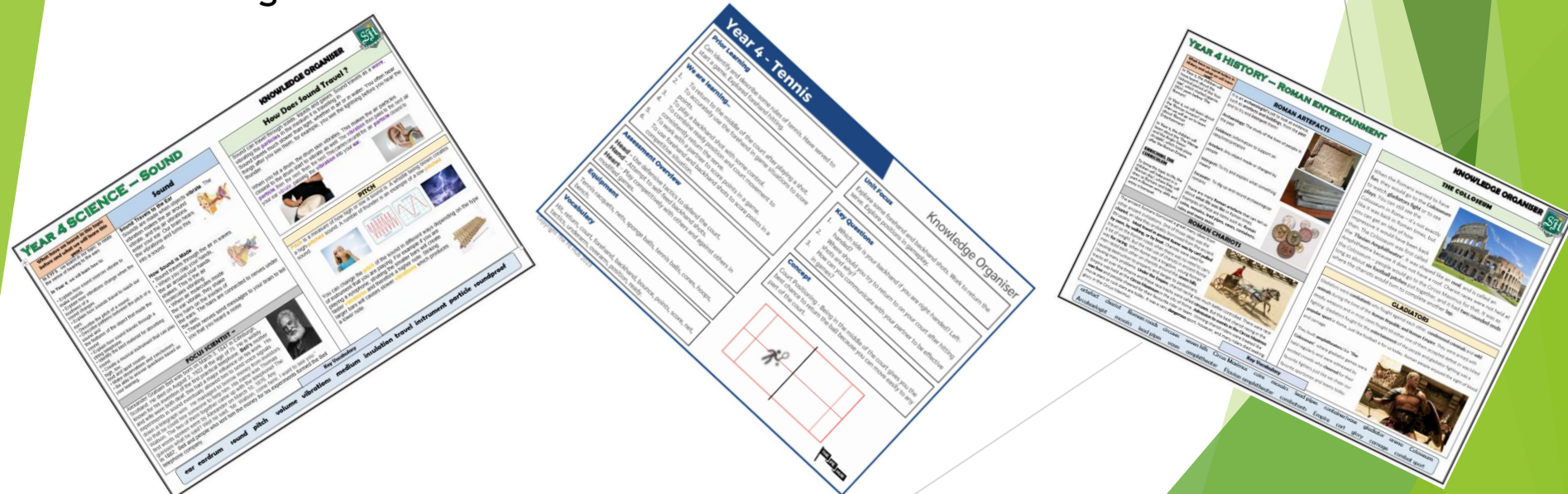


Year Knowledge Organisers



At South Hill, we have created 'Knowledge Organisers' to help pupils and parents to know what the children will be learning in each of our Foundation subjects. These contain essential vocabulary and facts for each topic.

Please see 'Knowledge Organisers' attached for Year 5 for the autumn term, which will also be in pupil's books and on working walls in school.



YEAR 5 SCIENCE – PROPERTIES AND CHANGES OF MATERIALS KNOWLEDGE ORGANISER



What have we learnt in this topic before, what we will learn this year and what will we learn next?

Everyday Materials (Objects and materials)

- To distinguish between an object and the material from which it is made
- To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- Describe the simple physical properties of a variety of everyday materials
- Compare and group together a variety of everyday materials on the basis of their simple physical properties
- Our Focus Scientist was **Charles Macintosh – Waterproof fabrics**

In Year 2, we learnt in our topic:

Uses of everyday materials (Materials for different uses)

- To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching
- Our Focus Scientist was **John McAdam-building roads**

In Year 5, we will develop this further and learn about:

- To compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
- To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
- To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
- To demonstrate that dissolving, mixing and changes of state are reversible changes
- Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.
- Our Focus Scientist is **Ruth Benerito – wash and wear cotton fabrics**

CLASSIFYING MATERIALS

Different materials are used for particular jobs based on the properties they have.

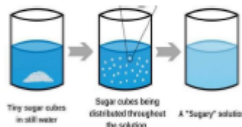
Conductor – A conductor is a material that allows heat or electricity to easily pass through it. Most metals are thermal conductors (conduct heat) and electrical conductors.

Insulator – An insulator is a material that does not allow heat or electricity to easily travel through it. Woods and plastics are both thermal and electrical insulators.

Soluble – Materials that dissolve when introduced to water.

Insoluble – Materials that do not dissolve when introduced to water.

Transparent – A material that allows light to pass through it.



FOCUS SCIENTIST – RUTH BENERITO – WASH AND WEAR COTTON FABRICS



Ruth Benerito was an American chemist. She is best known for developing wrinkle-free cotton fabric. Benerito also invented a fat mixture that could provide nutrients through the veins of patients who could not eat. In 1986, Benerito retired from the USDA. She received 55 patents while working there. A patent is an official document that gives an inventor control over who may use their invention. In 2008, Benerito was inducted into the National Inventors Hall of Fame. She died on October 5, 2013, in Metairie, Louisiana.

Key Vocabulary

melt freeze evaporate transparent insulator cooling condensation evaporation solids liquids gases conductor reversible process

CHANGES OF STATE

Dissolving

Some substances dissolve when you mix them with water. When a substance dissolves, it might look like it has disappeared, but in fact it has just mixed with the water to make a transparent (see-through) liquid called a solution.

Substances that dissolve in water are called soluble substances. When you mix sugar with water, the sugar dissolves to make a transparent solution. Salt is soluble in water too.

Mixtures

A mixture is the result of combining two or more substances, in which they do not change their physical state and no chemical reaction takes place. These mixtures are reversible as the substances included in the mixture can be separated without great levels of difficulty.

Creating a mixture of two or more objects may involve sand and water (suspension) or pasta and paperclips (mixture).

Changes of State

A reversible change of state refers to any form of process that can be undone.

For example, when ice melts to water it goes from being a solid to a liquid. If you were to continue heating the liquid, it would once again change state to a gas.

The original ice cube could be restored once the water was collected by the process of evaporation and frozen again.

Therefore the state of a substance is interchangeable between a solid, liquid or gas.

FORMATION OF NEW MATERIALS

When substances create a new material through chemical change, it is irreversible. A change is called irreversible if it cannot be changed back to its original state.

Heating

Heating can cause an irreversible change. For example, you heat a raw egg to cook it. The cooked egg cannot be changed back to a raw egg again.

Mixing

Mixing substances can cause an irreversible change. For example, when vinegar (an acid) and bicarbonate of soda are mixed, the mixture changes and lots of bubbles of carbon dioxide are made. These bubbles and the liquid mixture left behind, cannot be turned back into vinegar and bicarbonate of soda again.

Burning

Burning is an example of an irreversible change.

When you burn wood, you get ash and smoke. You cannot change the ash and smoke back to wood again.

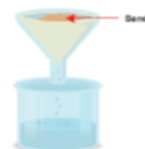
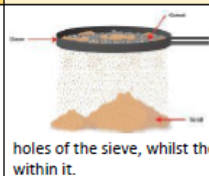


SEPARATING MIXTURES

SIEVING – a mixture of different sized solid particles can be separated with a sieve. The particles small enough fall through the holes of the sieve, whilst the largest particles remain within it.

FILTERING – an insoluble solid can be separated from a liquid when passed through a filter. The liquid passes through and the solid particles are trapped on the filter.

EVAPORATING – if a solution is boiled (heated) the water will evaporate into gas and the solid will be left behind.



YEAR 5 SCIENCE – EARTH AND SPACE

KNOWLEDGE ORGANISER



What have we learnt in this topic before and what we will learn this year?

In EYFS and Year 1 we learnt about Seasonal Changes.

In year 5 we will learn:

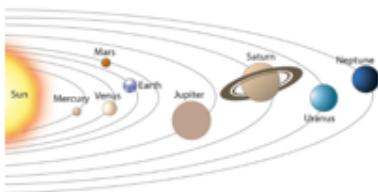
Earth and Space

(solar system and movement)

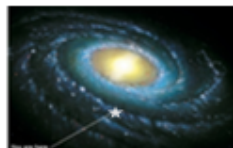
- describe the movement of the Earth, and other planets, relative to the Sun in the solar system
- describe the movement of the Moon relative to the Earth
- describe the Sun, Earth and Moon as approximately spherical bodies
- use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

THE SOLAR SYSTEM

The Sun is a star at the centre of our Solar System. Orbiting the Sun are eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. (My Very Easy Method Just Speeds Up Naming Planets)



Rocky planets: Four closest planets to the sun are mostly made of rock and metal.
Gas giants: The four farthest planets.



The Solar System consists of the Sun and all astronomical bodies that orbit it. This includes the eight planets, numerous dwarf planets, asteroids, comets and other satellites. There are billions of systems of stars and planets. Together these form galaxies. Our galaxy, which contains at least 100 billion stars, is a spiral-shaped galaxy called the Milky Way.

FOCUS SCIENTIST – PTOLEMY AND COPERNICUS

Claudius Ptolemy – The Geocentric model (100 – 186AD)

Ptolemy's theory placed the Earth at the centre of the universe. It was believed that the Moon was orbiting on a sphere closest to the Earth, followed by Mercury, then Venus and then the Sun. Beyond the Sun were a further three spheres on which Mars, then Jupiter and then Saturn orbited the Earth. Finally, the outmost sphere was where all the stars were located.

Nicholas Copernicus – The Heliocentric model (1473-1543)

This placed the sun at the centre of the universe and the planets orbiting around the sun. The moon is the only celestial object that revolves around the earth.

THE SUN

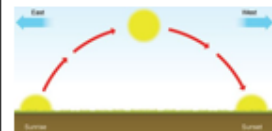
Our Sun is a star. It is no different from the other stars we see in the night sky, but it is a lot closer. A star is a massive ball of extremely hot, luminous gas (plasma) that is held together by its own gravity.

It is not safe to look directly at the Sun, even when wearing dark glasses.

Planets nearer to the Sun take less time to go around it than those further away.

One year on Mercury is 88 Earth days. One year on Neptune is 165 Earth years.

The sun rises in the East and sets in the West. It is at its strongest at midday.

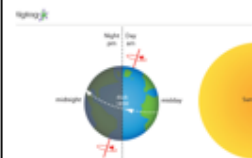


THE EARTH

The Earth is the fourth planet from the sun. It is a rocky planet.

It takes the Earth 365 days (1 year) to orbit the Sun.

The Earth rotates on its axis, taking 24 hours (one day) to make one complete rotation. The half of the Earth that faces the Sun experiences daytime, while the half that faces away from the Sun experiences night.



THE MOON

A moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).

The changing shapes that the Moon appears to take are called phases. A complete cycle of phases is known as a lunar month. The Moon takes approximately 29.5 days to make a complete orbit of the Earth. As the Moon orbits, light from the Sun is reflected by the Moon's surface.

When the Sun, Earth and Moon are in approximate alignment, we see a full moon. This is because the side of the Moon reflecting sunlight is facing us.

As the Moon rotates and orbits the Earth, its entire surface gets an equal amount of sunlight and darkness. There is a far side of the Moon that we never see from Earth. The Moon travels in its orbit with the same side always pointing towards the Earth.

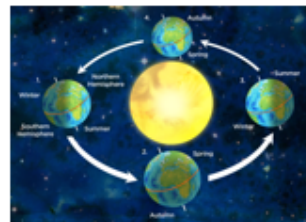


SEASONS

The seasons are caused by the tilt of the Earth on its axis. This causes the North and South Poles to be angled towards or away from the Sun at different times of the year.

Close to the equator, the tilt is not very noticeable, so the weather doesn't change very much and there is little difference between the seasons.

When a hemisphere is tilted away from the Sun, the sunlight there is less intense and it is winter. When a hemisphere is tilted towards the Sun, the sunlight there is more intense and it is summer.



Key Vocabulary

Asteroid
Ptolemy

Comet
Copernicus

Dwarf Planet
Geocentric

Galaxy

Light Year
Heliocentric

Satellite
Revolves

Star
Phases

Sun
Rotates

Universe
Axis

Solar System
Celestial body

Plasma
Orbit

YEAR 5 HISTORY – VIKINGS AND THE ANGLO-SAXONS

KNOWLEDGE ORGANISER



What have we learnt in this topic before and what we will learn this year?

In Year 3, we learnt about the 'Stone Age to the Iron Age' and also the 'Ancient Egyptians'.

In Year 4, we then learnt about the Romans. These were all periods of time that preceded the Viking and Anglo-Saxon era.

This year we will be learning about the change of power within Britain from the Anglo-Saxon reign to the invasion of the Vikings.

ENRICHING THE CURRICULUM

To bring this unit to life, we visit the Chiltern Open Air Museum to spend some time recreating life in the Viking period.



Timeline

AD 793

The Vikings attack from Norway. They attack the Monastery of Lindisfarne in Northumbria. The following year they attack northern Britain, in what we now call Scotland.

AD 866

The Vikings capture the city of York and by 878 they had settled permanently in England, overrun Wessex and forced King Alfred into hiding.

AD 871

Alfred the Great becomes King of Wessex. He drives the invading Vikings from the south but they stay in the north and the east.

AD 886

King Alfred agrees to a treaty with the Vikings. Alfred keeps the west & the Vikings are given the east which is later known as 'Danelaw'.

AD 954

The last Viking King of Jorvik (York), Eric Bloodaxe, is forced out of York.

AD 1013

King Sven of Denmark and his son Cnut sail up the rivers Humber and Trent to claim the throne in Danelaw and the Saxon King (Ethelred) flees abroad. A year later Cnut becomes the King of the Danes and King of England.

AD 1042

Edward II is invited to return from Normandy to become the King of England. Edward II was better known as 'Edward the Confessor' due to his extreme piety.

AD 1066

The last Anglo-Saxon king, King Harold, is defeated by William the Conqueror at the battle of Hastings and Norman Britain begins.

LINDISFARNE MONASTERY

Lindisfarne, also known as Holy Island, was one of the first landing sites of the Vikings. Monasteries were places where monks lived and worshipped. Most people respected the monks and gave them money and gifts for their monasteries; however, the Vikings committed terrible violence against the Monks at Lindisfarne.

BATTLE OF HASTINGS

It might have taken place 950 years ago, but the Battle of Hastings remains one of the most famous battles in English history.

The bloody battle took place on the 14 October 1066. It was fought between William of Normandy and King Harold – the King of England – and it was the English throne that was at stake.

The Normans were victorious, beating the Anglo-Saxons (the English to you and me). King Harold was killed and William of Normandy became King. Norman language and culture then began to influence the country and changed the future of England.

LIFE BEFORE THE VIKINGS INVADED

Growing up in an Anglo-Saxon village

Anglo-Saxon children had to grow up very quickly. By the time they were ten, they were seen as an adult. They had to work as hard as any adult and would be punished as adults if they stole or broke the law. Girls worked in the home. They were in charge of housekeeping, weaving cloth, cooking meals, making cheese and brewing ale. Boys learned the skills of their fathers. They learned to chop down trees with an axe, plough a field, and use a spear in battle.

They also fished and went hunting with other men from the village. Only a few girls and boys learned to read and write. The sons of kings or wealthy families might be taught at home by a private teacher. The only schools were run by the Christian church, in monasteries. Some children lived there to train as monks and nuns.

What jobs did the Anglo-Saxons do?

Life on an Anglo-Saxon farm was hard work. All the family had to help out - men, women and children. Men cut down trees to clear land for ploughing and to sow crops. Farmers used oxen to pull ploughs up and down long strip fields. Children with dogs herded cattle and sheep. The Anglo-Saxons were great craftsmen too. Metalworkers made iron tools, knives and swords.

The Anglo-Saxons were skilled jewellers, who made beautiful brooches, beads and ornaments from gold, gemstones and glass. The Anglo-Saxons had armies, but their soldiers didn't fight all the time. After a battle, they went home as soon as they could and looked after their animals and crops.

LIFE AFTER THE VIKINGS INVADED

The Vikings were not all bloodthirsty raiders. Some came to fight, but others came to Britain to live peacefully. Their longships brought families who settled in villages. There were farmers, who kept animals and grew crops, and skilled craft workers, who made beautiful metalwork and wooden carvings. Everyone lived together in a large home called a longhouse. The Vikings also brought with them their way of life and beliefs. The Norse people worshipped many gods and loved to tell stories of magic and monsters about the fire.

What jobs did Vikings do?

Many Vikings worked as farmers. Everything had to be done by hand on a Viking farm, so life was tough. Farmers grew oats, barley and wheat. Then they ground the grain to make flour, porridge and ale. They planted vegetables too, and kept animals like cows, sheep, pigs and chickens. Other Vikings were craft workers. They made the things that people needed. Woodworkers and leatherworkers made plates, cups, belts and shoes. Jewellers made rings and brooches from precious metals. Blacksmiths hammered and heated red-hot iron into tools, knives and swords. Potters baked clay pots in an oven heated by wood fire. People took these goods to market to sell. Here, a family could buy anything from amber beads and apples, to walrus tusks and wolf-skins. Viking traders sold their goods even further away. They sailed the seas to buy silver, silk, spices and furs to bring back home.

Where did Vikings live?

Many Viking families lived together in a longhouse. This was built from wood or stone and had a thatched or turf roof on top. With just one room for all the family to share with their animals, a longhouse would have been a crowded and smelly place to live. There was no bathroom inside, but the Vikings kept clean by washing in a wooden bucket or basins a stream. Instead of toilets, people used a cesspit, which was a hole outside dug for toilet waste.

What was Viking society like?

At the top of Viking society was the king. He was the most powerful person in all the land and everyone looked up to him. Being a king cost a lot of money, because they had to make sure their kingdom was safe and that their followers were loyal to them. Below the king were the nobles or wealthy Vikings known as jarls. They were rich landowners or traders and they employed men to work for them. Then there were the Karls. They were the everyday people and did jobs like farming and craft work. Karls weren't as rich or important as the jarls, but they weren't poor either. At the bottom of the pile were the thralls or slaves. They did the hardest, dirtiest jobs and if they tried to run away they could be killed. However, if thralls could earn enough money they could buy their freedom.

KING ALFRED THE GREAT

Alfred the Great (849-899) was the most famous of the Anglo-Saxon kings. Despite overwhelming odds he successfully defended his kingdom, Wessex, against the Vikings. He also introduced wide-ranging reforms including defence measures, reform of the law and of coinage.

He was a keen champion of education and translated important texts from Latin into English.

Known as a just and fair ruler, Alfred is the only English King to have earned the title 'the Great'.

Top 5 Facts

- He had four older brothers who all ruled as king before he did.
- By 870 Northumbria, East Angles and Mercia had all fallen to the Vikings. Wessex was the only Anglo-Saxon kingdom to hold out against the Vikings.
- In 870 Alfred and his brother Aethelred fought nine battles against the Vikings.
- In 879 Alfred won a decisive victory against the Vikings at Edington.
- Alfred believed that all free born English boys should receive an education and he set up a school at his court to educate his sons, as well as those of the nobles and

EDWARD THE CONFESSOR

Edward the Confessor was an Anglo-Saxon King of England. He was the last king from the House of Wessex. Edward was a stepson of Canute the Great and after the death of his half brother Harthacnut, the son of Canute, he briefly resumed the rule of House of Wessex. He is remembered as a pious ruler who was resourceful and energetic.

He successfully defended his kingdom against invaders but after his death, his successor Harold Godwinson was unable to withstand a ruthless Norman conquest and within months England had fallen to the hands of William the Conqueror. Almost a hundred years after his death, Edward the Confessor was canonized by Pope Alexander III. He remained patron saint of England till 1350, when King Edward III approved Saint George as the patron saint of England.

Top 5 Facts

- Edward was the son of King Ethelred the Unready and his wife Queen Emma. He had a brother, Alfred, and a sister, Godgifu, and many half-brothers.
- In 1013 the Danes invaded England and Edward and his family escaped to Normandy. His mother, Emma, was a Norman and daughter of the Duke of Normandy.
- Edward spent almost twenty-five years in Normandy and when he became king many of his closest advisors were Normans.
- Although Edward was the King of England, much of the power rested in the hands of three Saxon Earls: Leofric of Mercia, Siward of Northumbria and Godwin of Wessex.
- Edward disliked the most powerful of the Earls, Earl Godwin, because of the role Godwin had played in the death of Edward's brother Alfred.

WILLIAM THE CONQUEROR

The King of England, Edward the Confessor, died in 1066. He did not leave any heirs to the throne, but William was related to the king through Edward's uncle, Richard I. William also claimed that Edward had promised him the crown. However, there were other men who also claimed the crown of England. One of them was the most powerful noble in England at the time, Harold Godwinson.

The people of England wanted Harold to be king and crowned him King Harold II on January 6, 1066, the day after King Edward died. Another man who claimed the English throne was King Harald of Norway. When King Harald of Norway invaded England and King Harold II went to meet him in battle, William saw his chance. He gathered an army and crossed the English Channel making camp near the city of Hastings.

After King Harold II defeated the Norwegian invaders, he turned south to face William. William, however, was ready for battle. William had brought archers and heavily armored cavalry called knights. Harold's foot soldiers were no match for William's forces and William won the battle and King Harold II was killed by an arrow.

William continued to march across England and eventually captured the city of London. Shortly after, on December 25, 1066, William was crowned King of England.

Key Vocabulary

- Viking
- Lindisfarne
- Anglo-Saxon
- Longboat
- Axe
- Shield
- Scandinavia
- Denmark
- York
- Monastery
- Danelaw

YEAR 5 GEOGRAPHY – MAPS AND FIELDWORK

KNOWLEDGE ORGANISER



What have we learnt before in Geography and what we will learn next?

In Year 1, through the topic 'Where in the world do we live?' we learnt about where we live and began to use atlases and maps to identify countries and Cities in the UK.

In Year 2, in the topic 'Where in the world?' we looked at a map of the world and learnt about where different countries and continents are located in the world.

In Year 3 we develop our key map skills by looking at OS maps, keys, map symbols, grid references and compass directions.

In Year 5, we will develop our map skills by looking at Ordnance Survey Maps in more detail and looking at land use.

WHAT IS FIELDWORK?

Fieldwork is when you go outside the classroom and try to find things out for yourself.

When carrying out fieldwork, you will need to:

- Observe a particular topic
- Plan a way to measure or record the data
- Question different ideas and theories
- Research information about a particular area of study
- Collect and record data to back up your research
- Stay safe if it means working outside.
- Present your findings to conclude your study

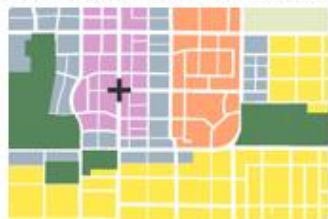


LAND USE

Land use is when an area is used for a specific purpose to meet the wants and needs of people. The land may be used as it naturally exists, like using a lake for swimming and boating. Or, the land may be changed so that it can be used for another specific purpose, such as a hole being blasted into the side of a mountain so railroad tracks can be laid for trains to pass through.

There are five main types of land use:

- Residential
- Agricultural
- Recreational
- Transportation
- Commercial



Key Vocabulary

SOURCES OF INFORMATION

Information can be found in both **primary** and **secondary** sources.

Fieldwork involves collecting **primary** sources of information. Primary sources of information are things that were collected at the time, and include: photographs, diaries and videos.



A secondary source is information represented in: magazine, textbooks, atlases or websites. They are secondary because someone else has gathered the information.

When we compare our local area to that of somewhere else in the world, we rely on secondary sources to help educate us.

HUMAN AND PHYSICAL GEOGRAPHY

Human geography focuses on where people live, what they do, and how they use the land. Human geographers might study why cities and towns develop in certain places. Others study the cultures of different peoples, including their customs, languages, and religions.

We will look at our local area and the way humans have affected the land over time.

Physical geography is the study of the Earth's natural features, such as mountains, rivers, deserts and oceans. In physical geography, landforms and how they change are studied, as well as climate and its effects.

How does the physical geography of one country differ from another country?

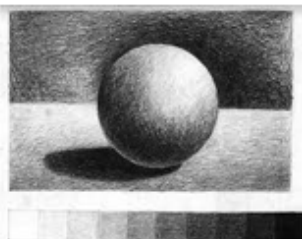




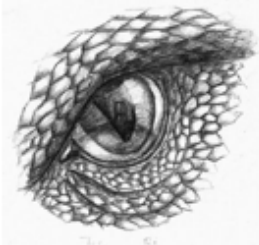
Map Report	Land Use	Symbols	Scale	Commercial	Key	Residential	Physical	Human Features	Comparison
		Climate	Economy	Agriculture	Residential	Recreation	Comparative	Fieldwork	Observe

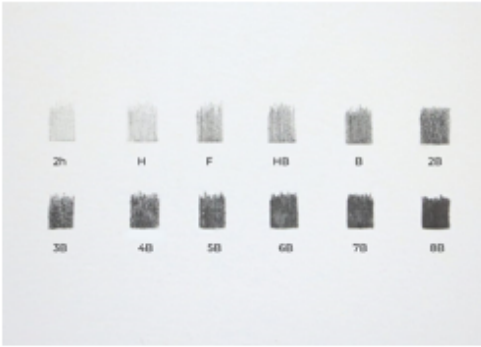
YEAR 5 ART – SKETCHING

KNOWLEDGE ORGANISER



What have we learnt before in Art and what we will learn next?	USING TONE
<p>In Year 3, we sketched images to show facial expressions in drawing and learnt to use different grades of pencil to shade, to show different tones and textures.</p> <p>In Year 5, we will identify and draw simple objects, and use marks and lines to produce texture, use shading to create mood and feeling and organise line, tone, shape and colour to represent figures and forms in movement.</p> <p>In Year 6, we will then use our sketches to communicate emotions and a sense of self, explain why we have combined different tools to create a drawing and explain why we have chosen specific drawing techniques.</p>	<p>In Art, tone refers to how light or dark something is. Tones could refer to black, white and the grey tones between. It could refer to how light or dark a colour appears.</p>  <p>In real life, tone is created by the way light falls on an object.</p> <p>The parts of the object on which the light is strongest are called highlights and the darker areas are called shadows.</p> <p>Tone can be used for a range of effects:</p> <ul style="list-style-type: none"> to create the illusion of form to create a particular atmosphere to create contrast and focus attention to suggest depth and distance
CREATING FORM	LINK ARTIST – BARBARA HEPWORTH
<p>Form refers to three dimensional objects. While shapes have two dimensions (height and width), forms have three dimensions (height, width and depth)</p> <p>Forms that are three dimensional, such as sculptures or buildings are called real forms.</p>	<p>Barbara Hepworth was a British sculptor, who was born in Wakefield, Yorkshire in 1903. She was a leading figure in the international art scene throughout a career spanning five decades.</p> <p>Her works are inspired by abstract form. There are many tones, shadows and textures in her pieces and they are perfect to sketch and recreate the techniques.</p> 

CREATING TEXTURE
<p>Texture means how something feels or looks like it feels.</p> <p>There are two types of texture: actual texture and visual texture.</p> <p>In all art and design, the appearance of texture is an important visual element. For our work this half term, texture is going to be so important to create.</p>  <p>Our final piece of a Dragon Eye, will incorporate all of our techniques with texture providing some stunning visual effects.</p> 

USING GRADES OF PENCIL
<p>Pencil grades tell you how light/hard and dark/soft a graphite pencil is.</p> <p>You might have noticed that graphite pencils have a, H or B grade.</p> <p>The H stands for hard and the B stands for blackness.</p> <p>The higher the number of the pencil, the darker the shade you will have.</p> <p>F pencil grade stands for fine, the pencil's graphite is harder so it maintains a fine point.</p> 

Key Vocabulary

tone form texture sketching shade dimensional shadow highlights stippling hatching
 crosshatching scumbling sculptor depth contrast distance movement figures

YEAR 5 DT – MAKING BREAD

What have we learnt before in DT and what we will learn next?

In Year 1, we looked at fruit salads and what makes healthy options in our diet.

In Year 3, we created a tea party for a Royal celebration. We have also considered what it means to be hygienic and the importance of a clean surface.

In Year 5, we will consider all of these skills and look at what it means to be safe as well as hygienic. We will plan, make and evaluate our bread and then at the end of the topic, make changes and consider presentation of a final piece.

In Year 6, we will go on to look at foods from WWII and the importance of rationing.

BREAD

The history of bread dates back to the Neolithic age as old as 23,000 years ago! Humans have processed and consumed grain for a long time! The processes have changed since the first breads but essentially, grains and fibrous materials are still used.



Early methods included smashing the grains with rocks to crush into a dust-like state and mixing with water to form a paste. They would leave the mixture in the sun to dry out, form a bread-like substance.

Some of the earliest evidence of bread 'rising' was seen engraved on the walls of Egyptian Pyramids and temples. They found that a product inside the bread, yeast, was responsible for it rising.

Today, we manufacture bread in vast numbers and have a range of different styles, tastes and textures. An American called Otto Rohwedder created a machine that would slice bread, and this was introduced to Britain in 1930.

YEAST

The yeast used in baking bread is responsible for the fermentation – producing carbon dioxide which creates the rise in the dough.

When the yeast comes in to contact with warmth (water) and carbohydrates (flour) it produces carbon dioxide hence the bubble holes in bread.



WARBURTONS

At Warburtons, family is at the heart of their business.



That's because they're a real family bakers still owned and run by the Warburton family. Five generations' worth of expertise goes into making their products and allows them to continue a tradition of baking which began back in 1876.

Today, they have grown to be the largest bakery brand in the UK. They produce over 2 million products every day at their 11 bakeries, which they deliver fresh to 18,500 stores every morning!

KNOWLEDGE ORGANISER



THE NEED FOR KNEADING

Kneading stretches and develops the gluten strands in the dough. The protein strands line up and this creates a gluten matrix in the bread, which traps air and lets the bread rise.

Kneading lets you have full control over the finished texture of your loaf and involves punching, stretching and dragging the dough across a floured surface.



Once you have finished kneading the dough. You allow to sit in a covered bowl to prove. Whilst the dough proves, the yeast inside will activate, causing the dough to expand to over double its original size!

HYGIENE IN THE KITCHEN

You must wash your hands before, during and of course after all aspects of food preparation. Hand washing is also essential after breaks or using the toilet.

Hair should be tied up or covered up to avoid strands of hair falling into dough. The same applies to jewellery: finding an earring inside a bread roll isn't ideal!

We must always work with clean equipment and surfaces, germs and bacteria can live on surfaces. This added to the dough and then heated could result in the bacteria growing faster and stronger!



We should take care to not put our fingers near our mouths or eyes when making the products as raw ingredients can sometimes be irritable.

Key Vocabulary

bread
roll

product
bake

grain
hygiene

wheat
centigrade

barley

yeast
ingredients

prove
evaluate

knead
taste

texture
product

rise



COMPUTING SYSTEMS AND NETWORKS KNOWLEDGE ORGANISER

Overview



Systems

- You should also know that Information technology (I.T.) includes computers and things that work with computers.
- You should also know that computers have Input, Process and Output (IPO) components.
- Computer systems are built using a number of parts.
- Computer systems can communicate with other devices.
- There are many, many different kinds of computer systems all around the world, ranging from small-scale to large scale.

Systems

- Systems are a set of things working together as parts of a whole.
- Computer systems are made up of inputs (something that sends a message to the device), processes (the way the device acts on the message) and outputs (something that is sent out by the device). Below are some examples.

Washing Machine:

- Input: Dials and buttons.
Process: The computer inside follows a program.
Output: The clothes are washed and the display shows the remaining time.



DVD Player:

- Input: The disc is inserted and play is pressed on the remote.
Process: The system reads the information on the disc
Output: The screen displays the movie/ show.



Smart Locker:

- Input: The customer scans in a barcode.
Process: The code is recognised by the system.
Output: The correct locker is opened.



Transferring Information

Protocols and Packets

- Protocols are an agreed way of doing something. When we communicate, we use an agreed set of protocols (greeting, speaking, listening, etc.).
- In computing, agreed protocols are the way that computers communicate with one another.
- The digital information they send is called a 'packet.'



IP Addresses

- Computers and their users are not always in the same place as one another.
- With billions of computers around the world, computers need to send the information to the correct place.
- To do this, computers use special addresses called IP addresses. They may look like this:

From: 216. 58. 1. 214

To: 216. 64. 1. 20

My IP Address
63.255.173.183



Working Together

- Collaborating is another word for working together on something, to reach a shared goal.
- The internet can be used to help people collaborate online, even when they are a long distance apart!
- 'Chat' functions can be used keep each other updated with new information.
- Shared 'cloud' spaces and online drives can allow one or more person to have access to/ edit documents.
- When building upon someone else's work, you need to be aware of copyright and intellectual property rules.



Important Vocabulary

System

Input

Process

Output

Protocol

IP Address

Packet

Reuse

Explore

Collaboration



COMPUTING: CREATING MEDIA

Y5

KNOWLEDGE ORGANISER



Overview

Vector Drawing



- Vector drawings are computer graphic images that are made using 2-D shapes.
- The drawings are connected by lines and curves to form polygons and other shapes, forming a complete picture.
- There are lots of different apps and programs that can help us to complete vector drawings, including Google Drawings and Adobe Illustrator.
- Many techniques, e.g. zooming, rotating, resizing & duplicating, can help to create accurate images.

More Complex Vector Drawings

Google Drawings has been used in these examples, but lots of other vector drawing software uses the same tools and functions.



When dealing with small and intricate objects, it is important to use the zoom tool. Zooming in allows you to work with more precision. Zooming out allows a wider view.



The Alignment guides pop up as you move objects around, and help you to align and size objects.



The line tools can be used to help you change the colour and weight (thickness) of the line, and to make dotted lines.

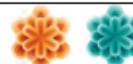


Coloured lines can be drawn, and colours can be used to fill shapes.



Gradient colours can be used to colour the same object in different colours.

Remember to that vector drawing is all about layering. By gradually adding layers of basic shapes, you build up something far more complex.



Creating Simple Vector Drawings

Vector drawings use lines and shapes to create bigger and more detailed images.



Plan your drawing by thinking about what shapes it is made up of. Each shape is called an **object**.

The tail is furthest away so is drawn first.

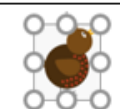


When vector drawing, the shapes overlap, so start with the objects that are the **furthest away**.



Copy and paste has been used to make the red spots the same size.

You can save a lot of time and effort doing the same thing over and over by duplicating shapes. This is done most easily by copying the object that you want to duplicate (hold ctrl + c) and pasting (hold ctrl + v) a new one.



You can **enlarge/reduce** an object by clicking on it and dragging the handles to the desired size.



You can **rotate** an object by dragging the circular handle at the top.

Advanced Tips



Grouping: 1. Select all images. 2. Right-click 3. Choose 'group.' All of the objects can now be moved and changed at the same time.



Advanced Layering: Right-click on objects and use the 'send to back' and 'bring to front' tools (in 'order') to ensure that your layering is in the correct order.



Backgrounds: You can create backgrounds by uploading images (using this icon). Remember to 'send to back' after it has been inserted.

Selecting Multiple Objects

This allows you to perform tasks with the whole drawing, rather than individual objects:

-Click, drag and drop a box around all of the objects in an image. This allows you to select all of the objects.

-When you perform an action (e.g. copy and paste) it will now apply to all.

Important Vocabulary

Vector

Object

Handles

Rotate

Enlarge/ Reduce

Layering

Gradient

Zoom

Alignment

Grouping



Knowledge Organiser: Year 5 Gymnastics Unit 1

Prior Learning:
Have become more confident to perform skills consistently. Can work to improve sequences and individual actions. Can work in groups and aim to perform sequences in time with others. Can make changes to sequences using compositional ideas.

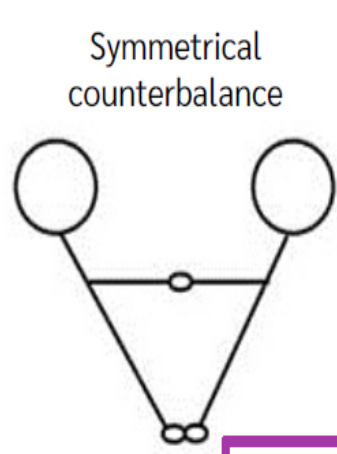
Unit Focus:
Create longer and more complex sequences and adapt performances. Take the lead in a group. Develop symmetry. Compare performances and judge strengths and areas for improvement. Select a component for improvement.

Head: Selects a component for improvement and use guidance from others.

Hand: Attempt to perform more complex skills in isolation such as round-off.

Heart: Work responsibly in trust exercises and when counterbalancing.

Equipment needed: Mats, hoops, cones, wall bars, beanbags, low apparatus, action cards, tabletops.



Key Vocabulary/Skills	
Round off.	Symmetry, asymmetry, sequences, combinations, direction, speed, partner, asymmetrical, symmetrical, aesthetics, counterbalance.
Explore symmetry.	
Explore asymmetry.	
Counterbalances.	
Performing.	

- Key Questions:**
- 1. What makes a performance aesthetically pleasing?
 - 2. How can you be a good partner in counterbalances?
 - 3. Why do you need good communication with a partner or group?

Concepts:
A counterbalance is created when one weight balances another. The counterbalance allows a person to stay balanced even when their centre of gravity moves. With a partner, counterbalance can be created by pulling/holding or pushing.