



Sample assessment task

Year level	9
Learning area	Science
Subject	Earth and Space Sciences
Title of task	Plate tectonics test

Task details

Description of task	Test questions on Earth and space concepts: plate tectonics and volcanoes
Type of assessment	Test
Suggested time	40 minutes

Content description

Content from the Western Australian Curriculum	Science understanding The theory of plate tectonics explains global patterns of geological activity and continental movement
Key concepts	Tectonics, convection, Earth features

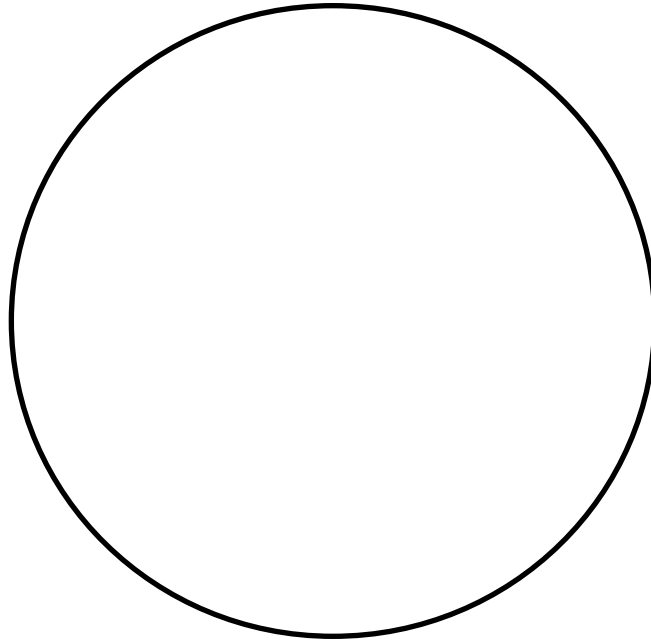
Task preparation

Prior learning	Students have learnt about the structure of the Earth and the theory of plate tectonics and its relationship to volcanoes.
Assessment differentiation	Teachers should differentiate their teaching and assessment to meet the specific learning needs of their students, based on their level of readiness to learn and their need to be challenged. Where appropriate, teachers may either scaffold or extend the scope of the assessment tasks.

Instructions to students

1. Draw a diagram of the structure of the Earth and label the layers.

(3 marks)



2. Describe what a tectonic plate is and explain in detail why the tectonic plates move. Include a diagram in your answer.

(6 marks)

3. Describe two pieces of evidence that scientists offer to support the theory of continental drift.

(2 marks)

4. Explain why Australia does not have many active volcanoes, but neighbouring countries like New Zealand and Indonesia do.

(5 marks)

5. Identify one disadvantage and one advantage of living close to a volcano.

(2 marks)

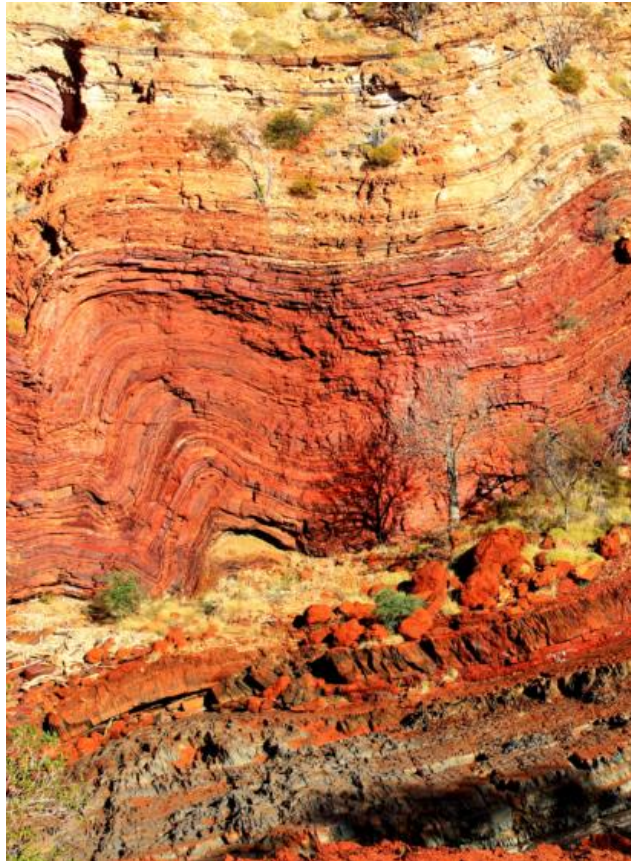
6. Describe how the Himalaya mountain range to the north of India was formed.
Include a diagram to illustrate your answer.

(8 marks)

7. Scientists know that at mid-ocean ridges the sea floor is spreading because rocks on either side of the mid-ocean ridges are of different ages.

Are the rocks furthest from the ridge older or younger than those closer to the ridge? Explain.

(3 marks)



[Image courtesy of Mark Cluer, Scitech]

8. The photograph above is of a rock outcrop in the Pilbara. Describe what happened to the rock in this photograph to produce the wavy stripes in it. (4 marks)

Sample marking key

Description	Marks
Question 1	
Shows three layers of the Earth, correctly labelled.	1–3
Subtotal	3
Description	Marks
Question 2	
Describes tectonic plate and its floating on mantle	1–2
Describes role of heat and convection in plate motion	1–2
Diagram showing convection current moving plate	1–2
Subtotal	6
Description	Marks
Question 3	
Describes two pieces of evidence.	1–2
Subtotal	2
Answer could include, but is not limited to:	
• Jigsaw fit of continent outlines	[1]
• Similar plant and animal species on land that is now separated	[1]
Description	Marks
Question 4	
Describes the locations of Australia and New Zealand relative to plate boundaries	1–2
Links edges of plate to weakness in crust	1–2
Links weakness in crust to volcanic activity	1
Subtotal	5
Description	Marks
Question 5	
Identifies an appropriate disadvantage	1
Identifies an appropriate advantage	1
Subtotal	2
Answer could include, but is not limited to:	
• Fumes, ash, danger	[1]
• Fertile soil	[1]
Description	Marks
Question 6	
Comprehensively describes the movement of tectonic plates	1–2
Describes the compression forces causing uplift of mountains	1–2
Diagram shows direction of movement and forces of plates	1–2
Movement and forces are labelled	1–2
Subtotal	8

Description	Marks
Question 7	
older	1
Comprehensively describes how material erupts from mid-oceanic ridge and moves away from rift over time	1–2
Subtotal	3
Description	Marks
Question 8	
Comprehensively describes how the rock was formed by sedimentary processes to produce the layers	1–2
Describes the compressive forces that deformed the rock	1–2
Subtotal	4
Total	33