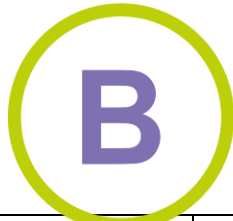


Year 4 Curriculum Overview

Term 1.2



Birchfield PRIMARY SCHOOL

Enquiry Question	How are volcanoes formed and earthquakes caused?
Significant People	<ul style="list-style-type: none"> - Harold Godwinson - William, Duke of Normandy - Harald Hardrada - Alfred the Great
Class Texts	<p>Anglo-Saxon Boy</p> <p>Magnus is the son of Harold Godwinson, lord of the Southern Saxons and ruthlessly ambitious claimant to the throne of England. Overnight, Magnus finds himself cast centre-stage in the blood-soaked family feud that led to one of history's most famous battles. This is the tragedy behind 1066...</p> <p>Everything Volcanoes and Earthquakes – Kathy Furgang</p>
Reading	<p>This half-term, the children will begin learning about inference. They will learn how to effectively skim and scan a text, ensuring they read carefully to locate key details and information to support their responses. Following this, children will learn how to justify their point using relevant information from the text and applying the point and evidence method to construct their responses. The children will also consolidate their learning on retrieval and prediction from last half term. They will focus on matching style questions and short constructed responses.</p>
Writing	<p>This half-term, children will continue to explore different genres and apply appropriate skills, with a focus on understanding the purpose and audience. This half term children will be learning how to write narratives (myth) and persuasive adverts. They will be able to identify the features of the text and use these features in their own writing. This will be related to our enquiry question and book 'Anglo-Saxon boy'.</p>
Maths	<p>Maths this half term will be focusing on Measurement. We will be learning about the concept of area, strategies for counting squares inside a shape, how to create rectilinear shapes, and how to compare the areas of these shapes</p>

	Furthermore, we will be focusing on Multiplication and Division. We will be recalling multiplication and division facts up to 12x12; using this knowledge we will be able to recognise factor pairs and commutativity in mental calculations. We will be using place value and known facts to multiply and divide 3 - digit numbers.
Geography	Our topic this half term will focus on how volcanoes are formed and how earthquakes are caused. The children will learn that both volcanoes and earthquakes occur due to movement of the Earth's tectonic plates. They are both caused by the heat and energy releasing from the Earth's core. Earthquakes can trigger volcanic eruptions through severe movement of tectonic plates.
Science	Our topics for this half term are food and the digestive system and sound. In the first topic, children will learn about the digestive system and how it is responsible for digesting food, and absorbing nutrients and water. The children will know that the mouth, oesophagus, small intestine and large intestine are organs of the digestive system. They will know that there are four different types of teeth: incisors, canines, premolars and molars. The children will then move onto sound. They learn about pitch and volume and find out how both can be changed.
DT	This half term the children will be focusing on mechanical systems (pneumatics). The children will understand and use mechanical systems in their products. The children will use this knowledge to make a Chinese dragon using pneumatics.
Music	During their music lessons, the children will continue their learning on learning how to play a glockenspiel. The children will learn to sing and play a range of genres on the glockenspiel. They will challenge themselves to sing and play at the same time.
Computing	During children's computing lessons, the children will focus on the topic 'Audio Production'. In this topic we will identify the input device (microphone) and output devices (speaker or headphones) required to work with sound digitally.
PSHE	Relationships – how do we treat each other with respect? Children will be looking at relationships, developing an understanding of respect. They will focus on skills such as curtesy, positive behaviour and mutual respect.
RE	Unit 3 - Being Reflective and Self-Critical Children will explore how to be reflective of themselves and their behaviour whilst being self-critical Unit 4 - Being Curious and Valuing Knowledge Children will explore the importance of being curious and valuing knowledge that they are presented with from others and themselves.

PE	<p>Pupils will develop physical, social and emotional objectives during their fundamentals topic. Pupils will develop key skills such as jumping, dodging, balancing, hopping and skipping whilst taking turns and challenging themselves. Pupils will be able to identify strengths and weaknesses in themselves and learn how to give constructive feedback and areas for development to their peers. They will learn how to explore how the body moves at different speeds as well as how to accelerate and decelerate. The children will then move onto gymnastics, learning basic rolls, balances to build on their strength, flexibility, agility and coordination.</p>
----	---

Teaching Team:

Miss Fisher, Miss Beck and Mr Barnes

SLT: Mr Mazhar

PE Days: Thursday

Homework: Tuesday & Friday

Please see below an overview of the main themes, knowledge and skills we will be covering this half term.

Knowledge organisers:

Year 4: Multiplication and Division

Key Vocabulary

skip counting
 number patterns
 multiples
 recall
 multiplication
 division
 timestables
 doubles
 halves
 commutative law

Counting

I can investigate number patterns of 3, 4, 6, 7, 8 and 9.

3	6	9	12	15
4	8	12	16	20
6	12	18	24	30
7	14	21	28	35
8	16	24	32	40
9	18	27	36	45

I can recall multiplication facts up to 10 x 10.

x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

I can solve multiplication and division problems using doubling strategies.

Double = x 2



Double +1 = x 3



Double and double = x 4



Double, double and double = x 8

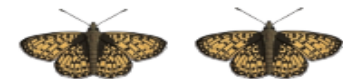


I can solve multiplication and division problems using halving strategies.

Half = ÷ 2



Half and half = ÷ 4



Half, half and half = ÷ 8



I can solve multiplication and division problems using commutative law strategy.



$4 \times 2 = 8 = 2 \times 4$



Year 4: Units of Measurement

Key Vocabulary

60 seconds

60 minutes

Half past

Quarter to

Quarter past

Twenty to

Twenty past

Ten past

Ten to

Twenty-five past

Twenty-five to

Five past

Five to

Midday

Midnight

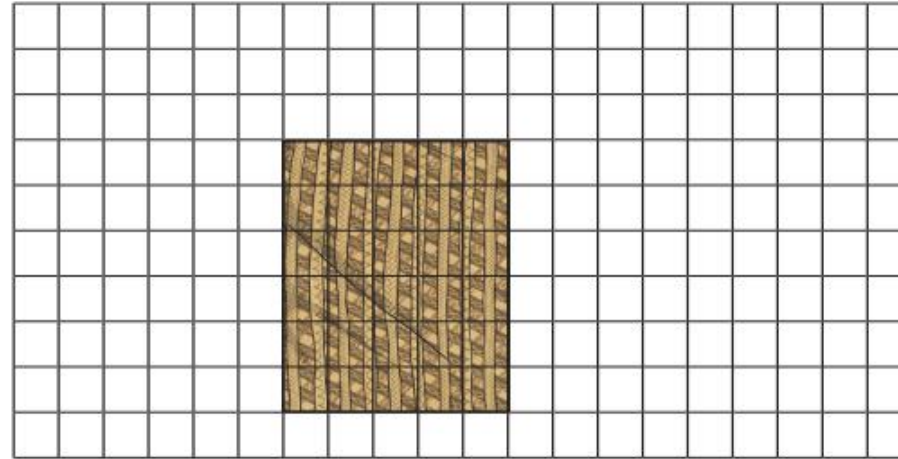
Noon

Analogue

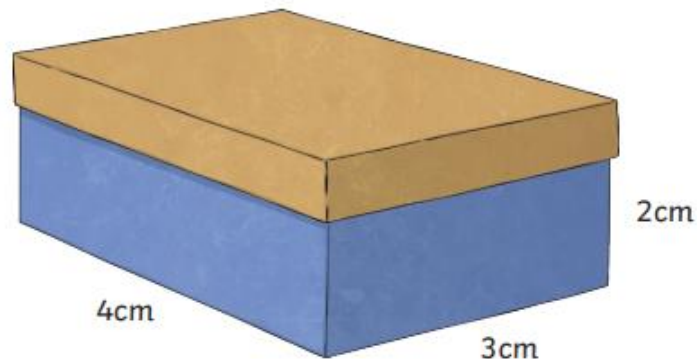
Digital

Units of Measurement

I can compare objects using familiar metric units of area and volume.



$$5\text{cm} \times 6\text{cm} = 30\text{cm}^2$$



$$4\text{cm} \times 2\text{cm} \times 3\text{cm} = 24\text{cm}^3$$

Food and the Digestive System

Producers and consumers

A producer is a living thing that makes its own food through the process of photosynthesis. Almost all producers are plants. A consumer is a living thing that feeds on other living things. All consumers fit into one of three groups depending on what they eat: herbivores eat plant parts, carnivores eat meat from other animals and omnivores eat both meat and plant parts. Animals that are hunted and eaten by other animals are called prey. Animals that hunt other animals for food are called predators.

Ecosystems

An ecosystem is a community of living organisms and their environments that interact with each other, such as a rainforest, desert rainforest or ocean. Ecosystems have biotic, or living, features including plants, animals and microorganisms. They also have abiotic, or non-living, features, such as sunlight, water, air, soil and temperature. desert



Interdependence

All living things depend on the biotic and abiotic features of their ecosystems to survive. This is called interdependence.

For example, the hummingbird depends on abiotic features, such as water to drink and oxygen to breathe. It also depends on biotic features, including the hibiscus flower for nutrition and trees for shelter.



Balance and change

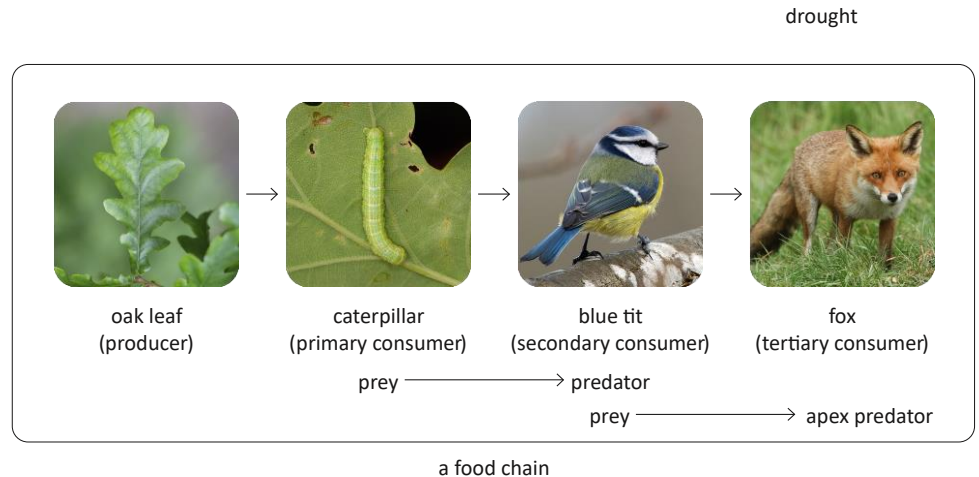
All the biotic and abiotic features of an ecosystem are finely balanced. Any change to one part will affect all the other parts. For example, a drought, or water shortage, can affect a plant's ability to grow. Animals that depend on that plant for food begin to starve and die unless they can adapt or move to a new ecosystem to survive. Human activity, such as deforestation and pollution, and natural events such as disease, floods, wildfires and drought, can damage ecosystems.



Food chains

Plants and animals need energy from food to survive. A food chain is a diagram that shows how food energy is transferred from one living thing to another.

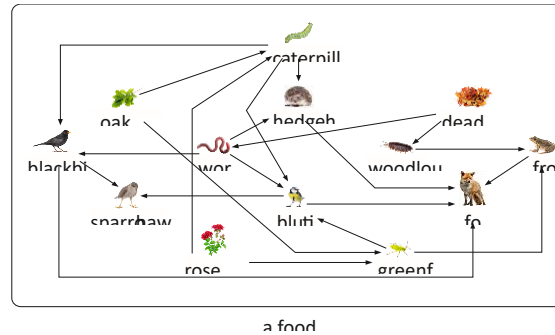
Food chains start with a producer that makes its own food. Primary consumers are herbivores that eat the producers. Secondary consumers can be carnivores or omnivores that feed on primary consumers and producers. Tertiary consumers at the end of the food chain mainly feed on the secondary and primary consumers. They are called apex predators.



Food webs

All the different food chains in a specific ecosystem can be linked together to make a food web.

Food webs show how different plants and animals in an ecosystem are connected through their interdependence.



Digestion

Digestion is the process where food is broken down into small particles that can be absorbed by the body.

The digestive organs all work together to digest food.

Mouth

Digestion starts inside the mouth. The tongue rolls the food around and the teeth break it into smaller pieces by biting and chewing. Digestive enzymes in saliva break down the food further so the food can be swallowed.

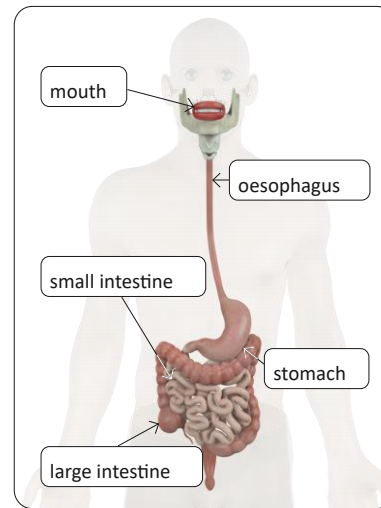
Oesophagus

The food travels through the pharynx, or throat, then into the oesophagus. Muscles squeeze the food along the oesophagus and into the stomach.

Stomach

Inside the stomach, the food is mixed with digestive enzymes and digestive acid to chemically break it down into tiny particles.

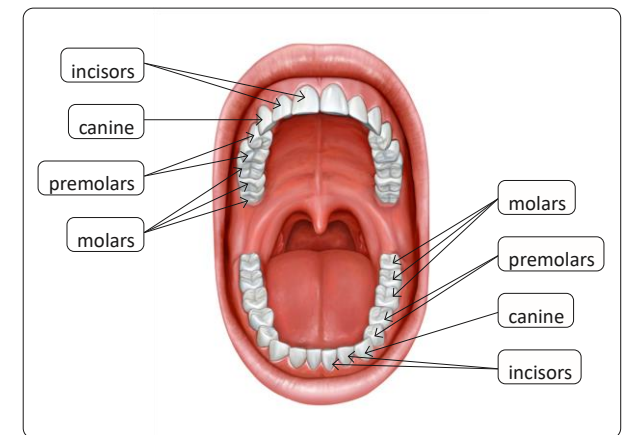
Muscles also squeeze and churn the food. **Small intestine**



digestive organs

Teeth

Human teeth begin to grow when a baby is around six months old and continue growing until a child has 20 teeth. These are called primary teeth. These begin to fall out at around six years old and 32 permanent teeth then grow. There are four types of teeth:



Carnivore, herbivore and omnivore teeth

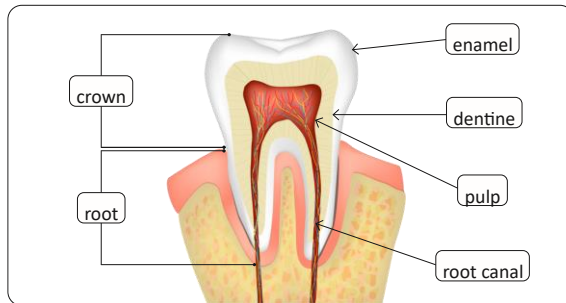
Animals have different types of teeth depending on the food they eat. Carnivores usually have large canines for ripping and tearing meat.

Herbivores usually have sharp incisors for cutting plant material and large flat

teeth: canines for tearing meat and large, flat molars for grinding plants.

Tooth structure

A tooth has a very hard, outer layer called enamel to protect against bacteria and hot and cold temperatures. Dentine under the enamel gives the tooth its structure and colour. Pulp in the middle of the tooth contains nerve endings and a blood supply which continues through a space in the root called the root canal. These nerves send pain messages from the tooth to the brain.



Oral hygiene

Oral hygiene is the practice of keeping the mouth and teeth clean to protect against the buildup of bacteria called plaque, which can lead to tooth decay and gum disease. To ensure good oral hygiene, it is important to:

- Avoid consuming too many sugary foods and drinks.
- Brush teeth twice a day with fluoride toothpaste.
- Visit the dentist at least once a year.

Glossary

Bacteria	A type of microorganism, some of which can cause disease.
Fluoride	A chemical that can be added to toothpaste to prevent tooth decay.
Microorganism	A living thing that is too small to be seen without a microscope.

Key Vocabulary

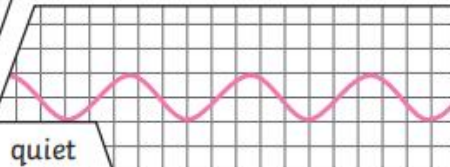
vibration	A quick movement back and forth.
sound wave	Vibrations travelling from a sound source.
volume	The loudness of a sound.
amplitude	The size of a vibration . A larger amplitude = a louder sound.
pitch	How low or high a sound is.

Key Knowledge

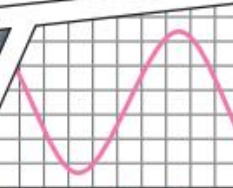
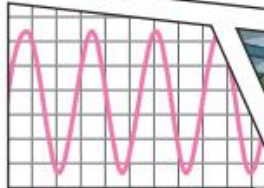
Sound is a type of energy. Sounds are created by **vibrations**. The louder the sound, the bigger the **vibration**.



The size of the **vibration** is called the **amplitude**. Louder sounds have a larger **amplitude**, and quieter sounds have a smaller **amplitude**.



Pitch is a measure of how high or low a sound is. A whistle being blown creates a **high-pitched** sound. A rumble of thunder is an example of a **low-pitched** sound.



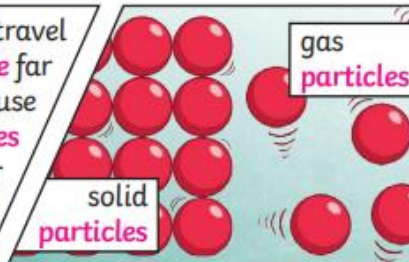
You can change the **pitch** of a sound in different ways depending on the type of instrument you are playing.

For example, if you are playing a xylophone, striking the smaller bars causes faster **vibrations** and so a higher **pitched** note. Striking the larger bars causes slower **vibrations** and produces a lower note.



Key Vocabulary	
ear	An organ used for hearing.
particles	Solids, liquids and gases are made of particles . They are so small we are unable to see them.
distance	A measurement of length between two points.
soundproof	To prevent sound from passing through.
absorb sound	To take in sound energy. Absorbent materials have the effect of muffling sound.
vacuum	A space where there is nothing. There are no particles in a vacuum.
eardrum	A part of the ear which is a thin, tough layer of tissue that is stretched out like a drum skin. It separates the outer ear from the middle and inner ear . Sound waves make the eardrum vibrate .

Sound energy can travel from **particle to particle** far easier in a solid because the **vibrating particles** are closer together than in other states of matter.



Key Knowledge
 Sound can travel through solids, liquids and gases. Sound travels as a **wave**, **vibrating** the **particles** in the medium it is travelling in. Sound cannot travel through a vacuum.

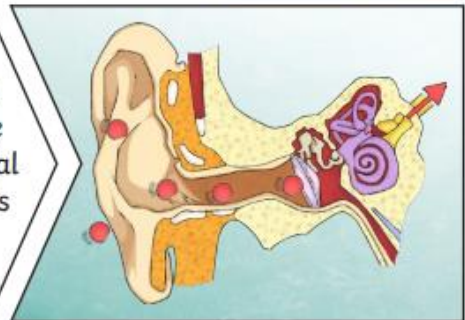
When you hit the drum, the drum skin **vibrates**. This makes the air **particles** closest to the drum start to **vibrate** as well.



The **vibrations** then pass to the next air **particle**, then the next, then the next. This carries on until the air **particles** closest to your ear **vibrate**, passing the **vibrations** into your **ear**.



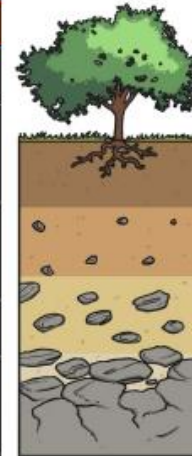
Inside your **ear**, the **vibrations** hit the **eardrum** and are then passed to the middle and then the inner **ear**. They are then changed into electrical signals and sent to your brain. Your brain tells you that you are hearing a sound.



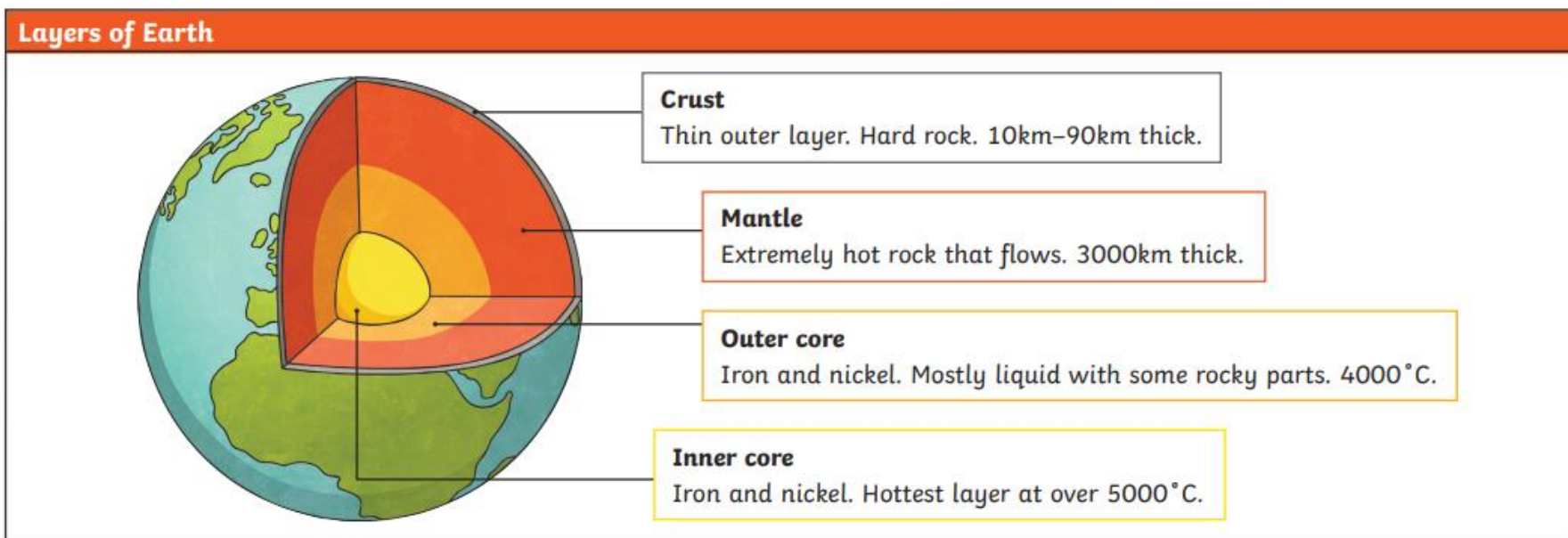
If you throw a stone in a pond, it will produce ripples. As the ripples spread out across the pond, they become smaller. When sound **vibrations** spread out over a **distance**, the sound becomes quieter, just like ripples in a pond.



Key Vocabulary	
cumulonimbus cloud	Large thunderstorm clouds.
erupt	To suddenly burst out causing lava to explode out of the earth's surface.
fossils	The remains of plants or animals that lived a long time ago which can be found deep in the earth.
magma	Extremely hot, liquid rock.
tectonic plates	The earth's crust is made up of large areas called tectonic plates that join together.



Layers of Soil	
humus	Rotting dead leaves and animals.
topsoil	Plant's roots grow here. Very few rocks.
subsoil	Rocks and stones. Full of nutrients. Tree roots may reach. Fossils.
bedrock	A mass of rocks. Fossils.



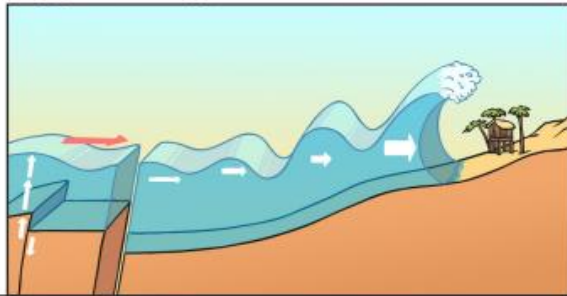
Volcanoes

- Volcanoes are made when pressure builds up inside the earth. This affects the earth's crust causing **magma** to sometimes **erupt** through it.
- Active volcanoes have **erupted** in the last 10 000 years.
- Dormant volcanoes haven't **erupted** in the last 10 000 years but may erupt again.
- Extinct volcanoes aren't expected to **erupt** again.



Tsunamis

- A tsunami is a giant wave caused by a huge earthquake under the ocean.
- The earthquake causes a large amount of water to be displaced very quickly causing a series of waves.
- As the waves travel through shallower water near land, they get bigger and bigger. The wave crashes onto the land causing devastation to buildings and sometimes even lives.



Tornadoes

- A tornado is a swirling funnel of air that forms when warm air rises from near the ground into big **cumulonimbus clouds**.
- There can be thunder and lightning at the same time.
- You can see tornadoes due to the dust and water droplets caught in the clouds.
- Storm chasers are film-makers and scientists who head towards the storms. They film the tornadoes and collect data about them.
- Most tornadoes happen in Tornado Alley in America – more than 500 each year.
- Tornadoes can happen in the UK but only around 30 per year.



Earthquakes

- Earthquakes are caused when the earth's **tectonic plates** suddenly move.
- Most earthquakes occur near the **tectonic plate** boundaries.
- Earthquakes can cause lots of damage to roads, buildings and property.

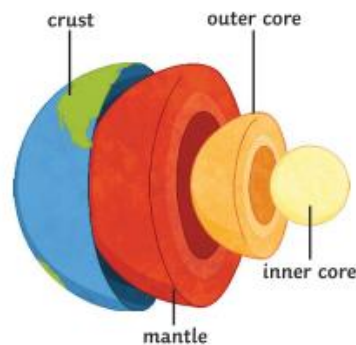


The Challenge of Natural Hazards Tectonic Hazards Knowledge Organiser

- Natural hazards pose major risks to people and property.
- Natural hazards are natural processes which cause damage, injury and death.
- Geological hazards are caused by tectonic processes.
- Different factors affect hazard risk including the severity of the natural hazard, the ability of a place to cope with the hazard and the likelihood that a hazard will occur.

Earthquakes and Volcanic Eruptions

- The crust is divided into tectonic plates.
- They move because of convection currents in the mantle.
- The plates meet at plate boundaries.



There are different types of plate boundaries:

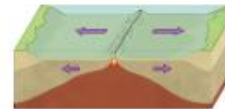
Destructive Margins

Where two plates move towards each other; the oceanic plate will be destroyed as it is forced beneath the continental plate, creating volcanoes and ocean trenches.



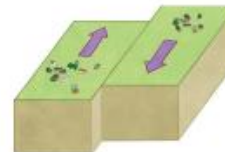
Constructive Margins

Where two plates move away from each other. Magma will create new crust.



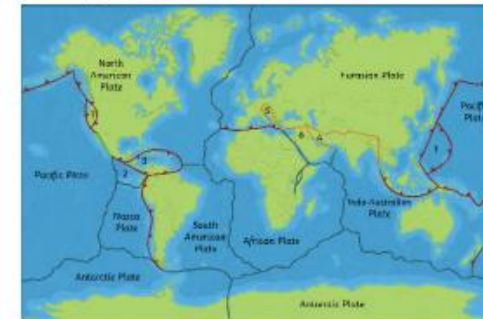
Conservative Margins

Where two plates slide along each other. No crust is created or destroyed. This can cause earthquakes.



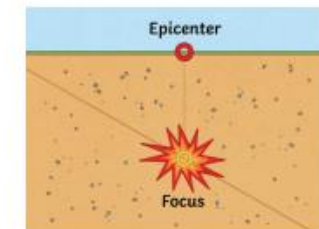
Global Distribution

Most tectonic activity is along plate margins and on the edge of continents. Some volcanoes form over hotspots in the mantle eg. Hawaii.



What Is an Earthquake?

When the plates jerk past each other they send out shock waves from the focus. The epicentre is directly above the focus on the earth's surface.



- The strength of an earthquake is called its magnitude. Magnitude is measured on a logarithmic scale (e.g. a magnitude 4 earthquake is 10 times stronger than a magnitude 3 earthquake).
- Earthquakes of magnitude 7 and above can cause serious damage and death.

Management can Reduce the Effects of Hazards

Scientists can monitor tectonic activity, e.g. seismometers can monitor earth movements and equipment can measure escaping gas.

Volcanic activity can be predicted and people can evacuate. Predicting earthquakes is less accurate but people can prepare for them if they live in an area at risk. Buildings can be designed to use reinforced concrete and strengthened foundations. Gas and electricity supplies can have automatic shut-offs to prevent fires.

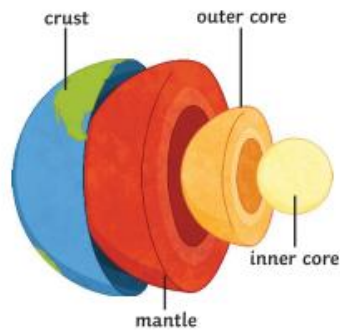
Areas at risk can plan to reduce the risk by training and educating people.

The Challenge of Natural Hazards Tectonic Hazards Knowledge Organiser

- Natural hazards pose major risks to people and property.
- Natural hazards are natural processes which cause damage, injury and death.
- Geological hazards are caused by tectonic processes.
- Different factors affect hazard risk including the severity of the natural hazard, the ability of a place to cope with the hazard and the likelihood that a hazard will occur.

Earthquakes and Volcanic Eruptions

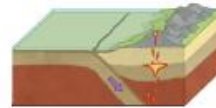
- The crust is divided into tectonic plates.
- They move because of convection currents in the mantle.
- The plates meet at plate boundaries.



There are different types of plate boundaries:

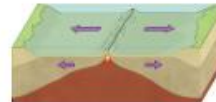
Destructive Margins

Where two plates move towards each other; the oceanic plate will be destroyed as it is forced beneath the continental plate, creating volcanoes and ocean trenches.



Constructive Margins

Where two plates move away from each other. Magma will create new crust.



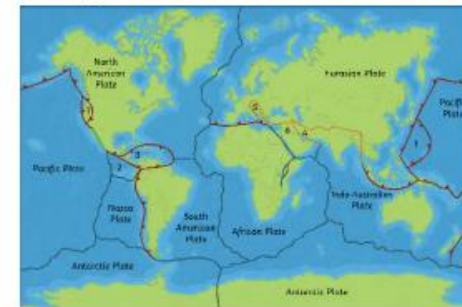
Conservative Margins

Where two plates slide along each other. No crust is created or destroyed. This can cause earthquakes.



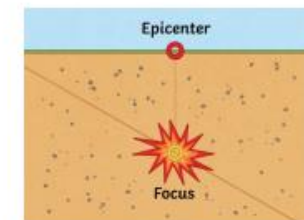
Global Distribution

Most tectonic activity is along plate margins and on the edge of continents. Some volcanoes form over hotspots in the mantle eg. Hawaii.



What Is an Earthquake?

When the plates jerk past each other they send out shock waves from the focus. The epicentre is directly above the focus on the earth's surface.



Management can Reduce the Effects of Hazards

Scientists can monitor tectonic activity, e.g. seismometers can monitor earth movements and equipment can measure escaping gas.

Volcanic activity can be predicted and people can evacuate. Predicting earthquakes is less accurate but people can prepare for them if they live in an area at risk. Buildings can be designed to use reinforced concrete and strengthened foundations. Gas and electricity supplies can have automatic shut-offs to prevent fires.

Areas at risk can plan to reduce the risk by training and educating people.

- The strength of an earthquake is called its magnitude. Magnitude is measured on a logarithmic scale (e.g. a magnitude 4 earthquake is 10 times stronger than a magnitude 3 earthquake).
- Earthquakes of magnitude 7 and above can cause serious damage and death.

Home Learning and Useful Links:

Homework Books

At the end of each week, your child will return home with their homework books in both English and Maths. They will be given two pages to complete based on the learning they have completed that week or the learning they will be doing the following week.

Please encourage your child to complete these to the best of their ability and return to school by Wednesday for them to be marked and any issues to be addressed.

Spellings

These are words your child will be using daily and will need to be familiar with. We will also be sending home words with your children that are key in Year 3 and 4.

Please encourage your child to practise their spellings at the weekend and across the course of the week, as they will be tested on these at the end of each week.

Times tables

Each week, your child will receive a sheet of times tables to help prepare them for the Y4 Multiplication Check.

Please encourage your child to practise these times tables ready for a small test at the end of the following week. Your child should now be using Times Table Rock Stars and taking part in competitions between each other and the other Year 4 classes. Please see your child's class teacher for log in details.

Your child should be completing at least 5 minutes of times table practice daily.

Please use the website below

Times Table Multiplication Check Website:

<https://www.timestables.co.uk/multiplication-tables-check/>

<https://trockstars.com/>

<https://www.topmarks.co.uk/maths-games/hit-the-button>

Reading:

At the end of each week, your child will also come home with a reading book.

Please encourage your child to read this book regularly and listen to them read when you can.

Within their reading diary, we ask that you please make a comment on how your child has read, whether they are enjoying their book or even any questions you may have asked them and discussed about their story.

Both the reading book and reading diary need to be returned to school by Wednesday.

Reading:

[Oxford Owl for School and Home](#)

[Reading and comprehension - English - Learning with BBC Bitesize - BBC Bitesize](#)

[Books for Year 4 children aged 8-9 | School Reading List](#)

Phonics:

[Letters and Sounds, English Games for 5-7 Years - Topmarks](#)

[PhonicsPlay](#)

[Phase 2 Games - Letters and Sounds \(letters-and-sounds.com\)](#)

Writing:

[Year 4 English - BBC Bitesize](#)

[Writing in Year 4 \(age 8-9\) - Oxford Owl for Home](#)

[Spelling and Grammar, English Games for 7-11 Years - Topmarks](#)

Maths:

[Year 4 Maths Curriculum Toolkit | 8 & 9 Year Olds | Home Learning \(thirdspacelearning.com\)](#)

[Key Stage 2 Maths - Topmarks Search](#)

<https://www.timestables.co.uk/multiplication-tables-check/>

Science:

[Science KS2 / KS3: Classification of organisms - BBC Teach](#)

[Home | WowScience - Science games and activities for kids](#)

Sound- <https://www.bbc.co.uk/bitesize/topics/zgffr82>

Geography:

[What are volcanoes and earthquakes? | KS2 Topic | Ages 7-11 - BBC Bitesize](#)

Computing:

[Is my child safe online? Parent's questions answered | Barnardo's \(barnardos.org.uk\)](#)

[Parents and Carers - UK Safer Internet Centre](#)

[Parental Controls & Privacy Settings Guides | Internet Matters](#)

PSHE:

[Talk PANTS & Join Pantosaurus - The Underwear Rule | NSPCC](#)

[How to make an emergency 999 call – West Midlands Ambulance Service University NHS Foundation Trust \(wmas.nhs.uk\)](#)

PE:

[Nutrition Based Physical Activity Games - Action for Healthy Kids](#)

[Kids Active Learning & PE at Home – Think Active](#)