Year 5 Maths Knowledge Organiser: Decimals and Percentages

Key Vocabulary

1. Decimal: A number written using a decimal point to show the position of the digits.
2. Percentage: A fraction or a decimal expressed as a fraction out of 100.
3. Whole Number: A number without any fractions or decimals.
4. Thousandths: The third digit after the decimal point in a decimal number.
5. Equivalent: Having the same value, but expressed differently.
6. Place Value: The value of a digit based on its position in a number.
7. Tenths: The first digit after the decimal point in a decimal number.
8. Hundredths: The second digit after the decimal point in a decimal number.
9. Fraction: A part of a whole, expressed using a numerator and a denominator.
10. Divisor: The number by which another number is divided.

Timeline of Concepts

1. Understanding Place Value:
    a. Recognizing and understanding tenths, hundredths, and thousandths.
    b. Identifying the place value of digits in decimal numbers.
2. Converting Decimals to Fractions:
    a. Recognizing equivalent fractions of tenths, hundredths, and thousandths.
    b. Converting decimals to fractions.
3. Comparing and Ordering Decimals:
    a. Understanding and using the greater than, less than, and equal to symbols.
    b. Comparing and ordering decimal numbers.
4. Rounding Decimals:
    a. Rounding decimals to the nearest whole number and to one or two decimal places.
5. Decimals as Money:

    a. Calculating the total cost of items using decimal numbers.
    b. Giving change using decimal numbers.
6. Percentage:
    a. Understanding what a percentage is.
    b. Converting fractions and decimals into percentages.
    c. Solving simple percentage problems.

Useful Websites

1. BBC Bitesize - Decimals
    a. Provides explanations and interactive quizzes on decimals.
2. Math is Fun - Decimals
    a. Offers clear explanations and practice questions on decimals.
3. Topmarks - Percentages
    a. Provides interactive games and activities to practice percentages.

Interesting Facts

- The word "decimal" comes from the Latin word "decimus" which means "tenth".
- The decimal system is believed to have originated in ancient India.
- The equal sign (=) was introduced by Robert Recorde, a Welsh mathematician, in the 16th century.

Endpoints

By the end of this topic, Year 5 students should be able to:

1. Understand the place value of tenths, hundredths, and thousandths in decimal numbers.
2. Convert decimal numbers to fractions and vice versa.
3. Compare and order decimal numbers accurately using the greater than, less than, and equal to symbols.
4. Round decimal numbers to the nearest whole number and to one or two decimal places.
5. Solve simple percentage problems, including converting fractions and decimals into percentages.
6. Apply their understanding of decimal numbers in real-life scenarios involving money.

Year 5 - Fantasy Narrative Knowledge Organiser

Key Vocabulary

1. Fantasy: A genre of fiction that often involves magical or supernatural elements.
2. Narrative: A story or account of events.
3. Character: A person, animal, or creature in a story.
4. Setting: The time and place where a story takes place.
5. Plot: The sequence of events that make up a story.
6. Protagonist: The main character in a story.
7. Antagonist: A character or force that opposes the protagonist.
8. Conflict: A problem or struggle between characters or opposing forces.
9. Resolution: The conclusion or ending of a story where the conflict is resolved.
10. Climax: The most intense or exciting part of a story.
11. Foreshadowing: Hints or clues about what will happen later in the story.

Timeline of Important Events or Concepts

1. Introduction to Fantasy Genre
2. Elements of a Fantasy Narrative
3. Creating Compelling Characters
4. Building Imaginary Worlds
5. Developing a Plot with Conflict and Resolution
6. Writing Engaging Descriptions
7. Using Dialogue to Enhance the Narrative
8. Adding Suspense and Foreshadowing
9. Editing and Revising the Narrative
10. Sharing and Presenting the Finished Story

Useful and Reliable Websites

1. Teaching Ideas - Fantasy Story Writing
2. Screenwriting for Children
3. ReadWriteThink - Fantasy Theme Lesson
4. Oxford Owl - Writing Fantasy Stories

Interesting Facts

1. The fantasy genre has been popular for centuries, with ancient myths and legends being early examples.
2. Famous fantasy authors include J.R.R. Tolkien, C.S. Lewis, and J.K. Rowling.
3. Fantasy narratives often explore themes of good versus evil, heroism, and the power of imagination.
4. Fantasy creatures like dragons, unicorns, and fairies are commonly found in fantasy stories.
5. Many fantasy narratives take place in imaginary worlds with their own rules and magic systems.

Endpoints

By the end of the topic 'Fantasy Narrative' in English, Year Group 5 students should be able to:

1. Understand the key vocabulary related to fantasy narratives.
2. Identify and discuss the different elements of a fantasy narrative, including character, setting, plot, conflict, resolution, climax, and foreshadowing.
3. Create compelling characters for a fantasy narrative, describing their appearance, personality, and motivations.
4. Develop an imaginary world with vivid and detailed descriptions.
5. Plan and write a narrative with a clear beginning, middle, and end, including a problem or conflict that is resolved.
6. Use dialogue effectively to bring characters and their interactions to life.
7. Incorporate suspense and foreshadowing techniques to engage the reader.
8. Edit and revise their narrative to improve clarity, coherence, and language use.
9. Share and present their finished story with confidence and clarity.

Subject: Science

Topic: Properties and changes of materials

Unit overview

This is the third science unit in Year 5 and it falls mostly into the chemistry sequence of learning but partially also into the physics sequence of learning. Pupils have been learning to compare and group materials since Key Stage 1 and this unit looks closely at the usefulness of certain properties of materials and changes in materials.

The unit begins by reintroducing the idea of materials and their properties, before looking deeper into the properties of conductivity and magnetism. Pupils will then consider reversible changes, beginning with dissolving. Building on Year 4 learning, pupils will consider how materials are affected by changes in states of matter and how these changes are reversible, and can be used practically to extract solute from a solution.

Pupils will then consider the difference between reversible and irreversible changes, and how irreversible changes create new materials. They will have an opportunity to investigate corrosion and neutralisation, and will learn about acids and bases and how the pH scale can be used to distinguish between these.

The unit concludes with two sessions linked to scientists whose work has contributed to the field of materials science, with opportunities to research and provide opinions on whose contribution was most important, and to use their knowledge to design a new or improved material for a particular purpose.

Key Vocabulary

property	a characteristic of a material that makes it suitable for a particular purpose
classify	to sort into groups
solution	a mixture of a solvent and solute
dissolving	the process of mixing a solute in a solvent to form a solution
saturated	when a solution contains the maximum possible amount of solute
mixture	a substance comprised of more than one material, where those materials are not chemically joined
separation	a process of obtaining the constituent parts of a mixture
distillation	the process of purifying a liquid through evaporation and condensation
combustion	the scientific term for burning, an irreversible change producing carbon dioxide and water

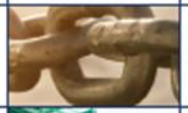
Learning outcomes

1. **I will be able to classify materials.**
2. **I will understand what happens when something dissolves.**
3. **I will be able to separate materials.**
4. **I will know how to make new materials.**
5. **I will be able to recognise factors which impact something dissolving.**

Key Facts/dates – Sticky Knowledge

There are some changes where we can recover the original material. We call these **reversible changes**. With some changes, we cannot recover the original material. There has been a **chemical reaction**, creating new materials.
Where we combine **more than one material**, but those materials are **not chemically joined**, we call it **a mixture**. Mixtures can be separated using a variety of processes.

Materials can be classified based on their properties. Examples include:

Hardness – how resistant it is to a permanent change in shape resulting from a force.		**Buoyancy** – whether or not it floats.	
Strength – how likely it is to fracture under force.		**Conductivity** – how easily it allows heat or electricity to pass through it.	
Transparency – whether or not it allows light to pass through it.		**Elasticity** – how able it is to stretch and return to its original shape.	

Books linked to topic you may wish to read:

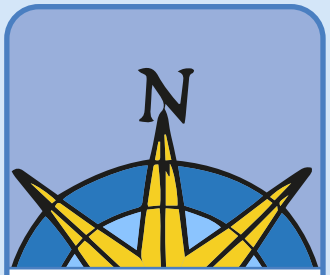
The element in the room – Mike Barfield

Once upon an atom – James Carter

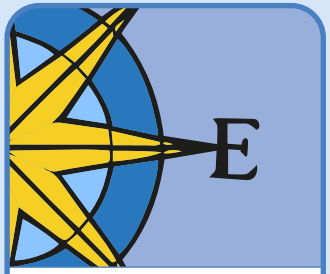
Itch -Simon Mayo

French - French-speaking world

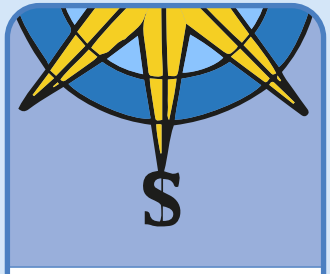
Vocabulary and pictures



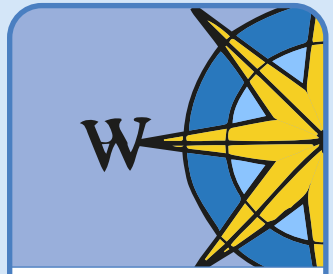
le nord
the north



l'est
the east

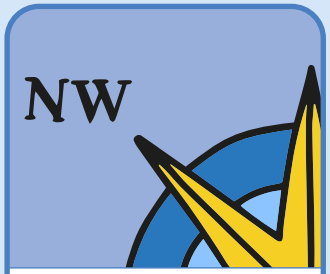


le sud
the south



l'ouest
the west

le nord-est
the north-east



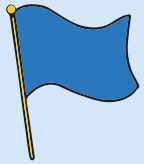
le nord-ouest
the north-west

le sud-est
the south-east

le sud-ouest
the south-west

une étoile
a star

un croissant
a cresent



un drapeau
a flag

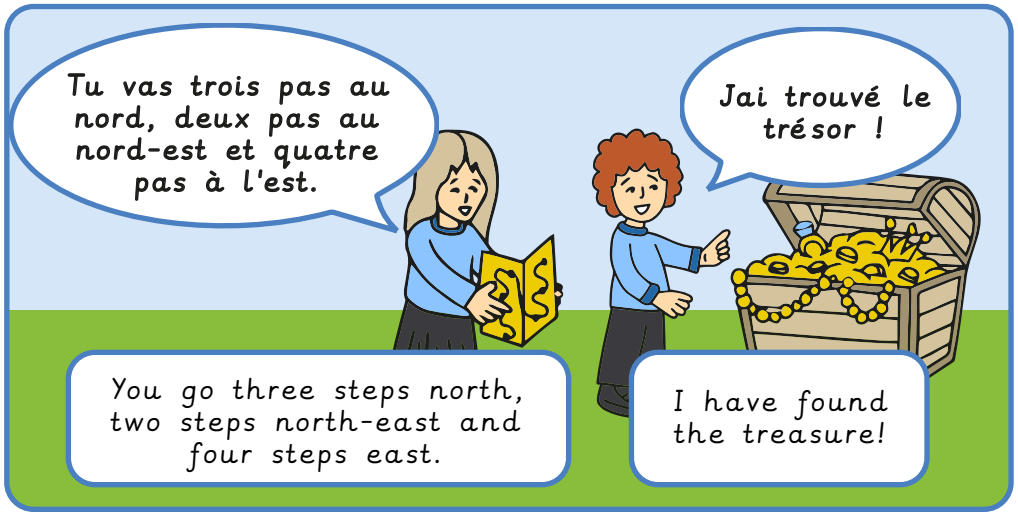
une croix
a cross

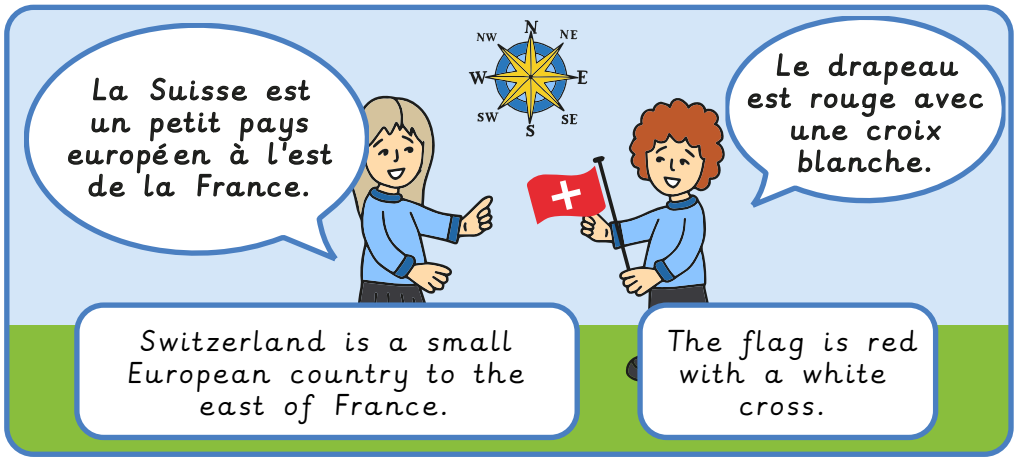
un cercle
a circle

French - French-speaking world

Sentence structure and phrases

Phrases	
je vais...	I go / I'm going...
tu vas...	You go / you are going...
Il y a...?	Is there...?
Il y a...	There is...
Je voudrais visiter ...	I would like to visit...
parce que	because
il fait très chaud	it is very hot
il ne fait pas chaud	it is not hot
il fait plus chaud qu'en/au/à...	it is hotter than in...
il fait moins chaud qu'en/au/à	it is less hot than in...
il fait assez froid	it is quite cold
il pleut beaucoup	it rains a lot
il ne pleut pas	it does not rain
il pleut plus qu'en/au/à ...	it rains more than in...
la température est de 15 degrés	the temperature is 15 degrees





Country gender

In French, countries are either masculine or feminine, so they should always include the definite article **Le/La**. For example, **La France**, never just 'France'.

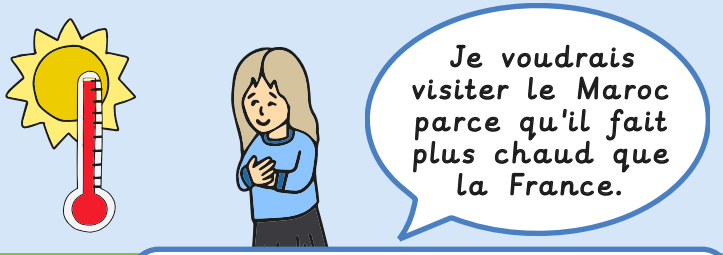
However, **Madagascar** does not follow this rule. It is a feminine noun but does not need the definite article, so it is just 'Madagascar'.

à + le = au

au nord

à+ l' = à l'

à l'est



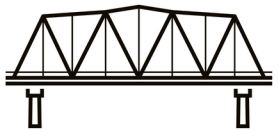
Structures - Bridges

Accurate	Neat, correct shape, size and pattern with no mistakes.
Arch bridge	A bridge which is built with a curved arch.
Beam bridge	A bridge which is built with horizontal beams and vertical pillars.
Bench hook	A tool which hooks onto the edge of the workbench. It's used to hold woodwork still when sawing.
Compression	A squashing force caused when parts of a structure are pushed together.
Coping saw	A saw with a narrow D-shaped metal blade, used for cutting curves in wood.
File	A tool used to smooth down rough edges on wood or metal materials.
Mark out	To measure and mark where a piece of material needs to be cut or shaped.
Reinforce	To make a structure or material stronger, especially by adding another material or element to it.
Sand paper	Strong paper with sand on one side to smooth or polish woodwork.
Set square or Try square	A right-angle triangular plate, wood or metal tool used for drawing lines at 90°, 45°, 60°, or 30°.
Shape	The form of an object.
Structure	Something which stands, usually on its own.
Suspension bridge	A bridge which is supported by vertical cables and suspended by cables which run between pillars that are connected onto either end of the bridge.
Tenon saw	A saw with a flat blade, used for cutting wood in straight lines or angles.
Tension	A stretching force caused by two parts of a structure being pulled apart.
Truss bridge	A bridge which is built from a series of triangular beams.

Key facts

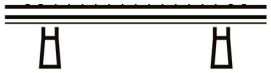
Forces can change the **shape** of objects, they can also make objects begin to move, speed up or slow down.

Pulls and pushes are both forces.



Truss bridge

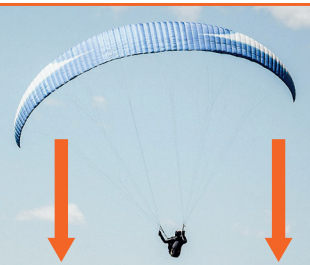
Suspension bridge



Beam bridge

Arch bridge

Gravity is a force which pulls everything towards the centre of the Earth. The weight of something is the force that the Earth's gravity is having on it.



Year 5: Exploring the associations between music, sounds and colour

Musical feature: Composition

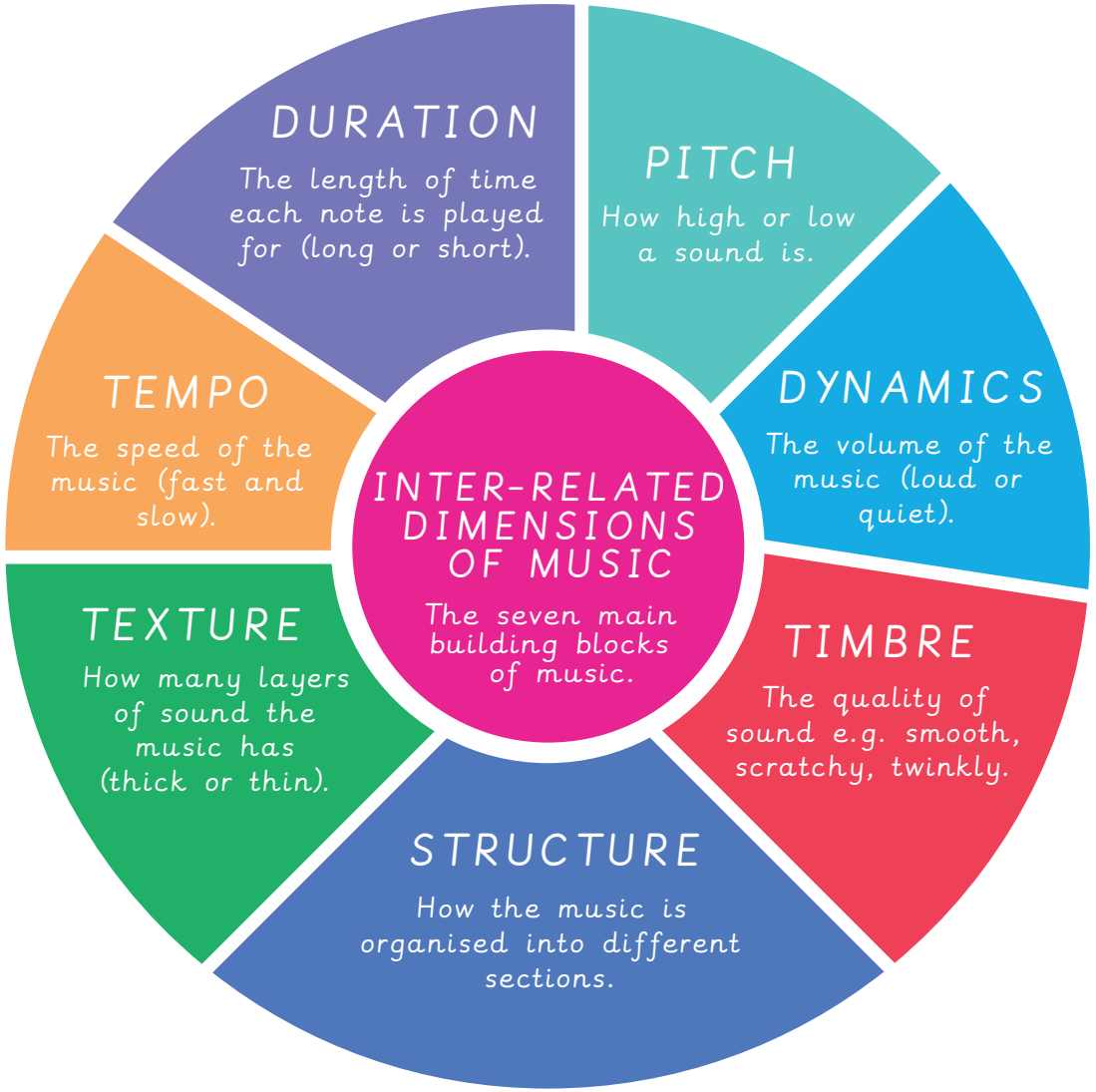
In this unit we compose our own musical composition to represent Holi, the Hindu festival of colour, which celebrates the beginning of spring and the triumph of good over evil.

Holi celebrations include people throwing and smearing each other with vibrant, multi-coloured paints and powders.

Vocabulary

Graphic score	A way of writing down music on the page without using traditional stave notation, using symbols and images to represent the music.

Synaesthesia	A condition where you 'see' music as colours.
Major	A tonality where the music sounds happy or bright.
Minor	A tonality where the music sounds sad or tense.
Layering	An overlapping of different music or instruments to create a 'thick' texture in a musical piece.



Knowledge Organiser: Lent (Yr5)

Key Vocabulary

1. Lent: The period of 40 days (excluding Sundays) leading up to Easter, observed by Christian denominations as a time of fasting, repentance, and reflection.
2. Ash Wednesday: The first day of Lent, marked by the application of ashes on the forehead in the shape of a cross.
3. Palm Sunday: The Sunday before Easter, commemorating Jesus' entry into Jerusalem, when people waved palm branches and laid them in his path.
4. Maundy Thursday: The Thursday before Easter, commemorating the Last Supper and the betrayal of Jesus.
5. Good Friday: The Friday before Easter, commemorating the crucifixion of Jesus.
6. Resurrection: The act of rising from the dead, as believed by Christians to have happened to Jesus on Easter Sunday.
7. Paschal Candle: A large candle used in Christian liturgical celebrations, symbolizing the light of Christ.
8. Holy Week: The week leading up to Easter, beginning with Palm Sunday and including important events like the Last Supper, crucifixion, and resurrection of Jesus.
9. Fasting: Temporarily abstaining from food or certain types of food as a religious practice.
10. Repentance: Sincere regret or remorse for one's wrongdoing, often accompanied by a desire to change.

Timeline of Important Events or Concepts

- Ash Wednesday: Marks the beginning of Lent with the application of ashes.
- Palm Sunday: Commemorates Jesus' entry into Jerusalem with palm branches.
- Maundy Thursday: Commemorates the Last Supper and the betrayal of Jesus.
- Good Friday: Commemorates the crucifixion of Jesus.
- Easter Sunday: Celebrates the resurrection of Jesus.
- Lent Ends: 40 days after Ash Wednesday, excluding Sundays.

Links to Useful and Reliable Websites

1. BBC Bitesize - Lent - Provides a child-friendly explanation of Lent and its significance.
2. TheSchoolRun - What is Lent? - Offers accessible information about Lent, its origins, and how it is observed.
3. RE Online - Lent - Contains resources and information specifically designed for teaching about Lent in Religious Education.
4. Catholic Education Resource Center - The Meaning of Lent - Provides a detailed explanation of the meaning and purpose of Lent from a Catholic perspective.

Interesting Facts

1. The word "Lent" comes from the Old English word "lencten," meaning spring, as the season of Lent often falls during this time.
2. Lent lasts for 40 days to mirror the 40 days Jesus spent fasting in the wilderness before his ministry.
3. Pancake Day (Shrove Tuesday) is the day before Lent begins and is traditionally a time to use up rich foods before the fasting period.
4. In some Christian traditions, the color purple is associated with Lent as a symbol of royalty and penitence.
5. Lent is observed by various Christian denominations, including Roman Catholics, Anglicans, and some Protestant churches.

Endpoints

By the end of this topic, students should know:

1. The meaning and significance of Lent in Christian traditions.
2. The key events and concepts associated with Lent, such as Ash Wednesday, Palm Sunday, Maundy Thursday, Good Friday, and Easter Sunday.
3. The reasons why fasting and repentance are observed during Lent.
4. The symbolism behind the use of ashes, palm branches, and the Paschal Candle during Lent.
5. The importance of the resurrection of Jesus and its connection to Easter Sunday.
6. How and why Lent is observed in different ways by various Christian denominations.

Year 5 Unit 3: Asia: Mountains, Volcanoes and Earthquakes, Teacher Subject Knowledge Guide

Asia

As creating boundaries for countries and regions is a human construct it is important to know that there can be differing opinions on where the regions start, and end and which countries are part of Asia. For this unit, 48 countries have been identified in Asia however some argue that Cyprus is part of Asia rather than Europe. Some also argue that The State of Palestine is not a country so it can range from 47- 49 countries being part of Asia. In terms of regions, North Asia is not necessarily used as it can be argued that Russia is the only country in the North. Therefore, Russia is often part of East Asia.

Plate boundaries

A **convergent boundary** is when the plates move towards each other and collide. A convergent plate boundary forms towering mountain ranges, like the Himalaya, as Earth's crust is crumpled and pushed upward.

At some convergent boundaries, an oceanic plate collides with a continental plate. Oceanic crust tends to be denser and thinner than continental crust, so the denser oceanic crust gets bent and pulled under, or subducted, beneath the lighter and thicker continental crust. This forms what is called a subduction zone. The magma formed at a subduction zone rises toward the Earth's surface and builds up in magma chambers, where it creates volcanoes on the overriding plate. When this magma finds its way to the surface through a vent in the crust, the volcano erupts.

Plate boundaries

A **divergent boundary** is when the plates move apart. A divergent plate boundary often forms a mountain chain known as a ridge. This feature forms as magma escapes into the space between the spreading tectonic plates.

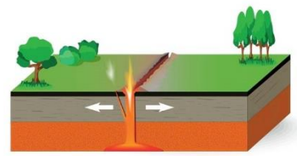
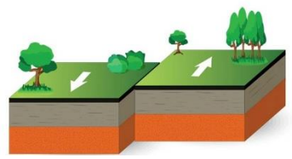
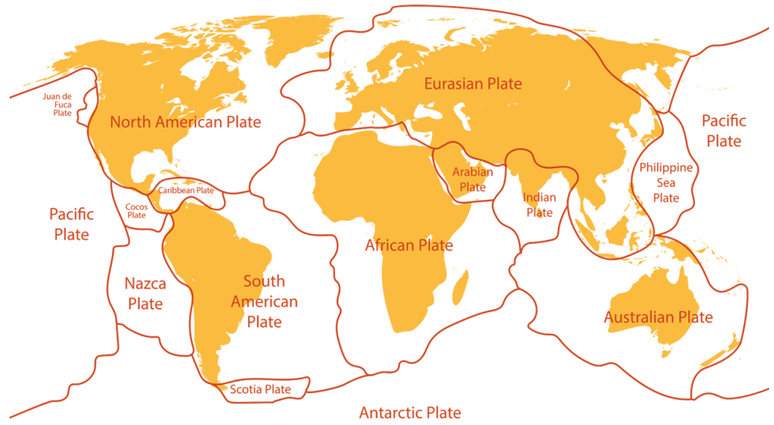


Plate boundaries

A **transform boundary** is when the plates grind past each other along strike-slip faults. These boundaries do not produce spectacular features like mountains or oceans, but enormous amounts of energy can be released in the form of earthquakes.



Tectonic plates



Understanding the movement of the tectonic plates can be a difficult concept for pupils to grasp. Once pupils have a clear understanding of the Earth's layers, they can better understand the plate movements. Modelling each of the movements physically may help pupils to see how the different plate boundaries move and therefore how volcanoes and earthquakes occur. Placing arrows on the map to show the direction they move would also be useful.

Tectonic plates are large pieces of the Earth's lithosphere. They are invisible boundaries. The heat from the mantle makes the rocks at the bottom of lithosphere slightly soft and this causes the plates to move. Most tectonic activity takes place where these plates meet. They collide, tear apart, or slide against each other. The Earth's crust becomes unstable as the plates push against each other, or ride under or over each other. Earthquakes and volcanic eruptions happen at the boundaries between plates, and the crust may 'crumple' to form mountain ranges.

Continental drift

Continental drift is one of the earliest ways geologists thought continents moved over time. This has now been replaced by the science of plate tectonics.

Scientist Alfred Wegener published a paper explaining his theory that the continental landmasses were "drifting" across the Earth, sometimes ploughing through oceans and into each other. He called this movement continental drift. Wegener was convinced that all of Earth's continents were once part of an enormous, single landmass called Pangaea. Pangaea existed about 240 million years ago. By about 200 million years ago, this supercontinent began breaking up. Over millions of years, Pangaea separated into pieces that moved away from one another. These pieces slowly took their positions as the continents we recognise today.

Today, scientists think that several supercontinents like Pangaea have formed and broken up over the course of the Earth's lifespan. These include Pannotia, which formed about 600 million years ago, and Rodinia, which existed more than a billion years ago. The continents are still moving now at a rate of 2.5 centimetres per year so there could be some changes to the continents in the future!

Year 5 - Sculpture and 3D

Installation art

Three dimensional art that aims to transform a particular place.

'Support - Save Venice from drowning' by Lorenzo Quinn. © Frans Sellies Photography. All rights reserved 2022 / Bridgeman Images.

- Often large in scale.
- Location is important.
- Often made using everyday objects in new ways.
- Can be interactive.

atmosphere	The mood of an artwork, for example, mysterious or joyful.
concept	The idea behind an artwork.
location	The place where an artwork is displayed.
performance art	Artwork that is an event rather than an object.
scale	The size of an artwork.
viewer	The people who look at, or visit, your installation.

Cai Guo-Qiang

- Guo-Qiang was born in 1957 in the Fujian Province, China.
- He grew up during China's Cultural Revolution, when explosions were part of everyday life.
- Guo-Qiang took part in demonstrations against political changes.
- He creates sculpture, drawings, installations and performance work.
- His art explores culture, politics and science and sometimes features explosions.

Interactive art

'The Weather Project' by Olafur Eliasson aimed to recreate a sunset using lighting, mirrors and artificial mist.

see hear touch smell