

Teacher support resource

Ediacaran Fossils of the Flinders Ranges eBook

The discovery of Ediacaran fossils in the Flinders Ranges of South Australia is one of the most significant scientific findings made in recent history.

The Ediacaran period was ratified in 2004, making it the first new geological period declared in 120 years. The fossils that were found reveal a community of animals living on the seafloor some 600 million years ago. These Ediacaran fossils show evidence of feeding, movement and reproduction, making these animals the first known complex life on Earth. The existence of Ediacaran fossils supports Charles Darwin's theory of evolution, as they provide fossil ancestors for trilobites from the Cambrian era (490-545 million years ago).

The *Ediacaran Fossils of the Flinders Ranges* eBook has been created to support teachers when addressing the concepts of geological time and evolution with their students. It provides background information about South Australian Ediacaran fossil discoveries and their scientific importance.



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Australian Curriculum Outcomes:

The Ediacaran Fossils of the Flinders Ranges eBook addresses the curriculum outcomes for year 11 and 12 SACE Geology students but can also be used to engage students in the younger years.

The key concepts are: Evolution, Discovery and Changes to the Earth.

Suitability:

Students in years 11-12 studying SACE Geology

Year 11 theme: The evolution of life throughout geological history

Year 12 key idea: The Geological Time-scale, *fossil evidence was used to develop the geological time-scale*

Students in years 6 -10 studying Earth and Space Sciences – Changes to the Earth

The eBook covers:

- what a fossil is and the process of fossilisation
- the discovery of Ediacaran fossils
- the Ediacaran geological time period
- topography of the Flinders Ranges
- key animal specimens of the Ediacaran
- interpretation and current research

This eBook can be used as an individual resource for students or used in a whole class setting to provide background on South Australian Ediacaran fossils.

Suggested learning inquiries for students, based on scientific information in the eBook:

1. Investigate Charles Darwin's theory of evolution and explain how it is supported by the discovery of Ediacaran fossils.
2. Compare/contrast Ediacaran animal species to animals existing today.
3. Select another period from the geological time-scale and identify which fossils appear in that period to support its classification.
4. Research Ediacaran fossils found in other countries. Compare overseas scientific research to Australian research. Do they share the same findings? What is your response/opinion of the find?

Additional recommended resources:

- DVD 2011 BBC Documentary, *First Life* David Attenborough
- You Tube 2013 *Miracle Planet: Snowball Earth* (24:47 – 29:10) describes Ediacaran fossil finds at Namibia and displays recreated images of what the seafloor looked like in Ediacaran time.

To view this eBook:

[Ediacaran Fossils of the Flinders Ranges eBook](#)

Students must have an iPad with iBooks 2 or later and iOS 5 or later, or an iPhone with iOS 8.4 or later, or a Mac with OS X 10.9 or later.

This eBook and accompanying resource has been developed through a partnership between the Department for Education and the South Australian Museum.



Government of South Australia
Department for Education



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