

Student Worksheet	<h1 style="margin: 0;"><i>Background Research</i></h1>
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1. GEOLOGICAL TIME SCALE

Put the following in chronological order by placing them in the table below. Start with the oldest at the bottom and the most recent at the top. In the last column, write in the time at the beginning of each stage.

ERAS: Mesozoic, Cenozoic, Palaeozoic

PERIODS: Permian, Jurassic, Quaternary, Cambrian, Carboniferous, Triassic, Devonian, Cretaceous, Palaeogene, Ordovician, Neogene, Silurian

EPOCHS: Eocene, Miocene, Oligocene, Pleistocene, Pliocene, Paleocene, Holocene

ERAS	PERIODS	EPOCHS	TIME (Ma or millions of years ago)

Suggestion: Use the International Stratigraphic Chart at the following link

<http://www.stratigraphy.org/column.php?id=Chart/Time%20Scale>

2. AUSTRALIA GEOLOGICAL HISTORY

On the next two pages are images and statements about Australia’s palaeogeography (pal-e-o-geo-graphy.) This is the study of the geography of ancient times or ancient epochs. Match the correct time period and the statement with the image of the globe showing Australia’s position in the world at that time. (Teachers may print this sheet off for students so they can cut and paste the statement into the correct box. When using scissors, be careful.)

Position of Australia	Time Period	Palaeogeography
		
		
		
		
		
		

(Images: Commonwealth of Australia (Geoscience Australia), Creative Commons Attribution 2.5 Australia Licence, BY.)

Time Periods:

Mesozoic era - Jurassic period

Palaeozoic era - Ordovician period

Cenozoic era - Palaeogene period

Palaeozoic era - Permian period

Mesozoic era - Cretaceous period

Palaeozoic era - Devonian period

Statements:

<p>About 280Ma, all the land masses of the world formed a giant super-continent called Pangea. Australia drifted towards the South Pole with major effects on its climate. Most of the continent was covered by an ice cap. Volcanic activity extended along the eastern margins from Sydney to Cairns.</p>	<p>Around 130Ma, Gondwana began to break up. Two landmasses resulted: a western half made up of Africa and South America and an eastern half of Antarctica and Australia. By 70Ma wide oceans had formed between Antarctica, Africa and India. Antarctica started drifting towards the South Pole.</p>
<p>Around 160Ma, Pangea split apart forming a southern hemisphere continent (Gondwana), made up of Antarctica, Australia, Africa and India, and a northern hemisphere continent (Laurasia). By 150Ma, a rift valley formed between Australia and Antarctica. The sea covered the north-west Australian coastline. The climate warmed as Australia drifted from the South Pole.</p>	<p>Around 360Ma, Pangea split in two forming a southern landmass (Gondwana), made up of Antarctica, Australia, Africa and India. The sea had receded in most parts of Australia but parts of eastern Australia and northern Western Australia remained covered and coral reefs flourished locally. Volcanic activity was widespread from central New South Wales to central Queensland.</p>
<p>Around 470 Ma, Australia was part of Pangea, a single ancient super-continent. Sea levels were high and most of eastern Australia was underwater with a small strip extending across the Northern Territory to Western Australia. Active volcanoes formed a chain across central New South Wales. Australia was close to the Equator and the climate was warm.</p>	<p>Around 45 Ma, the rift between Australia and Antarctica widened to form the Southern Ocean. Shallow seas covered parts of southern Australia. Volcanoes were active along eastern Australia and Tasmania. The climate was warm and humid. Temperature rainforest was widespread. The Australian continental plate moved north and collided with Indonesian and New Guinea.</p>

3. DINOSAUR EXTINCTION THEORIES

Research the theories that have been proposed to explain the extinction of the dinosaurs that occurred approximately 65 million years ago. List and explain any evidence that supports the different theories.

Gradualistic Theories	
Theories:	Evidence:

Catastrophic Theories	
Theories:	Evidence: