

# Earthquake explorers

## Level 3 and 4 investigating outcomes

Student	Stage	Key Learning Area	Date
		Science	

<b>Task</b>	Students investigate earthquake activity in Australia and Australia's neighbouring countries. Students investigate and model how scientists collect information about earthquakes.
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	Investigating unit outcomes	Beginning	Developing	Achieving
<b>Level 3</b>	Analyse and compare data of earthquake magnitude for Australia and neighbouring countries to investigate patterns in data.	Students list the data of earthquake magnitude for Australia and neighbouring countries.	Students describe the data of earthquake magnitude for Australia and neighbouring countries.	Students analyse and compare data of earthquake magnitude for Australia and neighbouring countries to investigate patterns in data.
	Use a physical model to represent, investigate and describe how to measure the magnitude of earthquakes.	Students use a physical model with limited accuracy to represent, investigate and describe how to measure the magnitude of earthquakes.	Students use a physical model with some accuracy to represent, investigate and describe how to measure the magnitude of earthquakes.	Students use a physical model to accurately represent, investigate and describe how to measure the magnitude of earthquakes.

	Investigating unit outcomes	Beginning	Developing	Achieving
<b>Level 4</b>	Use secondary data to represent, investigate and describe the movement of the Earth's tectonic plates.	Students use secondary data with limited accuracy to represent, investigate and describe the movement of the Earth's tectonic plates.	Students use secondary data with some accuracy to represent, investigate and describe the movement of the Earth's tectonic plates.	Students use secondary data to accurately represent, investigate and describe the movement of the Earth's tectonic plates.
	Draw evidence-based conclusions about the relationship between the location of large earthquakes and the edges of tectonic plates.	Students draw evidence-based conclusions with limited accuracy about the relationship between the location of large earthquakes and the edges of tectonic plates.	Students draw evidence-based conclusions with some accuracy about the relationship between the location of large earthquakes and the edges of tectonic plates.	Students accurately draw evidence-based conclusions about the relationship between the location of large earthquakes and the edges of tectonic plates.

# Earthquake explorers

## Level 3 and 4 conceptual outcomes

Student	Stage	Key Learning Area	Date
		Science	

<b>Task</b>	Students represent what they know about earthquakes and reflect on their learning during the unit.
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	Conceptual unit outcomes	Beginning	Developing	Achieving
<b>Level 3</b>	Explain that the Earth's surface is composed of tectonic plates that move.	Students explain with limited accuracy that the Earth's surface is composed of tectonic plates that move.	Students explain with some accuracy that the Earth's surface is composed of tectonic plates that move	Students accurately explain that the Earth's surface is composed of tectonic plates that move.
	Identify how tectonic plates push into each other, pull apart from each other and slide past each other.	Students identify with limited accuracy how tectonic plates push into each other, pull apart from each other and slide past each other.	Students identify with some accuracy how tectonic plates push into each other, pull apart from each other and slide past each other	Students accurately identify how tectonic plates push into each other, pull apart from each other and slide past each other.
	Describe the scales that are used to measure earthquake magnitude and intensity.	Students describe with limited accuracy the scales that are used to measure earthquake magnitude and intensity.	Students describe with some accuracy the scales that are used to measure earthquake magnitude and intensity.	Students accurately describe the scales that are used to measure earthquake magnitude and intensity.

	Conceptual unit outcomes	Beginning	Developing	Achieving
<b>Level 4</b>	Explain that when tectonic plates push into each other, pull apart from each other and slide past each other energy builds up as stress in the plates.	Students explain with limited accuracy that when tectonic plates push into each other, pull apart from each other and slide past each other energy builds up as stress in the plates.	Students explain with some accuracy that when tectonic plates push into each other, pull apart from each other and slide past each other energy builds up as stress in the plates.	Students accurately explain that when tectonic plates push into each other, pull apart from each other and slide past each other energy builds up as stress in the plates.
	Explain how the sudden release of energy causes movement of the ground which results in damage to buildings and structures.	Students explain with limited accuracy how the sudden release of energy causes movement of the ground which results in damage to buildings and structures.	Students explain with some accuracy how the sudden release of energy causes movement of the ground which results in damage to buildings and structures.	Students accurately explain how the sudden release of energy causes movement of the ground which results in damage to buildings and structures.
	Explain why most large earthquakes occur at the edges of tectonic plates.	Students explain with limited accuracy why most large earthquakes occur at the edges of tectonic plates.	Students explain with some accuracy why most large earthquakes occur at the edges of tectonic plates.	Students accurately explain why most large earthquakes occur at the edges of tectonic plates.