

Geography Alive: Stage 2 (Topic 2: The Earth's Environment)

Lesson 2: The Restless Earth		
<p>Content focus:</p> <p>In this lesson, students are introduced to the processes responsible for the physical characteristics of the Earth's surface. In this instance, we focus on plate tectonics and its link to the occurrence of earthquakes and volcanic activity. This lesson forms the basis for a focus on mountain building processes, volcanic activity and earthquakes.</p>		<p>Resources:</p> <ul style="list-style-type: none"> • YouTube video clip: <i>Plate Tectonics: An Introduction</i> [https://www.pbslearningmedia.org/resource/ess05.sci.ess.earthsys.plateintro/plate-tectonics-an-introduction/] • YouTube video clip: <i>How Earth Will Look In 250 million Years</i> [https://www.youtube.com/watch?v=hos7w8xrcEs] • YouTube animation: <i>Movement of continents – 240 million years ago to 250 million years in the future</i> [https://www.youtube.com/watch?v=uLahVJNnoZ4&t=32s] • Flash Interactive: <i>Tectonic plates, Earthquakes and Volcanoes</i> – [http://d3tt741pwxqwm0.cloudfront.net/WGBH/conv16/conv16-int-tectonic/index.html] • Resources Sheet 1: Our Restless Earth • PowerPoint Presentation 1 (Slides 1–3) • Student Worksheet 1: The Restless Earth • Globe
<p>Inquiry questions:</p> <ul style="list-style-type: none"> • What is the interior of the Earth like? • What is special about the Earth's crust? • What causes the Earth's plates to move? • What is the relationship between the movement of the Earth's plates and earthquakes and volcanic eruptions? 	<p>Outcomes:</p> <p><i>A student:</i></p> <ul style="list-style-type: none"> • identifies and describes, in simple terms, the process of plate tectonics and its role in determining the characteristics of places and environments • explains, in simple terms, the processes responsible for the formation of natural features of the earth's surface • acquires and communicates geographical information using geographical tools for inquiry. 	<p>Lesson sequence:</p> <ul style="list-style-type: none"> • Step 1: Select a suitable YouTube video to introduce students to the concept of plate tectonics and continental drift. The clips listed in the resource section of this lesson plan may prove suitable. Discussion points might include: <ul style="list-style-type: none"> – What is the interior of Earth like? – What drives the movement of the Earth's plates? – Tell students that Australia (and their home and school) is moving to the north at about 7cm a year. Show them how far this is on a ruler. • Step 2: With the aid of a glob and a saucer demonstrate to students why we refer to the large segments of the Earth's crust as 'plates'. • Step 3: Using Resource Sheet 1 and PowerPoint 1 (Slides 2–5) formally introduce students to the concept of continental drift. Begin this an examination of the Earth's interior with particular attention given to the observation that there are currents in the molten material of the mantle. • Step 4: Using the Flash Interactive listed above demonstrate the relationship between the edges of the Earth's plates and the occurrence of earthquakes and volcanic activity. Also, point out that where plates collide great mountain ranges such as the Himalayas are pushed up. • Step 5: With particular reference for Slide 5 on PowerPoint 1 explain the types of movement of the Earth's crust to students. Note the when plates move apart a trench (or valley) is formed. Note that when plates move sideways against each other pressure builds but. When it is released the sudden movement causes an earthquake to occur. When plate move towards each other great mountain ranges such as the Himalayas is formed. • Step 6: Ask students to complete Activities 1–3 on Student Worksheet 1. • Step 7: Use questioning to ascertain level the of student understanding.