

Y4 Autumn: Natural Disasters

Enquiry: How do natural disasters affect people and places?

Rationale	This four-lesson unit develops pupils' understanding of natural disasters through physical geography, locational knowledge and carefully chosen real-world examples. Pupils identify global patterns, explain simple physical processes and consider how hazards affect people, landscapes and communities. The unit deliberately prioritises a small amount of memorable core knowledge, while maps, photographs, video, case examples and discussion provide the wider geographical story. It builds on earlier map work and Year 4 learning about Pompeii.			
Lessons	1. Where in the world do natural disasters happen?	2. Why do volcanoes erupt?	3. How can an earthquake cause a tsunami?	4. Why are bushfires a natural hazard in Australia?
Key vocab	tectonic plate boundary Pacific Ocean Ring of Fire	crust mantle magma lava crater eruption	earthquake tsunami displacement evacuation impact	bushfire vegetation drought landscape fuel
Key concepts	Place Natural disaster Physical process	Place Natural disaster Physical process	Place Natural disaster Physical process Human impact	Place Natural disaster Physical process Human impact

Core knowledge		Hinterland knowledge
Lesson 1	<ul style="list-style-type: none"> • The Earth's crust is broken into huge pieces called tectonic plates. • Many earthquakes and volcanoes happen close to plate boundaries rather than being randomly distributed. • Many earthquakes and volcanoes form a belt around the Pacific Ocean called the Ring of Fire. 	<ul style="list-style-type: none"> • The Equator divides Earth into the Northern and Southern Hemispheres; continents and oceans are retrieved through map work. • Tectonic plates fit together like a huge jigsaw and move very slowly. • A Pacific-centred map shows the same world from a different map perspective and makes the Ring of Fire pattern easier to see. • Examples from countries around the Pacific give the global pattern a real-world context.
Lesson 2	<ul style="list-style-type: none"> • Earth has layers; the crust is the thin outer layer and the mantle lies beneath it. • Magma can rise through cracks and openings; when molten rock reaches the surface it is called lava. • A volcano has recognisable structures, including a magma chamber, vents and crater; volcanoes can be active, dormant or extinct. 	<ul style="list-style-type: none"> • The four Earth layers are crust, mantle, outer core and inner core. • Gas and rock pressure can build before magma erupts as lava, ash and gases. • Ash cloud, lava flow and side vent are taught through the volcano cross-section. • Vesuvius (Italy), Mount Fuji (Japan) and Mauna Loa (USA - Hawaii) provide real examples; Vesuvius reconnects briefly to Pompeii.
Lesson 3	<ul style="list-style-type: none"> • A powerful undersea earthquake can suddenly move the ocean floor and displace seawater. • That displaced water can travel across the ocean as a tsunami and grow much higher near shallow coastlines. • Tsunamis can have major impacts on coastal places and people's lives; warnings and evacuation can help keep people safer. 	<ul style="list-style-type: none"> • Japan lies beside the Pacific and close to a plate boundary, connecting back to the Ring of Fire. • The 11 March 2011 Japan tsunami and before/after photographs of Ishinomaki make the process and impacts concrete. • Impacts include damage to homes, roads, railways and harbours, as well as displacement of families. • Sirens, high ground, rescue teams, shelters and emergency supplies illustrate how communities respond.
Lesson 4	<ul style="list-style-type: none"> • A bushfire is an uncontrolled fire that spreads through vegetation. • Fire needs heat, fuel and oxygen, plus an ignition source; dry vegetation, hot conditions and strong winds can help a fire spread. • Bushfires can affect people, landscapes and wildlife, so communities use warnings, evacuation and firefighting responses. 	<ul style="list-style-type: none"> • Australia is in the Southern Hemisphere. • Lightning, unattended fires/barbecues and power-line sparks can start fires; drought and dry vegetation increase available fuel. • Australia's 2019-20 Black Summer provides a case example of impacts on homes, infrastructure, health, habitats and wildlife. • Climate change can contribute to hotter conditions and longer droughts in some places, increasing risk; it does not create the first spark.