

# Year 4 Summer Term Knowledge Organiser

**KEY QUESTION: What is the impact of Extreme Earth events?**

## Extreme Earth Vocabulary

biome	rainforest	tornado	crust
climate	grassland	hurricane	plates
weather	blizzard	typhoon	earthquake
desert	drought	core	volcano
tundra	flooding	mantle	Tsunami

### Extreme Earth Amazing Facts!

Hottest - Dallol, Ethiopia ( $41^{\circ}\text{C}$ )

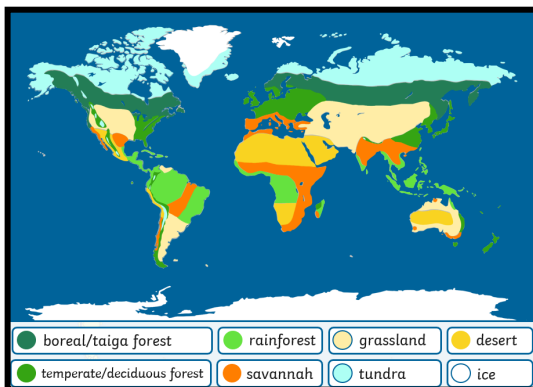
Coldest - Vostok Station, Antarctica ( $-89^{\circ}\text{C}$ )

Driest - Atacama Desert, Chile ( $>1\text{mm}$ )

Wettest - Mawsynram, India ( $11,871\text{mm}$ )

### What is a Biome?

A biome is a natural area of plants and animals. The world is divided into lots of different biomes and they are all different depending on their climate.



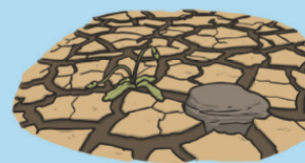
This map shows where the different biomes are located around the world.

The climate in each biome can include extreme weather conditions which often have devastating effects on the people and wildlife that live there.

### Types of Extreme Weather

### Features and Effects

#### Drought



Caused by too little rain. Minor droughts in the UK happen during long, hot summers but don't last long. Major drought occurs when there is too little rainfall for years, even decades. South-western Australia suffered a drought lasting 12 years from 1997-2009. Drought causes dry rivers, shrivelled crops and starvation. Dry soil and dirt can be blown into the air and cause dust storms which block out the sun (sometimes called black blizzards).

#### Flooding



Flooding is any area of land covered by water which is usually dry. Can occur steadily or be rapid and unexpected, causing loss of life. Main weather event which can be made worse by where and how we choose to live. More likely when there has been a lot of rain in recent days or weeks, when the ground is already saturated with water and cannot absorb any more.

#### Blizzards



Extreme snow can take the form of a blizzard, or snow storm. Common in northern regions of North America, Europe and Asia. When wind accompanies snowfall it can cause huge drifts of snow, sometimes several metres deep. Visibility can be zero – this is called a 'whiteout'. Can cover trains and cars, trapping people inside. Causes huge disruption to travel and business.

#### Tornadoes



One of the most violent extreme weather events. Produces the strongest winds on Earth, close to 300 miles per hour. Lasts for a few seconds to many hours. Can occur anywhere in the world (speed varies greatly with location) and cause widespread devastation. 'Tornado Alley' is the name given to an area of North America where tornadoes occur most frequently.

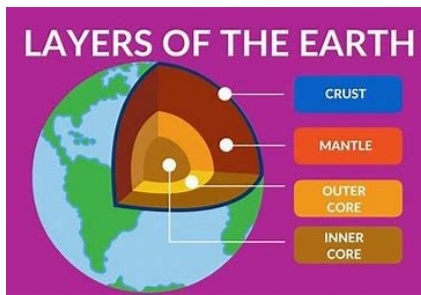
#### Hurricanes, Typhoons and Cyclones



Different names for one event – powerful, rotating storm with thunder, lightning and rain. Major danger to people, buildings and the environment. Hurricane is the term given to major storms affecting the Atlantic Ocean and nearby land (America, Caribbean, Gulf of Mexico). In the Pacific Ocean they are called typhoons, in the Indian Ocean they are cyclones. Can move from sea across land, causing extreme flooding (waves up to 6m high).

### Disasters Timeline

66 million BCE Dinosaur extinction event – probable asteroid.	1650 BCE Minoan eruption of Thera.	226 BCE Rhodes Earthquake.	79 CE Eruption of Mount Vesuvius.	526 CE Antioch Earthquake.	856 CE Damghan Earthquake.	1138 CE Aleppo Earthquake.	1780 CE Great Atlantic Hurricane.	1839 CE Indian Hurricane/Cyclone	1928-30 CE Chinese drought.	1931 CE Yellow River Flood.	1945 CE Hiroshima Atomic Bomb.	1986 CE Chernobyl Nuclear Disaster.	1991 CE Gulf War Oil Spill	2004 CE Indian Ocean Earthquake/Tsunami
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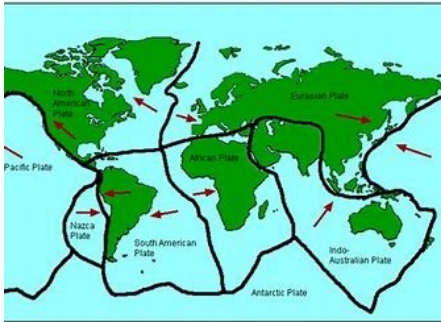


The earth is made up of different layers. The core is mainly metal and the mantle is mainly rock. The crust is made of different pieces called plates. These plates fit together like a jigsaw. Some plates slide past each other whereas others pull away from each other. Where the plates meet is called a fault line. Volcanic eruptions and Earthquakes often occur at these fault lines.



Volcanoes and earthquakes can have a devastating effect.

### Tectonic Plates



How Earthquakes and Volcanoes Happen	
<h4>Earthquakes</h4> <ul style="list-style-type: none"> <li>-The Earth's crust is made up of many moving sheets of rocks, called tectonic plates.</li> <li>-The places where these plates meet are called fault lines. As they rub past each other, pressure can cause the plates to suddenly slip.</li> <li>-This releases a large amount of energy, and creates seismic waves that travel through the Earth. The waves are felt most strongly in close proximity to where the event takes place – an earthquake.</li> </ul>	<h4>Volcanoes</h4> <ul style="list-style-type: none"> <li>-As tectonic plates pull apart or are pushed underneath one another, magma is melted.</li> <li>-Melted magma rises to the surface because it is lighter than rock.</li> <li>-If the magma rises quickly or is too thick, gas cannot easily escape. This builds pressure.</li> <li>-Magma can therefore erupt as lava through openings in the Earth's crust (volcanoes).</li> </ul>
<p>BEFORE EARTHQUAKE: Tectonic plates are shown at a fault line.</p> <p>AFTER EARTHQUAKE: Tectonic plates have shifted relative to each other.</p>	



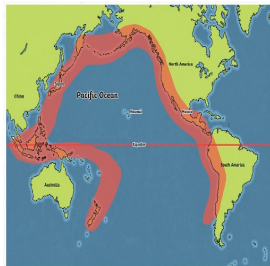
A Tsunami is caused when an earthquake occurs underwater.

It cause a huge wave of water which can travel up to 600mph!



### Ring of Fire

A line of regular volcanic and earthquake activity.



### Activities to do at hom

*Bring in your work so it can be shared and celebrated*

1. Create a Volcano model. Can you use vinegar and bicarbonate of soda to make it erupt?
2. Research information about a natural disaster that has occurred and write a newspaper report about it
3. Design a building which is flood resistant. For an extra challenge, make a model of your design. We could test it out at school!!
4. Draw, paint, or create a picture to represent one of the biome landscapes.
5. Write an interview between a journalist and an emergency aid worker, Include what the aid worker does if there is an natural disaster and why they do it.



These are some of the texts we will be using during Read-