

## Geography Alive: Stage 2 Geography (Topic 1: Places are similar and different)

Lesson 3: Factors affecting climate (Continued)		
<p><b>Content focus:</b></p> <p>In this lesson, students continue their investigation of the factors that determine the climate of places. In this instance we focus on the influence of aspect, altitude, distance from the sea and mountain barriers.</p>		<p><b>Resources:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Resource Sheet 1: Factors affecting climate</a></li> <li>• <a href="#">Worksheet 1: Factors affecting weather and climate</a></li> </ul>
<p><b>Key inquiry questions:</b></p> <ul style="list-style-type: none"> <li>• What is aspect and how does it influence weather and climate?</li> <li>• How does distance from the sea affect the weather and climate experienced by a place?</li> <li>• What is the link between ocean currents and weather and climate?</li> <li>• What role do mountain barriers play in the distribution of rainfall?</li> </ul>	<p><b>Outcomes:</b></p> <p><i>A student:</i></p> <ul style="list-style-type: none"> <li>• describes, in general terms, how aspect, altitude, distance from the sea and ocean currents impact on the weather and climate of a place</li> <li>• explains how mountain barriers impact on the distribution of rainfall.</li> </ul>	<p><b>Lesson sequence:</b></p> <ul style="list-style-type: none"> <li>• <b>Step 1:</b> Introduce students to the concept of aspect. Ask students to identify the sunniest (warmest) side of the classroom. In which direction does this side of the classroom face? Explain to students that South and East facing slope in Australia receive less direct energy from the sun than slopes facing North and West. In Australia, ski resorts have been developed on East and South facing slopes because the snow lasts longer on these slopes.</li> <li>• <b>Step 2:</b> Explain to students that places located close to the coast typically have a smaller temperature range than places further inland. Note that water bodies gain and lose heat much more slowly than the land. This, for example, explains why Sydney suburbs close to the coast have lower maximum temperatures and higher minimum temperatures than suburbs in Sydney's west. It is also important to note that rainfall decreases as you move inland. Similar to the example cited above, Sydney's coastal suburbs receive higher rainfall than suburbs in the city's west. Use a daily television weather report for Sydney to illustrate these differences.</li> <li>• <b>Step 3:</b> Introduce students to the notion that ocean currents vary in temperature and that evaporation is greatest from warm bodies of water. A good inquiry-based question is: Why are deserts located close to the western coasts of Australia, Africa, South America and North America? The dominance of cold ocean currents off these coasts is the answer. These result in low levels of evaporation and rainfall in these regions.</li> <li>• <b>Step 4:</b> Using Figure 3 on <b>Resource Sheet 1</b>, explain to students that mountain ranges act as a barrier to the inland movement of rainfall. It explains, for example, why places west of the Blue Mountains receive less rainfall than those also the coastal strip of NSW.</li> <li>• <b>Step 5:</b> Ask students to complete Questions 3–8 on <b>Worksheet 1</b> and then check students' responses for accuracy.</li> </ul>