Knowledge Organisers

Year 4

Knowledge Organisers

Knowledge Organisers are designed to help ensure that all children remember all the key learning from their time at EPJS. For each unit of work, we set out the most important vocabulary, ideas and concepts that we want children to master, because it will be helpful for future years.

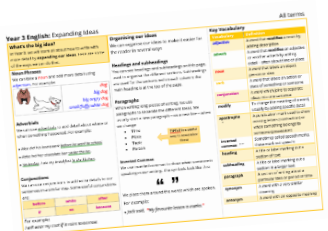
At the end of each academic year, we complete assessments of children's knowledge in key subjects and use this to inform both our teaching, and our judgements of children's attainment in those subjects. We also encourage families to make use of the knowledge organisers to discuss and review learning.

How to use Knowledge Organisers

Just as lots of practice of times tables or letter sounds can be useful for mastering maths and reading, you can also get better at other subjects by mastering the key knowledge. One of the most valuable ways of revising knowledge is through the 'testing effect'. This is as simple as it sounds: testing yourself (or asking someone to test you) to see if you can remember key information.

Importantly, it doesn't mean you need to get everything right every time. It's much better to make mistakes in the learning process, so that you focus on corrections and knowing what you know best. You can use the knowledge organisers to help with this in different ways:

New learning



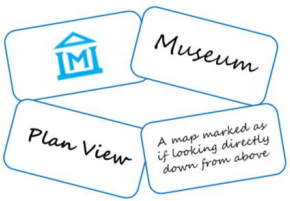
When you first meet a new topic, just browsing the organiser can help you to identify what you already know, and what is new learning for you.

Quizzing

Vocabulary	Definition
	Rocks which are resistant to erosion so they last longer.
erosion	
fossil	A fossil is the remains or the impression left by a prehistoric plant or animal embedded in rock.
hard rocks	Hard rocks need to be split by tools e.g. granite.
impermeable	Impermeable rocks do not let water pass through.
	Permeable rocks allow water to pass through.

You can quiz yourself on your knowledge, either by covering up parts of the organiser, or by asking someone else to ask you questions based on its contents

Flashcards



Some children like to make and play with flashcards or 'matching pairs' games to help master things like new definitions or matching symbols to meanings.

Year 4 English: Mastering phrases and clauses

What's the big idea?

In Year 4, we will learn all about using **clauses** to build sentences, including how we can change the order of clauses to affect the reader.

Simple sentences

You can make a sentence with a single clause

- ***Miss Pye** loves Science.*
- ***The tall farmer** carried the sheep into the field.*

A sentence can have lots of other information, but still be a single clause if it is about the same subject and verb:

- *On Wednesday afternoon, **the farmer with the big red tractor** walked through the large field next to the farmhouse.*

Compound sentences

Compound sentences combine two clauses into a single sentence, using a **conjunction**.

- **Mr Smith** is tall **but Miss Adedotun** is cooler.
- **The dog** wears a red collar **and carries** his bone.
- On Fridays, **Jacob** wears his football kit **so he** can join football practice.

Complex sentences

Complex sentences have two clauses, but one is dependent on the other for its meaning. These clauses usually start with one of the common subordinating **conjunctions**:

Rules for Punctuating Speech

New speaker on a new line
Capital letters for new speech
Punctuation before closing inverted commas
Use commas after reporting clause

Useful prepositions

Time	Place	Others
at	above	about
before	around	by
from	behind	with
until	near	
	through	
	up	

Key Vocabulary

Vocabulary	Definition
adjective	A word that **modifies** a noun by adding description
adverb	A word that **modifies** a verb or another word by adding detail – often about time or place
verb	A word that labels an action or state of something or someone
conjunction	A word which joins to separate ideas into one sentence
preposition	A word that describes the relationship between two other parts of the sentence (often nouns)
clause	A group of words with meaning, including a subject and a verb
compound sentence	A sentence containing two independent clauses (and verbs)
fronted adverbial	Starting a sentence with the additional adverbial detail (and a comma!)
modify	To change the meaning of a word, usually by adding specific detail
phrase	A group of linked words which does not include a verb
preposition phrase	A group of words which adds detail about where, when, why or how something happens
rhetorical question	A question asked to make the reader think, rather than to answer
subject	The person, place or object that a sentence is written about

Year 4 Art & Design: Ben Cavanagh

Autumn

Ben Cavanagh

Ben Cavanagh is a mural artist living in Littlehampton, West Sussex.

He specialises in big, colourful designs and characters drawn from imagination. Ben is inspired by street art, graffiti, anime, mythology and the natural world.

He spends his time between painting large scale murals, digital art pieces and creating one off art on unusual objects, from spray cans to train tickets.

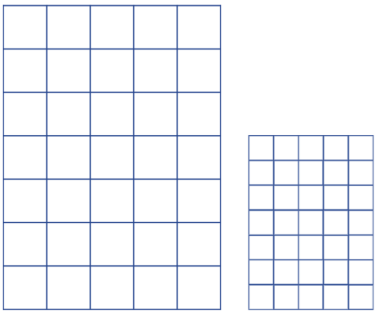
Recently Ben has worked with wild in art to paint a Shaun the sheep sculpture for the Brighton art trail.

Examples of his work

Custom painted Shaun the sheep for the Brighton art trail.

Key Vocabulary

Vocabulary	Definition
Drawing	Use of various instruments to mark paper or another two-dimensional medium.
Drawing materials: pencils	Contain a solid core of graphite and organised in a scale of hardness.
Drawing materials: felt markers	Available in a range of different hues. Allow user to create smooth, vibrant, and streak-free artwork.
Texture and surface pattern	How something would feel, and the shapes and patterns on the object's surface.
Grid method	A technique used to scale up by drawing a grid over a reference image and a proportional, larger grid on the final surface.
Scale	The overall size of an artwork or objects within it.



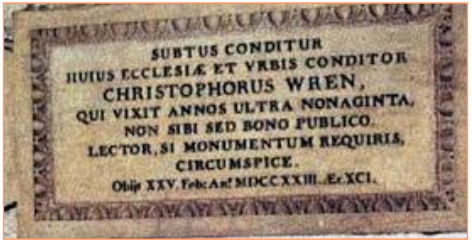
Year 4 Art & Design: Christopher Wren

Autumn

Sir Christopher Wren

Christopher Wren lived and worked during the **1600s** and **1700s**. He was especially talented at Physics and maths and due to these strengths developed a keen interest in **architecture**.

After many of London's buildings were destroyed during the **Great Fire of London** in 1666, he was effectively given control of all the subsequent building in London. Wren himself designed approximately **51** churches, including **St Paul's Cathedral** in London. He was inspired by French and Italian designs.



When he died, Wren was buried in St Paul's Cathedral. Part of the message on the inscription on his tomb says "if you seek his monument, look around you".

Noted buildings

St Paul's Cathedral, London

The cathedral took about 40 years to complete.

Royal Observatory, Greenwich

The observatory was built on the site of an old castle

Key Vocabulary

Vocabulary	Definition
architect	A person who designs buildings and often supervises their construction.
brushstroke	The marks made by a paintbrush on a surface
colour-matching	Where an artist uses a range of coloured paint to mix and create an exact copy.
composition	A piece of creative work
shade	How dark or light a colour is.
sketch	A rough or unfinished drawing.
swatch	A small patch of paint used to test a colour
tone	Variation of a particular colour. For example, a yellowish green.
watercolour paper	Paper made especially for watercolour painting that comes in a range of weights and textures.

Year 4 Art & Design: Gustav Klimt

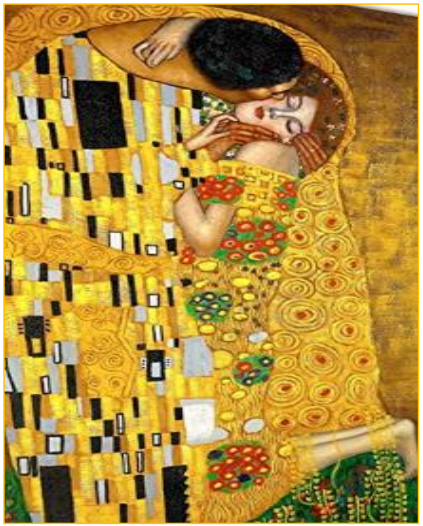
Summer

Gustav Klimt

Austrian born Gustav Klimt is considered the greatest decorative painter of the 20th century. His paintings and drawings contained symbolism and were always highly embellished, Klimt was particularly fond of using gold leaf in his work.

During his lifetime, he painted both portraits and landscapes. Since his death in 1918, (from influenza), Klimt's work has increased in popularity. In 2006, Klimt's portrait "Adele Bloch-Bauer I" sold for $135 million which, at the time, was a record breaking amount. Much of his art work can been seen in galleries in Austria.

Examples of his work



The Kiss

Portrait of Adele Bloch-Bauer I

The Tree of Life

Key Vocabulary

Vocabulary	Definition
Collograph printing tile	Made from multi-layered cardboard, contains different textures on the surface.
embellish	To add decorative elements.
gold leaf	Gold that has been beaten into incredibly thin sheets.
multi-layered tile	Many layers glued together to create a tile.
press print	Where pressure is applied to the reverse of a painted tile to allow the print to transfer onto paper.
pressure	Force exerted, for example, onto the tile to allow paint transfer.
symbolism	Expressing the invisible by using the visible.

Year 4 Art & Design: Dame Mary Quant

Summer

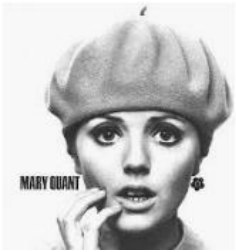
Dame Mary Quant

Mary Quant was the most iconic fashion designer of the 1960s. A design and retail pioneer, she popularised super-high hemlines, colourful berets, PVC boots and looks that were critical to the development of the 'Swinging Sixties' scene. Her fashion was simplistic, modern and wearable to the masses; unlike other formal clothes availlable at the time. Quant's fashion logo was a daisy and this motif was used on all products sold from her London shop, that was called, 'Bazaar'.

Mary Quant's PVC ankle boots

Bazaar in London in the 1960s

Some of Quant's Designs



Key Vocabulary

Vocabulary	Definition
Fashion designer	People who design and make clothes and apparel for men, women and children.
Moulding	Shaping a material, e.g. clay, into a certain shape.
Sculpture	The art of making 3D forms and figures in clay or other materials.
Varnish	A liquid that is applied to a finished piece of clay. It dries to leave a shiny, polished surface.
Embellishment	This is a decorative feature which is added to something to make it more attractive.
Adaptations	Changes and improvements to a piece of work.
Clay tools	There a 4 main types: **Scraper tool** for scraping the surface of the clay. **Pointed tool** for making small dots/marks on the surface of the clay. **Curved tool** for smoothing the surface of the clay. **Serrated tool** for creating texture.

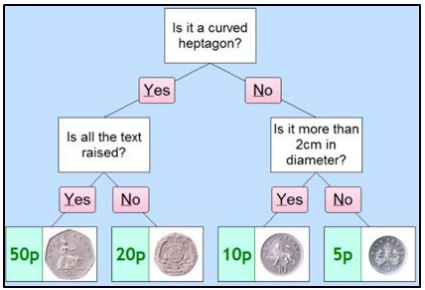
Year 4 Computing

Data & Information

Branching Databases

A branching database (sometimes known as a binary tree) is a way of classifying a group of objects.

Programs such as j2data can help you to create branching databases.

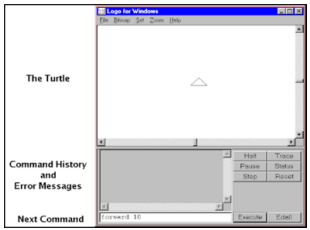


Vocabulary	Definition
data	raw numbers and figures
grouping	objects put into different groups
information	what we understand from data
objects	organised into groups

Programming

Repetition in Shapes

Logo is a text-based programming language, where we can type commands which are then drawn on the screen.



Basic Commands			
FD	Forwards	BK	Backwards
LT	Left turn	CS	Clear Screen (centres turtle)
RT	Right turn		
PU	Pen Up (leaves no pen mark)	PD	Pen Down (leaves pen marks)

Vocabulary	Definition
algorithm	a set of instructions to perform a task
programming	making a set of instructions (algorithm) for a computer to follow
sequence	a pattern or process in which one thing follows another

Data & Information

Data Logging

Data loggers and logging software can be used to automatically capture data. We can then draw conclusions in answer to our research questions.

Vocabulary	Definition
data	raw numbers and figures
data logger	device with input sensors built in
information	what we understand from analysing data
sensors	input device sensors allowing the computer to sense things

Year 4 Design & Technology: Adapting a Recipe

Spring

Flavours and Tastes

There are five different tastes our tongues can detect:

1. Sweet (fruits, honey, cupcakes)
2. Bitter (olives, dark chocolate, spinach)
3. Sour (lemon, lime, vinegar)
4. Salty (hard cheese, anchovies)
5. Umami (tomatoes, miso, seaweed)

Different ingredients will change the taste of something.

Key Vocabulary

Vocabulary	Definition
adapt	To change or alter something to fit a given purpose, or to improve it
equipment	Items and objects which are needed to complete a task
flavour	How food or drink tastes (for example, sour, sweet, bitter, salty)
ingredients	Items that make up a mixture, for example foods that make a recipe
net	A flat 2D shape that can become a 3D shape once assembled.
packaging	The packet or container that holds a product safely ready to be sold.
prototype	A simple model that lets you test out your idea, showing how it will look and work.
recipe	A set of instructions for making and preparing a food item or dish.
target audience	A person or particular group of people at whom a product is aimed.
unit of measurement	The unit which you use to measure a quantity (for example, grams, centimetres, litres)

Cooking techniques

Creaming

Mixing together fats and other ingredients to create air pockets

Rubbing

Mixing together ingredients, such as butter and flour, using fingertips.

Year 4 Design & Technology: Cushions

Spring

Key sewing techniques

There are different techniques used to fasten fabrics or create designs.

Cross Stitch
Often used for designs and decorative pieces

Running Stitch
Used for simple joins

Key Vocabulary

Vocabulary	Definition
appliqué	A type of textiles work where small pieces of cloth are sewn or stuck onto a larger piece
cross-stitch	A two-stitch style of sewing which forms a cross pattern
cushion	A stuffed shape of fabric used to make sitting more comfortable
decorate	To add details to a design to improve its appearance
detail	The small features of an object
fabric	A natural or man-made material used to textile work
patch	A piece of material sewn over the top of a large piece, sometimes for decoration, or to cover a hole
running stitch	A simple style of sewing in a straight line with no overlap
seam	Where two edges of cloth are joined or sewn together
textiles	Products made using fabric and weaving, sewing or other techniques

Year 4 Geography: Rivers

Autumn

Why are rivers so important?

Rivers are an essential part of our everyday life around the world. Here are some of the main reasons why:

Trade

- Goods can be sent from one place to another.

Tourism

- People spend time on rivers as a holiday;
- Provides people with jobs.

Leisure

- Fishing;
- Watersports
- Education.

Key Rivers in the United Kingdom and the world:
River Thames
River Severn
River Trent
River Arun (local)
Amazon River (South America)
Yangtze River (China)
River Nile (Africa)
Mississippi (North America)

Vocabulary	Definition
channel	The course in the ground that a river or water flows through
dam	A barrier built to hold back water
Delta	Wetlands that form as rivers empty their water and sediment into another body of water
deposition	When rocks and other materials that have been eroded are dropped off further along the river
erosion	Rocks and other river materials are picked up by the water and moved to another place along the river
floodplain	An area of flat land next to a river or stream which is covered in water when a river bursts its banks
meander	When rivers curve back and forth across the landscape
mouth	The point where a river joins the sea
Oxbow Lake	A horseshoe shaped lake at the side of a river. Created when a meander has almost cerate a circle but the river finds a more direct route
rapids	A part of a river where the river bed goes down steeply
source	The place where a river begins
tributaries	Rivers that join up with another river
valley	A long ditch in the earth's surface between ranges of hills or mountains
waterfall	When a river flows over a high, rocky ledge into the water below

The Courses of a River

The Upper Course

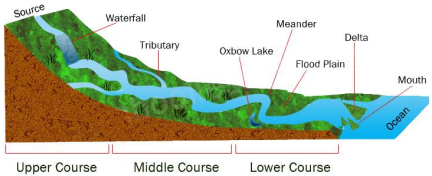
- Collects rainwater from high ground
- Forms fast-running downhill streams
- Creates steep banks and valleys

The Middle Course

- Fast-flowing water
- Causes erosion
- Creates wider and deeper rivers

The Lower Course

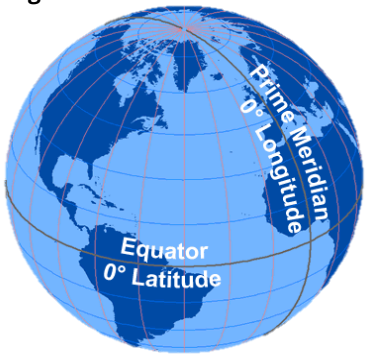
- Slower speeds on flatter land
- Deposits eroded material
- Shallow banks



Year 4 Geography: Mapping the World & Biomes

Spring

Mapping the World



Key Facts		
5 Oceans	Arctic Atlantic Indian	Pacific Southern
7 continents	Africa Antarctica Asia Australia	Europe North America South America
Hemispheres	The Earth is divided into the **northern** and **southern** hemispheres by the **equator**.	
Hemispheres	The Earth is divided into the **eastern** and **western** hemispheres by the **Prime Meridian**	

Key Vocabulary

Vocabulary	Definition
Antarctic	The area and land mass around the South Pole
Arctic	The area of the northern hemisphere around the North Pole.
biome	Areas of our planet with similar climates, landscapes, animals and plants.
climate	The general weather conditions in a particular place
country	An area of land with its own government.
continent	A large mass of land that includes different countries.
equator	The imaginary line around the centre of the Earth.
hemisphere	One half of the earth when divided by imaginary lines like the equator or meridian.
latitude	Imaginary parallel lines that circle the Earth from east to west.
longitude	Imaginary lines that circle the Earth from north to south.
Prime Meridian	The starting point for measuring distance east and west around the Earth. It is a n imaginary line drawn through Greenwich in London
polar	Regions of the Earth around the North and South Poles.

Biomes

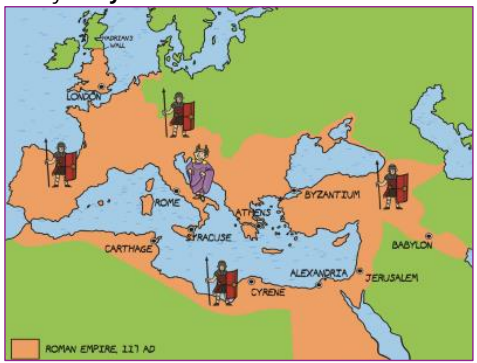
We can describe similar areas of our planet using the language of biomes, depending on their general temperature, rainfall, plants and animals.

Biome	Features
Desert	Hot all year round Dry all year round Very little grows here Small animals emerge at dusk
Grassland	Hot summers, cold nights Short rainy season Mostly grasses Grazing animals like Zebras
Rainforest	Hot all year round Very wet all year round Huge numbers of plants & trees Millions of species of all sizes
Savannah	Hot all year round Long dry season Mostly grasses and shrubs Large mammals like elephants
Tundra	Very cold all year round Little rain or snow Little growth, in summer only Few animals; some in summer
Woodland	Warm and mild More winter rain than summer Trees and other plants From mice to deer or bears!

Year 4 History: Roman Britain

Autumn

The **Roman Empire** stretched out from Rome (in modern Italy) in all directions, reaching North Africa, and across south and west Europe. In the first century, it also reached into what is now England. **Romans** then ruled **Britannia** for nearly **400 years**.



Key People

Person	Role
Boudicca	Leader of the Iceni tribe who resisted Roman invasion
Claudius	Roman Emperor at the time of the successful invasion
Hadrian	Roman Emperor who ordered the building of a northern wall

Key Vocabulary

Vocabulary	Definition
Celts	Tribes who lived in Great Britain before the Romans
conflict	A serious disagreement or fight
conqueror	Leader of a conquest
conquest	Taking over a country or area by force
emperor	The leader of an empire
empire	A group of nations led by one leader (often a conqueror)
forum	The main area at the centre of a Roman city
invasion	An attack on another country
legionary	A soldier in the Roman army.
rebellion	Armed fight against the rulers
withdrawal	Taking something away – in this case, taking the Roman troops back to Rome
Britannia	Roman name for Great Britain
Iceni	A tribe in the east of England at the time of the Roman invasion
Noviomagus	Roman name for Chichester

We sometimes see dates written as BC (before Christ) instead of BCE or AD (Anno Domini – "In the Year of Our Lord") instead of CE

End of Empire

By around 410 CE, the Roman armies based in Britain left and Britain was no longer ruled by Rome. There are several reasons for this including:

	The empire had become so large that it was difficult to manage
	Arguments about the leadership of Rome weakened the empire
	In 410 CE, Germanic tribes from the north attacked Rome itself

BY 410, the Roman Emperor had removed all troops from Britain and told the British cities to defend themselves.

Key Events

Date	Event
55 BCE	First attempted invasion of Britain by Emperor Caesar
43 CE	Successful invasion by army of Emperor Claudius
410 CE	Approximate time of the withdrawal of Roman army troops from Roman, leading to the collapse of Roman Britain

⇨ 43	43 – 410	410 – 1066	793 –1066	1066 –1485	1485 –1603	1603 –1714	1714–1837	1837–1901	1901 ⇨
Pre-history	Roman	Saxon	Viking	Medieval	Tudor	Stuart	Georgian	Victorian	Modern

Year 4 History: A Child Through Time

Spring

During the 20th century, the lives of children changed significantly. At the beginning of the Modern Period, education was not available to all children and many children were expected to go to work. As the century progressed, education became accessible for all children.

Key People

Person	Role
Edward VII	Son of Queen Victoria. The monarch at the beginning of the Modern Period
Lord Baden-Powell	Founder of the Boy Scouts
Agnes Baden-Powell	Founder of the Girl Guides
Winston Churchill	Prime Minister during the Second World War.
Margaret Thatcher	First female Prime Minister
Steve Jobs	Founder of Apple Computers
Sir Timothy Berners-Lee and Robert Cailliau	Creators of the first web page

Key Vocabulary

Vocabulary	Definition
abacus	A device with beads used for arithmetic.
arithmetic	Addition, subtraction, multiplication and division.
cane	A flexible piece of wood used to deliver punishment.
slate	Boards that were written on with chalk.
drill	The Edwardian equivalent of PE.
Boy Scouts	An organisation set up to train boys in fighting and survival.
Girl Guides	An organisation set up for girls to learn practical skills.
evacuation	The relocation of children during WW2.
rationing	The limitation of food during and after WW2.
equality	Treating everybody as equals.

Key Events

Date	Event
1908	Boy Scout movement founded
1910	Girl Guide movement founded
1914-1918	First World War
1939-1945	Second World War
1976	Apple Computers founded
1986	Physical punishment banned in schools
1991	First webpage created

⇨ 43	43 – 410	410 – 1066	793 –1066	1066 –1485	1485 –1603	1603 –1714	1714–1837	1837–1901	1901 ⇨
Pre-history	Roman	Saxon	Viking	Medieval	Tudor	Stuart	Georgian	Victorian	Modern

Year 4 Geography & History: Settlement

Summer

Why do people settle?

Factors in settlement:
Flat land with good soil for farming.
Slopes / hills for defence.
Water nearby for drinking, washing.
Rivers / roads / canals / railways for transport and trade.
The sea for food, transport and trade.
Woodland for fuel and building materials.
Resources nearby e.g. coal, metal ore etc.
Energy – water/windmill, power station etc.

Key history of local settlements

Littlehampton

1. Fishing village
2. Port (sea/river) for trade
3. Tourism

Chichester

1. Roman town – crossroads.
2. Market town for trade incl. canal.
3. Commuter town for transport.

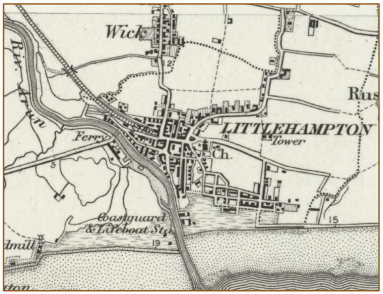
Arundel

1. Only ford over the River Arun.
2. Castle (hill) for defence.
3. Market Town (river/roads) for trade.
4. Tourism.

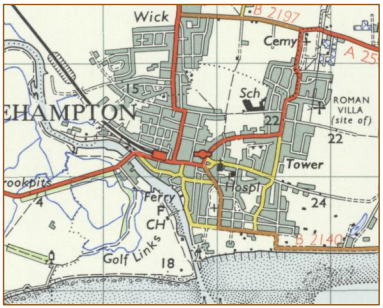
Littlehampton over time

1840

1890



1950



Key Vocabulary

Vocabulary	Definition
agricultural	Relating to farming e.g. rearing animals or growing crops.
defence	To protect (the settlement) from attack.
gradient / slope	How steep the land is
industry	Making products in factories.
junction (crossroads)	Where two roads, railway lines or waterways meet or cross.
land use	The main function / purpose of land (e.g. residential, retail)
leisure / recreation	What is done in spare time or for enjoyment only.
marshland	Land prone to frequent flooding and is sodden (soggy) much of the year.
residential	An area containing mainly houses for living in.
resources	Materials used to make something or produce food / energy etc.
retail	Selling goods or services to the public.
Saxons	Settlers who arriving in England after the Romans left in around 410CE
settlement	A place where people have come to live and have built homes.
tourism	Going on holiday or for day trips to another location.

Year 4 Music

Theme: Pop 'Mamma Mia'

Vocabulary	Definition
harmonies	Two or more notes that go together musically are heard at the same time.
hook	A short musical idea which is memorable and "catches your ear"
melody	The tune of a song that people sing along to.
pop music	Short for popular music, pop songs are liked by many people, usually quite short and memorable.
synthesizers	Electronic keyboards that produce many sounds that copy, or *synthesize* other instruments
Tempo	The speed of a piece of music

Theme: Music notation – glockenspiel 2

Vocabulary	Definition
dynamics	Changes in loudness and quietness of notes in a piece of music
pulse	The steady 'heartbeat' in music, usually the beat that you clap to.
rhythm	The pattern of notes or beats in a piece of music
melody	The main 'tune' or sung part of a piece of music
pitch	Whether musical notes are low or high sounding
stave	the five lines used to show musical notes
Tempo	The speed of a piece of music
time signature	The number of beats in each bar.

Theme: Performance to an Audience

Vocabulary	Definition
chorus	The part of a song that repeats many times.
dynamics	How loud or soft each part is, compared to rest of the piece
melody	The tune of a song that people sing along to.
tempo	The speed at which a song or piece of music is played at.
verse	Song lyrics, often different in each section but with the same melody repeating
vocals	The singing voices in a song
volume	How loudly or quietly a piece is played

Vocabulary	Definition
crescendo	Getting louder
diminuendo	Getting softer

This unit will culminate in the performance to parents close to Easter.

Year 4 Religious Education

Autumn: Pilgrimages

Vocabulary	Definition
Hajj	A Muslim pilgrimage to Mecca
holy	Something or somewhere dedicated to a god or religion
miracle	Something extraordinary that is believed to be an act of a god or other power
pilgrimage	A journey to a special place for religious reasons
sacred	Something considered to be very holy
River Ganges	Site of a Hindu pilgrimage in India

Six major world religions
Buddhism
Christianity
Hinduism
Islam
Judaism
Sikhism

Spring: Introduction to Islam

Vocabulary	Definition
Allah	Arabic name for 'God'
Eid-al-fitr	Festival held at the end of Ramadan
fast	A period of time when someone does not eat
Islam	Name of the religion, the second most-widely followed in the world
Mecca	Birthplace of Muhammed; a sacred place for Muslims
Muhammed	The last prophet; the key prophet in Islam
Muslim	Name for a person who believe in Islam
prophet	Special messengers sent from Allah
Qur'an	Holy book of Islam
Ramadan	Holy month in Islam

Five Pillars of Islam	
Shahadah	A declaration of Islamic faith
Salah	Praying five times each day
Zakat	Donation to charity
Sawn	Fasting during Ramadan
Hajj	Pilgrimage to Mecca

Summer: The Bible

Vocabulary	Definition
Christian	A believer in Christianity
Bible	Holy book of Christianity
Old Testament	*Stories and writings in the bible from before the life of Jesus*
New Testament	*Stories and writings in the Bible telling the life of Jesus and afterwards*
Gospels	Four books of the New Testament telling the life of Jesus
psalms	Poems and songs recorded in the Bible
parable	A story told by Jesus to teach a lesson
prophecy	A message given by God, usually delivered through a Prophet
revelation	The Christian belief that God reveals himself through words and actions

Year 4 Science: Living things and their habitats

Autumn

Key knowledge

Living things possess all of the life processes below:

Movement	**G**rowth
Respiration	**R**eproduction
Sensitivity	**E**xcretion
	Nutrition

Classification

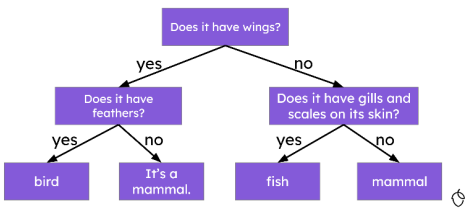
•Living things can be grouped in a variety of different ways.

•Scientists group animals and plants based on similar characteristics.

•The process of grouping is called classification.

•An example of classifying (grouping) is animals with backbones (vertebrates) and animals without backbones (invertebrates).

Classification keys are a tool that help us to **identify**, **group** and **name** a variety of living things.



Environment

•Plants and animals rely on their environment to give them everything they need.

•Sudden changes to an environment can be harmful to wildlife.

•Examples of **natural changes** include earthquakes, storms, wildfires, floods, the seasons.

•Examples of **human-made changes** include deforestation, pollution and urbanisation.

Vertebrates

Fish	Mammals	Birds	Reptiles	Amphibians

Invertebrates

Insects	Worms	Spiders	Slugs/ Snails

Quizzes

www.epjs.co.uk/Curriculum/Science/

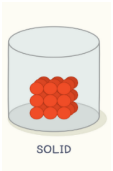
Key Vocabulary

Vocabulary	Definition
amphibians	A cold-blooded vertebrate that can live in water and on land.
Birds	Warm-blooded vertebrates with feathers, beaks and wings.
characteristic	The features or properties of something.
classification	The grouping of living things.
environment	The surroundings of a living or non-living thing.
excretion	The process of eliminating waste from the body.
fish	Cold-blooded vertebrates that live in water.
habitat	The natural environment in which a living thing lives.
invertebrate	Animals without a backbone.
mammals	A warm-blooded vertebrate that breathes air, grows hair and feeds its young with milk.
nutrition	The process of taking food in and absorbing nutrients.
organism	A living thing.
reproduction	When a living thing produces one or more copies of itself.
reptiles	Cold-blooded vertebrates.
respiration	Inhaling and using oxygen to convert food into energy.
sensitivity	Responding to the external environment.
vertebrate	Animal with a backbone.

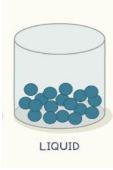
Year 4 Science: States of matter

Autumn

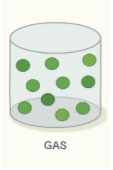
Solids, Liquids & Gases



Particles in a **solid** are **close together** and **cannot move**.



Particles in a **liquid** are **close together** but **can move** around each other **easily**.

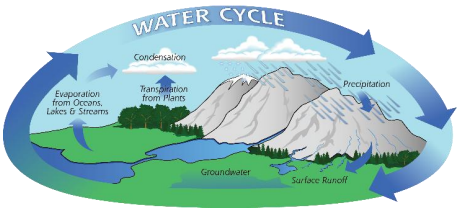


Particles in a **gas** are **spread out** and **can move** around **very quickly in all directions.**

- When water and other liquids **reach a certain temperature**, they **change state** into a **solid** or **gas**.
- The temperatures that these changes happen at are called the **boiling**, **melting** or **freezing point**.

The Water Cycle

- **Water continually moves around the Earth**.
- The sun **evaporates water** into **water vapour**.
- When the **water vapour** cools down it turns into **liquid water** (**condensation**) and it rains (**precipitation**)
- In very cold places the **water freezes into snow or ice**. Snow and ice, when warmed up, change into liquid water.



Quizzes

www.epjs.co.uk/Curriculum/Science/

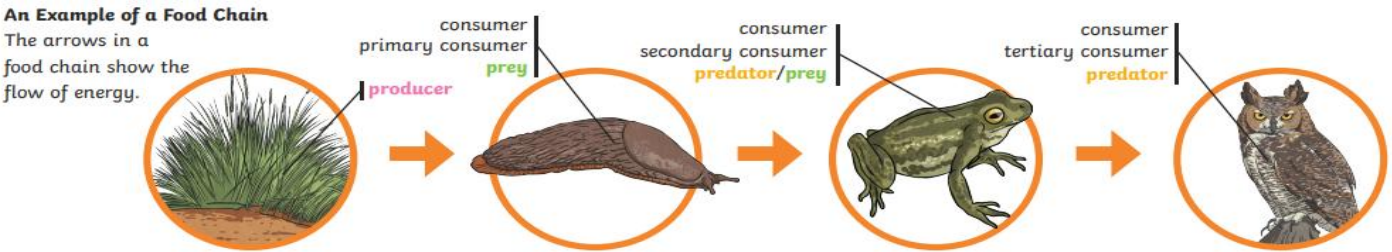
Key Vocabulary

Vocabulary	Definition
condensation	The process of turning from a gas into a liquid.
evaporation	The process of turning from a liquid into a gas.
freezing	Turning into ice or another solid as a result of cooling.
freezing point	The temperature at which a liquid turns into a solid when cooled.
gas	A substance with no fixed shape that will expand to fill the whole of a container.
irreversible change	A change that cannot be changed back again. An example is burning.
liquid	A substance that flows easily and has no set shape.
melting	Turning something into a liquid as the result of heating.
melting point	The temperature at which a solid will become liquid.
particle	A tiny amount of matter.
precipitation	The release of water from the sky. Rain, snow, sleet, dew are all examples.
reversible change	A change that can be changed back again. Examples are melting and heating.
solid	Substances that are firm or stable in shape
transpiration	The exhalation of water vapour from plants.

Food chains

- **Food chains** are the **connections** between **producers, prey** and **predators**.
- All of the living things in a food chain rely on each other.
- A food chain describes how different **organisms** eat each other starting out with a **producer** and ending with a **consumer.**

Quizzes
www.epjs.co.uk/Curriculum/Science/



Year 4 Science: Digestive System

Key knowledge

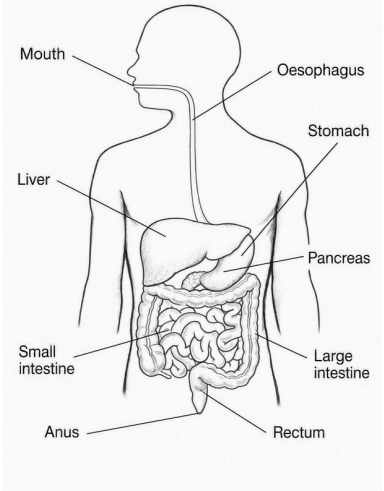
The Digestive System

- The **organs** in the digestive system work together to **break down food** so the **nutrients** in it can be used by the body.
- An organ is a **group of tissues** (materials that animals are made from) that **work together to perform a special function**, e.g. heart, lung, brain, stomach.
- Animals (including humans) need a **balanced diet full of different nutrients** to stay alive and healthy.

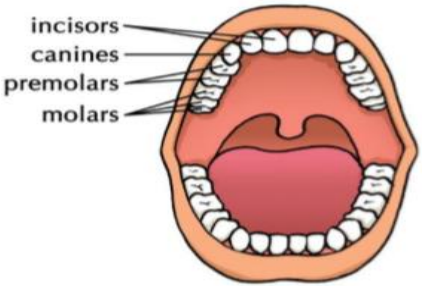
Teeth in Humans

- Our teeth **tear, cut,** and **grind** food in preparation for **swallowing**.
- Humans are **omnivores**, which means we eat a **mixed diet of plants and meat** – this is why our teeth are designed and laid out in our mouths the way they are.

Digestive system



Teeth



Key Vocabulary

Vocabulary	Definition
canine	Pointed teeth near the front of the mouth in humans and some animals.
carnivore	An animal that eats meat.
decay	The natural process of losing health or strength.
digestion	The breaking down of food that is eaten.
enamel	The hard, white substance that forms the outer layer of the tooth.
excretion	The process of eliminating waste from the body.
faeces	The solid waste substance that people and animals get rid of from their body.
food chain	The order in which organisms depend on each other for food.
incisor	The teeth at the front of the mouth which are used for biting into food.
intestines	Long tubes in the body that food passes through after the stomach.
molar	Large, flat teeth towards the back of the mouth that are used for chewing food.
oesophagus	The part of the body that carries food from the throat to the stomach.
omnivore	An animal that eats plants and meat.
predator	An animal that hunts, catches and eats other living things.
prey	An animal that is hunted, caught and eaten by other living things.
producer	A plant that produces its own food.
rectum	Part of the digestive system where stools are stored before leaving the body through the anus.
saliva	Liquid that forms in your mouth and helps you to chew and digest food.
stomach	The organ inside your body where food is digested before it enters intestines.

Year 4 Science: Sound

Spring

Key knowledge

What is sound?

Sound is a type of energy which can be heard.

How is sound made?

When objects **vibrate**, a sound is made. The vibrations make the air around an object vibrate. These vibrations are called **sound waves**. The **louder** the sound, the bigger the vibration.

How do sounds travel?

Sound waves travel through a **medium**, such as air, water or glass. Some mediums allow the vibrations to travel more easily; others do not and may be **soundproof**.

How do we hear sounds?

The vibrations pass through our ear canal and reach the **ear drum**. From here, the vibrations can be conveyed to the brain as electrical signals to represent the sound.

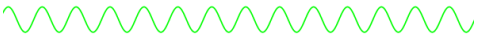
Object vibrates

Vibrations pass through a medium

Vibrations reach the ear drum

Pitch

High pitch sounds can be created by short sound waves. These are often caused by limited movement in the object such as tight instrument strings or a firmly-held ruler.



Low pitch sounds can be created by longer sound waves. These are often caused by larger movements from the source such as

Volume

The closer you are to the source of a sound, the louder the sound will be.

As you move further away, the quieter the sound will be.

Quizzes

www.epjs.co.uk/Curriculum/Science/

Key Vocabulary

Vocabulary	Definition
ear drum	A part of the ear which is a thin, tough layer of tissue that is stretched out like a drum skin. Soundwaves make the eardrum vibrate.
pitch	How high or low a sound is.
sound	A type of energy made by vibrations.
soundproof	A material that dampens vibrations so that sound can no longer be heard
sound waves	Invisible waves that travel through the air, water and solid objects as vibrations.
source	Where something comes from.
transmit	To pass from one place or person to another.
vibration	Invisible waves that move quickly.
vacuum	A space where there is nothing. There are no particles in a vacuum.
volume	How loud or quiet a sound is.

Year 4 Science: Electricity

Summer

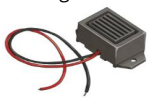
Key Knowledge

Components

Cell: a unit which converts chemical energy into electrical energy. Two or more cells form a battery.

Bulb: a device used to create light. It converts electrical energy into light energy.

Buzzer: an electrical device that makes a buzzing sound.



Wires: long, thin pieces of metal used to carry electrical current.

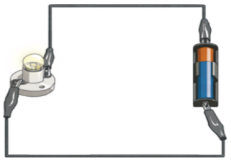
Motor: produces movement in an electrical circuit.

Switch: a device used to turn components on or off.

Conductors	Insulators

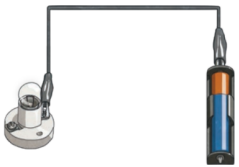
Complete circuit

- Electricity **can flow**.
- The components **will work**.



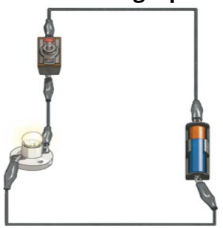
Open Circuit

- There is a break in the circuit
- Electricity cannot flow



Series Circuit

- Circuit with components **connected in a loop**.
- Electricity flows in a **single pathway**.



Key vocabulary

Vocabulary	Definition
battery	Two or more cells
cell	A unit which converts chemical energy into electrical energy
circuit	A complete path which an electric current can flow around
component	A part of something
current	A flow of electricity through a wire or circuit
device	An object that performs a particular purpose
electrical conductor	A material that electricity can pass through easily
electrical insulator	A material that electricity cannot pass through easily
electricity	A form of energy that can be used to power electrical devices
mains	Where the supply of water, electricity, or gas enters a building

Quizzes

www.epjs.co.uk/Curriculum/Science/

Los números 11-20

11 once
12 doce
13 trece
14 catorce
15 quince
16 dieciséis
17 diecisiete
18 dieciocho
19 diecinueve
20 veinte

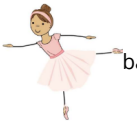
Yo presento

Español	Inglés
Me llamo...	*I'm called....*
¿Dónde vives?	*Where do you live?*
Vivo en...	*I live in...*
Soy de...	*I'm from...*
Inglaterra	*England*
Soy...	*I'm....*
Inglés	*English*
Español	*Spanish*

Sé

Español	Inglés
Sé	*I know how to...*
No sé	*I don't know how to...*
y	*And*
pero	*but*

Sé


bailar

cantar

saltar

cocinar

montar en bicicleta

tocar un instrumento

patinar

dibujar

nadar

hablar español

Year 4 Spanish: My family & In Class

Spring

La familia

Los abuelos

El abuelo

La abuela

Los padres

La madre

El padre

La tía

El tío

El hermano

Yo

Las hermanas

La hermana pequeña

La hermana mayor

La clase

un libro

un cuaderno

un lápiz

un bolígrafo

un estuche

un sacapuntas

una regla

una goma

una mochila

una calculadora

una barra de pegamento

unas tijeras

Ricitos de Oro y Los Tres Osos

un
oso

una
casa

un
bosque

un
tazón

una
silla

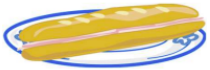
una
cama

Español	Inglés
grande	*large / big*
mediano **mediana**	*medium*
pequeño **pequeña**	*a cone*

En la cafetería

Vocabulary	Translation
¿Qué deseas?	What would you like?
Quisiera...	I would like...
por favor	please
gracias	thank you
la cuenta	the bill
y	and

En la cafetería



un bocadillo

un pastel *de limón*

una ensalada mixta

una paella

una tarta de chocolate

unos churr**os**

unas patat**as** brav**as**

un chocolate caliente

un té

un café con leche

una limonada

un zumo de naranja

Year 4: Other foundation subjects

Not all curriculum subjects have knowledge organisers. The table below shows the main content that will be covered in each subject.

	Autumn	Spring	Summer
Maths	Numbers to 10,000 Addition & Subtraction Multiplication & Division Graphs	Fractions Time Decimals Money	Length, Mass & Volume Area & Perimeter Geometry Position & Movement Roman Numerals
Physical Education	Hockey Gymnastics Basketball Dance	Swimming Dance Gymnastics	Outdoor Adventure Cricket Athletics Rounders
Life Skills	Healthy friendships, behaviours, Stereotypes Families, personal wellbeing, dental health	Emotions & mental health, Internet safety, asthma Privacy online, introduction to puberty, smoking	Citizenship, human rights, democracy Keeping money safe, gambling, career routes

Maths practice

The most important skills to practise in maths are mastering number facts, and securing the written methods of arithmetic. You can practise addition facts using Numbots, and times tables using Times Tables Rockstars. There are videos on the EPJS website showing how we carry out each of the written methods.

Numbots
www.numbots.com

Times Tables Rockstars
www.ttrockstars.com

EPJS Maths methods
www.epjs.co.uk/maths