Birchfield PRIMARY SCHOOL

Year 3 Curriculum Overview
Term 2.2

Teaching Team:

Year Group Leader: Miss Rose

Class Teachers: Miss Coughlan and Miss Karim

Teaching Assistant: Miss Sophia

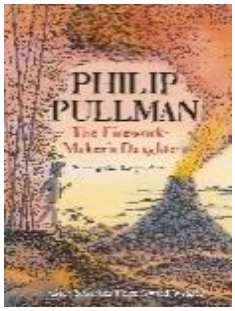
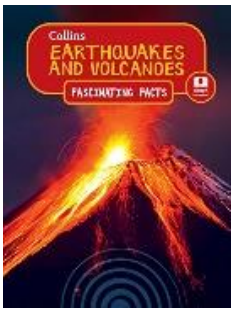
SLT: Miss Saboor

PE: PE lessons are on **Wednesday.**

On these days, children must be wearing their P.E kits. This includes a white t-shirt, black bottoms, and trainers. No jewellery is to be worn on PE days; parents must remove this before bringing their child to school on these days.

Homework: Workbooks and reading books are sent home on Friday to be **returned by Tuesday**.

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

<table>
<tr><th>Enquiry Question</th><th colspan="2">How do earthquakes and volcanoes impact our world?</th></tr>
<tr><td>Significant people</td><td colspan="2"><u>Daniel Azahan,</u> a Malaysian mechanical engineer, celebrated for his pioneering work in robotics and automation. He has a bachelor's in mechanical engineering and a Master's in Robotics, Daniel has spearheaded numerous projects aimed at advancing automation in various industries. His innovative research has garnered national and international recognition, earning him prestigious awards. Beyond his technical contributions, Daniel is also enthusiastic about promoting STEM education in Malaysia. He actively engages in outreach programs to inspire the next generation of engineers. Daniel's dedication continues to shape the landscape of mechanical engineering in Malaysia, inspiring others to strive for excellence.</td></tr>
<tr><td>Class Texts</td><td>The Firework Makers Daughter
by Phillip Pullman
 
</td><td>Collins: Earthquakes and Volcanoes
 
</td></tr>
<tr><td>Reading</td><td colspan="2">In reading, we will be covering three different domains, including giving, or explaining the meaning of words in context, retrieve and record information whilst identifying key details and summarising main ideas from more than one paragraph.
We will be completing these domains through a range of different test techniques including tick boxes, true or false questions and multiple choice.</td></tr>
<tr><td>Writing</td><td colspan="2">In writing, we will be looking at narrative writing focusing on an adventure story and persuasive. We will use our</td></tr>
</table>

	class text 'The Firework Makers Daughter.' as the basis for our writing. The children will use a range of organisational skills and language features including, writing in paragraphs, persuasive language, descriptive language emotive language and direct speech.
Maths	In maths we will be covering the topic of measurement looking and **mass and capacity,** which includes measuring mass in grams, kilograms, capacity, and volume in millilitres. They will also look at equivalent masses and capacity. The children will compare and use addition and subtraction to calculate mass, capacity, and volume.
Science	In Science, the focus this term is **plants**. The children will learn about the anatomy of different plants, which includes looking at pollination, seeds, and seed dispersal.
Geography	The focus for geography this half term is **earthquakes**. We will be focusing on what **causes** an earthquake and how the earthquake **impacts** the rest of the country or surrounding countries.
Art	This half term we are moving to looking at Design and Technology. The focus will teach children about **cam mechanisms**. We will experiment with different shaped cams before designing, making, and evaluating a child's **automaton toy**.
Music	This half term, children will be exploring the song **'The Dragon Song'** and the **pop** music genre. The Children will identify the musical instruments, styling, artists, and songs within the pop genre. They will look at finding the pulse of a song and learning the lyrics to perform the song. The children will also be given the opportunity to further develop their recorder skills by playing along to the song. As well as expanding on their knowledge of musical vocabulary such as pulse, rhythm, pitch, tempo, and dynamics.

Computing	This half term we are looking at **branching databases.** We will develop their understanding of what a branching database is and how to create one. They will use yes/no questions to gain an understanding of what **attributes** are and how to use them to sort groups of objects. We will create physical and on-screen branching databases. To conclude the unit, they will create an identification tool using a branching database, which they will test by using it. They will also consider real-world applications for branching databases.
PSHE	In PSHE, children will be focus on the key question **'What makes a community?'** They will learn about the different communities they belong to and what is meant by a diverse community. They will also discuss the importance of creating a community for everyone.
RE	In RE, the children will be focusing on the dispositions '**Remembering Roots'** and **'Being loyal and steadfast.**' They children will learn and explore how different religions follow these dispositions and what they can learn and take on board to implement into their daily lives.
PE	The children will cover **yoga** and **football** throughout this half term. In **yoga**, pupils will discover how yoga can help them to develop balance, strength, and flexibility. They will learn and explore yoga poses that will challenge each of these. Pupils will also be given the opportunity to work independently and with others to create their own yoga flows with consideration to how the poses are sequenced. In **football**, the pupils will develop their understanding of the attacking and defending principles of invasion games. They will have to think about how they use skills, strategies, and tactics to outwit their opposition by maintaining possession and moving the ball towards goal to score. Pupils will develop their understanding of the importance of fair play and honesty while self-managing games and learning and abiding by key rules, as well as evaluating their own and others' performances.

Knowledge Organiser: Class Text – The Firework Maker's Daughter.

Book Knowledge Organiser - Firework Maker's Daughter by Philip Pullman

Important Information

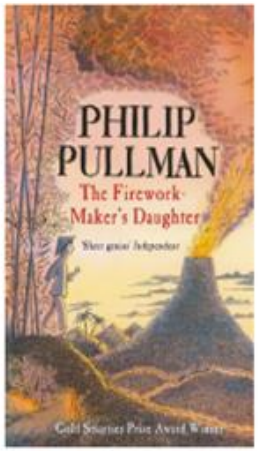
Plot
The book tells the story of Lila disagreeing with her father and making the journey to get Royal Sulphur from Razvani the Fire Fiend at Mount Merapi, as all aspirant firework-makers must do.

Themes
Talent, courage, **resilience**, good fortune, **determination** and **ambition**

Setting
The Firework Makers Daughter is set in Indonesia.

Characters

Lila	The daughter of Lalchand and the main character. She has big dreams of becoming a firework maker.
Lalchand	Lila's father, the firework maker. He believes this is an unsuitable job for girls.
Hamlet	A talking white elephant.
Chulak	The white elephant's carer and Lila's best friend.
Razvani	A fire-fiend who lives in the heart of a volcano.
Rambashi	Leader of pirates, Chulak's uncle and lead singer of *Rambashi's Melody Boys.*
The King	The ruler and owner of the white elephant.
Dr Puffenflasch	A German firework maker.
Signor Scorcini	An Italian firework maker.
Colonel Sam Sparkington	An American firework maker.



Name of Book: Firework Makers Daughter
First Published: 1995
Author: Philip Pullman
Genre: Children's Literature/ Fantasy

Link to Enquiry
The plot of the book leads Lila to Razvani, a great fire fiend who resides in Mt. Merapi (a fictional volcano) in Indonesia

Key Questions/Reflection Points

- How does Lila feel before she embarks on her mission?
- Does Lila believe she could be a firework maker like her father?
- What might have happened if Lila had given up?
- Select descriptive language you like within the story.
- Describe Lila's personality. Explain your reasoning.
- Describe the emotions Lalchand feels throughout the story - Emotion graph.

Key Vocabulary

scrupulous	Something that is done very carefully and with attention to detail.
pyrotechnics	A firework display.
scarcely	Almost never.
swathed	Wrapped in several layers of fabric.
gesticulating	To use dramatic hand gestures.
palanquin	A covered carriage usually carried by four or six servants.
disconsolately	Feeling very unhappy and unable to be cheered up.
sonorous	A deep and loud sound.
Stetson	A cowboy hat.
solemn	Not cheerful or smiling. Very serious.
sarong	A long piece of cloth wrapped around the waist.
procession	A group of people moving in an orderly fashion, especially as part of a ceremony.

Knowledge Organiser: Class Text - Collins: Earthquakes and Volcanoes

Book Knowledge Organiser – Collins: Earthquakes and Volcanoes (Fascinating Facts)

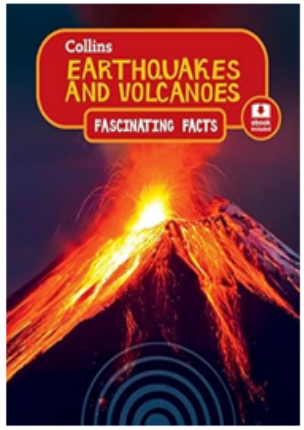
Important Information

Synopsis

With colourful illustrations and regional mapping, children can journey around the world and discover where the biggest dormant volcanoes are and where the biggest earthquakes in history took place. Fascinating facts is a great resource for schoolwork, projects and home learning.

Key Questions/ Reflection Points

- What is a contents page? And what is it used for?
- What is an index page? And what is it used for?
- What is a glossary? And what is it used for?
- What is a volcano?
- What is inside the earth?
- How do caves and volcanoes link?
- What are volcano facts and figures?
- Who are experts about volcanoes?
- What hazards do volcanoes have?



Name of Book: Earthquakes and Volcanoes: Fascinating Facts.

Date Published: 2016

Author: Collins

Genre: Children's Non-Fiction

Link to Enquiry

This book covers information about earthquakes and volcanoes, highlighting how they impact the Earth.

Key Vocabulary

Core	The core is at the centre of the Earth. There is a solid inner core and outer liquid core of molten metal.
Crater	The mouth of a volcano.
Crust	The surface layer covering our planet.
Earthquake	A violent movement of parts of the Earth's surface.
Epicentre	The point on the Earth's surface at the centre of an Earthquake.
Erupt	To suddenly burst out causing lava to explode out of the earth's surface.
Lava	Molten, hot rock flowing from a volcano.
Molten	Hot, melted rocks
Magma	Extremely hot, liquid rock.
Seismic waves	An elastic wave in the earth produced by an earthquake or other means.
Tectonic Plates	The earth's crust is made up of large areas called tectonic plates that join together.
Volcano	An opening or rupture in the Earth's crust through which lava, ash and gases escape.

Knowledge Organiser: Maths – Length and Perimeter

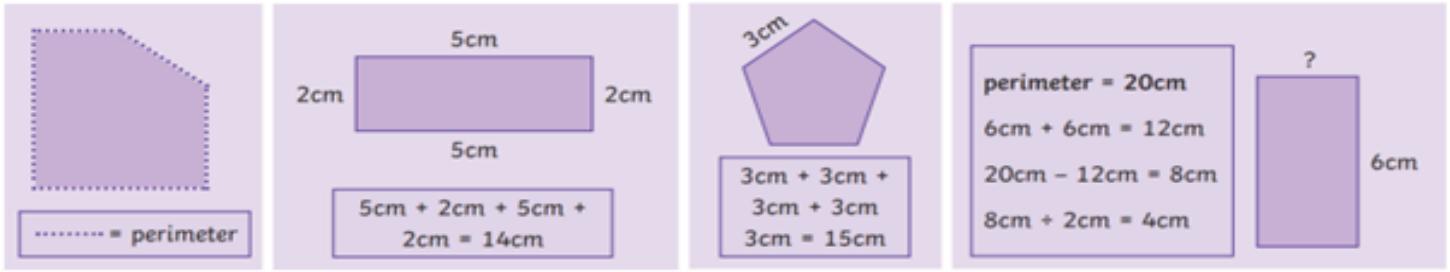
Birchfield PRIMARY SCHOOL

Length & Perimeter

Key Vocabulary

metre (m)
centimetre (cm)
millimetre (mm)
height
length
width
perimeter
further/furthest
higher/highest
longer/longest
shorter/shortest

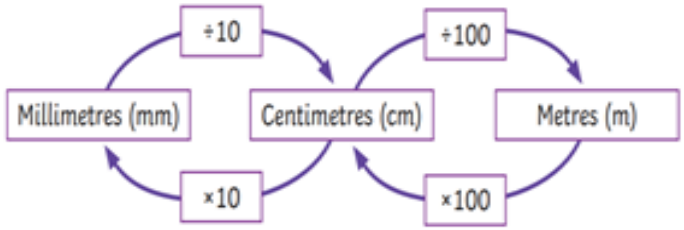
Perimeter



Perimeter

100 centimetres = 1 metre

10 millimetres = 1 centimetre



317cm	
300cm	17cm
3m	17cm
3m 17cm	

Add and Subtract Lengths

14cm + 19cm = 33cm
8cm 2mm + 16mm = 98mm or 9cm 8mm

?	
8cm 2mm	16mm
82mm	16mm

6m – 2m 28cm
6m – 2m = 4m
4m – 28cm = 3m 72cm

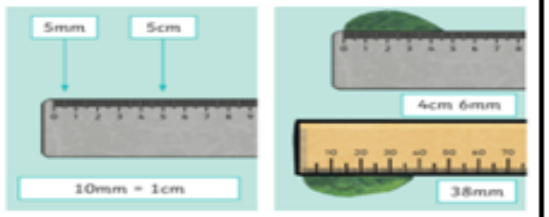
6m	
2m 28cm	?

Comparing Lengths

6mm < 6cm
6cm = 60mm
6mm is shorter than 6cm

320cm > 2m 6cm
320cm > 200cm + 60cm
320cm is longer than 2m 60cm

Measure Lengths



Knowledge Organiser: Maths – Mass & Capacity

Mass and Capacity — Knowledge Organiser

Mass and Capacity

Key Vocabulary

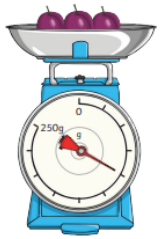
- mass
- gram
- kilogram
- capacity
- volume
- millilitre
- litre
- lighter
- heavier

Measure and Compare Mass

Scales can be used to measure grams.

A gram is a unit of measurement that is used to measure the mass of something.

Grams can be written as **g**.



To compare mass, we can use the words 'heavier' and 'lighter'.

Scales can be used to measure kilograms.

A kilogram is a unit of measurement that is greater than a gram. It is also used to measure the mass of something.

Kilograms can be written as **kg**.

1000g = 1kg

6kg and 300g > 3kg and 600g
1/2kg = 500g

Measure and Compare Capacity

Capacity is the amount of liquid a container can hold.

Volume is how much liquid is in the container.

Measuring cylinders can be used to measure smaller volumes.

Smaller volumes are measured in millilitres.

Millilitres can be written as ml.

Measuring jugs can be used to measure larger volumes.

Greater volumes are measured in litres.

Litres can be written as l.

1000ml = 1l

200ml < 1/4l
2l and 400ml = 2,400ml

To compare capacities, we can use the word 'full'.

Add and Subtract Mass

600g + 500g = 1100g = **1kg 100g**

1kg - 300g = 1000g - 300g = **700g**

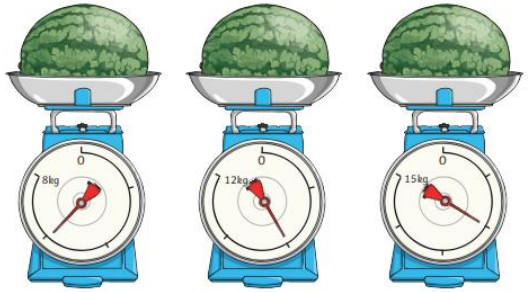
Add and Subtract Capacities

800ml + 400ml = 1200ml = **1l 200ml**

1l 300ml – 200ml = **1l 100ml**

Mass

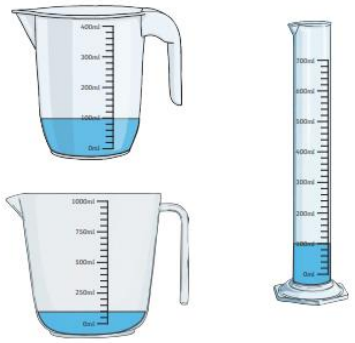
Each of the melons has a mass of 6kg but the arrows are all pointing at different points on the scales. This is because each of the measuring scales have different increments marked on them.



Always look carefully at how the numbers on the scales increase when reading a measurement.

Capacity

Measuring containers all have different capacities.



Each of these containers contain the same volume of 100 millilitres but have different capacities and scales. Always look carefully at how the numbers on the scales increase when reading a measurement.

Knowledge Organiser: Science – Plants

Plant Nutrition and Reproduction

Life cycle of a plant

There are four stages in the life cycle of a plant.

Seed

A seed contains a tiny new plant and a food store in a protective seed coat. Germination is the process of a plant beginning to grow from a seed.

Seedling

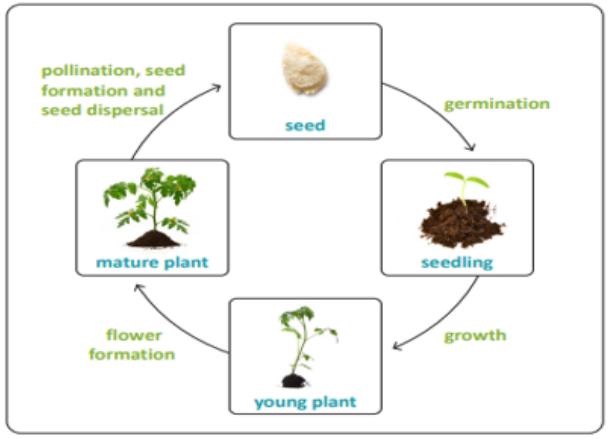
If a seedling has sunlight, nutrients, warmth, water and is protected from strong winds and heavy rain, it goes through a process of growth to form a young plant.

Young plant

As a young plant grows and matures, it begins the process of flower formation and buds form.

Mature plant

When a flowering plant has matured, pollen is moved from the stamens of one flower to the carpel of another during pollination. Seed formation then occurs in the carpel. Seeds are moved away from the parent plant during a process called seed dispersal.



Pollination

Pollination is the process where pollen is transferred from the male anther at the top of the stamen to the female carpel of another flower.

Flowering plants can be pollinated by insects, such as bees. The pollen sticks to an insect as it drinks nectar from a flower. The pollen on the insect then lands on the stigma at the top of the carpel of another flower. It travels down into the carpel to make seeds. Wind can also disperse the pollen of some flowering plants.

Seed dispersal

Seeds are moved away from the parent plant so that new plants do not have to compete for sunlight and water. This process is called seed dispersal. Seeds are dispersed in different ways.

Wind

Seeds dispersed by the wind are usually small and light so they can be carried in the air.

Animals

Seeds formed in fruits are eaten by animals, which are dispersed through their droppings. Some seeds hook onto animals when they brush past a plant. Others are buried by animals.

Explosion

Some seeds are dispersed by explosion. The seeds develop inside a seed pod, which bursts open and fires the seeds into the air.

Water

Seeds dispersed by water can be small and light or contain air so that they float.

Varying needs of plants

Most plants take in water and nutrients from soil. However, **orchids** live high up on rainforest plants. Their roots don't reach the soil, so they take in water and nutrients from the moist, tropical air.

Most plants need a regular supply of water, but **cacti** thrive in dry places with little rainfall. Their stems swell and store water when it is available to use in times of drought.

Many plants need sunny conditions to survive but the **hart's tongue fern** thrives in the shade. Its leaves are broad and thin to capture as much sunlight as possible.

Glossary

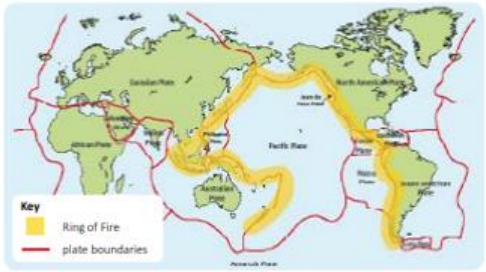
anther	A male part of a flower where pollen grains are made.
pollinator	An animal that transfers pollen for the process of pollination.
stamen	A flower's male reproductive organ consisting of an anther and filament.
stigma	A female part of a flower .
vessel	A tube that transports liquids.

Knowledge Organiser: Geography

Rocks, Relics and Rumbles: Earthquakes

Plate tectonics

The tectonic plates that make up the Earth's crust float on top of the mantle and are constantly moving. The places where tectonic plates meet are called plate boundaries. Tectonic plates can push together, pull apart or slide against each other. This movement at the plate boundaries can cause volcanic eruptions, earthquakes and tsunamis.



Earth's tectonic plates

Volcanoes

Volcanoes are mountains or hills with vents at the top through which lava, gases and ash erupt. There are four different types of volcano. These are shield, stratovolcano, cinder cone and lava dome. Volcanoes are classed as active, dormant or extinct. Active volcanoes are likely to erupt again. Dormant volcanoes might erupt again in the future. Extinct volcanoes will not erupt again.

Earthquakes

An earthquake is the sudden, violent shaking of the ground. As the Earth's tectonic plates try to move past each other at plate boundaries they can get stuck. The pressure builds up so that when the plates eventually slip, a huge amount of energy is released causing an earthquake. Earthquakes can cause a lot of damage, especially to buildings and roads.

earthquake damage

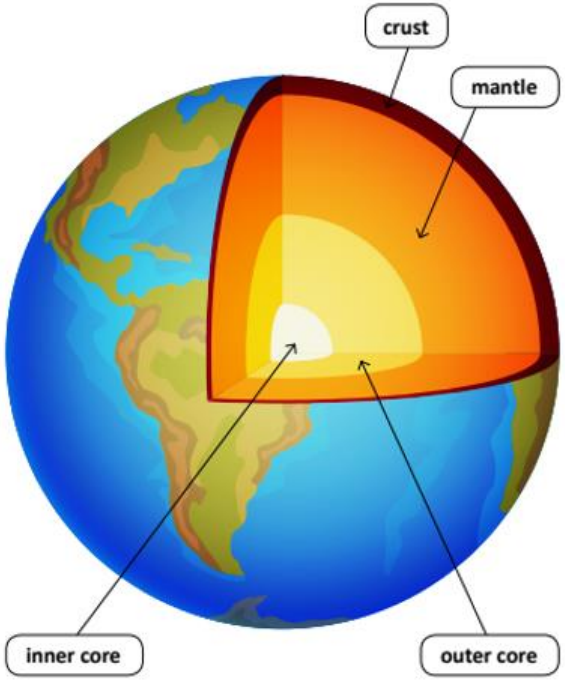
Tsunamis

A tsunami is a series of waves caused by a volcanic eruption or earthquake under the sea. As the waves near the shore, they become larger and can travel a long way inland, causing a huge amount of damage to buildings, belongings and people.

tsunami damage

Structure of Earth

Earth is made up of four layers. These are the crust, mantle, outer core and inner core. The crust is a thin layer of rock on the surface that is broken into large pieces called tectonic plates. The mantle is made up of molten and semi-molten rock called magma. The outer core is a liquid layer of metal. The inner core is solid metal, and the hottest part of the Earth.



Knowledge Organiser: DT

Making It Move!

Making it Move

Different mechanical systems can be used to make an object move. The parts of a machine that create movement are called mechanisms. Mechanisms include sliders, levers, linkages, wheels, axles and cams.

Sliders

Sliders move from side to side or up and down.

Bolts use a slider mechanism.

Levers

Levers consist of a rigid bar that rotates around a fixed point called a fulcrum or pivot.

A seesaw is an example of a lever mechanism.

Linkages

Linkages combine the slider and lever mechanisms. They are made from bars joined with pivots.

A scissor lift uses a linkage mechanism.

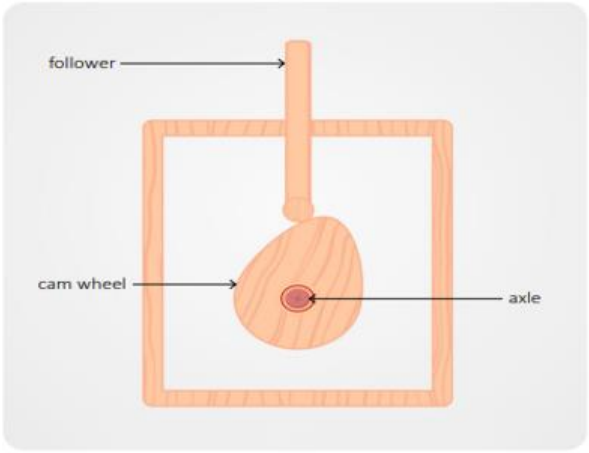
Wheels and axles

Axles are rods which allow wheels to rotate to help a vehicle move easily.

Wheels and axles are used on cars and pull-along carts.

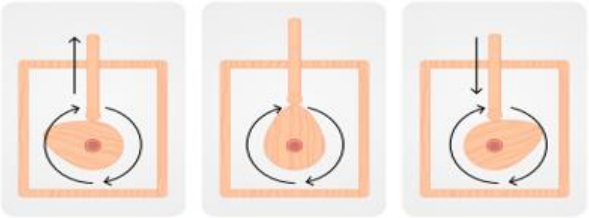
Cam mechanism

A cam mechanism is used to change rotational movement into up and down movement. It consists of three parts: a cam wheel, an axle and a follower.



Movement created by a cam

When the axle turns, the cam wheel rotates. This makes the follower that rests on the cam wheel move up and down, following the shape of the wheel's edge.



Different-shaped cams

Cam wheels come in different shapes to do particular jobs. Each shape makes the follower move up and down in a different pattern. Some are used to open and close valves in engines, and others allow carousel horses to move up and down.

circular cam | heart cam | snail cam

Automata

Automata are mechanical objects or models that can be relatively self-operating. They often contain a range of cam mechanisms that create movement.

The Silver Swan automaton, Bowes Museum, Barnard Castle

Glossary

follower	Part of a mechanism that follows the movement of another part.
mechanism	A system of parts that work together in a machine.

Home Learning and Useful Links:

This half term our school value will be **'Curiosity.'** Please discuss what this means with your child.

Please talk to your children about the information contained within the Curriculum Overview and the Knowledge Organisers, as they contain information that is crucial to aiding their understanding of topics that we will be covering in class.

Please ensure that your child reads to an adult at home every day. We would like an adult to make a comment in the reading diary. Please return the reading books by **Wednesday** so they can be changed.

We highly recommend that children practice their times tables daily to increase fluency.

Useful Links:

Reading:
Oxford Owl for School and Home

Reading and comprehension - English - Learning with BBC Bitesize - BBC Bitesize

Books for Year 3 children aged 7-8 | School Reading List

Writing:
Year 3 English - BBC Bitesize

Writing in Year 3 (age 7–8) - Oxford Owl for Home

Spelling and Grammar, English Games for 7-11 Years - Topmarks

Maths:
Year 3 Maths Curriculum Toolkit | 7 & 8 Year Olds | Home Learning (thirdspacelearning.com)

YEAR 3 MATHS - Topmarks Search
IXL - Year 3 maths practice

Times Table Rockstars

Multiplication Check Practice

Science:
Moving on different surfaces - BBC Bitesize

What do plants need? - BBC Bitesize

The structure of plants - BBC Bitesize

Geography:
What are latitude and longitude? - BBC Bitesize

What are volcanoes? - BBC Bitesize

What are earthquakes? - BBC Bitesize