

Topics: (linked to Science Understanding areas)
Earth & Space Sciences – Plate Tectonics
Additional: Careers; Maths; Technology; Engineering

Concepts: (linked to Science Understanding - South Australia's Leading Learning Resource)
Earth & Space Sciences – The Earth's Surface

- Yr R	- Yr 1	- Yr 2	- Yr 3	- Yr 4	- Yr 5	- Yr 6	- Yr 7	- Yr 8	√ Yr 9	- Yr 10
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Word Count: 360
Content:
<https://australiascience.tv/oldest-rocks-in-the-pilbara-pre-date-plate-tectonics/>

A look at rocks older than plate tectonics leads to new understanding of how the earth was formed. Can be used to deliver Year 9 Earth & Space Sciences curriculum ([ACSSU180](#))

How this could be used in a classroom setting (Linked to Science Inquiry Skills):

(Number denotes intended year level linked to SHE. No number denotes potentially any year level)

- ✓ **Questioning and predicting:**
 - Can you think of any new career opportunities that might be generated due to this discovery?
- ✓ **Evaluating:**
 - The study of plate tectonics is often funded by gas & oil companies in order to better locate non-renewable resources. Do you think this is a justifiable process, given that it leads to a general better understanding of how our planet was formed, and the benefits of that? Justify your arguments.
 - *This could be delivered as a class debate – pro arguing that it is a good idea no matter the outcomes, against arguing that because the immediate outcome is further plundering of our Earth's resources and the issues that come with that, the research shouldn't benefit large energy mining companies.*
- ✓ **Communicating:**
 - Given that this discovery pre-dates tectonic plates' age, does this support or contradict plate tectonic theory - or neither? Justify your argument.
 - Why do you think it's important to know how the earth formed? (Think about other planets, ability to find resources such as oil, natural disaster prediction & management...)
 - What kind of advances in technologies made this discovery possible?
 - What are the values & needs of contemporary society that are being met by research into plate tectonics and how the earth was formed?

How this meets the Science National Curriculum on the strand: 'Science as a Human Endeavour'



Year 5	
Year 6	
Year 7	
Year 8	
Year 9	<p><u>Nature and development of science</u></p> <ul style="list-style-type: none"> Scientific understanding, including models and theories, is contestable and is refined over time through a process of review by the scientific community (ACSHE157) - <i>investigating how the theory of plate tectonics developed, based on evidence from sea-floor spreading and occurrence of earthquakes and volcanic activity</i> Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (ACSHE158) - <i>investigating technologies involved in the mapping of continental movement;</i> <p><u>Use and influence of science</u></p> <ul style="list-style-type: none"> People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities (ACSHE160) Values and needs of contemporary society can influence the focus of scientific research (ACSHE228)
Year 10	