Knowledge Organisers

Year 6

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.

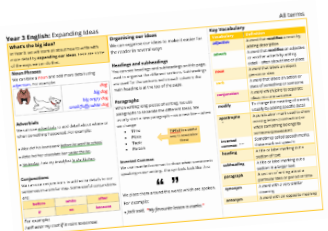
At the end of each academic year, we complete assessments of children's knowledge in key subjects and use this to inform both our teaching, and our judgements of children's attainment in those subjects. We also encourage families to make use of the knowledge organisers to discuss and review learning.

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



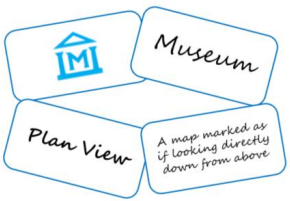
When you first meet a new topic, just browsing the organiser can help you to identify what you already know, and what is new learning for you.

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 6 English: Effect on the reader

What's the big idea?

In Year 6, we will use all the skills you have learnt over the years to help the reader to understand the messages and feelings you want to convey.

Active & Passive Voice

The most common form of sentences is the active voice – the verb tells us what the **subject** is or **does**:

- ***Michael** **broke** the window.*
- ***Shakespeare** **wrote** the play Macbeth.*
- ***Ancient Maya people** **built** the Temple of Kukulcan over 900 years ago.*

The passive voice is used to change the sentence so that if focuses on what happens to the subject. This can be for different reasons:

Because the person doing the action is obvious

- ***The play Macbeth** **was written** in 1606.*

Because the 'recipient' is more significant than the person doing the action

- ***The Temple of Kukulcan** **was built** over 900 years ago.*

To play down – or completely conceal – who did the action

- ***The window** was broken by Michael.*
- ***The window** got broken.*

Formal language

When writing for some audiences, it is important to use formal language. For example:

- Use formal greetings and introductions
- Avoid contractions
- Use technical language
- Sometimes use passive voice
- Use formal connective phrases such as "However" or "Furthermore"

Figurative language

In narrative writing, we can use figurative language to give the reader a clear image in their mind using comparisons.

- Simile: *He roared **like a lion.***
- Metaphor: *Her hair **was a golden river.***
- Personification: ***The moon smiled down on them**.*

Dialogue to advance the action

You can use the speech in a narrative to tell the reader what is happening. For example, instead of describing what happened, you could have a character say,

- *"What was that noise?"*
- *"James, I need to tell you something…"*
- *"You did bring the key… didn't you?"*

Key Vocabulary

Vocabulary	Definition
Active voice	A verb where the subject of the sentence is performing the action
Passive voice	A verb where the subject of the sentence is 'receiving' the action
antonym	Word with an opposite meaning
colon :	Punctuation mark used to introduce a list or clause
figurative language	Language which has a non-literal meaning, such as similes and metaphors
metaphor	A comparison which describes an object as though it were something else
modal verbs	Verbs which indicate likelihood of an action *(e.g. might, could, should, will, can)*
personification	Language which gives human actions or emotions to objects
semi-colon ;	Punctuation mark used to separate two connected main clauses
simile	A direct comparison for effect, often using "as… as" or "like"
synonym	A word with a very similar meaning
tense	The indication of whether a verb is in the past, present or future

Year 6 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.

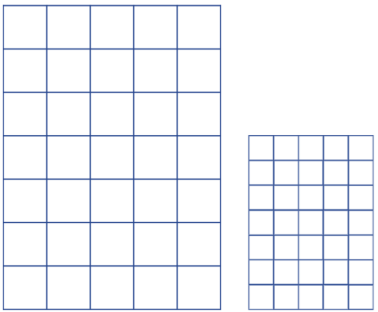
Recently Ben has worked with wild in art to paint a Shaun the sheep sculpture for the Brighton art trail.

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.
Mixed media	Using more than one material to create an artwork, such as colour pencil, charcoal, watercolour pencils and ink.
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 6 Art & Design: Salvador Dalí Autumn

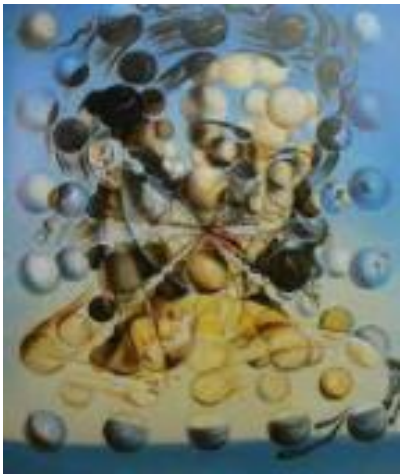
Salvador Dalí

Salvador Dalí was an experimental Spanish artist, renowned for his technical skill and use of many bizarre images in his work. The common themes in his art were: dreams, the subconscious mind, religion and science. The surrealist nature of his work meant that he would juxtaposition contrasting images, thus emphasising their similarities and differences.

The Persistence of Memory

Examples of his work

Swans Reflecting Elephants



Galatea of Spheres

Key Vocabulary

Vocabulary	Definition
Colour continuity	A smooth/seamless flow of colour.
Exact colour matching	Mixing a paint colour to exactly match with something else. For example, a section of a painting, flower or skin tone.
Streak-free	No unwanted streaks, lines or marks are visible on a painting.
Blending	When colours are mixed to form another colour.
Atmosphere	Where an illusion of perspective/depth is created. For example, painting distant objects with less detail and by using lighter colours.
Mood	The feelings and emotions conveyed by the painting.
Surrealism	Uses visuals to activate the unconscious mind through imagery.

Year 6 Art & Design: Andy Warhol

Spring

Andy Warhol

Artist Andy Warhol, lived and worked in America. He was associated with the **pop art** movement in the 1960s and to this day his work remains popular.

For Warhol, it was important that his work explored artistic expression, and he liked challenging celebrity culture and advertising. He produced a variety of different pieces and particularly enjoyed painting, photography, sculpture and printing. When printing Warhol was particularly fond of silkscreen printing. Even now, his work usually commands a high price at auction, with one piece ('Silver Car Crash') being sold for $105,000,000. Warhol also had a successful career as a commercial artist.

Examples of his work

Print of Marilyn Monroe

Print of Campbell's soup can and Coca Cola

Key Vocabulary

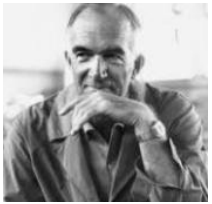
Vocabulary	Definition
Pop art	Visual art movement in the 1960s
Lino tile	A pliable material made from different components such as: linseed, resin and cork dust.
Lino cutters	Used to cut into the surface of the lino tile. These are available in a variety of different thicknesses depending on the size of line required.
Negative effect	A term used to describe the area that is cut away. This will not be printed: so remains white (or the colour of the surface which is being printed on)

Negative effect is white

Year 6 Art & Design: Jørn Utzon

Summer

Jørn Utzon

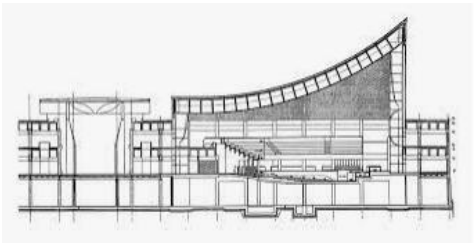


Jørn Utzon was a Danish architect and designer. He won a prestigious prize for designing The Sydney Opera House, which is in Australia. His inspiration came from the segments of an orange being peeled. The 14 pieces, if combined, would form a complete sphere.

Utzon's innovative design called upon both mathematicians and engineers to collaborate, in order to bring the design to life!

The Sydney Opera House was built in 1973 and has since been declared a UNESCO World Heritage Site. This means that the site is protected and preserved for current and future generations to benefit from.

Examples of his work



Kuwait's National Assembly Building

Sydney Opera House

Key Vocabulary

Vocabulary	Definition
3D sculpture	Any artwork made by the manipulation of materials resulting in a three-dimensional object.
angle	A measure of turn.
chicken wire	Wire mesh that can be cut, bent and twisted.
mod-rock	Plaster of Paris modelling rock.
offshore view	Moving from the shore and towards the water.
onshore view	Moving from the water towards or onto the shore.
Sydney Opera House	An opera house built on Sydney harbour.

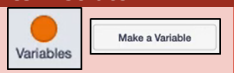
Year 6 Computing

Programming

Variables in games

https://scratch.mit.edu/

Variables are changeable elements of a program. Using algorithms, we can plan, model, trial and debug, to create accurate command sequences, that enable variables to be enacted in games.

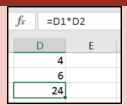
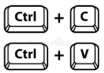
Making Variables in Scratch	
Select 'Variables' (dark orange circle). Either choose from the available variables or 'Make A Variable.'	
Select 'Events' (light orange circle). Choose what needs to happen for the variable to change.	
Select 'Variables' again. Choose what will happen when the event happens.	

Vocabulary	Definition
algorithms	sets of instructions for performing a task
programming	the process of keying in the code recognized by the computer into the software (using your algorithm).
sequence	a pattern or process in which one thing follows another

Data & Information

Introduction to spreadsheets

A spreadsheet is a computer application that allows users to organise, analyse and store data in a table. Mostly commonly, used are Google Sheets and Microsoft Excel.

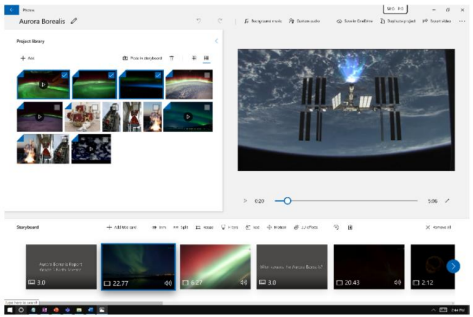
Functions		
formulas	tells a computer which operation to use for a calculation.	
calculation	the 'fx' or 'sigma' icons help to find averages, add many cells together and many others	
duplicating	allows you to create copies of the same data	

Vocabulary	Definition
data	raw numbers and figures
information	what we can understand from analysing data
spreadsheets	organise and store data in meaningful ways so that it can be easily accessed and analysed

Creating Media

Video production

The Video Editor app has a set of video creation and editing tools, allowing you to include music, text, motion, and 3D effects.



Vocabulary	Definition
duration	adjusts the timing of a video clip
filters	adds a visual treatment to your video clip or photo (for example, making it black & white)
motion	gives photos more visual interest
rotate	changes the orientation of a photo or video

Year 6 Design & Technology: Tote Bags

Spring

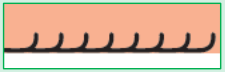
Key sewing techniques

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

Blanket Stitch
Used to finish or reinforce edges of a join



Appliqué

Appliqué is the French word for 'applied'. Appliqué is a type of textile work where small pieces of fabric are sewn or attached to a larger piece to form a pattern or design.

Features

Key Vocabulary

Vocabulary	Definition
annotate	To add notes to explain a plan or design
criteria	Statements that guide a project – and can be used to judge its success
detail	The small features of an object or design
evaluation	A review which judges how well a product meets the criteria, and whether it could be improved
fabric	A natural or man-made material used to textile work
seam	a line where two pieces of fabric are sewn together in a garment or other article.
sew	To join or fasten by stitches using needle and thread
textiles	Products made using fabric and weaving, sewing or other techniques
template	A design made of metal, paper or plastic to help make accurate copies of a shape

Year 6 Design & Technology: Buggy Battle (motorised vehicle) Summer

Vehicle Design

There are several elements to vehicle design, from safety to performance and aesthetics.

For speed and performance, a design may be made more aerodynamic. The aim is to reduce the effect of air resistance acting as a drag on the vehicle.

Less air resistance = less drag

Greater air resistance = more drag

Design views

Front view

Plan view

Side view

Key Vocabulary

Vocabulary	Definition
aesthetic	How a product looks or feels to the consumer
air resistance	The drag on an object as it moves through air
chassis	The main frame of the body of a car
design criteria	A set of requirements to help a designer focus their ideas to achieve a purpose
function	The main purpose of an object: what it has been designed to do
graphics	Images which are designed to explain or illustrate something
kinetic energy	The energy of a moving object
mechanism	Parts that move together as part of a machine, usually to achieve a function
potential energy	A store of energy such as a stretched elastic band which can be released as another form, such as kinetic
structure	Something which has been made, and can usually stand on its own

Year 6 Geography: Natural Resources and Environmental Impact

Autumn

Key Vocabulary

Vocabulary	Definition
biomes	A large geographical area which is home to certain plants and animals, specially adapted to suit the environment.
climate	The usual or average weather conditions over a long period of time.
Tropic of Cancer	An imaginary line around the Earth about 23° north of the Equator. It is the furthest point north where the sun can be directly overhead.
Tropic of Capricorn	An imaginary line around the Earth about 23° south of the Equator. It is the furthest point south where the sun can be directly overhead.
weather	The specific atmospheric conditions on a given day including temperature and rainfall.

North America is a continent that contains 23 countries.

South America is a continent that contains 12 countries.

Comparison of Different Places

Physical Geography:

- Oceans and coastlines
- Rivers and lakes
- Mountains and volcanoes
- Flora and fauna
- Land-forms
- Climate
- Biomes

Human Geography:

- Country/ region boundaries
- Buildings, roads and land use
- Changes to river courses.
- Language/ signs
- Religion, government, art and music.

Different regions have access to different renewable or nonrenewable natural resources such as freshwater, fossil fuels, fertile soil or timber based on their geographic location and past geologic processes.

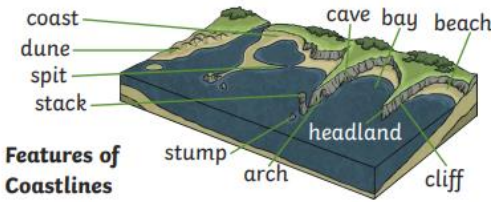
Year 6 Geography: Our Changing World

Spring

Key Vocabulary

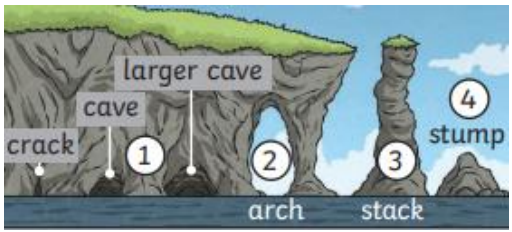
Vocabulary	Definition
border	The line marking the separation between two countries or other areas
boundary	The outer part or edge of a region that divides it from another area
deposition	When material/sediment is moved and dropped off in a different place.
erosion	When natural materials are worn away and transported to a different place.
weathering	The process of wearing away rocks by the weather.
biological weathering	Caused by animals and plants. Roots can grow under rocks and cause damage, animals can wear away paths, dig holes etc.
chemical weathering	Slightly acidic rainwater can cause a chemical reaction and over time this can dissolve some of the rock.
physical weathering	Water gets into cracks in the rock, it can then freeze causing the water to expand creating cracks in the rock.

Changing Coastlines



Bays form between headlands where softer rock is more easily eroded.

Erosion leading to rock formations



Erosion of cliffs can lead to several stages of rock formation

Changing boundaries

Boundaries and borders of countries may change for many reasons:

Physical activity
Rising sea levels
Changing river courses
Volcanic eruptions

Human activity
Tribes claiming areas of land
Invasion/war
Migration of other settlers
Royal/political union
Peaceful separation

Year 6 Geography: Trade & Economics

Summer

Trade has changed a lot through our history. This is partly due to developments in transportation but also due to the changing relationships of the UK with other countries.

Fairtrade

Fairtrade is a system of checks and certificates provided by the Fairtrade organisation. It works with farmers and workers around the world to try to ensure strong workers' rights, safer working conditions, and fairer pay.

Globalisation

As transporting goods around the world has become easier, there is much greater trade between different parts of the world.

Positive Effects of Globalisation

- New industry jobs in LEDCs.
- Wealth for local economies which could be spent on education, health and infrastructure.
- Sharing of ideas, experiences and lifestyles of people and cultures.
- Awareness of global issues.

Negative Effects of Globalisation

- Loss of industry jobs in MEDCs and local businesses globally.
- No guarantee the wealth will benefit the local community.
- Dangerous work environments and poor pay for people in LEDCs.
- Threat to the world's cultural diversity and environment.

Vocabulary	Definition
consumer	People who buy goods and services with money
economy	How money is made and spent in a particular area. This could be within a country or across the world.
export	Goods and services sent to another country for sale
globalisation	The increasing connections between places and people across the planet as a result of massively increased trade and cultural exchange
import	Goods or services brought into a country from abroad.
inequality	A situation in which some groups in a society have more advantages than others
LEDC	Less Economically Developed Country
MEDC	More Economically Developed Country
Producers	People who create, or produce, goods and provide services.
TNC	TransNational Corporation: a company that operates in more than one country
Trade	The buying and selling of goods and services

Year 6 History: Powerful People

Autumn

Throughout the history of our country, different people have held power. This includes kings, emperors, soldiers, prime ministers and more recently, the whole population.

Key People

Date	Event
William the Conqueror	Duke from Normandy who invaded England in 1066
King John	King who signed the Magna Carta in 1215
Simon de Montfort	Battled the king to create the first English parliament
Charles I	King who lost the English civil war – and was executed
Oliver Cromwell	Soldier who led the fight against the king in the civil war
William of Orange	Duke from Holland who was invited by parliament to be king
King Charles III	Current monarch of the UK
Rishi Sunak	Current Prime Minster in the UK government

Key Vocabulary

Vocabulary	Definition
autocracy	A country ruled by a single person who has complete control
democracy	A system of managing power where every person has a vote
election	A day (or several days) of voting to choose representatives
empire	A group of countries under the control of another country's leader
Magna Carta	Latin for "Great Charter" – an agreement signed by King John agreeing to demands of the barons in 1215
government	The group of people who make the main decisions about running the country
monarch	A leader of a country who holds their position until they die – usually an inherited role
parliament	A system of government where elected representatives have a say on the decisions being made
Prime minister	The leader of a government in many parliamentary systems
suffragists / suffragettes	Campaigners who fought for women to be allowed to vote

Key Events

Date	Event
410	Departure of the Romans from Britain
880	King Alfred becomes first King of all England
1066	Battle of Hastings and the Norman Conquest
1215	Signing of the Magna Carta
1265	Battle of Lewes (Simon de Montfort's parliament)
1640s	English civil war
1688	Glorious Revolution (William & Mary become joint monarchs)
1838	Chartists produce their People Charter
1918	All men allowed to vote (and women over 30)
1928	Equal voting for men & women
1969	Voting age lowered from 21 to 18 for men and women

⇨ 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 6 History: Benin Bronzes

Summer

The Kingdom of Benin

- The kingdom of Benin can be found in the modern-day country of **Nigeria.**
- It is **not** directly related to the modern country of Benin.
- It first developed around **900 CE** as a city.
- By the **1400s**, Benin had developed into an empire.
- During the Victorian period, British explorers **invaded** Benin, and claimed it as part of the British Empire.
- Benin was ruled as part of the British colony of Nigeria, and remains as part of an **independent** Nigeria today.

Benin Bronzes

The Benin Bronzes are a group of over 2000 metal plaques which were created mostly in the sixteenth century (1500s).

A brass plaque on display at the British Museum

Many were taken by British invaders in 1897 and now rest in collections in museums around the world, including around 900 at the British Museum in London.

There is much debate now about whether the bronzes should be returned to their original homeland in Nigeria.

Key Vocabulary

Vocabulary	Definition
artefact	An item of historical interest made by people of the past
Benin Bronzes	Various plaques made of bronze, brass or other metals found in the Kingdom of Benin
colony	A area which becomes under the control or rule of another country, such as those ruled by the British Empire.
Edo people	The indigenous inhabitants of the Kingdom of Benin (named after the original name of Benin City: **Edo**)
enslave	To force someone to become a slave
indigenous	The original inhabitants of an area – particularly those present before an invasion or colonisation
Oba	The ruler of the Edo people living in the Kingdom of Benin
plaque	A piece of flat metal, stone or wood with writing or images on it, that is fixed to a surface
repatriation	To send something back to its country of origin

⇨ 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 6 Music

Theme: Composition – Ode to Joy

Vocabulary	Definition
accompaniment	An additional section of music to be played with a melody
bar	A section of music notation showing groups of notes together
melody	The main tune of pattern of notes
notation	Symbols used to record a piece of music on paper – that players can read and re-play
octave	The distance between two notes of the same name (oct = 8)
phrase	A series of notes forming a pattern within a longer piece of music
score	Music recorded in notation
stave	The five lines used for recording music notation
crotchet	A one-beat note
quaver	A half-beat note
minim	A two-beat note
semibreve	A four-beat note

Theme: Baroque music

Vocabulary	Definition
Baroque	A musical period from around 1600 to 1750 which saw the popularisation of polyphonic music with harmonies
basso continuo	An accompanying piece of music playing the bassline or harmony alongside the main melody
fugue	A musical form where different melodies take turns to 'lead' the music
harmony	A combination of different musical instruments, melodies or notes that make a pleasing sound.
legato	Playing music in a smooth flowing manner
monophonic	Music with a single melody or tune, without harmonies
polyphonic	Music featuring several layers or instruments
scale	An arrangement of notes in ascending order
staccato	Performing each note detached from the neighbouring notes

Theme: Year 6 Performance

Vocabulary	Definition
crescendo	Increasing volume in a piece of music
diminuendo	Decreasing volume in a piece of music
dynamics	The varying levels of sound in a piece of music
harmony	A combination of different musical instruments, melodies or notes that make a pleasing sound.
tempo	The speed at which a piece of music is played
unison	When several voices sing exactly the same melody

This unit will culminate in the Year 6 Production in the summer term.

Year 6 Religious Education

Autumn: Humanism

Vocabulary	Definition
atheism	Belief that gods do not exist
theism	Belief in a god or gods
afterlife	Some form of existence after someone's human body has died
agnostic	Belief that we cannot know whether or not gods exist
authority	A person or organisation in a senior position
celebrant	Non-religious professional who conducts life ceremonies
empathy	Ability to understand and share someone's feelings
finite	Having a limit or end
Golden Rule	The belief that you should treat others as you wish to be treated
human rights	Rights and freedoms which are the entitlement of all people
reason	The ability to use logic and thinking to make a decision
secularism	The separation of all matters of religion from the state or government
supernatural	Something which is beyond the laws of nature or science

Spring: Liturgy & Lent

Vocabulary	Definition
Anglican	Church of England, initially set up by Henry VIII in 1530s
Catholic	Church led by the Pope
covenant	An agreement with God
Determinism / preordained	The belief that thoughts and actions have already been mapped out, often by a God.
Epiphany	Celebration on 6th January in recognition of the arrival of the magi at the birth of Jesus
free will	The ability to freely choose one's own actions
liturgy	formal worship and prayers shared by a formal church.
monotheism	The belief in a single God
Passover	A Jewish holiday celebrating Hebrews escape from Egypt
Pentecost	festival celebrating descent of the Holy Spirit on disciples after Jesus' Ascension.
prophecy	A message or prediction about the future
repent	Show sorrow or regret for having done something wrong
sin	an offence against a moral or religious law, or against word of God

Summer: Creation Stories

Vocabulary	Definition
Abrahamic	Three world religions which trace their routes to Abraham (Christianity, Judaism and Islam)
creation	The act or process of bringing something into existence
creation story	A story that explains how the Earth and humans came into existence
ex nihilo	Latin phrase meaning 'out of nothing'
Genesis	The first book of the Bible and of the Torah, which tells of the creation
Judeo-Christian	Elements which are common across Jewish and Christian faiths
Torah	Jewish religious texts, which shares some common books with the Bible
Trimurti	Three Hindu gods responsible for creation, care and destruction of the world

Evolution

Evolution means change over time. It is the reason we have so many species on Earth. It happens when there is competition to survive (natural selection) and through differences within a species caused by inheritance and mutations.

Adaptation

Adaptation is the process of living things changing to suit the environment. If a species is well adapted it will survive and pass on successful genes to offspring. However, being highly adapted to one specific environment can be detrimental to a species' survival if there are sudden changes to that environment.

Inheritance

Inheritance is when something is passed on to the next generation. Offspring are not identical to their parents and some characteristics are inherited (passed on from parents to off-spring). Other differences are new in offspring—these are called mutations.

Fossils as evidence

Fossils are the remains of living things which inhabited the world millions of years ago. They are formed in sedimentary rock (sand and mud squashed under layers over time) and plants or animals bodies get trapped in these layers, revealing their shape.

When palaeontologists compare fossils to animals from today, they can see similarities and identify relationships between them. Since evolution of a species happens over such a long period of time, evidence is usually taken from fossils.

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

Key Vocabulary

Vocabulary	Definition
Adaptation	Process of change by which an organism or species becomes better suited to its environment.
Characteristics	Distinguishing qualities, traits or features of a living thing.
Evolution	The process of gradual change that takes place over many generations.
Extinct	A species that no longer in existence.
Inheritance	The characteristics received from parents through genes.
Mutation	Permanent changes in genes which pass on to offspring.
Natural Selection	The process by which species that are best adapted to their environment survive and reproduce, while less well adapted species die out.
Offspring	The young of a human, animal or plant.
Palaeontology	The area of science that studies fossilised animals and plants.
Species	Plants or animals which have the same **characteristics** and are able to produce **offspring.**
Variation	Differences between living things of the same **species**, caused either by genetic differences or by the effect of environmental factors.

Year 6 Science: Light

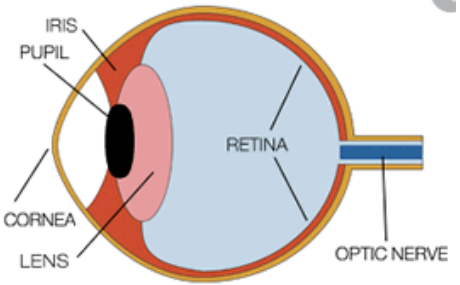
Autumn

Light

- Light is a form of energy which allows us to see things.
- We can see things because light is reflected off surfaces into our eyes.
- Light travels very quickly, in straight lines.

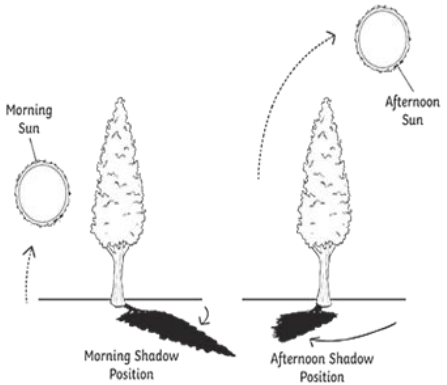
How we see

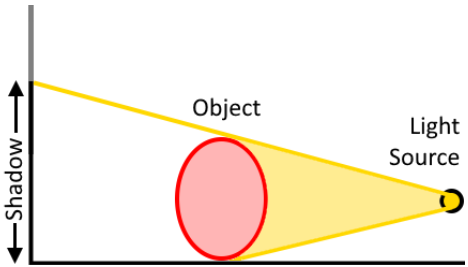
- Light enters the eye through the pupil.
- The iris helps the pupil change size depending on how bright it is.
- Light hits the retina at the back of the eye.
- The retina turns light into signals the brain understands.
- The optic nerve takes signals to the brain.
- The brain sends feedback signals to the lens telling it how to focus so we can see clearly.



Shadows

- A shadow forms when an object blocks the path of a light source.
- Shadows form in the shape of the object which is blocking the light.
- Shadows vary in size depending on the distance of the light source from an object





Key Vocabulary

Vocabulary	Definition
eyes	Organs of sight.
light	A form of energy that triggers sight and makes things visible.
light source	Something that provides light. It can be natural or artificial.
opaque	Does not allow light to pass through.
periscope	Apparatus consisting of a tube attached to mirrors or prisms through which an observer can see things that are out of sight.
ray	A beam of light given off by a light source.
reflection	Light bouncing off an object or surface.
refraction	When light changes direction while moving through more than one material.
shadow	A dark shape produced by an object blocking a light source. A shadow is the absence of light.
spectrum	A band of several colours: violet, indigo, blue, green, yellow, orange and red.
translucent	Allows some light to pass through.
transparent	Allows all light to pass through.

Quizzes

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

Year 6 Science: Classification

Spring

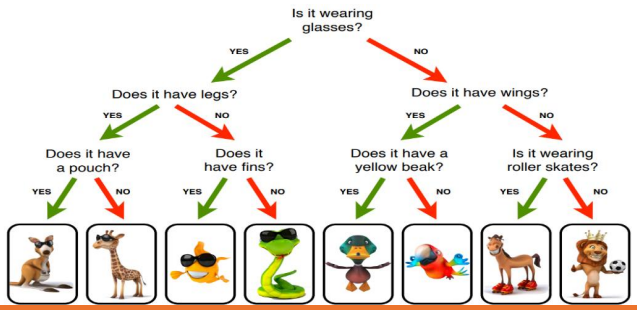
Key Knowledge

Characteristics essential to life

- **M**ovement
- **R**espiration
- **S**ensitivity
- **G**rowth
- **R**eproduction
- **E**xcretion
- **N**utrition

The five vertebrate groups

- Scientists use **classification keys** to **group** things based on **similar characteristics**.
- **Micro-organisms** are tiny living things that are **not visible to the human eye**.
- Micro-organisms can be observed using a **microscope**.
- Examples of micro-organisms include: **bacteria, viruses and some moulds**.
- Some **bacteria** can be **beneficial to our health** and some can be **harmful to our health**.
- Maintaining **good hygiene** is important to **stop the spread of harmful bacteria**.



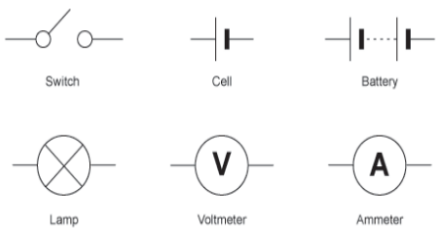
Key Vocabulary

Vocabulary	Definition
amphibian	Cold-blooded **vertebrate** animals (e.g. frogs and toads) that have gills and live in water as young but breathe air as adults.
bird	Warm-blooded, egg-laying animals that have vertebrae (a backbone). They are different from **mammals** because they lay hard-shelled eggs and have feathers. A **bird** has four limbs—two that are wings—along with a beak and no teeth.
characteristic	Any feature that helps identify something.
classification	A way of grouping things based on similar **characteristics.**
classification key	A series of questions about the **organism's** physical characteristics.
environment	All of the conditions that affect a **living** thing.
fish	An animal that lives in water and has fins for swimming and gills for breathing. **Fish** are cold-blooded animals with skeletons inside their bodies. Most **fish** have scales.
invertebrate	**Living** things without a backbone e.g. fly, spider, jellyfish.
living	Alive now or once was alive. Possesses all of the 7 **characteristics** from MRS GREN.
mammal	An animal that breathes air, has a backbone, and grows hair at some point during its life. In addition, all female **mammals** have glands that can produce milk. Mammals include a wide variety of animals, from cats to humans to whales.
non-living	Not alive now and never was alive. Does not possess all of the 7 MRS GREN **characteristics** e.g. fire.
organism	A **living** thing made up of one or more cells.
reptile	A cold-blooded animal (e.g. snake, lizard, turtle, or alligator) that breathes air and usually has skin covered with scales or bony plates.
vertebrate	Living things with a backbone e.g. dogs, fish and humans.

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

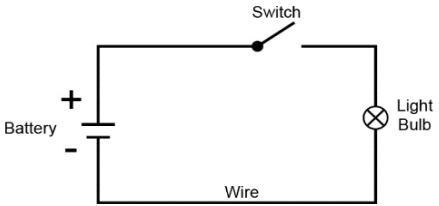
Circuit Symbols

Simple symbols are used to represent components in circuit diagrams to make them easy to follow.



Series Circuits

- In a series circuit all the components are joined together.
- Electricity can only flow in one direction.
- Switches can be used to open and close circuits.
- A circuit will not work if it has any gaps.



Conductors

An electrical conductor lets electricity pass through it. Many conductors are metals, but they also include carbon and water.

Insulators

An electrical insulator does not let electricity pass through it easily.

Plastic is often used to cover electrical wires because it is a good insulator.

Key Vocabulary

Vocabulary	Definition
amps	The measurement of how much electricity is flowing through a circuit.
buzzer	An electrical device that is used to make a buzzing sound.
conductor	A substance that easily allows electricity to pass through
current	A flow of electricity through a wire or circuit.
electricity	A form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices.
insulator	A substance that does not allow electricity to pass through easily
motor	A device that uses electricity or fuel to produce movement.
switch	A small control for an electrical device which you use to turn the device on or off.
Volt	A measure of electrical force

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

Year 6 Science: Animals, including humans

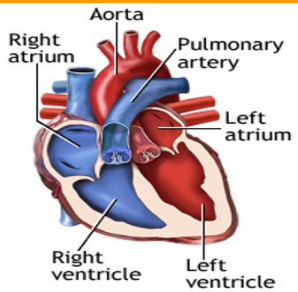
Summer

Key Knowledge

What is the circulatory system?

- **The circulatory system** is made up of the **heart, lungs and blood vessels.**
- **Blood vessels** carry blood away from and towards the heart**.**
- **Arteries carry blood away from the heart** and **veins carry blood back to the heart.**
- The circulatory system carries **oxygen, nutrients,** and **hormones to cells,** and **removes waste products,** like carbon dioxide.

The heart



Oxygenated blood

Deoxygenated blood

- The heart is composed of **four chambers**; the **right atrium**, the **right ventricle**, the **left atrium** and the **left ventricle.**
- **The right atrium** receives **deoxygenated blood** from the body and pumps it to the **right ventricle**.
- **The right ventricle** pumps the **oxygenated blood** to the **lungs.**
- **The left atrium** receives **oxygenated blood** from the **lungs** and pumps it to the **left ventricle.**
- **The left ventricle** then pumps **oxygenated blood** to the body.

Health Diet & Lifestyle

- Lifestyle choices can **benefit** or **harm** our health.
- **Drugs, alcohol and smoking** have **negative effects** on the body.
- **Regular exercise boosts health and fitness**. It can: strengthen muscles and bones, improve circulation, increase oxygen to the body, improve sleep and support positive mental health.

Key Vocabulary

Vocabulary	Definition
arteries	Tubes in your body that carry **oxygenated** blood from your **heart** to the rest of your body.
atrium	An upper chamber of the heart.
blood vessels	Narrow tubes that your blood flows through.
carbon dioxide	A gas produced by animals and people breathing out.
circulatory systems	The system responsible for circulating blood through the body that supplies **nutrients** and **oxygen** to the body and removes waste products such as **carbon dioxide**.
deoxygenated	Blood that does not contain oxygen.
heart	The **organ** in your body that pumps blood around the body.
lungs	Two **organs** in your chest which fill with air when you breathe in. They **oxygenate** the blood and remove **carbon dioxide** from it.
nutrients	Substances that help living things grow.
organ	A part of the body that has a particular purpose and performs specific functions.
oxygen	A colourless gas that plants and animals need to survive.
oxygenated	Something that contains oxygen.
pulse	The regular beating of blood through your body. How fast or slow your pulse rate is depends on how active you are.
respiration	Inhaling **oxygen**-rich air and exhaling air filled with **carbon dioxide.**
veins	A tube in your body that carries **deoxygenated** blood to your heart from the rest of your body.
ventricle	The part of the heart from which blood passes into the arteries.

Quizzes

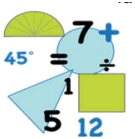
www.epjs.co.uk/Curriculum/Science/

Year 6 Spanish: School & Regular verbs

Autumn

En el colegio

el inglés



las matemáticas

las ciencias

el español

el arte

la informática

la geografía

la historia

la música

la educación física

Los Verbos Regulares

Person	Inglés	Español
1st singular	**I**	***Yo***
2nd singular	**You**	***Tú***
3rd singular	**He / She**	***Él / Ella***
1st plural	**We**	***Nosotros/ Nosotras***
2nd plural	**You**	***Vosotros/ Vosotras***
3rd plural	**They**	***Ellos/Ellas***

-ir verbs

(vivir: *to live***; escribir:** *to write***)**

Remove the -ir to find the root, then use the correct suffix

Person	Suffix	Example
1st singular	**-o**	***Vivo***
2nd singular	**-es**	***Vives***
3rd singular	**-e**	***Vive***

-er verbs

(comer: *to eat***; beber:** *to drink***)**

Remove the -er to find the root, then use the correct suffix

Person	Suffix	Example
1st singular	**-o**	***Bebo***
2nd singular	**-es**	***Bebes***
3rd singular	**-e**	***Bebe***

-ar verbs

(hablar: *to speak***; tomar:** *to take***)**

Remove the -er to find the root, then use the correct suffix

Person	Suffix	Example
1st singular	**-o**	***Hablo***
2nd singular	**-as**	***Hablas***
3rd singular	**-a**	***Habla***

Year 6 Spanish: The Weekend

Spring

¿Qué haces los fines de semana?

Me levant**o**

Desayun**o**

Jueg**o** a videojuegos

Le**o**

Escuch**o** música

Jueg**o** al fútbol

Voy al cine

Voy a la piscina

Ve**o** la tele

Voy a dormir

Opiniones

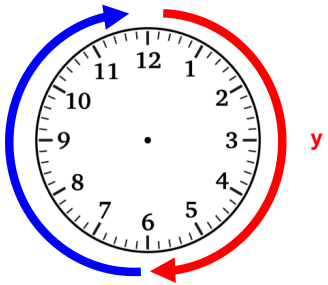
Español	Inglés
¡Es increíble!	*It's incredible!*
¡Es genial!	*It's great*
¡Es divertido!	*It's fun!*
¡Es agotador!	*It's exhausting!*
¡Es aburrido!	*It's boring!*
Es horrible	*It's awful!*

Verbos

Español	Inglés
Juego	*I play*
Veo	*I watch*
Voy	*I go*

These are all irregular verbs where the stem (the main part of the verb) changes, not just the ending.

¿Qué hora es?



Español	Inglés
Es la una	*It's is 1 o'clock*
A la una	*At 1 o'clock*
Son las **dos**	*It is **2 o'clock***
A las...	*At...*
Son las...	*It is... (for time)*
y cuarto	*quarter past* *[and a quarter]*
y media	*half past* *[and a half]*
menos cuarto	*quarter to* *[minus a quarter]*

The minutes information always comes after the hour, e.g.

Son las dos y media

Son las tres menos cuarto

Son las diez y veinte

Son las once menos cinco

Year 6 Spanish: Healthy Living Spring

La comida sana

pollo

pescado

carne roja

queso

nueces

mantequilla

pan blanco

pan integral

leche desnatada

leche entera

agua

bebidas con gas

cereales

vegetales

fruta

chocolate

galletas

patatas fritas

caramelos

¡Cortar!

¡Añadir!

¡Mezclar!

¡Rallar!

¡Cocinar!

Actividades

Hago natación

Paseo a mi perro

Juego al baloncesto

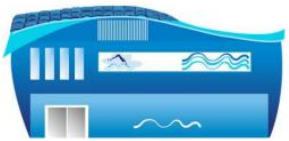
Juego al tenis

Hago judo

Monto en bicicleta

En la ciudad

la estación



la piscina

la escuela

la biblioteca

la farmacia

el hospital

el supermercado

el restaurante

el museo

el centro comercial

Gira a la izquierda

Gira a la derecha

Sigue todo recto

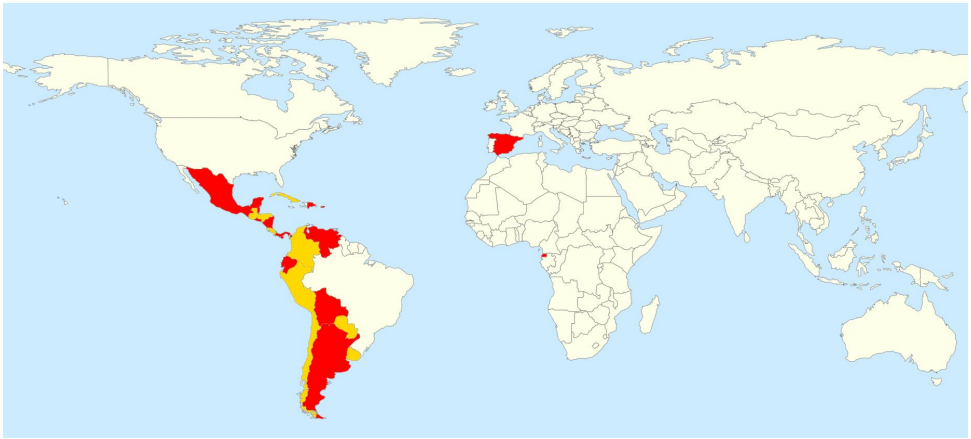
Sigue todo recto y después gira a la izquierda

Sigue todo recto y después gira a la derecha

Key verbs

Español	Inglés
Me llamo	*My name is*
Te llamas	*Your name is*
Se llama	*His/her name is*
Tengo	*I have*
Tienes	*You have*
Tiene	*He/she has*
Vivo	*I live*
Vives	*You live*
Vive	*He/she lives*
Hablo	*I speak*
Hablas	*You speak*
Habla	*He/she speaks*
Voy	*I go*
Vas	*You go*
Va	*He/she goes*

El mundo hispanoparlante



Argentina	Guinea Ecuatorial
Bolivia	Honduras
Chile	México
Colombia	Nicaragua
Costa Rica	Panamá
Cuba	Paraguay
Ecuador	Perú
El Salvador	República Dominicana
España	Uruguay
Guatemala	Venezuela

Year 6: 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 and the 4 operations Word problems Fractions & Decimals	Fractions & Decimals Measures Ratio Algebra Area & Perimeter	SATS revision Data Handling Volume Geometry & Position Negative Numbers Investigative Maths
Physical Education	Dodgeball Self-defence Gymnastics Tennis	Netball Dance Quicksticks Hockey Mini Muay Thai	Athletics Multi-skills Fitness Kwik Cricket
Life Skills	Relationships: respect, stereotypes, conflict and loss Health & Wellbeing: relaxation, resilience, immunisation & habits	Citizenship: human rights, discrimination, diversity and democracy Economic wellbeing: Money safety, gambling & careers	Identity: body image; career choices Safety: alcohol, digital lives, social media & first aid. Transition

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