



Extreme Earth

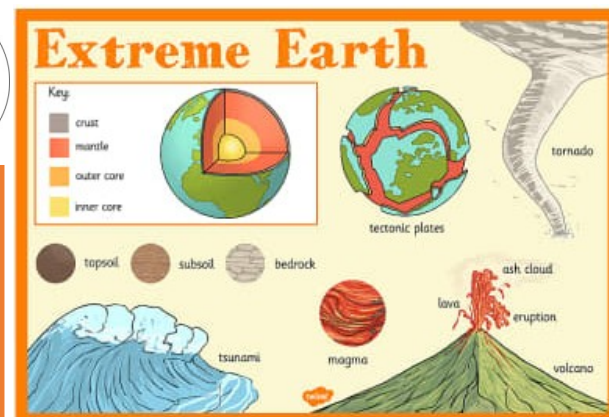


Key vocabulary

Need to know	Nice to know	Super-specialist
Earth	eruption	tectonic plate
crust	dormant	phenomena
mantle	extinct	humidity
outer core	magma	hemisphere
Inner core	water cycle	seismic waves
volcano	drought	
flood	tropical storms	
hurricane	blizzard	
tsunami	lava	
earthquake	cyclone	
tornado	atmosphere	
plates	eruption	
weather		

Learning Journey—In geography, pupils will consolidate their knowledge of the position and significance of lines of latitude, longitude, Equator, Northern and Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones. Pupils will identify what they believe are natural disasters, linking about the impact these have on people and their daily lives. The use of an atlas will allow pupils to locate where well-known volcanoes are, as well as locate where major earthquakes have hit different continents. Pupils will research different natural disasters around the world—including eruptions, tsunamis, tornadoes, earthquakes and major floods & droughts.

Linked to science, pupils will consolidate their knowledge of the water cycle—linking this to droughts and flooding. We will look within the UK to locate major floods and how people adapt to this natural disaster. Use of online materials as well as access to information books will provide pupils with the knowledge needed to attempt to understand these extreme Earth conditions.



Key Information and facts:

Extreme weather: When a weather event is significantly different from the average or usual weather pattern. This may take place over one day or a period of time. A flash flood or heat wave are two examples of *extreme weather* in the UK.

Volcanoes: There are around 1500 volcanoes around the world. Volcanoes of interest—Mount Vesuvius (Italy), Mount St. Helens (United States), Krakatoa (Indonesia), Mount Etna (Italy), Mauna Loa (Hawaii), Mount Fuji (Philippines), Mt. Pelee (Martinique), Mount Tambora (Indonesia), Mount Cotopaxi (South America). Not all volcanoes are active.

Earthquakes: The most powerful earthquake (magnitude 9.5) left 4485 people dead and injured and 2 million people homeless. Places where the most powerful earthquakes have been recorded: Chile (22 May 1960), Alaska (28 March 1964), Kamchatka (4 November 1952), Chile (27 February 2010), Ecuador (13 January 1906). Earthquakes occur with the movement of the Earth's crust.

Hurricanes: A hurricane is a large rotating storm with high speed winds that forms over warm waters in tropical areas. Hurricanes have sustained winds of at least 74 miles per hour and an area of low air pressure in the centre called the eye.

Tsunami: A large ocean wave usually caused by an underwater earthquake or a volcanic eruptions.

Links to prior learning:

Geography: Continents, oceans and seas; lines of latitude and longitude and the Equator

Science: Weather and climate; States of Matter; water cycle; causes and effects (friction)

History: Explorers of the world

Links to wider curriculum:

Geography: explore volcanoes, earthquakes, hurricanes, tsunamis, droughts, floods

Art: explore Hokusai's artwork 'The Great Wave'; explore movement of tornadoes using line, shape and shading

DT: design, make and evaluate a waterproof container which can be used to protect precious items during a natural disaster

Music: use percussion to create a storm composition

PSHE: explore the aftermath of a natural disaster

Key texts (recommended books to support teaching of Extreme Earth):

Flood by F. Villa-Alvaro, **Escape from Pompeii** by Christina Balit, **Floodland** by Marcus Sedgwick, **The Daredevil's Guide to Dangerous Places** by Anna Brett, **Survivors** by David Long, **The Pebble in My Pocket** by Meredith Hooper, **Disaster Strikes collection of books** by Marlene Kennedy, **Earth Shattering Events** by Sophie Williams & Robin Jacobs, **The Rock Factory** by Jacqui Bailey & Matthew Lilly, **100 Facts: Planet Earth** by Peter Riley, **Destination Planet Earth** by Jo Nelson & Tom Clohosy Cole

Suggested online resources for some natural disasters:

<https://www.sciencekids.co.nz/sciencefacts/earth.html>

<https://www.natgeokids.com/uk/discover/geography/physical-geography/volcano-facts/>

<https://www.weatherwizkids.com/weather-volcano.htm>

<https://earthquake.usgs.gov/learn/kids/>

<https://www.weatherwizkids.com/weather-earthquake.htm>

<https://www.sciencekids.co.nz/sciencefacts/weather/floods.html>

<https://kids.kiddle.co/Flood>

<https://www.weatherwizkids.com/weather-rain.htm>

<https://www.natgeokids.com/uk/discover/geography/physical-geography/causes-of-floods/>

There are many education videos on YouTube to help the children's understanding of natural disasters. Some are animated and very child friendly.



Inside an Earthquake

This diagram shows how an earthquake occurs.

- 1 Two plates move in different directions. They push against each other until they suddenly slip.
- 2 The slip lets out huge waves of energy that travel through the ground and make it shake.
- 3 The spot on Earth's surface directly above where the quake occurs is called the epicenter (EP-uh-sehnt-uh).

How a hurricane forms

- 1 Warm water evaporates. The moisture rises, creating thunderstorms.
 - 2 Winds spiral upward and outward. A low pressure system forms over the ocean surface.
 - 3 Clouds form in the upper atmosphere as the warm air condenses.
 - 4 The entire storm system starts to spin, counterclockwise or clockwise depending on the hemisphere. When the winds rotate 74 mph, a Category 1 hurricane is born.
 - 5 When the storm passes over land, the supply of moisture and heat is cut off and the storm gradually dissipates.
- Low wind shear allows clouds to organize. Wind Shear
- Thunder storms
- Eye
- Warm ocean water with a sea surface temperature of at least 80 degrees Fahrenheit.

Source: The National Hurricane Center

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