate

ACTIVITY 5

PREHISTORIC PLACES

Step 1 - Learn

Diamantinasaurus or 'Matilda' lived in Queensland 95 million years ago. Back then, the landscape was flat and covered in forests. Rivers, billabongs and mud flats ran across the lands. Flowering plants and ferns dominated the undergrowth. The waters were full of mussels, bony fish, turtles, crocs and aquatic lizards.

Step 2 - Think

On the land there were insects, reptiles and small mammals - but it was dinosaurs that ruled.

In their own words, students explain the features of this landscape that would have been an ideal place for Matilda to live.

Step 3 - Create

Visualise the landscape.

Students draw, paint, collage, model or digitally design Matilda's habitat.

Step 4 - Go Further

Think about the environment in Queensland 95 million years ago. Has it changed much over time?

Research climates in other parts of the world that have similar conditions to that of where Matilda lived.

If *Diamantinasaurus* was still alive today, where in the world would it be best suited to live?

How might climate change have impacted the distribution of habitats that it might have liked?



STUDENT LED TASK

INDEPENDENT LEARNING

The following task is a student-led activity that can be completed independently, in small groups or as a homework task.

Designer Stamps

Students complete the Designer Stamps Task worksheet in the student guide.

Extension

Ask students to write a short rationale that explains the design choices they made. For example: I chose the colour green to show that this dinosaur is a herbivore.



A U S T R A L I A N **DINOSAURS**

Australia Post Collecting Month

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