



Bottisham Village College

KNOWLEDGE ORGANISER

YEAR 8

TERM 1



KNOWLEDGE ORGANISERS

At Bottisham Village College, we are striving to create a five-year curriculum plan that builds effective revision strategies into homework and lessons, to ensure that students are able to place powerful knowledge into their long-term memories. Additionally, we hope that this will help build effective learning strategies from early in their time here at the college.

Based on evidence, we know that regular recall activities are the best way of achieving this goal and committing powerful knowledge into the students' memories.

At the start of each term, we shall publish all the knowledge organisers that students will require for their studies in each curriculum area. These will cover a range of aspects: facts, dates, characters, quotes, precise definitions and important vocabulary. We are clear: if this fundamental knowledge is secured, students can then develop their higher-level skills of analysis and critical understanding with greater depth.

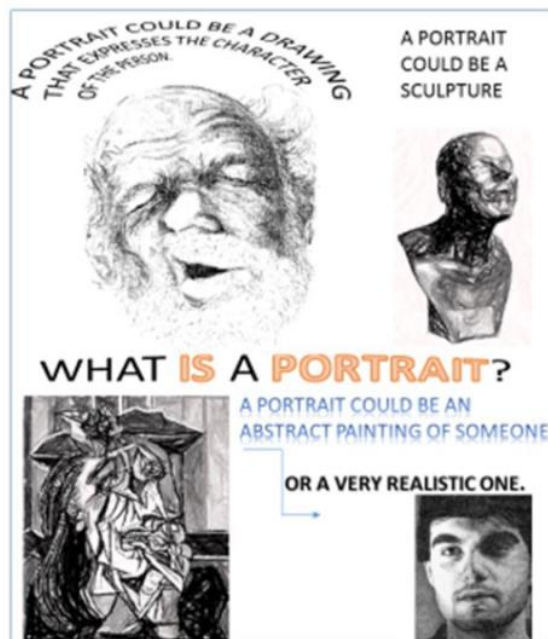
They will be given an electronic A4 Knowledge Organiser (KO) booklet for each term containing all of the knowledge required. In lessons, Bottisham staff will be regularly testing this fundamental knowledge, using short-quizzes or even more formal "Faculty Knowledge Tests".

The best way to use these organisers at home, is to follow a simple mantra:



- 1. Look at a certain aspects of a particular knowledge organiser**
- 2. Cover up part of their knowledge organiser**
- 3. Write it out from memory**
- 4. Check and correct any spelling mistakes, missing bits or mistakes**

So simple but so effective.



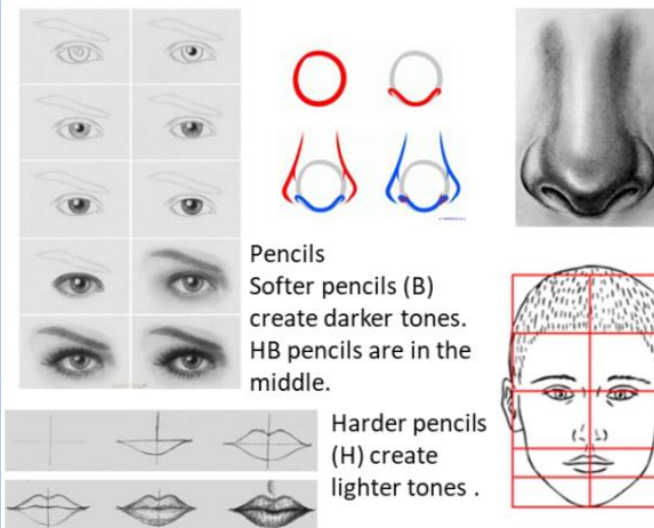
You will learn how to create a double page of research that compares two and three dimensional portrait art



GABO

PICASSO

You will learn about proportions and ways to simplify complex shapes such as eyes.



You will develop skills to enable you to draw a self-portrait successfully.



You will learn how to abstract portraits through analysis of line, shape and pattern in your drawings and make further connections to artists.



Key Words

Continuous line
Abstract
Negative spaces
Pattern
Shape

You will work in pairs and learn how to construct a card relief sculpture.



Edges
Platforms/ramps
Joining/construction



Cutting
Precision
Placement
Creativity



You will learn about the artist
Steve Wilson.



RETRO
Drips
Melting shapes
Bright colours
Overlapping
Colours
Translucent colours



Bold shapes
Overlapping shapes
Chaos
Primary and secondary colours

Lines
Continuous lines
Patterns
Organised



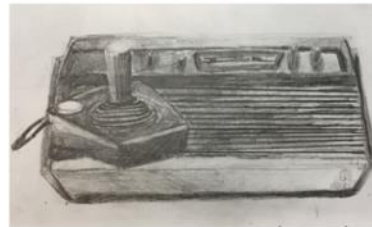
You will learn how to create a double page of research that creatively combine pictures, notes and sketches.



Knowledge Organiser Year 8: Rotation 2

You will learn how to draw pictures of retro objects.

KEY WORDS:
Observation
Simplistic
Shapes
Proportion
Angles
Sketching



TOP TIPS

- Keep **inside the lines** to make a sharper image
- Keep your pencil **sharp** for more accurate lines
- Avoid scratchy shading by holding your pencil at roughly a **45° angle**
- Avoid smudging your drawing by putting a piece of paper under your hand.

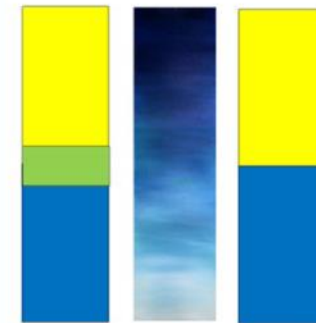
You will learn how to create designs inspired by the artist and extend your understanding of how to use colour pencils.



Block colouring/even density
One colour shading
Two colour blending



You will learn how to paint in the style of
Steve Wilson.



Colour washes
Blending
Blocks of colour

KEY WORDS: Measurements, proportions, precision, accuracy, primary, secondary & tertiary colours, tints & tones.

You will learn how to produce your own piece of retro art.



Unit Topics:

ICT and the Media
Computer Systems
Programming

Computing

Yr 8 Knowledge Organiser

Programs use:

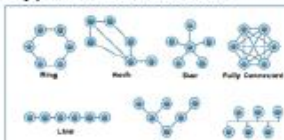
GoogleSlides, GoogleDocs
Microsoft Office
Photoshop
Micro:bits, Edu Blocks

Digital Literacy**ICT Legislation:**

Computer Misuse Act. (1998)
Data Protection Act. (2018)
ICT Health and Safety Act. (1974)
Copyright and Patents Act. (1988)

Networks:

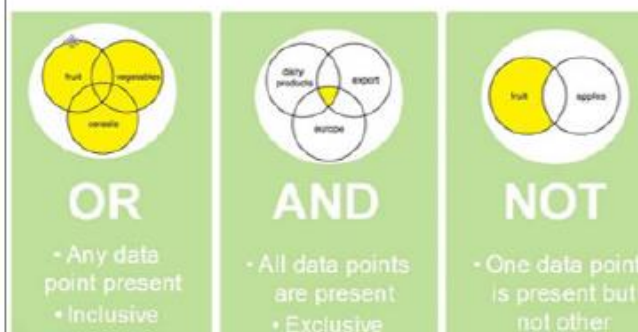
A network is a collection of computers connected digitally. There are different types of networks including
Local Area Networks,
Wide Area Networks and
the Internet.

**Computer Science**

Boolean Logic - a form of algebra which is centred around three simple words known as Boolean Operators: "Or," "And," and "Not". At the heart of Boolean Logic is the idea that all values are either true or false.

Algorithm - an algorithm is a step by step procedure to solve logical problems.

Binary Code - a number system in which there are only two possible states, off and on, symbolized by 0 and 1.



Computational thinking – expressing problems and their solutions in ways that a computer could also execute.

E-safety

Media – the main means of mass communication (broadcasting, publishing, and the Internet) regarded collectively.

Privacy Settings – the settings which can be applied so that you choose who sees your content.

Fake News – content which has been manipulated or incorrectly reported.

Deep Fake – synthetic media in which a person in an existing image or video is replaced with someone else's likeness

Photoshopping – editing images.

Settings icon

**Need help?**

Search for:
Childline,
internetmatters,
ceop or
thinkuknow for
information and
advice.



Students study Dance & Drama under the combined subject of Performing Arts

Choreography: Image as a Stimulus

Criteria for a Motif:

- A short section of movement
- Movement which really clearly shows what your dance is about
- Repeated at least once in your dance

Key Terms:

Stimulus: The starting point which gives you ideas for your dance

Choreographic intention: What your dance is about, what you want the audience to understand. (Theme or story)

Choreographic Devices

Unison: All dancers performing the same movement at the same time

Canon: Dancers performing the same movement at different times, usually one after the other

Highlights: brief moments of importance in the dance

Climax: the biggest part of the dance, usually near the end

Fragmentation: taking a sequence and rearranging the moves into a new order

Repetition: repeating an action or short phrase

Developing Motifs

Action

Add/Subtract Actions

Use a different part of the body to perform the action

Dynamics

Speed

Weight

Flow

Acceleration/ Deceleration

Space

Direction

Level

Pathway

Size

Processes

Research

Improvise

Generate

Select

Develop

Structure

Refine

Structuring Devices

Transitions

Binary

Ternary

Narrative

Relationships

Accumulation: Dancers gradually join into unison

Contact: physical contact with at least one other dancer (supports, balances, lifts, interaction)

Mirroring: creating a mirror image by using the other side of the body

Complement: movement that is very similar to another dancer's (but not the same)

Manipulation of Number: How you split into groups e.g. solo, duet, trio

Formations: The pattern created in the space by the positions of the dancers

Students study Dance & Drama under the combined subject of Performing Arts

Depending on which Technology rotation students are on, they may be working in Computing, D&T or Food Technology

Year 8 Design Technology Knowledge Organiser- Pewter casting

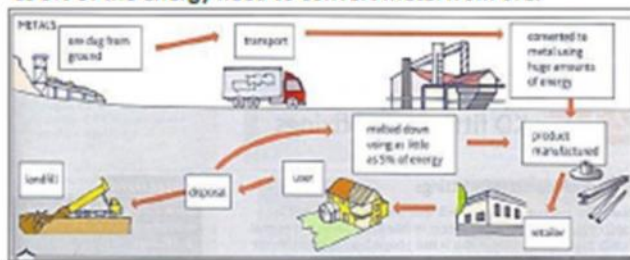
Categories of metals.

Ferrous metals contain iron. Steel is the most common.

Non-ferrous metals do not contain iron. Aluminium is the most common.

Alloys are mixtures of metal and another element(s) which improves on the properties of the metal. Pewter is an alloy of tin and antimony. Pewter has a low melting point compared to most other metals at 225°C to 240°C.

Environmental impact of metals. Metals are made from ore. Ore is mined. Ores use a huge amount of energy to be converted to metal. All metal can be recycled using as little as 5% of the energy need to convert metal from ore.

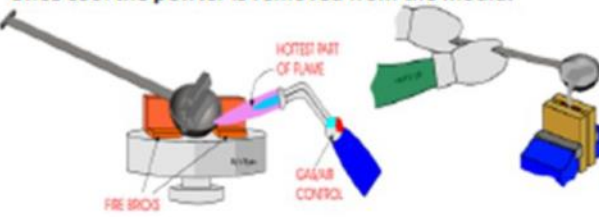


Personal Protective Equipment
Face visor
Leather apron
Leather gloves
Leather shoes



Pewter Casting

The mould is clamped between two pieces of MDF and placed in a vice.
Pewter is heated with on the hot plate until molten.
A Casting ladle is used to pour the molten pewter into the mould.
The pewter is allowed to cool.
Once cool the pewter is removed from the mould.



A lapped joint is used to increase the gluing area on the joints of your box.



The box is dry assembled to test if it is square.
A try square is used for this quality control check.

Tools for working with metal

Centre punch

Ball pein hammer

Cordless drill

Hand drill

Needle files

Wet and dry abrasive paper

Buffing wheel



CAD/CAM- A mould is designed using CAD- computer aided design and cut with a laser cutter (CAM- computer aided manufacture) from MDF

Advantages of CAD/CAM

Designs can be altered and edited easily and can be sent anywhere in the world instantly

Machines do not need breaks, holidays, pensions and are never sick

Products are accurate, repeatable, consistent, made quickly with a minimum of error and fewer safety issues

Disadvantages of CAD/CAM

High initial set up cost and some running costs

Staff may need training

May lead to fewer skilled jobs and higher unemployment

Year 8- Knowledge Organiser – Dystopian Genre

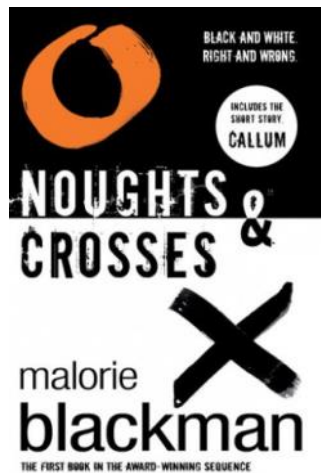
Definition of dystopian writing: literature that describes an imaginary society that is as dehumanising and as unpleasant as possible.

Typical genre features:	A Dystopian Protagonist:	Typical settings:
<ul style="list-style-type: none"> • Propaganda is used to control the citizens of society. • Information, independent thought and freedom are restricted. • A leader/concept is worshipped by the citizens of the society. • Citizens have a fear of the outside world. • Citizens live in a dehumanized state. • Citizens conform to uniform expectations. Individuality and dissent are bad. • The society is an illusion of a perfect utopian world. 	<ul style="list-style-type: none"> • often feels trapped and is struggling to escape. • questions the existing social and political systems and attempts to rebel but in a way that is still morally acceptable • believes or feels that something is terribly wrong with the society in which he or she lives. • Lacks the selfish nature of those in charge. 	<ul style="list-style-type: none"> • Futuristic, industrial cities • Destroyed natural habitat with little connection to nature • High levels of surveillance • Environments and weather that creates a strong sense of oppression or constraint

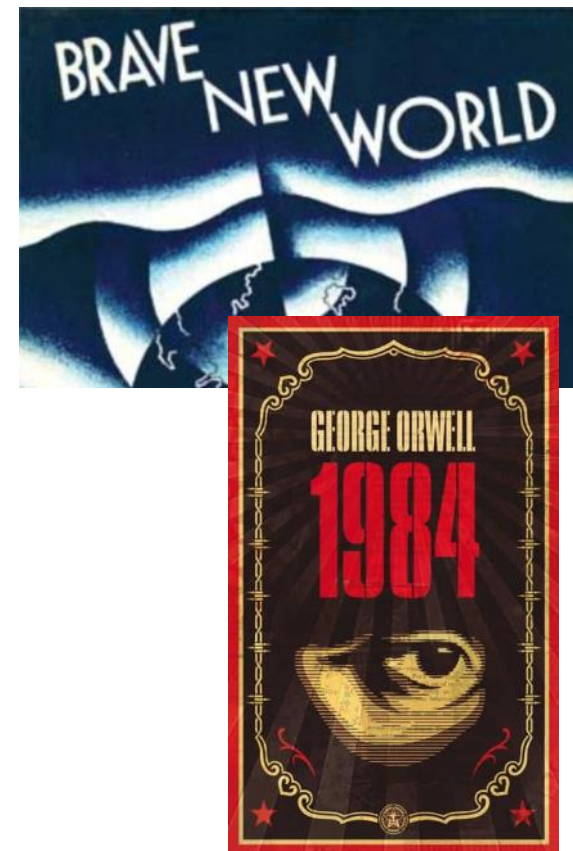
Social and Historical Context

- Dystopian ideas within literature have existed for a long time, but the genre itself is one of the newer genres within literature. *Utopia* written by Thomas More in 1516, which, despite its title, reflects a dystopian society. Although it's presented as an ideal world, we know that in reality, it would not successfully function. So even when trying to describe a utopia, writers may actually end up portraying a society that is flawed or dysfunctional.
- With the increase of social media, public surveillance, fear over nuclear weaponry and an increased awareness of social issues such as racism, greed or poverty, writers have written about the extreme cases of controlling such issues.
- **BIG QUESTION:** Orwell writes in 1984, "If you want a picture of the future, imagine a boot stamping on a human face – for ever." Is this the true depiction of human life? Does this lead us to assume that humans have an ingrained capability to be evil?
- Several dystopian books have been adapted for film, fuelling our obsession with the imperfect society and 'what if' scenarios. However, some are less successful than we would expect. P.D. James, who wrote "The Children of Men", acknowledged that it could be seen as science fiction but was anxious that it was instead identified as dystopian to recognise the moral of the story. "The Children of Men" didn't sell nearly as well as her detective novels. Why might this be?) H.G. Wells abandoned his dystopian science fiction to write a different genre. **Why might that be?**

Key vocabulary



Utopia	Propaganda
Dystopia	Revolution
Dehumanising	Dissent
Dictatorship	Compliance
Totalitarian	Apocalypse
Tyrannical	Conformity
Oppressive	Free will
Repressive	Democracy
Liberation	Dysfunction
Captive	Omnipresent
Constrained	Dehumanisation
Censorship	Surveillance
Compliance	



Notable Dystopian texts					
1984	Brave New World	The Giver	The Running Man	The Maze Runner	A Handmaid's Tale
George Orwell	Aldous Huxley	Lois Lowry	Stephen King	James Dashner	Margaret Atwood
I am Legend	Fahrenheit 451	The Hunger Games	More than This	Noughts and Crosses	Delirium
Richard Matheson	Ray Bradbury	Suzanne Collins	Patrick Ness	Malorie Blackman	Lauren Oliver

PLOT		CHARACTERS		KEY QUOTES	
Part 1: The Tribute	Katniss Everdeen. Her father is dead and she lives with her mother and sister Prim in District 12 in the country of Panem. She hunts with a guy named Gale. Every year the Capitol of Panem hosts an event called the Hunger Games where two "tributes" – a boy and a girl – are drafted from each of the twelve districts to be brought to an arena and fight to the death. Only one person can win. This year, unfortunately, Katniss's little sister is selected for the Hunger Games, so Katniss volunteers to take her place. Also selected is Peeta Mellark, the baker's son,. After the reaping (that's the tribute selection process), Katniss and Peeta are whisked away to the Capitol to prepare for the Games (and primed for live TV). We meet their support team, which is primarily comprised of Haymitch (a former Hunger Games winner and also a drunk), Effie (their wrangler), and Cinna and Portia (their stylists). During training, Katniss reveals her archery skills to the Gamemakers and scores an amazing 11 out of 12. Peeta gets a lower score and asks to be coached separately. Peeta also announces in an interview that he has a mega crush on Katniss. Is this all just a strategy to gain audience support and sponsors? Katniss thinks so, but it works well for her too, so she plays along.	Katniss Everdeen	16 year old protagonist of the Hunger Games. Katniss is tough, independent, resourceful, fiery, and skilled with a bow and arrow, and yet she also has a compassionate side and deep loyalty to those she loves.	Katniss Everdeen	Chp 1 "District Twelve. Where you can starve to death in safety," I mutter. Then I glance quickly over my shoulder. Even here, even in the middle of nowhere, you worry someone might overhear you.
		Peeta Mellark	Peeta's love for Katniss makes him willing to defy the rules of the Hunger Games and threaten to commit a double suicide with Katniss, forcing the organisers of the Hunger Games to change the rules.	Katniss Everdeen	Chp 5 "Cinna has given me a great advantage. No one will forget me. Not my look, not my name. Katniss. The girl who was on fire."
		Gale	Katniss's hunting companion at home. Gale promises to look after Katniss's family while she's participating in the Games, and he is probably the person Katniss is most comfortable with when she's in District 12.	Katniss Everdeen	Chp 7 "I can't help comparing what I have with Gale to what I'm pretending to have with Peeta. How I never question Gale's motives while I do nothing but doubt the latter's. It's not a fair comparison really. "
		Primrose Everdeen	Prim is young, innocent, and not as strong or independent as Katniss. Katniss is fiercely protective of her.	Peeta Mellark	Chp 10 "" ...Only I keep wishing I could think of a way to...to show the Capitol they don't own me. That I'm more than just a piece in their Games"
		Haymitch Abernath y	Haymitch is the only surviving winner of the Hunger Games from District 12, which makes him the mentor for Peeta and Katniss. Smart and sly.	Katniss Everdeen	Chp 18 "I can't stop looking at Rue, smaller than ever, a baby animal curled up in a nest of netting. I can't bring myself to leave her like this. Past harm, but seeming utterly defenseless. To hate the boy from District 1, who also appears so vulnerable in death, seems inadequate. It's the Capitol I hate, for doing this to all of us."
		Cinna	Katniss's stylist for the games.	Haymitch Abernath y	Chp 26 "Listen up. You're in trouble. Word is the Capitol's furious about you showing them up in the arena. The one thing they can't stand is being laughed at, and they're the joke of Panem,"
Rue	12 year old female tribute from District 11, is killed in the games.				
Thresh	Thresh is the male tribute from District 12. He shows mercy on Katniss at one point because he appreciates her kindness towards Rue.				
Part 2: The Games	All 24 of the tributes are transported to the arena to fight it out. Katniss teams up with Rue, a tiny girl from District 11 who reminds her of her sister Prim. The two are able to take out the Career Tributes' food supply, which totally infuriates their leader, Cato. Also, Peeta doesn't appear to be teamed up with them anymore. Where is he? Wounded? Unfortunately, Rue is killed around this time by one of the Career Tributes. Katniss honors her body by covering it in flowers. After Rue's death, the announcer, wanting to bring back the romance story between Peeta and Katniss, changes the rules of the game: two people from a single district can now win.	THEMES AND CONTEXT		SYMBOLS	
		Division and control- President Snow maintains his control by sowing division among Panem's people—divvying up the country into twelve districts—and ensuring their dependence upon the government. The division among the different districts is embodied by the Hunger Games, a competition that pits residents of the districts against each other.		Bread Suzanne Collins named her fictional dystopia after the Latin phrase, "panem et circenses," which translates to "bread and games." The phrase refers to a government's ability to appease its people with trivial diversions rather than actual good governance.	
		Love, loyalty and compassion- Katniss employs strategy in winning the games, but by treating her sister and at least some of the other tributes as people worthy of love and care, Katniss, in a sense, breaks the Games. Once she has created these relationships of caring, the logic shifts from how to kill each other to how to beat the Games themselves, which translates directly into beating the Capitol at its own game.		Mockingjays Bread is also a catalyst for change in <i>The Hunger Games</i> . During the Games, Rue's district sends Katniss a loaf of bread to signal their appreciation for her treatment of Rue. In this unprecedented demonstration of solidarity between districts, there's a threat to the order of the Capitol, which relies on division of the districts.	
Part 3: The Victor	Katniss goes hunting for Peeta and eventually finds him. He is wounded and camouflaged in the muddy bank of a stream. She nurses him back to health and realises that by playing up the romance angle, they can get gifts from sponsors. Eventually, Katniss and Peeta must face off with Cato, the only other surviving tribute. Finally, Katniss shoots Cato and he falls into the pack. They've won, right? Wrong. An announcer comes back on and says the rules have changed back: only one winner allowed. Katniss and Peeta can't kill each other, so they make a show of taking poisonous berries in an act of double suicide. Fortunately, the announcer comes back on before they can kill themselves, and says that they win. Katniss and Peeta keep up the star-crossed lovers routine for the post-games reunion and interview, knowing that this is the only way to keep from being punished by the Capitol for the rebellious trick with the poisonous berries. Eventually Katniss figures out that Peeta really is in love with her – he wasn't acting at all – and he figures out that she wasn't ever in love with him.	THE HUNGER GAMES- SUZANNE COLLINS			

Recipes to learn:

All groups will make:

- Indian curry
- Pizza
- Victoria sponge
- Vegetable / meat chilli
- Risotto
- Flapjack
- Scrambled / fried / poached egg
- Cinnamon pastries



Depending on which Technology rotation students are on, they may be working in Computing, D&T or Food Technology



Skills to learn

- Chopping safely using the 'bridge and claw'
- How to 'rub in' butter and flour
Kneading
- Mixing
- Whisking
- Frying

Scientific processes to learn

- Respiration – yeast and bacteria break down sugars and carbohydrates
- Rubbing in – fat coats starch to limit the amount of gluten released
- Dextrinisation – starch turns brown in dry heat
- Denaturation – proteins change their structure when heated, whisked or mixed with acid
- Coagulation – proteins set when heated
- Aerating – adding air to a mixture to help it rise
- Caramelisation – sugar turns brown when heated.
- Convection heat – where heat is transferred through a liquid or gas.
- Conduction heat – where heat is transferred through solid materials.



CONDUCTION

where heat is transferred directly through solid materials, such as metals, and foods themselves

for example:

a gas flame or electric ring heats up a frying pan

this makes direct contact with the food, and cooks it

when roasting meat, the heat is conducted through the joint



GEOGRAPHY YEAR 8: Settlement

Key term	Definition
Rural	An area away from a town or a city (the countryside)
Urban	An area within a town or a city
Urbanisation	The process of more people living in cities
Sustainability	Actions and forms of progress that meet the needs of the present without reducing the ability of future generations to meet their needs.
Settlement	Settlements are places where people live. Many settlements have things in common and so they can be grouped to make it easier to study them.



Site and Situation

Settlements are places where people live. Many settlements have things in common and so they can be grouped to make it easier to study them.

Site - this is the place where the settlement is located, e.g. on a hill or in a sheltered valley.

Situation - this describes where the settlement is in relation to other settlements and the features of the surrounding area, e.g. is the settlement surrounded by forest or is it next to a large city?

Early settlements

Early settlers often looked for certain features in an area to make life easier:

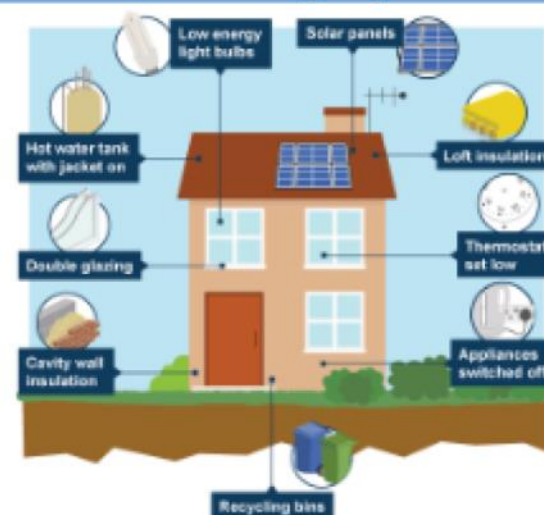
- **Flat land**, to make building easier and safer
- Local raw materials, e.g. wood and stone, to build homes
- A local **water supply** for drinking, washing, cooking and transport
- A defensible site, e.g. a hilltop or river bend, to protect from attackers
- **Fertile soils**, so people could grow crops

Sustainable Cities Case Study: Curitiba, Brazil

Key features of Curitiba that have made the city more sustainable include:

- An efficient public transport system
- A large amount of green space
- A way of encouraging *everyone* to recycle
- Access to education and affordable housing

Sustainable Housing Designs



Fieldwork techniques can be used to assess the quality of environment within and between settlements. Two techniques are:

Land use maps

The land use map is used to show a general pattern for the distribution and location of different types of land use. They are often used when investigating the function of a site or when planning the development of an area.

Environmental Quality Survey (EQS)

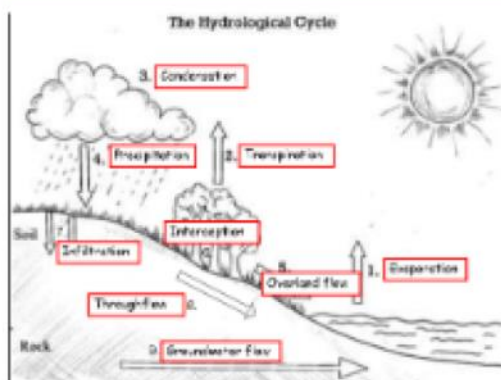
Compares the Environmental Quality (e.g. building quality, noise, open space) in different places.

GEOGRAPHY YEAR 8: Rivers

Key term	Definition
River	A body of fresh water that flows. Rivers start where rain falls onto hills and mountains (source) and flows downhill to join the sea (mouth).
Hydrological cycle	The process by which water moves from the sea to the air, then to the land and back to the sea.
Flood	Occurs when river has too much water and water spills out of the channel onto the floodplain.
Erosion	The wearing away and removal of material by a moving force, such as a river.
Transportation	The movement of the rivers load. It can happen in different ways depending on the size of the load
Deposition	When the load that has been carried by the river is dropped.
Drainage Basin	A drainage basin is the area of land that it drained by a river and its tributaries

Hydrological (Water) Cycle

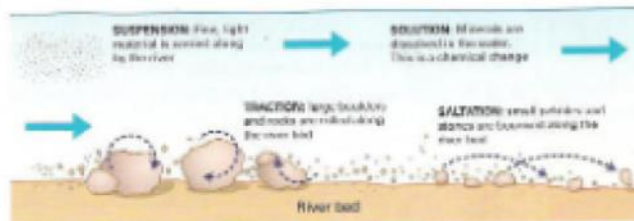
The water cycle is the process by which water moves from the sea to the air, then to the land and back to the sea.



River Processes

Rivers do three main jobs:

1. They pick load up when they have enough energy- this is called **erosion**
2. They carry load along- this is called **transportation**
3. They drop load when they lose energy- this is called **deposition**. The largest load is deposited first.



Types of transportation

River Profile

River landforms can be divided into upper, middle and lower course features.

Upper course river features include; source, steep-sided V-shaped valleys, interlocking spurs, rapids, waterfalls and gorges.

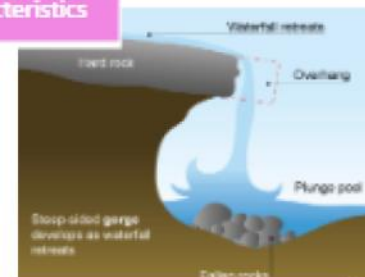
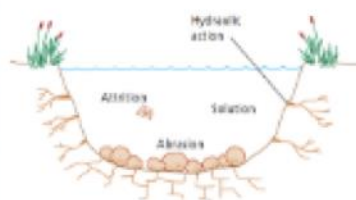
Middle course river features include; wider, shallower valleys, meanders and oxbow lakes.

Lower course river features include; wide flat-bottomed valleys, floodplains and the river mouth.



Waterfall Characteristics

Types of erosion



River landforms

V-shaped valleys
Waterfalls
Meanders
Oxbow lakes
Floodplains

Oxbow Lakes – Middle course landforms



Causes of flooding in Bangladesh

Human factors increasing flood risk:

Urbanisation, because towns and cities have more impermeable surfaces. Building on the draining basin e.g. in Dhaka

Deforestation, because removing trees reduces the amount of intercepted and increases run-off.

There are many different flood defences that can be used to reduce the impacts of flooding for example embankments, dams and flood shelters

Physical causes of flooding

Monsoon season, bringing heavy rain from May to September.

Seasonal snow melting in the Himalayas

17th Century (1600s) England: an overview

- This was a century of conflict between the powers of monarchs and parliaments.
- Protestantism was firmly the main religion, but Catholics still held some influence.
- England had less of a medieval-style structure; Parliament was rapidly gaining power and towns and cities were growing larger. Many people still worked in farming.

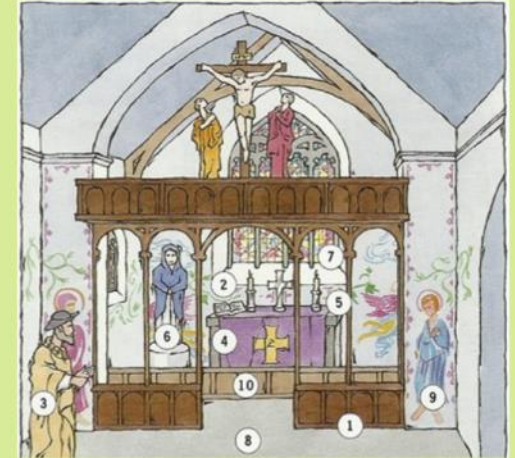
Key people

- **Charles I:** King of England, believed himself to be chosen by God, was a Protestant but with a Catholic wife and many Catholic friends. Ruled from 1625 to 1649.
- **Henrietta Maria:** Charles' French Catholic wife, whose marriage caused much English anger.
- **Duke of Buckingham:** Charles' favourite nobleman, who was a dreadful military leader.
- **Archbishop Laud:** Charles' favourite archbishop, who introduced several changes that many people thought were too Catholic.
- **Oliver Cromwell:** Parliamentarian general in the Civil War, took control of England after execution of Charles I. Gave himself the title 'Lord Protector', ruled with the power of a king from 1653 to 1658.
- **Prince Rupert:**
- **Charles II:** Charles I's son, kept safe from Cromwell in

Year 8 History Knowledge Organiser 1

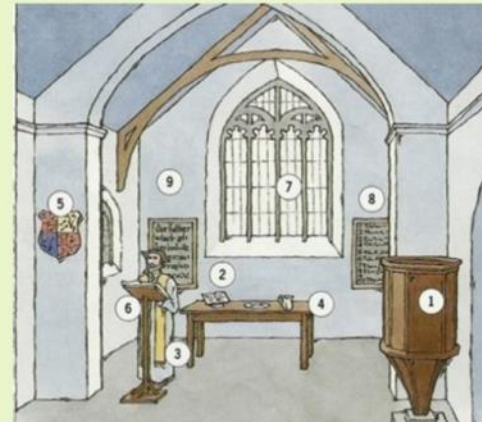
Catholic beliefs

- Churches should be decorated with gold, paintings, & ornaments
- Priests should wear expensive robes.
- The Bible should be in Latin.
- The Church is led by the Pope.
- You can get into heaven by doing 'good works'



Protestant beliefs

- Churches should be plain and simple.
- Priests should wear plain robes.
- The Bible should be in the language of the people (e.g. English)
- The Church is led by the king.
- You can get into heaven by having faith in Jesus Christ and the Bible.



Key topic terms

Catholic: the Church that was powerful in Europe
Civil War: when two sides within the same country fight for control
Divine Right of Kings: the belief that the king has been chosen by God
Interregnum: a time without a monarch (king or queen)

Lord Protector: a leader, ruling instead of a king.
Parliament: group of politicians who vote on laws and taxes.
Puritan: an extreme version of a Protestant.
Royalist: supporter of the king in the Civil War

English Civil War

Key dates

- 1625: Charles I became King of England
- 1629: Charles sacks Parliament
- 1640: First list of demands
- 1641: Second list of demands (Grand Remonstrance)
- 1642: Third list of demands (19 Propositions)
- 1642: Start of the English Civil War
- 1642: Battle of Edgehill
- 1644: Second Battle of Newbury
- 1645: Battle of Naseby
- 1649: Charles' execution

Key events

- Charles I, King of England, started to frustrate his parliament in 1625 when he married a Catholic, French princess – Henrietta Maria.
- After years of disagreements, he sacked Parliament in 1629, ruling by himself instead.
- Sacking Parliament made it much harder for Charles to raise money so he introduced Ship Money, a tax usually only used in times of war. This was unpopular and 80% of the country refused to pay.
- Due to constant problems with rebellions in Scotland, Parliament had to be brought back in 1640.
- Relations continued to worsen though as Parliament issued Charles with three lists of demands.
- Charles did not appreciate being told what to do and declared war on his own parliament in 1642. He eventually lost this war in 1649.
- Charles was executed in 1649: the only time an English king has been executed by Parliament.

Oliver Cromwell

Key dates

- 1642: Cromwell fought as a Captain in the Battle of Edgehill
- 1649: Cromwell massacred Catholics in Ireland
- 1653: Cromwell made himself Lord Protector of England
- 1658: Cromwell sacked Parliament who had voted to end him being Lord Protector
- 1658: Cromwell died and his son was named next Protector but he resigned within 12 months
- 1660: Charles II became King of England, restoring the monarchy

Key events

- After the execution of Charles I, England was ruled by a Lord Protector. This was Oliver Cromwell, a puritan with very strict religious views on how the country should be ruled.
- Cromwell had been a successful military general in the Civil War, and he quickly became known as a brutal leader when he massacred Irish Catholics in the town of Drogheda.
- Cromwell divided England into 11 districts and appointed a Major-General to supervise each one. They made sure that people were living godly lives. They began banning parties and festivals and even tried to prevent people celebrating Christmas (they were only allowed to celebrate by going to Church and reading the Bible).
- Despite Parliament winning the Civil War, Cromwell was not a popular leader. When he died in 1659, his son did not last long as leader. Instead, Charles I's son (also called Charles), was brought back from hiding in France and ruled as Charles II, a new king.

Key history terms

Cause: a reason why an historical event happened.

Continuity: the opposite of changing, when something stays the same.

Interpretation: a particular person's version of what happened in the past. Can be influenced by someone's purpose for writing/personal background/amount of research they have done/time they were writing

Factors

Numbers that an integer can be divided by.



e.g. factors of 12 are:

1, 2, 3, 4, 6, 12

Multiples

Numbers that are made by multiplying one integer by another.

e.g. multiples of 12 are:

12, 24, 36, 48, 60 etc

Prime Numbers

Numbers with only themselves and 1 as a factor:

2, 3, 5, 7, 11, 13, 17, 19, ...

Negative Numbers

$$3 + -5 = 3 - 5$$

$$-3 + -5 = -3 - 5$$

$$3 - -5 = 3 + 5$$

$$-3 - -5 = -3 + 5$$

$$3 \times 5 = 15$$

$$3 \times -5 = -15$$

$$-3 \times 5 = -15$$

$$-3 \times -5 = 15$$

$$15 \div 3 = 5$$

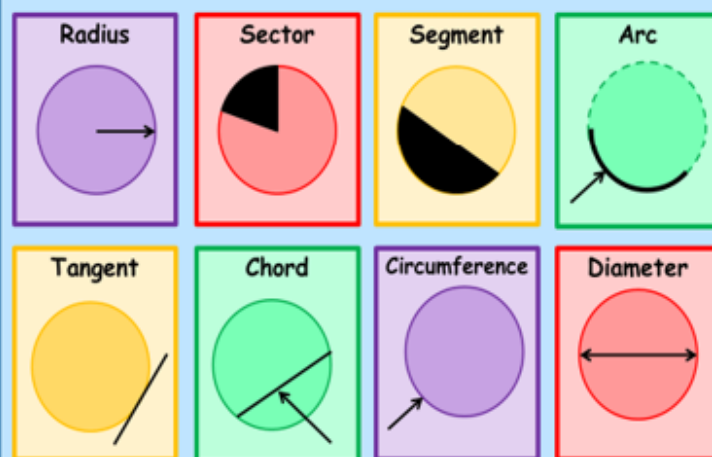
$$-15 \div 3 = -5$$

$$15 \div -3 = -5$$

$$-15 \div -3 = 5$$



Parts of a circle



Maths – Year 8

Square Numbers

Numbers which are made by multiplying an integer by itself.

$$1 \times 1 = 1$$

$$2 \times 2 = 4$$

$$3 \times 3 = 9$$

$$4 \times 4 = 16$$

$$5 \times 5 = 25$$

$$6 \times 6 = 36$$

$$7 \times 7 = 49$$

$$8 \times 8 = 64$$

$$9 \times 9 = 81$$

$$10 \times 10 = 100$$

$$11 \times 11 = 121$$

$$12 \times 12 = 144$$

$$13 \times 13 = 169$$

$$14 \times 14 = 196$$

$$15 \times 15 = 225$$

Circles 2

$$\text{Diameter} = \text{radius} \times 2 (2r)$$

$$\text{Circumference} = \pi \times \text{diameter} (d\pi)$$

$$\text{Area} = \pi \times \text{radius} \times \text{radius} (\pi r^2)$$

Percentages

Per cent means per 100

$$1\% = \frac{1}{100} = 0.01$$

$$10\% = \frac{10}{100} = \frac{1}{10} = 0.1$$

$$20\% = \frac{20}{100} = \frac{1}{5} = 0.2$$

$$25\% = \frac{25}{100} = \frac{1}{4} = 0.25$$

$$50\% = \frac{50}{100} = \frac{1}{2} = 0.5$$

$$75\% = \frac{75}{100} = \frac{3}{4} = 0.75$$

Indian Rag


Depending on the order of the student's Art' rotations, they will either study The Blues or Indian Rag during the Autumn term.

Indian Rag dates back to around 1700BC where it originally developed in the temples and royal palaces. It is based around Hindu tradition but was also heavily influenced by the Mogul (Muslim) conquest of north India. There are thousands of different rags and they are all associated with different moods, times of day, and seasons. Audiences and musicians take the performance of these rags very seriously, which is why it is often called "Indian Classical Music". Each rag starts slow and builds to an energetic climax. Some performances can last several hours.

KEYWORDS

1-Rag /Raga - The piece and the scale (pattern of notes) the piece is played on. Usually played on a Sitar, Sarod, Sarangi or Bansuri	6—Jhor —Literally "join". Faster and with a pulse.
2-Tala — The repeating rhythmic patterns that accompany the Rag, usually played on the Tabla	7- Gat – Precomposed (not improvised). Tabla enters and the Rag gets faster
3- Improvisation – making something up on the spot, within a given structure.	8- Jhalla – The final section where the piece reaches a climax. Lots of interplay between the melody instrument and the tabla. Fast and loud.
4- Drone – Repeated notes that accompany the Rag	9- Oral Tradition – Teaching through language, not written music
5- Alap — The opening section. Slow, explores the notes of the Rag. No fixed pulse.	10- Svara – The Indian equivalent of Do, Re, Mi. Used for teaching melodies orally

Evening raga (Behag)
Mood-peaceful and relaxed.



C E F G B C C C B G F E C C

Sa Ga Ma Pa Ni SA SA SA Ni Pa Ma Ga Sa Sa

Common Talas:

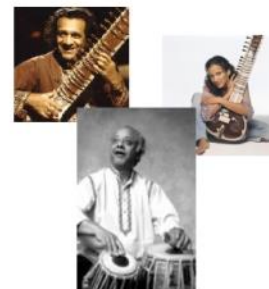
Tintal—4+4+4+4

Rupak: 3+2+2

Dhamar: 5+2+3+4

Famous Players:

Ravi Shankar,
Anoushka
Shankar,
Alla Rakha



Sitar

Tambura

Sarod

Sarangi

Bansuri

Tabla



Musical features: 12 bar blues chords; Walking bassline; AAB melodic structure; Improvisation; blues scale

The blues is the name given to a style of music created by African Americans at the end of the 19th century. Blues music was originally performed by one singer accompanied by a guitar or banjo. The accompaniment was often simple and the lyrics reflected the hardship and reality of every day life. Until the end of the 19th century, America was largely a rural community. In the early 20th century large numbers of people started to move to industrial cities. After the Civil War and the emancipation of slaves, the blues spread, together with the people who sang and played it. Many former slaves moved from the cotton fields of the southern states to northern cities such as Chicago and Detroit, where the blues became hugely popular.

KEYWORDS

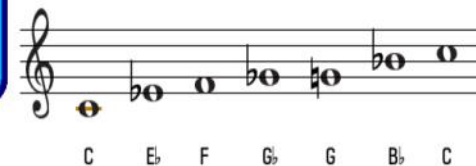
1-12-bar Blues – A chord structure of 12-bars using chords I, IV and V.	7- Syncopation – playing on/stressing the weak beat to add energy
2- Chord – 2 or more notes played simultaneously.	8- Off-beat – playing on the unaccented notes in a bar—usually beats 2 & 4
3- Walking Bassline – a bassline that moves by step and goes up and down the scale	9- Introduction – the first section of a piece before the verse starts.
4- Swung rhythm – a rhythm that divides a beat into 3 (a bit like coconuts to sound like horses hooves)	10- Coda – the ending section of a piece.
5- Blues Scale – a scale with a flattened 3 rd , 5 th and 7 th .	11- Vamp – a repeated, improvised accompaniment based around the chords.
6- Improvisation – making something up on the spot, within a given structure.	12- Guitar TAB –musical notation indicating fingering rather than musical pitches.

The Blues

12 Bar Blues Chord Progression

C (x4)	C (x4)	C (x4)	C (x4)
F (x4)	F (x4)	C (x4)	C (x4)
G (x4)	F (x4)	C (x4)	C (x4)

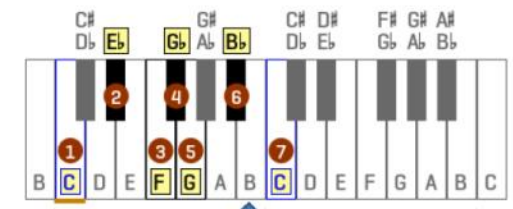
C blues scale



Walking Bassline



C blues scale



Blues Scale



THE BENEFITS OF A WARM-UP

Physical Benefits of a Warm-Up

Increasing the temperature of muscles which:

- Increases the speed of muscle contraction
- Increases flexibility of the muscles
- Range of motion at joints
- Pliability of tendons and ligaments which all help sporting technique and help to prevent injury.

Increasing the heart rate and temperature of blood which:

- Increases gaseous exchange
- Increases blood flow
- Increases oxygen delivery
- Increases carbon dioxide removal

All of the above help to maximise training intensity and duration and limit fatigue.

Challenge

Using practical examples,
describe the two stages of a warm-up.

2 stages of a cool down

Low-intensity exercise— an activity that gradually decreases temperature and heart and breathing rates, for example jogging or walking.

Stretching— static stretches that decrease muscle temperature, for example hamstring stretch

2 stages of a cool down

The return of the body to a resting state

The gradual lowering of heart and breathing rates which : maintains blood flow, maintains oxygen transport, maintains carbon dioxide removal, flushes muscles with oxygenated blood to remove lactic acid, prevents blood pooling.

Stretches muscles and gradually lowers muscle temperatures which: realigns muscle fibres, removes waste products, limits delayed onset muscle soreness (DOMS)



How do people experience the transcendent?



Key Term	Definition
Transcendent	beyond or above the range of normal or physical human experience.
Miracles	A supernatural event.
Conversion	A life changing experience
Deity	A God/Goddess is a supernatural being considered divine or sacred.
Puja	A form of Hindu Worship

Miracles
Resurrection
Walking on Water
Healing
Feeding the 5,000



Miracles	Religious Experiences
Why do some people see events as <u>coincidences</u> ? Why do others see events as acts of <u>God in the form of miracles</u> ?	Guru Nanak – He disappeared into the water for 3 days. When he reappeared he has spoken to God and set about establishing the religion of Sikhism.
Miracles provided examples for people to follow. Miracles demonstrated the close relationship Jesus had with God. Miracles showed the compassion Jesus had for people	Buddha – His concentration cut through every obstruction until he saw clearly the true nature of life and the way to achieve deep and permanent happiness. He had become enlightened.

Skills in REP

Debate

Empathy

Enquiry

Discussion

Analysis



Puja

Puja mean ceremonial worship of a deity via a murti (image or statue). It follows a set pattern. In the temple, at the main shrine, the deity image will be washed and dressed by the priests. Other smaller rituals will also be performed.

Conversion

Saul was a Jewish man who persecuted Christians. On his way to Damascus, a shining light from heaven blinded him. And Jesus' voice asked him 'why do you persecute me? Saul was blind and a Christian saved him. Saul later converted to Christianity.



Bottisham Village College

KNOWLEDGE ORGANISER

YEAR 8 SCIENCE TERM 1

- ENERGY
- ELECTRICITY AND MAGNETISM
- ECOLOGY
- ATOMIC STRUCTURE AND PERIODIC TABLE



Energy Year 8

A. Keywords.

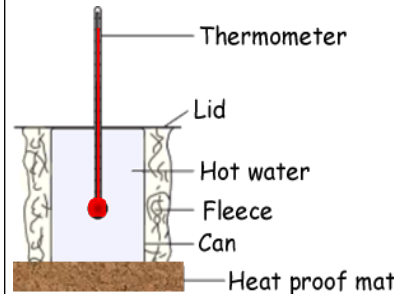
Power	The rate of energy transfer. Also the rate at which work is done (Power = work done/time)
Conductivity	A measure of a materials ability to transfer heat
Insulator	A material that prevents transfer of energy.
Fluid	Materials where particles are able to move freely (liquids and gases)
Infra-red	The type of radiation that transfers heat
Vacuum	An absence of any particles, like space.
Thermal	Relating to heat.
Thermometer	Device used to measure temperature.
Particles	The smallest individual "pieces" of matter that make an object.
Rate	A measure of how frequently something occurs.

D. Power

- A powerful machine will complete work in a shorter amount of time than a less powerful one.
- A powerful machine can complete more work than a less powerful in a set amount of time.

$$\text{Power (W)} = \text{Work Done (J)} \div \text{time (s)}$$

B. Working Scientifically



The rate energy is transferred varies depending upon the type of material.

Some materials make good insulators because they slow down the rate of energy transferred so

something stays warmer.

We can predict whether a material will be a good insulator. A good insulator will:

- Be a non-metal. The way atoms are bonded in a metal makes them really good conductors
- Be able to trap air. Air is a poor conductor because the particles are so far apart. This is why winter coats have

C. Work Done

Work is done when energy is transferred, so it is measured in Joules (J). If you transfer energy to an object, you have done work on it, and work has been done by you.

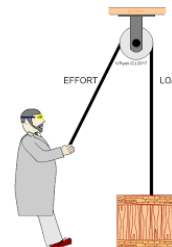
$$\text{Work done} = \text{Force} \times \text{Distance}$$

Simple machines



Levers reduce the size of the force needed to move an object.

Pulleys allow you to redirect the force being used. If the force is directed downwards, it allows you to use your weight to your advantage.

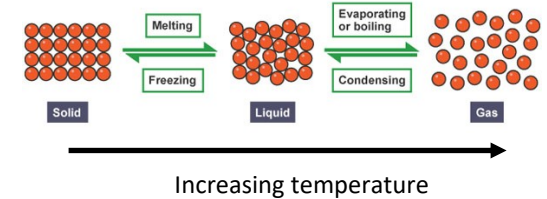


E. Energy and Temperature

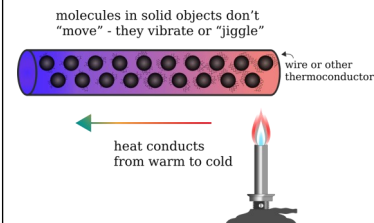
Energy and temperature are different. Energy is measured in **joules (J)**, but temperature is measured in **degrees Celsius (°C)**. To increase an objects temperature, you have to give it energy.



When an object cools down, energy is being transferred from the object, to the environment. The object stops cooling when it is the same temperature as the environment. We say that the object and environment are in **equilibrium**.

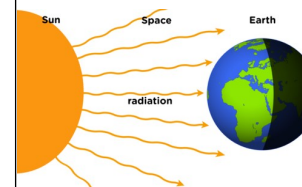
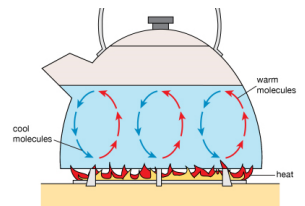


F. Transfer of Heat



Conduction—happens in solids. Particles in the solid vibrate more when heated, and pass the energy on to neighbouring molecules.

Convection—happens in fluids (liquids and gases). As the material is heated, it expands and becomes less dense, causing the particles to rise.

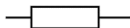


Radiation—released by all objects. This is a wave of energy released by all objects. It does not require any particles, and can travel through a vacuum.



Electricity and Magnetism Year 8

A. Keywords.

Resistance	The extent to which materials oppose (slow down) the current flow in a circuit. Measured in Ohms (Ω)
Electromagnet	A non-permanent magnet, controlled by the electrical current running through it.
Resistor	A component with a specific resistance value 
Independent variable	The variable that we are changing in our experiment.
Dependent variable	The variable that we are measuring in our experiment.
Control variable	Factors that we keep the same so that they cannot have an effect on the experiment.
Solenoid	A coil of wire. When a current goes through it, it has a magnetic field in the same shape as the field around a bar magnet

B. Working scientifically

Risk assessment

Before doing any practical work, always think about safety. What **risks** are there that could cause you harm? What will you do to minimise the chance of each risk harming you? Make sure they are specific; goggles will protect your eyes from chemicals, but they won't protect from electric shocks.

Carrying out an investigation

If I asked you to find out how the total resistance of a parallel circuit was affected by the number of bulbs added, you would need to do the following:

1. Choose the equipment you would need—write this as a list, and give reasons for why each item is needed
2. Choose your variables— what will you change? What will you measure? What needs to stay the same?
3. Make a prediction of what you think the results will show.

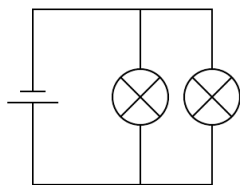
C. Current in parallel

Last year we learnt that **Ammeters** go in series to other components in a circuit, and that in a **series circuit**, current is the same everywhere.

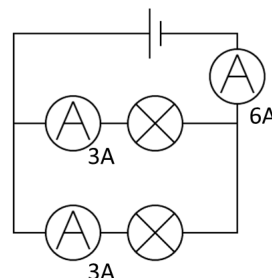
In parallel circuits, we have multiple loops that electricity can flow through. When we use **Ammeters** in a parallel circuit, they go in series with the components in each loop. We find that **the current in parallel circuits is shared between the loops.**

Parallel circuits

All components connected in one continuous loop.

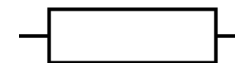


Current in Parallel circuits



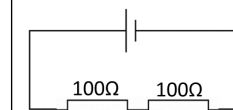
D. Resistance

Resistance of a material is its natural ability to slow down the flow of electricity, which reduces the **current**. It is measured in **Ohms (Ω)**, and have the circuit symbol below:



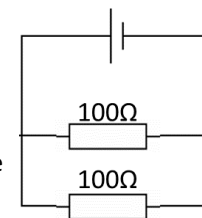
Resistance varies depending on the material being used.

Materials with **low resistance** are electrical **conductors** (metals). Materials with **high resistance** are electrical **insulators** (wood,



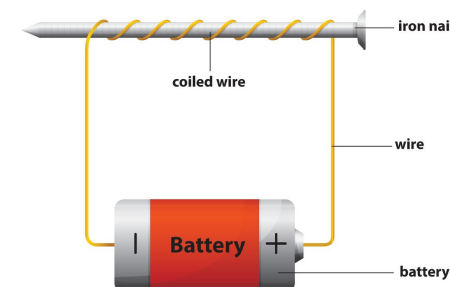
When in series, resistors add together. Total resistance here is 200 Ω .

When resistors are in parallel, the total resistance goes down because there are more paths, like opening an extra till in a shop! Here, the total is 50 Ω .



E. Electromagnets

These are special types of magnets because they are different to normal (permanent) magnets, as they can be turned on and off.



Electromagnets are made by coiling a wire around a **metal core**, and sending a current through it. We can make the electromagnet stronger by using a more powerful power supply, putting more turns in the coil, or making the turns on the coil closer together.

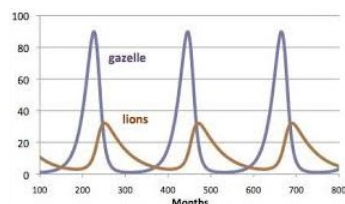
Ecology Year 8

A. Key words.

Producer	An organism that makes it's own food, Plants.
Predator	An animal that <i>eats</i> other animals.
Prey	An animal that <i>gets eaten</i> by other animals.
Consumer	Eats something else
Herbivore	Eats only plants
Carnivore	Eats only meat
Omnivore	Eats both plants and meat
Interdependence	Organisms relying on each other to survive, grow and reproduce
Pollination	When the male gamete (pollen) is transferred to the female part of a flower
Dispersal	Spread out, e.g. seeds spreading to stop plant crowding
Adaptation	Change to suit the environment
Bioaccumulation	The build-up of toxic chemicals inside organisms in a food chain

B. Working Scientifically

Graphs are an effective way of showing interdependence, for example a predator-prey graph.



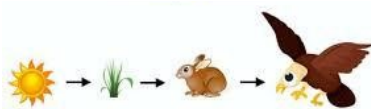
Describing a graph means saying how the pattern changes.

Explaining a graph means giving reasons why the pattern changes using scientific knowledge.

Herbivore populations increase because there is food available and not many predators. This means the carnivore population increases because there is plenty of prey for them to eat. After a while the prey population decreases because there are too many predators. This then causes the predator population to then decrease because there is not enough prey to eat.

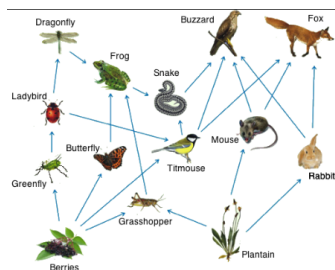
C. Food Chains + Webs

Food chains are one pathway for energy to flow. The arrow shows the direction of the energy. Energy for a food chain comes from the sun



because it enables plants to photosynthesise.

Food webs show more links between the food chains as animals often eat more than one food.



Food webs allow us to suggest the impact of changing population number of one species on the populations of other species.

Human activities can also cause changes to food chains and webs; for example bioaccumulation.

D. Interdependence

Interdependence is where organisms rely on each other to survive, grow and reproduce. This can be shown on predator-prey graphs, where patterns in population numbers can be observed.

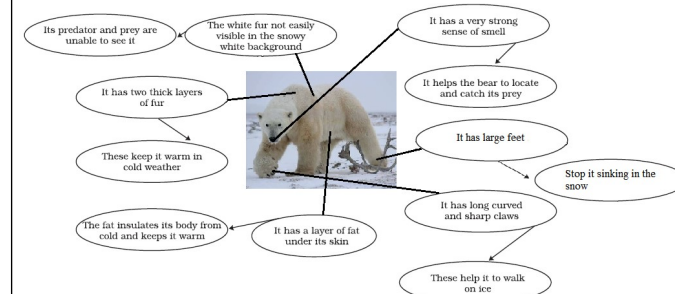
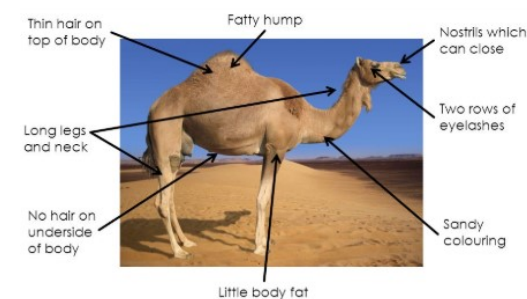
Examples of interdependence include:



- Predator-prey cycles, where one organism relies on another as a food source.
- Mutual relationships where both organisms benefit. For example birds eating the mites from the fur of the deer.

- Competition where more than one organisms needs the same resource. Animals compete for food, water, mates and habitat/space. Plants compete for sunlight, minerals in the soil, water and space to grow.

E. Adaptations to hot and cold climates



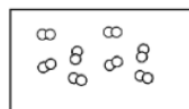
Atomic Structure and Periodic Table Year 8

A. Keywords.

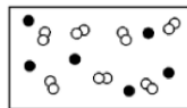
Atom	The smallest part of an element that can exist.
Nucleus	The centre of the atom.
Proton	Found in the nucleus of an atom
Neutron	Found in the nucleus of an atom
Electron	Found in shells round the outside of the nucleus
Bond	The link between two atoms that joins them together
Element	A substance made up of only one type of atom
Compound	A substance made up of two or more elements chemically bonded together
Mixture	Two or more substances together that are not chemically bonded to each other.
Molecule	Two or more atoms (the same or different types) chemically bonded together.
Particle	A very tiny object, such as an atom or molecule, that material is made from.
Property	A quality of a substance or material that describes its appearance or how it behaves
Period	A row of the periodic table
Group	A column of a periodic table
Chemical Reaction	A change in which a new substance is formed. In a chemical reaction the atoms are rearranged and joined together differently.
Reactivity	The likelihood of a substance to react

B. Elements, Compounds and Mixtures

Everything is made up of atoms.



Element



Mixture



Compound

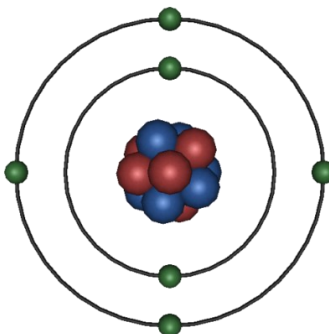
Particle diagrams show the arrangement of the atoms in a substance.

A chemical bond joins two atoms together to form molecules and compounds.

C. Structure of the Atom

An atom consists of:

- A nucleus in the centre made up of protons and neutrons
- A set of shells containing electrons.

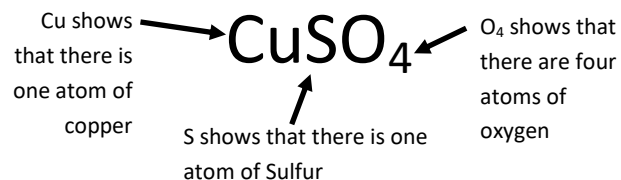


The shells fill up from the inside, in the order 2,8,8

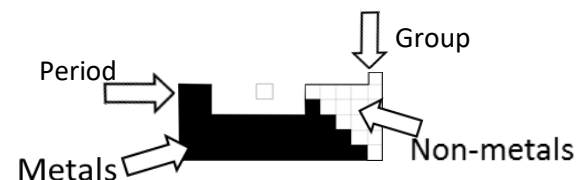
E. Chemical Formulae

Chemical formulae are written using the symbols for each element.

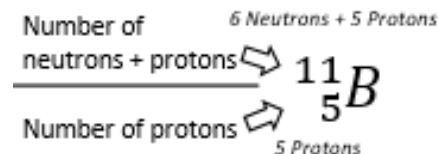
If an element is represented by two letters the first is always capitalised and the second letter written in lower case. Subscript numbers are used to show the ratio of elements in a compound. In copper sulfate there is a ratio of one copper atom, to one sulfur atom to one oxygen atom.



D. The Periodic Table



The numbers in the periodic table tell you information about the numbers of protons, neutrons, and electrons.



As new elements were discovered the layout of the periodic table was changed and redrawn. It started as a list until there were lots of elements that scientists then sorted into groups.

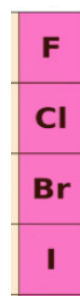
F. Group 1 and Group 7



Group 1 elements are metals.

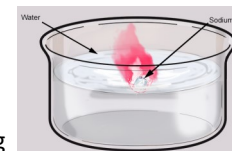
Group 7 elements are non-metals.

The reactivity of the elements in a group changes as you move down the column.



G. Working Scientifically

The reactivity of the group 1 metals can be tested by placing a small piece of each metal into water and observing the reaction.



- Group 1 metals are stored in oil so they do not react with oxygen in the air.
- Group 1 metals must be handled with forceps so they do not burn your skin.
- Group 1 metal reactions with water must be demonstrated by your teacher behind a safety screen in case any of the reaction spits out of the bowl.