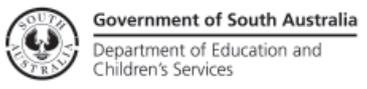




Fossils

Middle Years - Teacher notes



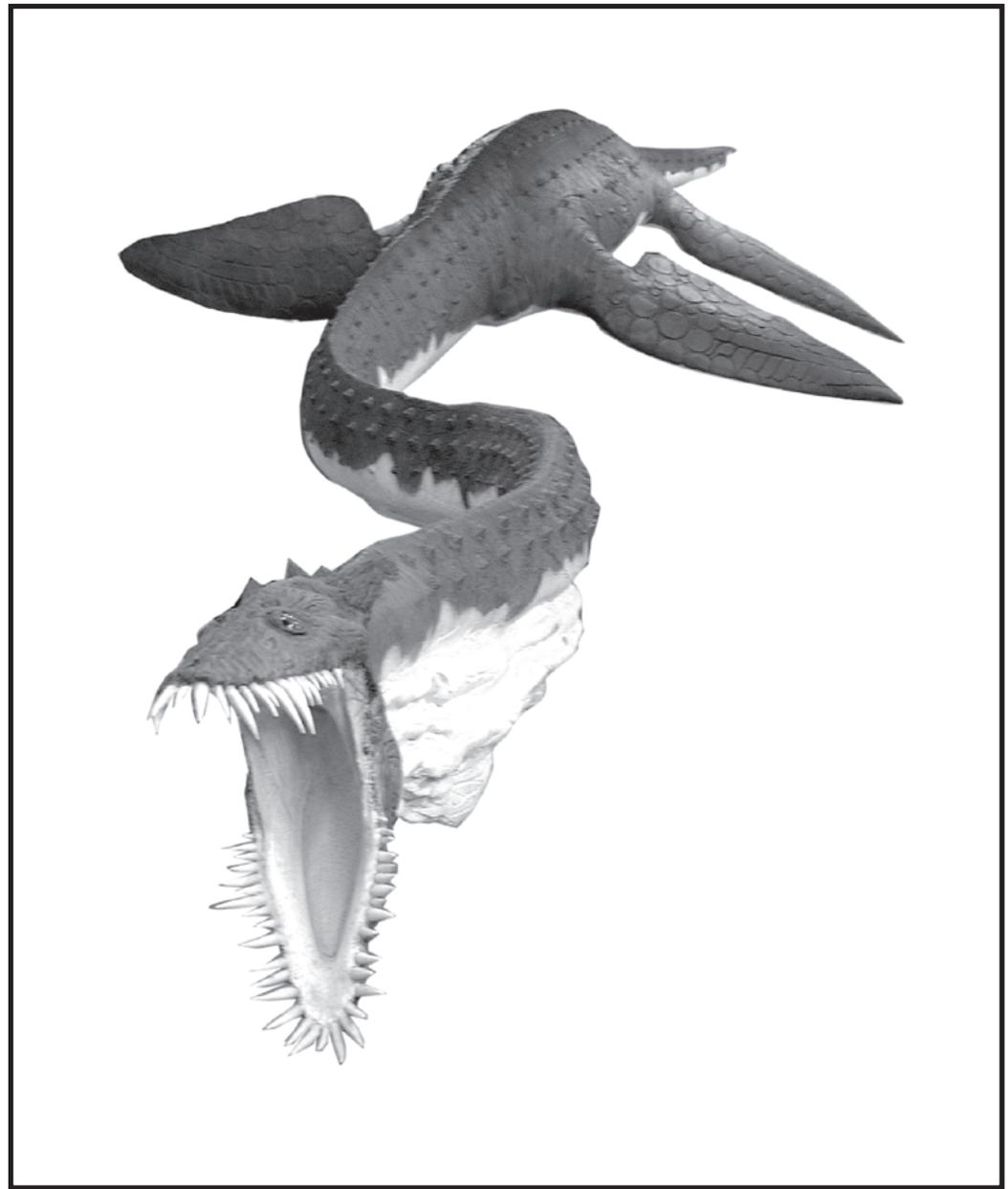
This Outreach Education Program for schools is made possible by the partnership between the South Australian Museum and the Department of Education and Children's Services. Outreach Education is a team of seconded teachers, managed through the Open Access College, who are based in public institutions.

© The State of South Australia
Department of Education and
Children's Services and SA Museum

This work may be reproduced by South Australian teachers for use with their students. For all other uses contact the Open Access College.
(Copy@oac.sa.edu.au)

All images and artwork in this work are copyright of the South Australian Museum, unless otherwise indicated.

Developed by Chris Nobbs and Simon Langsford 12/10/05



South Australian Museum Education Program

Phone: (08) 8207 7429 • Fax (08) 8207 7430 • Email: SAM.Education@saugov.sa.gov.au • Web: www.samuseum.sa.gov.au

Visiting the museum

Student expectations

We would like you, and all our visitors, to enjoy visiting the museum.

- Please stay with your group.
- Walk safely around the exhibitions to see all the best parts.
- Share the space with other visitors.
- Talking is an important part of learning. Please remember to use a quiet voice.
- The museum glass cases can get dirty or scratched. Please enjoy looking without touching.
- Please use the stairs and avoid the lifts. (They are slow and are needed by people who can't use the stairs.)
- Help keep the museum clean. Please eat and drink outside on the lawns.



Visiting the museum

Teacher expectations

Bookings are essential for all school visits to the museum.

Please supervise your groups of learners at all times. If your visit involves visiting more than one gallery, divide your class into small supervised groups. Respect the needs of other classes that have booked particular galleries. **Parents must specifically consent to students under 18 participating in activities involving indirect supervision.**

When you arrive please let the staff at the front desk know. If the weather is fine, your students can enjoy the outside lawn area while they wait.

Do not use clipboards with metal backings and clips. For your convenience and for the safety of our exhibits, cardboard backings are available at the front desk.

The coffee shop and the museum shop do not cater for large groups. Small groups can visit, with adult supervision. Bags must not be taken into either shop.

Only students with special needs should use the lifts. (Many students visit the museum and using the lifts would cause excessive delays for people who really need them.)

Unfortunately the museum has limited capacity to store bags. A large crate or two for lunches is easier to keep secure.

Supervisors' bags must be left at the security desk, or be inspected and tagged by the security officers.

Program introduction

The Allosaurus is back! Its skeleton is now mounted on the top of the museum security desk near the entrance and greets students before they set off on discovery programs.

Students visiting the Origin Energy Fossil Gallery can travel back in time and discover opalised fossils of plesiosaurs, ichthyosaurs, ammonites and diverse shells from the Age of the Dinosaurs.

In a new display about Ediacaran fossils from the Flinders Ranges, students will discover fossils of ancient animals such as the *Dickinsonia costata* which looked like a flat worm and had a soft body. They were buried here in an ancient sea bed approximately 560 million years ago which makes them some of the world's oldest animal fossils. They will also find evidence of some of the oldest fossils of life on earth that were formed by bacteria as well as fossils of the first armour-plated animals that lived in the sea.

Program aims

This program aims to give students an insight into the work of palaeontologists and the conclusions that can be drawn by careful study of the fossil record. It is based on the development of Essential Learnings, in particular **Interdependence**, **Thinking** skills and **Future** perspectives. It aims to,

- encourage students to work scientifically; to collect and analyse fossil evidence on display to support the development of their own hypotheses about the evolution of life in Australia;
- challenge students ideas and perceptions about the future, particularly relating to extinctions, environmental sustainability and maintaining biodiversity;
- provide students with the opportunity to consider aspects of a scientific career, paid/unpaid work, further education and training in science.

Curriculum links

The Education Programs associated with the fossil gallery have strong links with the study of **Science** and **Society & Environment**.

Science - Key Ideas

Life systems

Students explore how living things have changed over geological time and debate the value of species diversity and the ethics of human intervention.

Students can,

- analyse and report on changes in some animal families over geological time;
- investigate how scientists use fossil evidence to suggest links between extinct plants and animals and those of the present day.

Society and Environment - Key Idea

Time, continuity and change

Students gather, research, analyse, evaluate, and present information from a variety of sources to show understanding of particular times or events, from a range of perspectives. Students can,

- use the fossil evidence to explain major environmental changes in South Australia and the impact upon the evolution of life.

Links can also be made to **Design and Technology**.

Students can analyse and explain the design decisions and thinking involved in the design and construction of models used in the fossil gallery displays.

Whilst engaging with scientific aspects of the gallery, students can also expand their English skills. The gallery gives examples of some of the ways language is used for different purposes, audiences and contexts. Students can broaden their knowledge of texts. In particular they will have opportunities to read and view a range of texts containing familiar topics and some unfamiliar text structures and language features.



Museum web links

The museum website has more information about the Origin Energy Fossil Gallery and online activities for students. The address is,

www.samuseum.sa.gov.au/fossils/fgw1.htm

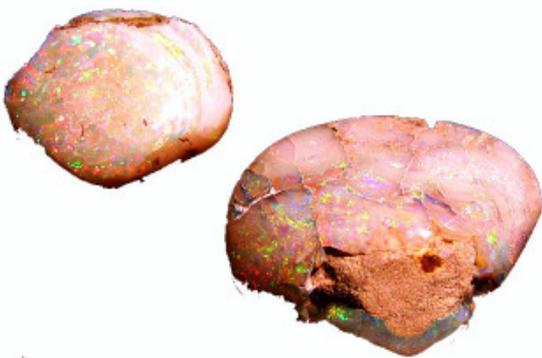
The **Naracoorte Caves World Heritage** website is an excellent resource for researching Megafauna fossils;

www.environment.sa.gov.au/parks/naracoorte/wonambi/

Teaching strategies

If you have booked an **Education Officer**, they will provide your class with a lesson tailored to suit the learning needs and interests of your students as outlined on your **Booking Confirmation Form** (returned to the museum for confirmation of your booking).

This program can also be **self guided** and the **teacher notes** and **activity sheets** have been designed to complement the fossil program for **Middle Years** students. Teachers can also arrange access to the hands-on collections by prior arrangement with an Education Officer. A brief training session on how to access and use the collections is a prerequisite and a suitable time to do this can be negotiated by contacting **Outreach Education** at the museum. Ph: 8207 7429.



Students are encouraged to look around and explore the Origin Energy Fossil Gallery on Level 3 before starting the more structured activities.

A lesson with an **Education Officer** will last approximately 50 minutes and involve an introduction to the displays using our collections of hands-on specimens which offer a more extensive first-hand experience. Students will be introduced to ideas about:

- key marker fossils for different geological eras;
- the evolution of life with reference to fossil evidence here in South Australia including modern analogues;
- theories about extinctions, how fossils are formed and the role of palaeontologists;
- future perspectives on the sustainable use of our environment.

After this introduction students can use the displays for more focussed activities collecting, analysing and interpreting information.

Activity sheets have been designed to assist students interpret the evidence on display in the fossil gallery and outside the museum. A range of questions and ways of recording their responses have been designed to accommodate different learning styles. The **Fossil Evidence** sheets can be cut into two and distributed for use in the gallery as well.

It is advisable for students to tackle questions in pairs or small groups and focus on different aspects of the displays to avoid congestion.

The **Fossil News** sheets are for use by students as a previsit or post visit activity and are designed to complement the fossil gallery displays. The museum website can also be used by students to collect more detailed information.