LIONHEART EDUCATIONAL TRUST

THE CEDARS ACADEMY
Lionheart Educational Trust

Knowledge Organiser Booklet

Year 8

Spring Term

Ways to use your knowledge organiser

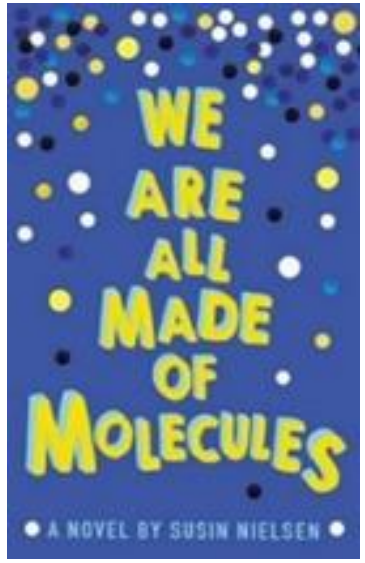
	Look, Cover, Write, Check	Self Quizzing	Mind Maps	Paired Retrieval	Definitions to Key Words
Step 1	Look at and study a specific area of your knowledge organizer. 	Use your knowledge organizer to create a mini quiz. Write down questions using your knowledge organizer. 	Create a mind map with information from your knowledge organiser. 	Like self quizzing, use your knowledge organizer to create a quiz. 	Write down the key words and definitions. 
Step 2	Cover or flip the knowledge organizer over and write down everything you remember. 	Cover or flip the knowledge organizer over and answer the questions and remember to use full sentences and key words/vocabulary. 	Add pictures to represent different facts, knowledge. Try to categorise different areas in different colours. 	Ask a family member to ask you the questions and tell you which ones you get right and which ones you get wrong. 	Try not to use your knowledge organiser to help you. 
Step 3	Check what you have written down. Correct any mistakes in a different coloured pen and add anything you missed. Repeat. 	Check your answers. Correct any mistakes in a different coloured pen and add anything you missed. Repeat. 	Try to make connections that link information together. 	Following the quiz, summarise which areas you got wrong and need to revise further. 	Use a different coloured pen to check you work and correct any mistakes you may have made. 

LIONHEART EDUCATIONAL TRUST

Lionheart Literary Canon:
Curating a Lifelong Love of Literature

LIONHEART EDUCATIONAL TRUST

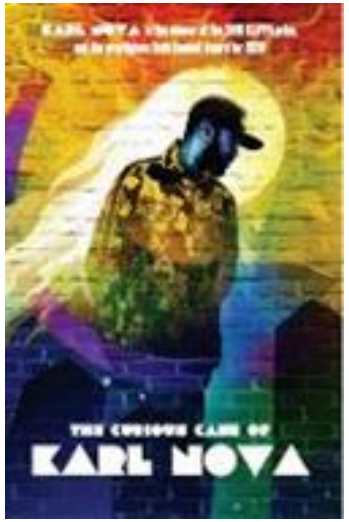
Recommended books to have read by the end of Year 8



We Are All Made Of Molecules
Susan Nielsen

The Girl of the Ink and the Stars
Kiran Millwood Hargrave

The Acrobats of Agra
Robin Scott-Elliot



The Curious Case of Karl Nova
Karl Nova

All books can be purchased online, or loaned from our library

English

19th Century Short Stories

LIONHEART EDUCATIONAL TRUST

Definition of a short story: 'A story which can be read in a single sitting.' The 19th Century was the golden age of the short story.

Ghost/ Mystery Stories

Rooted in Gothic tales of horror but evolved to reflect the reality of the Victorian age.
From mid C19th featured new inventions such as the railway or familiar places such as the pub.
'Penny dreadful' magazines with their stories of criminals reflected the rise in crime in society.
Detective figures with great intellects and deductive minds became increasingly popular.
Stories first appeared in monthly magazines, with Christmas issues and stories very popular.

Science Fiction Stories

Scientists were making great discoveries and transforming the understanding of life on earth.
Charles Darwin's theory of evolution and the discovery of radioactive power happened.
These discoveries inspired writers to explore the implications of scientific progress in short stories.
H. G. Wells popularised the genre with his instant bestseller 'The Time Machine'
Narratives often explore the dangerous of humanity overreaching.

Fantasy Stories

As a genre this looks back to the Anglo Saxon oral tradition (Beowulf) and to Shakespeare's comedies.
Cautionary tales that include magical characters such as witches and fairies.
Despite the fantastical content, these were dark narratives, not necessarily for children.
Fantasy Stories are similar to fairy tales in that they show moral learning and growth.
The Victorian search for adventure and exploration is reflected in these strange characters and settings.

Realist Stories

Social upheaval caused by the industrial revolution transformed people's lives.
New realities and hardships faced by people as a result of industry was reflected in fiction.
Often centred around the poverty stricken streets of London and chronicled the rich/poor divide.
The harsh realities of rural life and the plight of farm workers was also depicted.
Depicted the fine line that existed between a seemingly respectable life and abject poverty.

Social and Historical Context

- At the start of the 19th century there were only a handful of magazines specializing in prose fiction where authors of short stories could find an outlet for their work.
- Abolition of harsh taxes on publishing in the 1850s led to an explosion of literary magazines featuring all kinds of fiction.
- The Education Act of 1870 meant that all children had to attend school for a minimum of 5 years and led to rapidly increased literacy and a desire for reading as entertainment.
- The Industrial Revolution created such a change in the way people lived that writers felt compelled to depict the consequences of it on the ordinary working person, often as a vehicle for social change.
- The Age of Enlightment and Victorian desire for exploration made writer's question the boundaries of our universe.
- Rising wages meant that families who had previously been unable to afford novels, could now purchase a weekly or monthly magazine to read together.
- By the end of the century more than 100,000 different newspapers and magazines were being published, giving the short story writer countless outlets for their work.
- Female writers (known as fin-de-siècle writers), responding to the beginnings of the women's liberation movement, embraced the short story as a form for presenting highly stylised depictions of sexual and gender oppression. Fin-de-siècle (turn of the century) reflected the mood of change they depicted.

Narrative Methods

Perspective/Voice Who is telling the story? Is the narrator first person or third person? Are they intradiegetic (a character in the story) or extradiegetic (an uninvolved observer). Are they omniscient (all knowing) or inadequate (don't have all the facts.) Are they reliable (the audience can trust them to fairly relay events)or unreliable (they have a motive and an angle)?

Structure Is the story told chronologically (ie with a linear beginning, middle and end) or is it fragmented (may start in the middle or miss out sections). Is there a climax or a series of anti-climaxes? How does the story open/close? Is there a turning point where the mood changes? Is there lots of dialogue or is it mostly description?

Language Are there any patterns in the language use (repeated imagery or groups of words with the same meaning)?

Notable 19th Century Short Stories (in chronological order)

The Mortal Immortal – Mary Shelley, **1833**
The Tell-Tale Heart – Edgar Allen Poe, **1843**
A Terribly Strange Bed – Wilkie Collins, **1852**
The Signal Man – Charles Dickens, **1866**
A Tradition of Eighteen Hundred and Four – Thomas Hardy, **1882**
The Body Snatcher – Robert Louis Stevenson, **1884**
The Star Child - Oscar Wilde, **1891**
The Yellow Wallpaper – Charlotte Perking Gilman, **1892**
The Adventure of the Speckled Band – Arthur Conan Doyle, **1892**
Desiree's Baby – Kate Chopin, **1893**
The Star – H. G. Wells, **1897**
A White Night – Charlotte Mew, **1903**

Year 8 - 19th Century Short Stories Vocabulary Lists

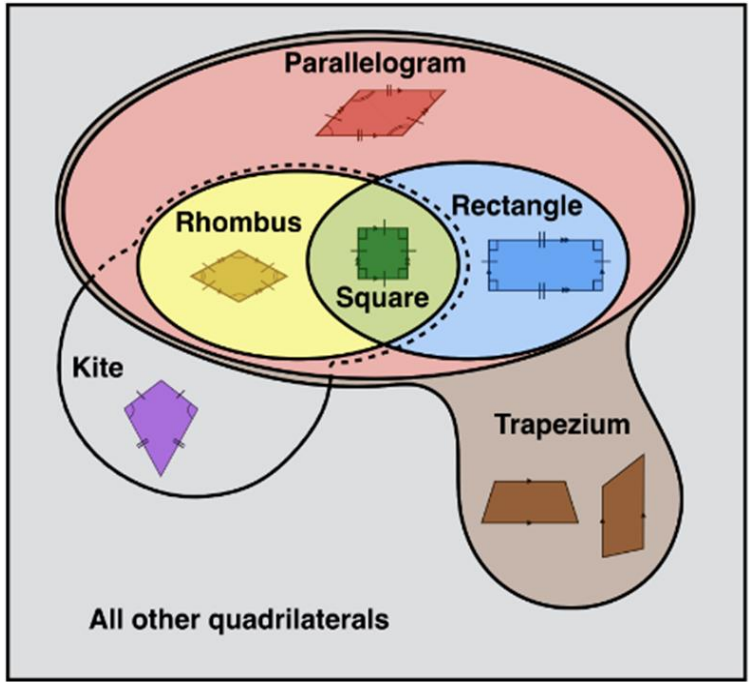
gothic	untarnished	Napoleonic	agony
lonesome	obsequious	rustic	fulfilled
gloomy	decrepit	mirthful	sanctity
shudder	speculative	antiquity	incongruous
gesticulation	grave	venerable	formidable
treacherous	latent	relic	sublime
fiendish	affliction	immoral	repelled
malignant	pride	servility	spectral
celestial	prophesy	loathsome	catastrophe

Maths – Year 8

Block 9 – 2-D Geometry One

Side	One of the line segments that make a flat (2-dimensional) shape.
Angle	The amount of turn between two lines around their common point (the vertex).
Degrees	A measure for angles. There are 360 degrees in a full rotation. The symbol for degrees is °
Circle	A 2-dimensional shape made by drawing a curve that is always the same distance from a centre.

Quadrilateral	A two dimensional shape with four straight sides and four angles which add up to 360 degrees.
Parallelogram	A quadrilateral with 4 straight sides where opposite sides are parallel and equal in length. Opposite angles are equal. NOTE: Squares, Rectangles and Rhombuses are all Parallelograms!
Rhombus	A quadrilateral with 4 straight sides that are all equal length. Also opposite sides are parallel and opposite angles are equal. It is a type of parallelogram.
Kite	A quadrilateral which has two pairs of adjacent sides (they meet), that are equal in length. The angles are equal where the pairs meet.
Trapezium	A quadrilateral that has at exactly one pair of parallel sides.

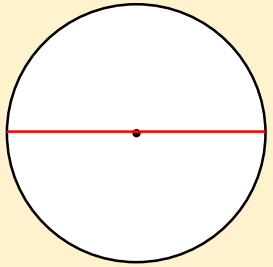


Maths – Year 8

Block 9 – 2-D Geometry One

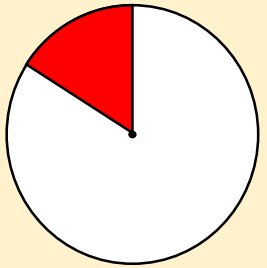
LIONHEART EDUCATIONAL TRUST

Diameter



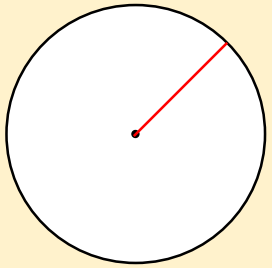
The distance from one point on the circumference **through the centre** to another point on the circumference.
It is also the longest distance across the circle and twice the radius.

Sector



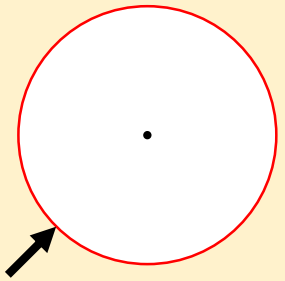
The region within a circle bounded by two radii and one of the arcs they cut off.
The smaller of the two sectors is the minor sector and the larger one is the major sector.

Radius



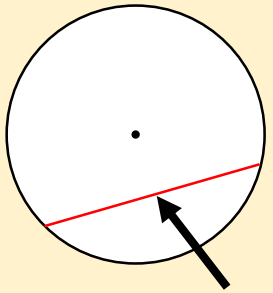
The distance from the centre to the **circumference** of a circle.
It is half of the circle's diameter.

Circumference



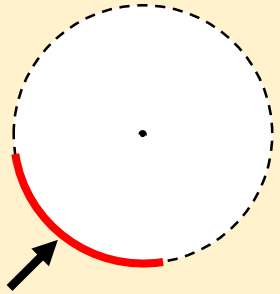
The distance around a circle (its perimeter).

Chord



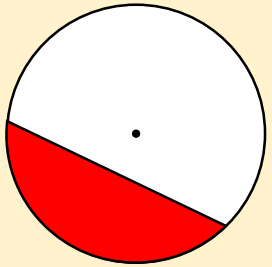
A straight line segment joining two points on a circle or other curve.

Arc



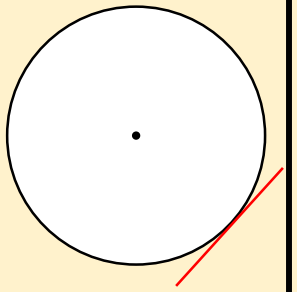
Part of the circumference of a circle or part of any curve.

Segment



The region bound by an arc and the chord joining its two end points.

Tangent



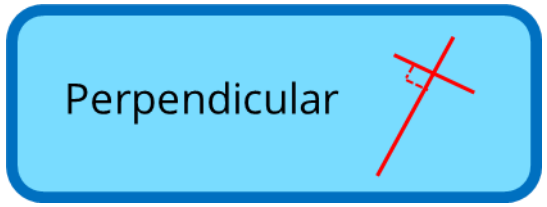
A line that meets (touches) the circumference at one and only one point.

Maths – Year 8

Block 9 – 2-D Geometry One

Angle	A measure of turn.
Adjacent	Lying next to each other.
Adjacent angles	Two angles that have a common side and a common vertex (corner point), and don't overlap.
Adjacent sides	Any two sides of a polygon with a common vertex (corner point).
Point	An exact location. It has no size, only position. Points usually have a name, often a letter like "A" or "B" etc.
Vertically opposite angles	The angles opposite each other when two lines cross. They are always equal. "Vertical" refers to the vertex (where they cross), NOT up/down.
Supplementary angles	Angles that sum to 180 degrees.
Complementary angles	Angles that sum to 90 degrees.

Line	A geometrical object that is straight, infinitely long and infinitely thin.
Line segment	The part of a line that connects two points.
Ray	A part of a line with a start point but no end point (it goes to infinity).
Parallel	Lines, curves and surfaces that are always the same distance apart and will never meet.
Perpendicular	At right angles to another line or plane (flat surface).
Intersect	To have a common point or points. For example: Two intersecting lines intersect at a point.

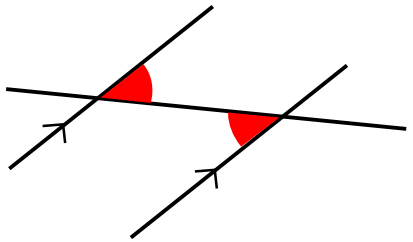


Maths – Year 8

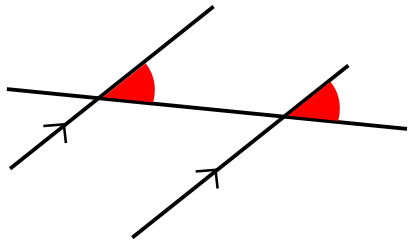
Block 9 – 2-D Geometry One

Transversal line	A line that crosses at least two other lines.
Alternate angles	Angles formed when a transversal crosses two or more parallel lines; the angles inside the parallel lines but on opposite sides of the transversal are alternate angles.
Corresponding angles	Angles that are in corresponding positions in relation to the parallel lines AND on the same side of the transversal line. When two angles are corresponding they are equal.
Co-interior angles	Co-interior angles both lie between two lines and on the same side of a transversal. **If** the two lines are parallel, then co-interior angles add to 180° and so are supplementary. Co-interior angles can also be called 'Allied'

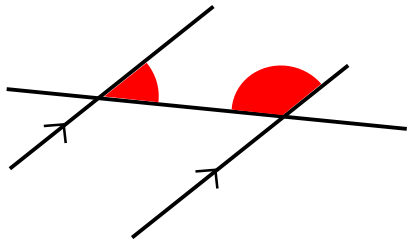
Alternate Angles



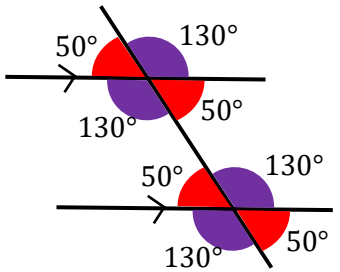
Corresponding Angles



Co-interior Angles



Example



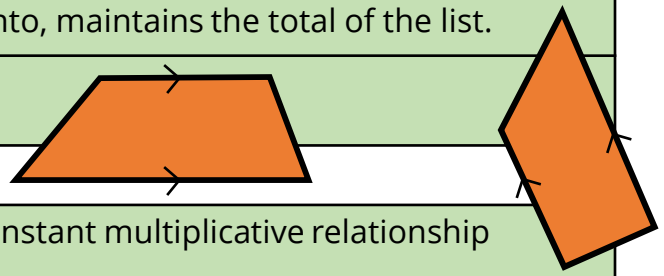
Metre	The basic unit of length in the metric system.
Centimetre	One hundredth of a metre (about the width of a fingernail).
Millimetre	One thousandth of a metre (a tenth of a centimetre).
Kilometre	One thousand metres.
Perimeter	The distance around a two-dimensional shape.
Polygon	A closed two-dimensional shape with straight sides.
Regular	A polygon is **regular** if all the sides equal and angles are equal.

5 miles ≈ 8 km
40 inches ≈ 1 m
1 foot ≈ 30 cm
1 inch ≈ 2.5 cm
1 yard = 3 feet
1 foot = 12 inches

Maths – Year 8

Block 9 – 2-D Geometry One

Mean	The single value that if all numbers in a list are changed into, maintains the total of the list.
Trapezium	A quadrilateral that has at least one pair of parallel sides.



Proportion	Two quantities are said to be in proportion if there is a constant multiplicative relationship between the two quantities.
Ratio	A part to part comparison.
Fraction	A part to whole comparison.

Basic Fraction, Decimal and Percentage Conversions:

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

$\frac{1}{3} = 0.\dot{3} = 33.\dot{3}\%$

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

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

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

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

$\frac{1}{8} = 0.125 = 12.5\%$

$$Speed = \frac{Distance}{Time}$$

Computer Science

KS3 – Computing Systems

KNOWLEDGE

ORGANISER

Key vocabulary	
CPU	The central processing unit is computer hardware. It executes programs and manages all other hardware in the computer system.
Clock Speed	The number of instructions a processor can carry out each second
Cores	A processing unit found inside the CPU. Multiple programs can work in parallel to each other.
Fetch - Decode - Execute Cycle	The cycle used to fetch instructions from main memory, load relevant data, decode the instruction and fully execute the instruction repeats to complete a program.
Primary Memory	Memory used to store data and instructions that are required by the CPU.
RAM	Random Access Memory is volatile memory used to store data and instructions which are needed by the CPU. Also referred to as main memory.
Volatile Storage	which needs to have power to store data. If power is lost, data is lost.
Non - Volatile Storage	which does not lose its contents when the power is lost
Secondary Storage	A non-volatile storage medium which stores files and programs. Examples include the hard drive (HDD) and solid state drives (SSD).

CPU Performance	
Clock speed	How fast a processor processes instructions. Normally measured in Megahertz or Gigahertz.
Cache Size	The "size" of the cache is the amount of main memory data it can hold.
Number of cores	Determines how many tasks can be completed at the same time.

Types of Secondary Storage	
Magnetic devices	Magnetic disks are read and written to with a moving head inside the disk drive. They often contain moving parts and are susceptible to damage. Magnetic devices can be either internal or portable.
Solid State devices	SSD has no moving parts. It retains an electronic charge using logic gates. Examples include SD cards and USB memory sticks. Also referred to as flash storage.
Optical devices	Optical media includes CD, DVD and Blu-Ray disks. Lasers are used to read and write data to a disk. Data is stored on tracks around the disk as a series of pits which represent binary code.

Input → **Process** → **Output**

Operating system main tasks
Allow software to communicate with the hardware
To provide a user interface for the user
To manage the use of memory and the opening, closing, saving and deleting of files
To provide features that look after the security of the computer
To control peripherals (such as keyboards, mice, monitors, printers etc)

Utility Software Vocabulary	
Encryption software	Encryption of data to prevent anyone from gaining unauthorised access to the system and reading the data.
Defragmentation	Reorganising files on the surface of a disk to create large areas of free space and eliminate unused fragments.
Lossy / lossless compression	Software to compress data to use less space in memory, or prepare for sending via the internet
Backup	A technique used to make copies of data in case of data loss or damage.

Computer Science

KNOWLEDGE ORGANISER

KS3 – Intro to Python

Keywords	
Input	When the user enters data into a program
Output	When the program displays data to the user
Variable	An area data can be stored whilst the program is running
Concatenation	The operation of joining together two strings
Casting	When you convert from one data type into another
Sequence	Instructions being executed in order
Selection	When a program can make a choice about which line to execute based on a condition
Iteration	When a program is able to repeat blocks of code multiple times

Common Mistakes

```
Total = number1 + number2
print(total)
Print(total)
```

Capital letters in variables names and commands

```
number1 = 25
number2 = 36
total = numbr1 + number2
```

Spelling of variable names and commands

```
print("Hello World)
print(¨Hello World
```

Brackets and braces come in pairs, make sure that they are opened and closed.

Frequently used commands	
command	**comment**
print()	Used to display to the screen
input()	Allows user to enter value
int()	Converts value to integer

if <criteria>:
…
elif <criteria>:
…
else:
…
	Selection statement used to give choices (or paths) that the program can follow depending on a decision.

while <criteria>: …	Condition controlled iteration, when you don't know how may iterations need to take place.

Assignment Operators	
Description	Operator
Assign	=
Add then reassign	+=
Subtract then reassign	-=
Divide then reassign	/=
Mod then reassign	%=
Integer divide then reassign	//=

Relational Operators	
Description	Operator
Equal to	==
Less than	<
Greater than	>
Not equal to	!=
Less than or equal to	<=
Greater than or equal to	>=

PE

Unit 3 Knowledge Organiser: Fitness

Fitness component	Description	Test and description
Cardiovascular endurance	The ability of the heart, lungs and blood to transport oxygen during sustained activities.	12 minute Cooper run: Maximum distance ran in 12 minutes. Multistage fitness test: Shuttle runs in time to a recorded beep, which gets gradually quicker.
Speed	How quickly you can move the whole body or part of a body.	30m sprint test: How fast you can run 30m.
Muscular endurance	To perform repeated muscular contractions over a sustained period of time.	30s sit up test: Number of sit ups in 30s
Strength	The maximum force a muscle can apply.	Grip dynamometer test: Squeeze the dynamometer as hard as you can with one hand. 1 rep max test: Heaviest weight you can lift for one repetition.
Agility	The ability to change direction at speed	Illinois agility test: How fast you can complete a circuit around cones.
Power	Speed x strength	Vertical jump test: Maximum height reached when jumping, beyond maximum reach point.
Flexibility	The range of movement around a joint.	Sit and reach test: Sit with straight legs and feet against box, measure how far you can reach past feet.

Key Terminology:

Key word	Description
Heart	A muscle which pumps blood around your body
Lungs	Organs which breathe in oxygen and breathe out carbon dioxide
Oxygen	A gas needed for creating energy
Anaerobic	High intensity exercise
Acceleration	An increase in speed
Repetition	Each time a movement is repeated
Contraction	A muscle producing a force
Balance	Remaining stable. Centre of mass stays over base of support
Force	A push or pull that changes that causes an object to speed up or slow down.
Suppleness	Moving and bending with ease.

PE

Unit 4: Knowledge Organiser- Leadership

Roles within physical activity	Description of roles	Qualities
Performer	Takes part in the activity Executes skills and tactics	• High effort levels – try to be successful • Fair – enjoyable for everyone • Sportsmanship (good etiquette) – enjoyable for everyone • Can-do attitude – resilient and continue participation
Coach	Plan and lead warm up & activities Give instructions and demonstrate Give coaching points Time activities and whole session Can do risk assessment if no official.	• Organised – good pace • Good communicator – participants understand what to do • Confident – have a good presence • Knowledgeable – improve skill level • Enthusiastic – motivate others
Official	Time a competition Enforce the rules Risk assessment Start and stop the game	• Knowledgeable – can enforce rules • Confident – have good presence • Good communicator – participants understand what is happening • Good decision maker – game is fair

How to do a risk assessment:

- Check participants for correct kit, footwear, hair, nails, no chewing gum
- Check the playing area is clear, undamaged and not weather affected e.g. frozen pitch
- Check equipment is in good working order
- Check spare equipment is put away

Warm up ideas:

- Stuck in the mud
- Cups and saucers with cones (one team turn cones right way round, the other team turn them upside down)
- Truck and trailer (can be dribbling a football/ basketball etc)
- Piggy in the middle
- Obstacle course

Religious Studies

What do we mean by Sanatan Dharma? Knowledge Organiser

Concept	Explanation
Sanatan Dharma	This is the term that many Hindu's will use for their religion. It means 'eternal truth'. In the UK, 54% of 14-24 surveyed in 2023 said they use the term Hinduism; 16% Hindu Dharma and 16% Sanatan Dharma
The Origins of Sanatan Dharma	Most scholars believe Hinduism started somewhere between 2300 BCE and 1500 BCE in the Indus Valley, India. Many Hindus argue that their faith has always existed. Hinduism has no one founder Hindus have a wide range of beliefs and many different beliefs.
Statistics	Third largest religion in the world 1.2 billion followers (15% of the world) 1.8% of England and Wales identify as Hindu. Of these, 30 % are under 30, 74% under 50 and 10% over 65 17.9% of Leicester identify as Hindu The UK Hindu community has grown 86% in the last 20 years
ॐ	The Aum is known as the symbol of Hinduism and it is the main symbol of Brahman. It represents the first sound at the start of the universe.
Brahman	The name for God or ultimate reality. He is a limitless, universal soul or consciousness who is beyond human understanding but the source of all life. Brahman– he is seen as a non-personal God Antaryami– 'the God within' as he is in the heart of everyone Bhagavan- He is a personal God or Lord and is approached through many deities, living in the spiritual world

Concept	Explanation
Isa Upanishad	About Brahman: 'He moves, and he moves not. He is fair, and he is near. He is within all and he is outside of all'.
Trimurti	Three aspects of God or three deities (gods) responsible for creation
Brahma 	Brahma is the creator. He is the least worshipped of the deities He has four heads– one to represent each of the vedas (ancient Hindu texts), which he constantly recites. He has a consort called Saraswati who is the goddess of knowledge.
Vishnu 	Vishnu is the Preserver and Protector. He is seen as having a human body with four arms; each arm represents something he is responsible for Conch (shell): Aum– the sound at the start of the universe The Chakra (disc)– the mind. The lotus flower- glorious existence and liberation. The mace– mental and physical strength. He has had 9 incarnation e.g. Rama (greatest warrior) and Krishna who delivered the holy book the Bhagavad Gita
Shiva 	Shiva is the destroyer who will end the universe but also causes change. He has the following features: A third eye– represents his wisdom and insight Cobra necklace– his power over the most dangerous creatures Vibhuti– three horizontal lines in white ash on his forehead represent his omnipotence and wealth

ADT

Y8 Art & Design–Pop Art Portraits

EXPLORE	DEVELOP	CREATE	EVALUATE
Pupils will explore the techniques and work of Pop Artists such as Andy Warhol and Michael Craig Martin, whilst using the over arching theme of Portraiture and Who we are	They will develop ideas through experiments with a range of 2D and 3 D materials using personal objects, inspirational people and masks as inspiration.	Pupils will create a series of observational drawings in a range of media including pencil and collage and create a mask inspired their explorations.	Pupils will reflect on and retrieve knowledge and skills learnt and developed to bring together a final outcome through sketchbook work and 3D outcomes.

ESSENTIAL KNOWLEDGE- You will Learn That

Recording from Observation Primary source observational drawing: drawing something real in front of you. Secondary source observational drawing: drawing something from a picture.

Portraiture is a very old art form going back at least to ancient Egypt.

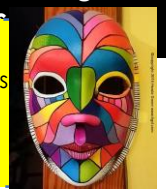
Techniques and Processes- You will learn how

Add Form to Drawing

- Add a wide range of tonal
- shading when drawing a 3D object.
- Pressing harder and lighter with a pencil creates the different tones
- Shading straight across a surface will make an item appear flat
- Use the direction of your pencil to help enhance
- the 3D surface
- Including shadows will also help make objects appear 3D and separate objects from each other

Key Practitioners – Artists, Designers, Movements and Themes

Pop Art
a deconstruction of images seen in popular culture eg. television, comic books, or films



A portrait is a painting, photograph, sculpture, or other artistic representation of a person, in which the face and its expressions are predominant.

Still life - a collection of inanimate objects(things that are not living) arranged together in a specific way.

Artists: Andy Warhol

Michael Craig Martin

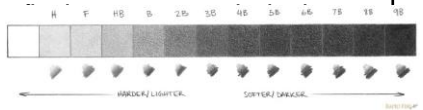
Materials/ Mediums/ Ingredients – Origins and Properties

Collage
visual elements are combined to create a new image that conveys a message or idea.
layering

Value
the lightness or darkness of a colour.
Hue
origin of the colours (true colour)
Symbolism
using symbolic images and indirect suggestion to express mystical ideas, emotions, and states of mind.

Grid
involves drawing a grid over your reference photo, and then drawing a grid of equal ratio on your work surface

Juxtaposition
placing two or more things side by side



Topic Terminology

Word	Definition
viewfinder	• A window to select focus area for drawing
composition	• The position and layout of shapes on the paper
line	• Defines shape, the outer edges of something
tone	• How dark or light a shape is
shape	• The outline of the still life objects
form	• Appearing three-dimensional
pattern	• A repeated shape or line
texture	• The feel or appearance of a surface, how rough • or smooth it is

CERAMIC TECHNIQUES

EMBOSSE

MOULD & APPLY

SLAB

ADT

Y8 Food Tech– Diet, activity and health

EXPLORE	DEVELOP	CREATE	EVALUATE
This is an Food Tech project where pupils will explore Diet, activity and health through exploring knowledge and theory of food tech practice	Pupils will develop their skills of cooking through various meals and apply their knowledge of healthy diet. understand basic healthy eating principles, including the Eatwell Guide.	To learn how to modify a recipe to create it more suitable for individual tastes and dietary needs. .	To evaluate food products using the five senses and consider improvements that could be made.

ESSENTIAL KNOWLEDGE- You will Learn That

There are health issues related to dietary excess or deficiency. It is important to include a variety of different activity in everyday living, supporting physical, social and mental wellbeing.

A balanced diet
A balanced diet is based on the Eatwell Guide. An unbalanced diet can lead to dietary related diseases.

Diet and health
There is a link between a poor diet, and the risk of developing some diseases.

This includes the risk of:
- cancer;
- coronary heart disease (CHD);
- bone health;
- anaemia.

Techniques and Processes- You will learn how

Getting ready to cook
Remove blazers/jumpers and roll up long sleeves.
Tie up long hair and tuck in ties or head coverings.
Thoroughly wash and dry hands.
Put on a clean apron

Diet and CHD
80% of CHD and strokes could be prevented by changes to lifestyle, such as diet, physical activity and smoking.

Changes to the diet such as:
increasing oily fish intake;
reducing salt intake;
increasing fruit and vegetables;
decreasing alcohol consumption.

Bone health
Calcium is important for strong bones. Vitamin D is needed for calcium to be absorbed from food.

Anaemia
Iron is vital for making red blood cells. Iron from the diet forms haemoglobin, which carries oxygen in the blood. Anaemia develops if the body's stores of iron are too low.

Key Practice Knowledge

Malnutrition
Having intakes of energy and/or nutrients below or in excess of needs for long periods of time can affect health.

The risk of **malnutrition** is increased by:
- increased requirements for some nutrients;
- restricted range of foods;
- reduction in available income;
- very low income;
- medical conditions;
- psychological conditions.

H&S

Over nutrition
The most common over nutrition problem is obesity caused by too much energy being consumed, or high levels of inactivity.

Body Mass Index
BMI measures your height and weight to work out if your weight is healthy.

Recommended BMI range (adults)	
Less than 18.5	Underweight
18.5 to 25	**Desirable**
25-30	Overweight
30-35	Obese (Class I)
35-40	Obese (Class II)
Over 40	Morbidly obese

Key terms

Deficiency diseases: Adverse bodily conditions caused by a lack of a nutrient.
Iron deficiency anaemia: A condition caused by insufficient iron in the body. Common symptoms include tiredness and lethargy.
Kwashiorkor: A severe type of protein-energy malnutrition.
Malnutrition: When the diet does not contain the right amount of nutrients.
Marasmus: A severe type of energy malnutrition in all forms, including protein.
Moderate activity: Will raise your heart rate, and make you breathe faster and feel warmer.
Obesity: Extreme overweight. Obese adults have a BMI of 30 or above.
Sedentary behaviour: Requires little energy expenditure and includes sitting or lying down to watch television, use the computer, read, work or study, and sitting when travelling to school or work.
Vigorous activity: Makes you breathe hard and fast.

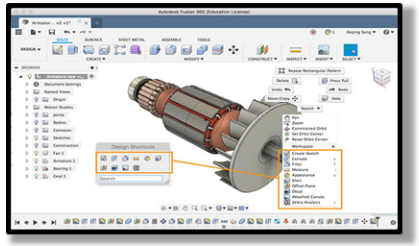
ADT

Y8 Product Design – Phone Holders

EXPLORE	DEVELOP	CREATE	EVALUATE
Students will **explore** thermoplastics and thermosetting plastics as well as ferrous / non-ferrous metals and the properties and characteristics of each; write a specification, learn how to sketch in 3D and how to produce a neat and accurate 3D final idea drawing.	Develop practical skills with hand tools and workshop machines – including doing a simple CAD/CAM process (drawing in CAD and cutting using the laser cutter); health and safety and development of independent practice	Students will design and create a plastic, metal and wooden phone holder using a wide range of workshop tools and equipment as an introduction to resistant materials. They will have a design folder full of research, drawings and written analysis that they will have created.	Students will **evaluate** their progress by undertaking self and peer assessment of the ideas drawings pages, final idea page, card modelling page and their practical work.

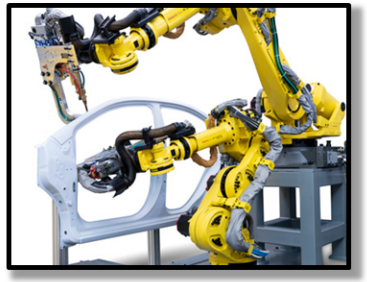
ESSENTIAL KNOWLEDGE- You will Learn That

CAD (Computer Aided Design) is when you use a computer to **aid you to draw** a design. We used 2D Design to draw phone holder designs.



CAM (Computer Aided Manufacture) is when you use a computer to **aid you to manufacture** a design. We used a laser cutter to cut the phone holder designs. Other examples are robots welding cars in factories, 3D printing.

Techniques and Processes- You will learn how to use



Strip heater (or line bender)

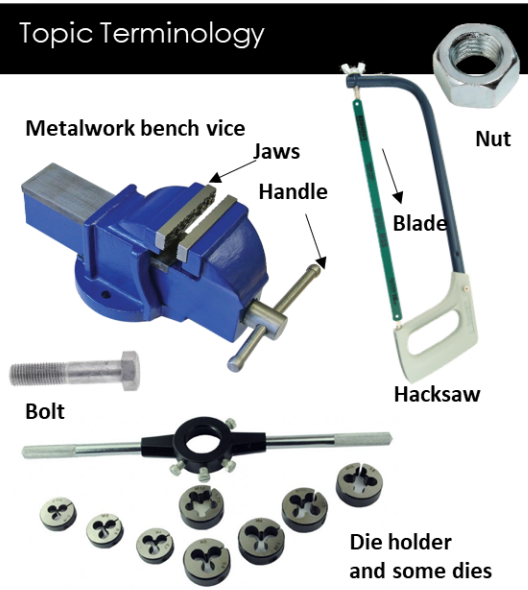
Materials– Origins and Properties

Thermoplastics	Thermosetting Plastics
• Can be **heated** & **melted over and over again**	• Once poured into a mould it **sets**. Irreversible.
• **Therm** means **heat**	• **Set** means it **sets**
• Fairly **easy** to **recycle** – difficult to sort into groups before melting	• **Difficult** to **recycle** – it can be crushed into plastic 'gravel' and used in building sites
Acrylic: car lights, baths, plastic fish tanks, shop signs	**Melamine formaldehyde**: picnic bowls, plates, worksurfaces
HIP (high impact polystyrene: yogurt pots, coffee cups	**Epoxy resin**: 2 part glue e.g. Araldite, glues most materials
HDPE (high density polythene): washing baskets	**Urea formaldehyde:** white electrical sockets
Polypropylene: chairs, casings for drills, electrical tools	**Phenol formaldehyde**: snooker balls, bottle caps

Materials – Origins and Properties

Ferrous metals	Non-ferrous metals
• Contains iron	• Does not contain iron
• Magnetic	• Usually non-magnetic
• Rusts in water / air	• Can corrode to form an oxide
Mild steel (low carbon) : table legs, steel beams in houses	**Aluminium**: drink cans, ladders, kitchen foil, window frames
Stainless steel: sinks, saucepans, knives, forks	**Copper**: electrical wiring, water pipes, hot water tanks
Cast iron: manhole covers, pans, gates, car engine blocks	**Tin**: food cans, electrical solder, takeaway trays
High carbon steel: chisels, knives, railway lines	**Zinc**: used to galvanise steel to make it rust proof e.g. cars
High speed steel: drill bits	**Gold & silver:** jewellery & electronic circuits

Topic Terminology



Keywords – you must know what these all mean (in a D&T context) and be able to spell them:

CAD	Thermoplastic
CAM	Function
Consumer	Laser cutter
Aesthetics	Acylic
Die holder	Friction
Conductor	Insulator
Therm	Model
Thread	Prototype
Solvent	Geometric
Ferrous	Non-ferrous
Burr	Wet & dry paper
Hacksaw	Buffing machine
Emery cloth	Specification
Thermosetting plastic	Charles Rennie Mackintosh

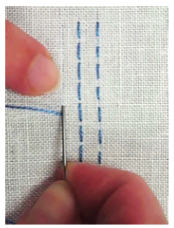
ADT

Y8 Textiles – Monsters

EXPLORE	DEVELOP	CREATE	EVALUATE
Pupils will explore the techniques and work of Pop Artists such as Andy Warhol and Michael Craig Martin, whilst using the over arching theme of Portraiture and Who we are	They will develop ideas through experiments with a range of 2D and 3 D materials using personal objects, inspirational people and masks as inspiration.	Pupils will create a series of observational drawings in a range of media including pencil and collage and create a mask inspired their explorations.	Pupils will reflect on and retrieve knowledge and skills learnt and developed to bring together a final outcome through sketchbook work and 3D outcomes.

ESSENTIAL KNOWLEDGE- You will Learn That

Running stitch is a basic embroidery stitch that most learners will start with. The needle is pushed down into the fabric before coming back up in the same movement if possible.
The needle and thread are then pulled upwards through the fabric to leave a flat stitch on the surface. This action is then repeated



Zig zag adjuster
1= straight
2 - 5 = zigzag

Length of stitch adjuster
1-5 NEVER 0

Techniques and Processes- You will learn how to use

Tie dye is a technique using elastic bands which block dye, to create patterns.

Key Practitioners

Jon Burgerman &

Louise Evans

Jon Burgerman is a UK born, trained at NTU, NYC based artist, famed for his instantly recognisable drawings, doodles, characters and murals.

Welsh fashion designer and textile artist **Louise Evans** who goes by the name of Felt Mistress;
uses felt and other fabrics, to bring to life imaginative characters of all different shapes and sizes.

Her creations have appeared in television commercials, shop window displays, exhibitions and music videos across the world.

Materials & Equipment

pins	Embroidery thread	unpicker	Ironing board	Sewing needle	Elastic bands
Sewing machine	Bobbin	Iron	Tjanting tool	Batik Pot	Thread

WHIP STITCH APPLIQUE

Topic Terminology

Textiles is the study of fibres and fabrics.

Fibres are the filaments or staples that make a yarn.

Fabric is made from yarn that is held together by weaving, knitting or felting.

Cotton is a natural, staple fibre that comes from the seedpod (boll), of the cotton plant and is woven or knitted to make many fabrics like gingham, calico and denim.

Felt is a dense, non-woven fabric and without any warp or weft. Instead, felted fabric is made from matted and compressed fibres or fur with no apparent system of threads.

Appliqué is ornamental needlework in which pieces or patches of fabric in different shapes and patterns are sewn or stuck onto a larger piece to form a picture or pattern. It is used as decoration, especially on garments. The technique is either hand stitching or machine.

Batik is an Indonesian technique of wax-resist dyeing.

Science

KNOWLEDGE ORGANISER
PHYSICS: Advanced Energy

Key vocabulary

conduction	Transfer of thermal energy by the vibration of particles.
convection	Transfer of thermal energy when particles in a heated fluid rise.
convection current	The movement of heated fluids where hot fluid moves upwards, and cold fluid moves downwards.
infrared radiation	Radiation given off by the Sun and other objects that brings about energy transfer.
radiation	The transfer of energy as a wave.
temperature	A measure of the motion and energy of particles.
thermal conductor	Material that allows heat to move quickly through it.
thermal energy store	The store containing energy due to the vibration or movement of particles of a substance.
thermal imaging camera	A camera that absorbs infrared and produces a (false colour) image.
thermal insulator	Material that only allows heat to travel slowly through it.
thermometer	Instrument used to measure temperature.
energy	Energy is needed to make things happen.
energy resource	Something with stored energy that can be released in a useful way.
fossil fuel	Non-renewable energy resources formed over millions of years from the remains of ancient plants or animals. Examples are coal, crude oil, and natural gas.
joule	The unit of energy, symbol J.
kilojoule	1 kilojoule = 1000 J, symbol kJ.
kilowatt	1 kilowatt = 1000 W, symbol kW.
kilowatt hour	The unit of energy used by electricity companies, symbol kWh.
non-renewable	An energy resource that cannot be replaced once used up and will run out, such as coal, oil, or gas.
power	How quickly energy is transferred by a device (watts).
renewable	An energy resource that can be replaced and will not run out. E.g. solar, wind, waves, geothermal, and biomass.
watt	The unit of power, symbol W.

Key facts

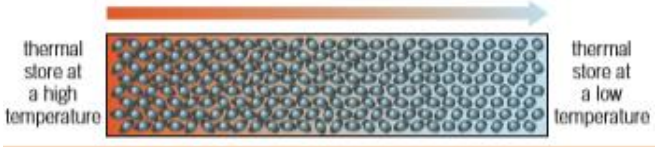
Energy and Temperature:

- The **temperature** of a substance is a measure of how hot or cold it is. Temperature is measured with a **thermometer**, it has the units of **degrees Celsius (°C)**
- The **thermal energy** of a substance depends on the individual energy of all of the particles, it is measures in **Joules (J)**

- As all particles are taken into account, a bath of water at 30 °C would have more thermal energy than a cup of tea at 90 °C as there are many more particles
- The faster the particles are moving, the more thermal energy they will have
- When particles are heated they begin to move more quickly
- The **energy needed** to increase the temperature of a substance **depends** on:
  - the **mass** of the substance
  - what **material** the substance is made of
  - how much you want to **increase the temperature by**

Energy and Particles:

- **Conduction** is the transfer of thermal energy by the vibration of particles, it cannot happen without particles
- This means that every time particles collide they transfer thermal energy
- Conduction happens effectively in solids as their particles are close together and can collide often as they vibrate around a fixed point
- **Metals** are also **good thermal conductors** as they contain electrons which are free to move. In conduction the thermal **energy will be transferred** from an area which has a **high thermal energy store (high temperature)** to an area where there is a **low thermal energy store (low temperature)**
- **Gases** and **liquids** are **poor conductors** as their particles are spread out and so do not collide often, we call these **insulators**



Key facts

- **Convection** is the transfer of thermal energy in a liquid or a gas, it cannot happen without particles
- As the particles near the heat source are heated they spread out and become **less dense**, this means that they **will rise**
- **More dense** particles will take their place at the **bottom** nearest the heat source creating a constant flow of particles
- This is known as a **convection current**
- Convection **cannot** happen in a **solid** as the particles cannot flow, they can only move around a fixed point

Radiation and Insulation:

- **Radiation** is a method of transferring energy without the need for particles
- An example of radiation is thermal energy being transferred from the Sun to us through space (where there are no particles)
- This type of radiation is known as **infrared radiation**, it is a type of wave just like light
- The **hotter an object** is the **more infrared radiation** it will **emit** (give out)
- The amount of radiation emitted and absorbed depends on the surface of the object:
  - **Darker** and **matte surfaces absorb** and emit more infrared radiation
  - **Shiny** and **smooth surfaces absorb** and **emit less** infrared radiation, instead reflecting this
  - The amount of infrared radiation being emitted can be viewed on a **thermal imaging camera**

Science

KNOWLEDGE ORGANISER
PHYSICS: Advanced Energy

Key facts

Food and Fuels:

- **Food** stores energy in the form of **Chemical energy store**
- Different foods contain different amounts of energy
- Different **activities** require different amounts of energy
- Different people need different amounts of energy depending on what they do each day

Energy Resources:

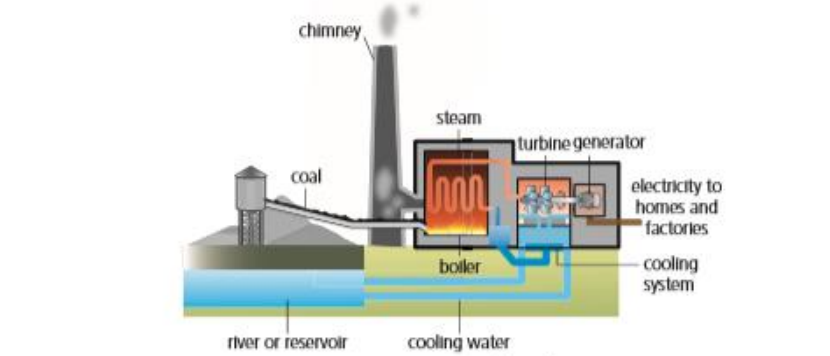
- **Non-renewable** energy cannot be replaced within your lifetime
- Non-renewable energy resources include **coal, oil, natural gas** and **nuclear resources**
- Coal, oil and natural gas are also known as **fossil fuels**, they release **carbon dioxide** when burned which contributes to **global warming**

- **Renewable** energy can be replaced within your lifetime
- Renewable energy resources include **wind, tidal, wave, biomass, solar, hydroelectric** and **geothermal**
- Renewable energy resources do not produce much carbon dioxide, meaning that they have a smaller effect on global warming

Key facts

Power Stations:

Thermal power stations burn coal, oil and natural gas, which are all non-renewable energy resources



Energy and Power:

- **Power** is a measure of how much **energy is transferred per second**
- Power is measured in **watts (W)**
- Each appliance has it's own power rating to tell us how quickly it uses energy
- We can calculate power with the **equation**:

$$Power(watts) = \frac{Energy\ (joules)}{Time\ (seconds)} \qquad P(W) = \frac{E\ (J)}{t\ (s)}$$

Key facts

Electricity Costs:

- Energy van be calculated in **kilowatt-hours (kWh)**
- Electricity bills use the number of kWh used to decide the cost of the electricity we use.
- To work out the electricity costs we can use the following **equations**:

$$energy\ in\ kWh = power\ in\ kW\ x\ time\ in\ h$$

$$cost = number\ of\ kWh\ x\ cost\ of\ a\ kWh$$

Worked Examples:

Example 1 - **Power calculation**

Calculate power if energy transferred is 60J in 4s.

E = 60 J, t = 4 s

$P = \frac{E}{t}$

$P = \frac{60}{4}$

P = 15

P = 15 W

Example 2 – **Electricity Cost Calculation**

You can calculate the cost of using appliances at home using the formula:

cost = power (kW) × time (hours) × price (per kWh)

Suppose you use a 2.5 kW oven for 2 hours. Each kWh costs 10p.

cost = 2.5 kW × 2 hours × 10p/kWh

= 50p

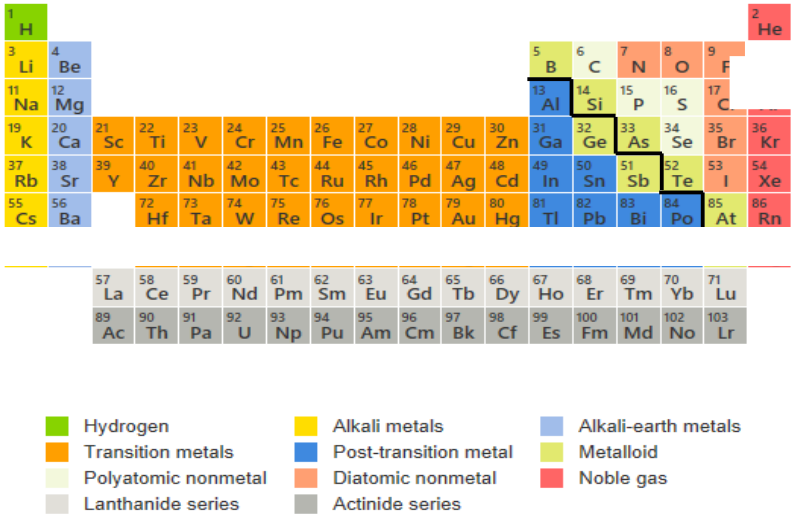
Science

KNOWLEDGE ORGANISER

MATTER: THE PERIODIC TABLE

Key Word	Definition
Periodic Table	A table of the chemical elements arranged in order of atomic number.
Physical properties	A property of a material that you can observe or measure.
Chemical properties	A property of a substance that is observed during a reaction in which the chemical composition or identity is changed.
Group	A vertical column in a Periodic table is called a group.
Period	A horizontal row in a Periodic table is called a period.
Trend	A specific pattern in the properties of chemical elements in the periodic table.
Alkali metals	Metal elements in Group 1 of the Periodic table.
Halogens	Non-metal elements in Group 7 of the Periodic table.
Displacement reactions	A chemical reaction in which one element replaces another element in a compound.
Noble gases	Non-metal elements in Group 0 of the Periodic table.
Inert	A substance that is not chemically reactive.

The Periodic Table



The Periodic table shows all the elements. It groups together elements with similar properties. Metals are on the left of the stepped line and non-metals are on the right of the stepped line.

A group is a vertical column. As you go down a group there are patterns in melting point, boiling point and size of the atom. The size of an atom increases as you go down a group. A period is a horizontal row. As you go across a period from left to right the melting point increases from left to right for the first 4 elements, the melting points of the other elements are low. The size of the atom decreases as you go across a period.

Science

KNOWLEDGE ORGANISER

MATTER: THE PERIODIC TABLE

The elements of Group 1

Group 1 elements are also called the **alkali metals**, they are all metals, they are good conductors of heat and electricity and are shiny when they are freshly cut. As you go down the group the melting and boiling points decrease. All group 1 metals have low densities.

Chemical properties describe how substances react with other substances. The group 1 elements are very reactive. All group 1 elements have exciting reactions with water. The reactions produce hydrogen gas. The gas moves the reacting metal around the surface of the water. The reactions also make alkaline solutions, so the universal indicator turns purple. An example of a reaction is:

Lithium + water → lithium hydroxide + hydrogen

There is a pattern in the reactions. The reactions get more vigorous as you go down the group.

The elements of Group 0

The Group 0 elements are also called the **noble gases**. They exist in the atmosphere. They have low melting and boiling points and are colourless gases at room temperature. The melting and boiling points of group 0 elements increases as you go down the group. The noble gases glow brightly when electricity is passed through them. This explains why the noble gases are used in advertising signs. Helium has lower density than air, that is why it is used in helium balloons. Argon is a better insulator than air, that is why it is used in the gap between two panes of glass in double glazing. The noble gases take part in few reactions. Scientists say that they are inert. Helium and neon never take part in chemical reactions but krypton and xenon can form compounds with fluorine.

The elements of Group 7

The Group 7 elements are called the **halogens**. The halogens have low melting points and they do not conduct electricity. The melting and boiling points increase as you go down group 7. This is why fluorine and chlorine are gases, bromine is a liquid and iodine is a solid. The colour of the elements also get darker as you go down the group. Group 7 elements all react with iron: **Iron + chlorine → iron chloride.** The reactions get less vigorous as you go down group 7 so fluorine is the most reactive and astatine is the least reactive.

Group 7 elements also undergo displacement reactions. A more reactive halogen will displace a less reactive halogen in its compound. Elements near the top of group 7 displace elements lower in the group from their compounds. Examples of displacement reactions are:

Chlorine + sodium bromide → bromine + sodium chloride

Pale green colourless orange colourless

Another example is:

Bromine + sodium iodide → iodine + sodium bromide

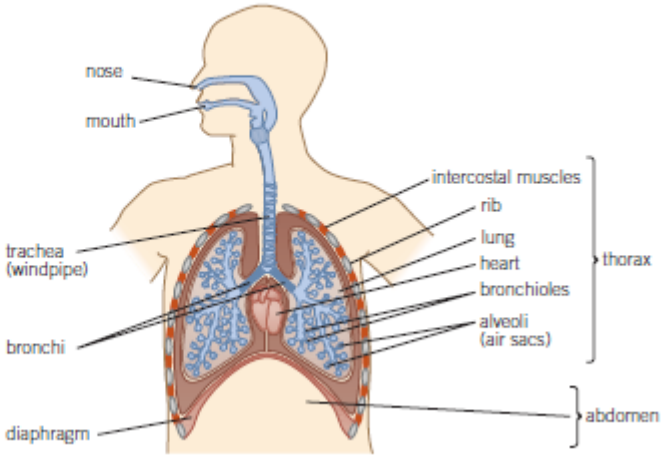
Orange colourless brown colourless

Science

Biology Topic
Respiration

Gas exchange and breathing

- **Gas exchange** is the process of taking in oxygen and giving out carbon dioxide
- This occurs in the **respiratory system**
- The proportions of gases in the air we **inhale** and **exhale** changes due to using oxygen in **respiration** and producing carbon dioxide



Drugs

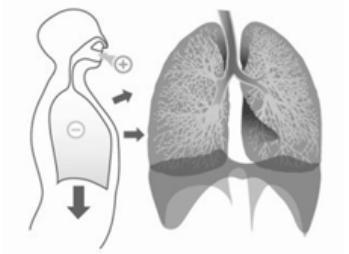
- **Drugs** are chemicals that affect the way that our body works
- **Medicinal drugs** are used in medicine, they benefit health
- If medicinal drugs are not taken in the correct way they can harm health
- Examples include antibiotics and pain killers

- **Recreational drugs** are taken by people for enjoyment
- Recreational drugs normally have no health benefits and can be harmful for health
- Examples include alcohol and tobacco

- Drug **addiction** is when your body gets so used to a drug, it feels it cannot cope without it
- If someone who has an addiction stops taking the drug, they will experience **withdrawal symptoms**

Inhalation

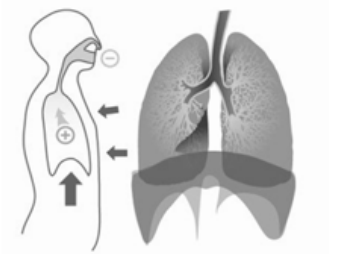
Inhalation is the process of breathing in



- **Ribcage** is pulled **upwards and outwards**
- **Diaphragm contracts** and moves **downwards**
- **Volume** in the lungs **increases**
- **Air** moves **into** the lungs

Exhalation

Exhalation is the process of breathing out



- **Ribcage** is pulled **downwards and inwards**
- Diaphragm **relaxes** and moves upwards into a **dome**
- **Volume** in the lungs **decreases**
- **Air** moves **out of** the lungs

Adaptations of the lungs

Lots of blood vessels to take away oxygenated blood

Thin walls in the alveoli to reduce distance of diffusion

Alveoli create a large surface area

Moist

Science

Biology Topic
Respiration

Key term	Definition
aerobic respiration	Breaking down glucose with oxygen to release energy and producing carbon dioxide and water.
anaerobic respiration	Releasing energy from the breakdown of glucose without oxygen, producing lactic acid (in animals) and ethanol and carbon dioxide (in plants and microorganisms).
biotechnology	The use of biological processes or organisms to create useful products.
fermentation	A type of anaerobic respiration in which glucose is converted into ethanol, carbon dioxide, and energy.
haemoglobin	The substance in red blood cells that carries oxygen around the body.
oxygen debt	Extra oxygen required after anaerobic respiration to break down lactic acid.
plasma	Liquid that transports blood cells and other materials around the body.

Uses of Biotechnology

- Fermenting alcoholic drinks e.g wine and beer
- Using yeast to allow bread to rise before baking.

AEROBIC RESPIRATION EQUATION

glucose + oxygen → carbon dioxide + water

ANAEROBIC RESPIRATION EQUATION

glucose → lactic acid

FERMENTATION EQUATION

glucose → carbon dioxide + ethanol

Exercising and respiration

When exercising we breathe more quickly (increased breathing rate) to pull more oxygen into the body. Oxygen is needed to release more energy by **AEROBIC RESPIRATION.**

Music

Computer and Video Game Music

Early Computer and Video Game Music

Early video game music consisted primarily of **SOUND EFFECTS** (an artificially created or enhanced sound used to emphasize certain actions within computer and video games), **CHIPTUNES** or **8-BIT MUSIC** (a style of electronic music which used simple melodies made for programmable sound generator (PSG) sound chips in vintage computers, consoles and arcade machines) and early sound **SYNTHESISER** technology (an electronic musical instrument that generates audio signals that may be converted to sound). **SAMPLING** (the technique of digitally encoding music or sound and reusing it as part of a composition or recording) began in the 1980's allowing sound to be played during the game, making it more realistic and less "synthetic-sounding".

How Computer and Video Game Music is used within a Game

Music within a computer or video game is often used for **CUES** (knowing when a significant event was about to occur).

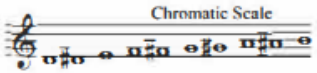
Video game music is often heard over a game's title screen (called the **GROUND THEME**), options menu and bonus content as well as during the entire gameplay. Music can be used to **INCREASE TENSION AND SUSPENSE** *e.g. during battles and chases*, when the player must make a decision within the game (a **DECISION MOTIF**) and can change, depending on a player's actions or situation *e.g. indicating missing actions or "pick-ups".*

Musical Features of Computer and Video Game Music

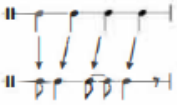
JUMPING BASS LINE
Where the bass line often moves by **LEAP (DISJUNCT MOVEMENT)** leaving 'gaps' between notes

STACCATO ARTICULATION
Performing each note sharply and detached from the others. Shown by a dot.

CHROMATIC MOVEMENT
Melodies and bass lines that ascend or descend by semitones.



SYNCOPATION
Accenting the weaker beats of the bar to give an "offbeat " jumpy feel to the music.



How Computer and Video Game Music is Produced

Fully-orchestrated **SOUNDTRACKS** (video game music scores) are now popular – technology is used in their creation but less in their performance. The composer uses **MUSIC TECHNOLOGY** to create the score, it is then played by an **ORCHESTRA** and then digitally converted and integrated into the game. Video game **SOUNDTRACKS** have become popular and are now commercially sold and performed in concert with some radio stations featuring entire shows dedicated to video game music.

Character Themes in Computer and Video Game Music

Characters within a video game can also have their own **CHARACTER THEMES** or **CHARACTER MOTIFS** – like **LEITMOTIFS** within Film Music. These can be manipulated, altered and changed – adapting the elements of music – **ORCHESTRATION** (the act of arranging a piece of music for an orchestra and assigning parts to the different musical instruments), **TIMBRE, SONORITY, TEXTURE, PITCH, TEMPO, DYNAMICS** – depending on the character's situation or different places they travel to within the game.

Famous Computer and Video Game Music Composers and their Soundtracks

Koji Kondo
Super Mario Bros. (1985)
The Legend of Zelda (1986)

Michael Giacchino
The Lost World: Jurassic Park (1997)
Medal of Honour (1999)
Call of Duty (2003)

Mieko Ishikawa
Dragon Slayer (1993)

Martin O'Donnell and Michael Salvatori
Halo (2002)

Daniel Rosenfield
Minecraft (2011)

Rom Di Prisco
Fortnite (2017)

Music

Music Knowledge Organiser

- Garage Band -

Getting Started

Click this

Then this...

Choose '<u>Empty Project</u>', and then either '<u>Software Instrument</u>' (to use the keyboard) or '<u>Microphone</u>' to record live sounds with a microphone.

Save!!

Help, I Can't Hear Anything?!?

1. Make sure the **headphones** are plugged into the back of the computer (not the keyboard)
2. Turn up the **volume** (F12 on the Mac keyboard)
3. Make sure the '**MIDI/Select/Octave**' button is not lit red on the Alesis music keyboard
4. Make sure the '**Mute**' button is not lit on Garage Band

How Do I Delete? =

Click on (highlight) the thing you want to delete and press:

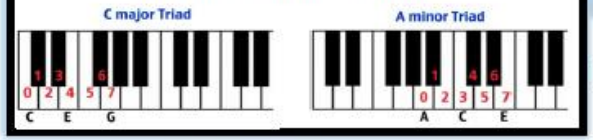
Solo button

Mute button

Volume slider

Press this button to view and use the pre-recorded '<u>Loops</u>' and '<u>Samples</u>'.

Start with one of these <u>chords</u>...



Choose your <u>instrument</u> here (if using a keyboard track).

All the Chords...

Chords In All Major Keys

Major Keys	I	ii	iii	IV	V	vi	vii°
C	C	Dm	Em	F	G	Am	B°
C♯	C♯	D♯m	E♯m	F♯	G♯	A♯m	B♯°
D♭	D♭	E♭m	Fm	G♭	A♭	B♭m	C°
D	D	Em	F♯m	G	A	Bm	C♯°
E♭	E♭	Fm	Gm	A♭	B♭	Cm	D°
E	E	F♯m	G♯m	A	B	C♯m	D♯°
F	F	Gm	Am	B♭	C	Dm	E°
F♯	F♯	G♯m	A♯m	B	C♯	D♯m	E♯°
G♭	G♭	A♭m	B♭m	C♭	D♭	E♭m	F°
G	G	Am	Bm	C	D	Em	F♯°
A♭	A♭	B♭m	Cm	D♭	E♭	Fm	G°
A	A	Bm	C♯m	D	E	F♯m	G♯°
B♭	B♭	Cm	Dm	E♭	F	Gm	A°
B	B	C♯m	D♯m	E	F♯	G♯m	A♯°

Chords In All Minor Keys

Minor Keys	i	ii°	III	iv	v	VI	VII
Cm	Cm	D°	E♭	Fm	Gm	A♭	B♭
C♯m	C♯m	D♯°	E	F♯m	G♯m	A	B
Dm	Dm	E°	F	Gm	Am	B♭	C
D♯m	D♯m	E♯°	F♯	G♯m	A♯m	B	C♯
E♭m	E♭m	F°	G♭	A♭m	B♭m	C♭	D♭
Em	Em	F♯°	G	Am	Bm	C	D
Fm	Fm	G°	A♭	B♭m	Cm	D♭	E♭
F♯m	F♯m	G♯°	A	Bm	C♯m	D	E
Gm	Gm	A°	B♭	Cm	Dm	E♭	F
G♯m	G♯m	A♯°	B	C♯m	D♯m	E	F♯
A♭m	A♭m	B♭°	C♭	D♭m	E♭m	F♭	G♭
Am	Am	B°	C	Dm	Em	F	G
A♯m	A♯m	B♯°	C♯	D♯m	E♯m	F♯	G♯
B♭m	B♭m	C°	D♭	E♭m	Fm	G♭	A♭
Bm	Bm	C♯°	D	Em	F♯m	G	A

Drama

Homework 1:
Learn the information on this knowledge organiser.

Drama Year 8

Topic 2: Curious Incident of the Dog in the Night-Time

By Mark Haddon

PHYSICAL SKILLS

- Pace (Slow/Fast)
- Facial Expressions
- Eye Contact
- Gesture
- Body Language
- Posture
- Levels
- Stage Space

VOCAL SKILLS

- Pace (Slow/Fast)
- Emphasis
- Projection (Strong/Weak)
- Pause (Long/Short)
- Tone (Emotion in Voice)
- Pitch (Low/High)
- Volume (Loud/Quiet)

PERFORMANCE SKILLS

How do we create a character?

1. **Facial Expression** – Happy, Sad, Scared, Excited
2. **Body Language** – Posture, Walk, Proximity
3. **Gestures** – Exaggerated Hand Movements
4. **Levels** – Status, Power, Relationships
5. **Voice** – Pace, Pitch, Pause, Tone, Volume

Drama

Physical Theatre	A **non-naturalistic** theatre style which predominantly uses the body to convey the moods, atmospheres and feelings of the narrative to story tell.
Naturalistic	Realistic and believable, similar to everyday life, creating an illusion of reality
Round	Any move that involves passing closely around the body of your partners
By	Slotting in move that is neat an efficient. Reducing the space between the partners to as small as possible
Through	Passing through the partners, usually confined to the upper body and arms.
Ensemble	An approach to acting that aims for a unified effect achieved by all members of a cast working together on behalf of the play
Canon	Performing the same move at different times (like a Mexican wave)
Unison	Performing the same moves at the same time
Repetition	Repeating the same movement / sequence numerous times

PRACTITIONER: Frantic Assembly

- *Frantic Assembly are a British theatre company co-founded by Artistic Director, Scott Graham, 25 years ago.*
- *Their approach to creating theatre is* distinctly creative *and has* ***physical theatre movement at the foreground*** *of all of their work.*
- *They have worked in over* ***40 countries world-wide*** *and regularly* ***collaborate*** *on other productions (for example, 'Humans' – Channel 4, and the National Theatre's 'The Curious Incident of the Dog in the Night-Time').*

Homework 2:
Learn the 10 spellings below:

1.) Physical Theatre
2.) Naturalistic
3.) Round – by – through
4.) Performance
5.) Improvisation
6.) Ensemble
7.) Canon
8.) Unison
9.) Repetition
10.) Sequence

History

Knowledge Organiser – 1. Stuart England (1603-1645)

Gunpowder Plot (1605)

- James I became king of England and Scotland after Elizabeth's death in 1603
- James passed a number of anti-Catholic laws and a small number of Catholics began plotting against the king
- Robert Catesby led the plot - planned to blow up the king and Parliament using gunpowder
- Guy Fawkes was given the task of loading gunpowder into a cellar under Parliament

How was the plot uncovered?

- One of the plotters sent a warning letter to Lord Monteagle warning him not to attend Parliament on November 5th
- The king's men searched the cellars under Parliament and captured Fawkes who was tortured
- The other plotters were killed or captured, put on trial for treason and hung, drawn and quartered when found guilty

Role of Robert Cecil

- Cecil was the king's chief minister and adviser at the time of the plot
- Some historians believe that he may have known about the plot all along and even helped the plotters to obtain gunpowder and rent the cellar
- This theory is linked to Cecil's desire to force James to take a tougher line against Catholics by proving their threat to this throne
- However, not all historians agree with this theory and we cannot be sure about Cecil's role in the plot

Causes of the Civil War (1625-42)

Charles I (1625-49)

- Charles I became king in 1625 after the death of his father James I
- He believed in the Divine Right of Kings and married a Catholic which upset many Puritans in Parliament
- Personal Rule – from 1629-40 Charles ruled without consulting Parliament and introduced the hated Ship Money tax

Short-term causes of the Civil War

1640 – Charles was forced to recall Parliament
Nov. 1640 – Parliament publishes **Grand Remonstrance** a document attacking Charles and his ministers
1641 – **Lord Strafford** (Charles closest adviser) was executed on the orders of Parliament – led by John Pym (Puritan)
January 1642 – Charles took troops into Parliament to try and **arrest the 5 leading MPs** who opposed him (including John Pym)
August 1642 – Charles gathered his forces in Nottingham and Parliament organised their own army to fight against the king signalling the start of the Civil War

English Civil War (1642-45)

Cavaliers vs Roundheads

Royalists/Cavaliers – fought for the king
Parliamentarians/Roundheads – fought for Parliament

Three types of soldier:

1. **Pikemen** – fought with a long, wooden spike
2. **Musketeer** – used a musket (an early type of gun) as their main weapon
3. **Cavalry** – fought on horseback armed with a heavy sword and two pistols

Key battles of the Civil War:

Battle of Edgehill (1642) – ended with no obvious winner, both sides lost about 1,500 men
Battle of Newbury (1643) – Charles missed a key opportunity to defeat Parliament's army when he withdrew and retreated back to Oxford
Battle of Marston Moor (1644) – largest battle of the civil war, Oliver Cromwell attacked the Royalists from the rear and won an important victory
Battle of Naseby (1645) – New Model Army defeated the Royalist army over 5,000 Royalist soldiers were captured and 1,000 killed – the Royalists had lost the Civil War

Why did Parliament win the Civil War?

1. **New Model Army –** created by Cromwell and Fairfax to fight for Parliament it was disciplined and religious – e.g. their men often prayed together before battle and believed God was on their side
2. **Leadership –** Charles and Prince Rupert made a number of tactical errors during the war whereas Cromwell used clever tactics
3. **Money** – Parliament controlled London – the richest city in England – they could therefore pay their soldiers more and give them better weapons

History

Execution of Charles I

The Trial

- Charles was accused of treason because evidence was discovered that he had been encouraging the Scots and the French to attack England to restore him to the throne
- Charles did not defend himself as he did not believe the trial was legal
- He was executed on 30th January 1649

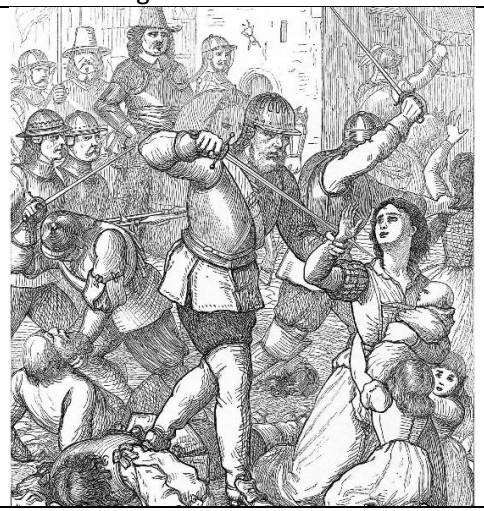
Oliver Cromwell – Lord Protector

- After Charles' execution Parliament ran the country – England was a republic (ruled without a king)
- Disagreement between MPs meant that Parliament did not rule effectively
- 1653 – Cromwell seized power and made himself Lord Protector which he meant he ruled England just like a king
- Cromwell's major-generals helped him to rule the country and strict Puritan laws were introduced
- Theatre, bear-baiting, drinking alcohol and Christmas celebrations were all banned

Painting showing Charles' execution in 1649

Cromwell and Ireland

- Ireland was a mainly Catholic country but James I had tried to give Irish land to English Protestant settlers
- 1641 – Irish Catholics rebelled against the English and killed thousands of Protestants
- 1649 – after the end of the Civil War many English Protestants called for action against the Irish – they wanted revenge for the Protestants killed during the rebellion



Cromwell 'the curse of Ireland'

- August 1649 – Cromwell and his New Model Army of 12,000 soldiers invade Ireland
- Siege of Drogheda – Cromwell laid siege to this Irish Catholic town and when it refused to surrender he ordered his men to slaughter the people inside the town
- 3,500 people were killed in the siege including civilians
- Over the next ten years the New Model Army went on to kill or starve about one-third of the Irish population

Witchcraft in the 16th and 17th centuries

- Belief in witchcraft seems to have peaked in the 17th century
- Maleficium – evil acts people believed were performed by witches by working with the Devil
- Single women who were widowed and elderly were most likely to be accused of witchcraft
- Women who had pets were treated with suspicion because people believed they were a Familiar (a small demon given to her by the Devil)
- Witches were blamed for farm animals dying or crops failing

Why did people believe in witches?

1. **Uncertainty –**people were scared that everything was changing after the Civil War and were convinced that witches were at work
2. **The Church –** encouraged a belief in witches so people would turn to them for help
3. **Attitudes –** people did not have an understanding of science so they blamed witches for negative events
4. **Royalty –** James I was an avid witch-hunter and wrote a popular book called Demonologie all about the dangers of witches
5. **Literature –** theatre became very popular in the 1600s and many plays included witches e.g. Shakespeare's Macbeth had three witches as main characters

Knowledge Organiser – Mughal Empire

Babur (1483-1530)	Humayun (1530-1556)	Akbar the Great (1556-1605)
• Babur was the founder of the Mughal Empire in India • Battle of Panipat (1526) – Babur defeated Lodi the Sultan of Delhi and took control of northern India • Babur was a Muslim but under his rule Hinduism was tolerated and new Hindu temples were built with his permission	• 1530 - Humayun becomes the second Mughal Emperor following his father (Babur's) death • However, during his reign he struggled to maintain control of his empire. • March 1539, Humayun's half-brothers Prince Hindal and Prince Kamran rebelled against him, stormed the capital city of Agra and agreed to split the Mughal Empire between them.	• Akbar succeeded to the throne at 13 andwas determined to expand the size of his Empire - he needed to either defeat the Rajputs (powerful Hindu rulers) or persuade them to join his empire • Akbar married the daughter one of the Rajput rulers and gained the loyalty of others by giving them important positions • However, other Rajputs resisted Mughal control and fought against Akbar
• Trade – under Babur's rule trade with the rest of the Islamic world was encouraged especially Persia • The importance of slavery in India reduced and peace was made with the Hindu kingdoms of southern India • **Tolerance** - Babur showed tolerance towards other religions. His first act after conquering Delhi was to forbid the killing of cows because that was offensive to Hindus • **Money and taxes** - Babur found it difficult to collect taxes from his kingdom. This made it difficult for him to raise money • **Library** - Babur built a huge library of rare books and precious manuscripts.		**Military success** – Akbar's forces won a series of key battles to take control of Rajput territory: **1567** – Akbar's forced defeated the Rana of Mewar and took over **Rajasthan** **1572** – Akbar took control of **Gujurat** greatly increasing the wealth of the Mughals **1576** – Akbar invaded **Bengal** and executed the Sultan after her refused to accept Mughal rule **1585** – Akbar invaded the mountainous region of **Kashmir**, where the ruler surrendered **1590s** – the **Deccan** in the south of India was the last region that Akbar brought under Mughal control There were five Muslim sultans who refused to pay tribute to the Mughals and this led to years of fighting until they were defeated in 1600
• **Culture** - Babur had great ideas about civilisation, architecture and administration. He even wrote an autobiography telling the story of his life, *The Babur - Namah*. • **Military** - Babur's forces defeated an army of 200,000 led by the **Rajput** Hindu princes at the **Battle of Kanua** (1527) After the battle, Babur continued to strengthen his control of Hindustan by capturing important forts such as Chanderi and destroying other challengers such as the Sultan of Bengal.	**1540** – Humayun was defeated by Sher Shah and had to flee into exile **1545** – Humayun gathered a new army to confront his rebellious half-brothers with the help of the ruler of Persia **1545-1553** – eight years of fighting before Humayun was able to regain control of his empire **1555** – the Mughals took control of Agra and Delhi re-establishing the Mughal Empire **1556** – Humayun died after tripping on the stairs and cracking his skull	**Administration** - Akbar divided his Empire into **provinces**. Each province was ruled by a **Governor**, **financial official** and **military commander** Akbar also recruited new **mansabdars** (Nobles) who were given lands to rule for Akbar and served in his army. Akbar introduced a much more effective **tax collection system.** **Religion** – Akbar was tolerant of other religions, he married Hindu princesses and abolished the jizya tax on non-Muslims

History

Jahangir (1605-27) and Nur Jahan

- **Religion** - Jahangir was the fourth Mughal Emperor and continued Akbar's tolerant religious policies and appointed Hindus to important positions in his government
- **Corruption** was a big problem during his rule - the **mansabdars** began to collect more taxes from the peasants than they were allowed and kept the money for themselves.
- **Foreign traders** - in the early 17th century huge numbers of Portuguese, Dutch and English traders were setting up trading posts in the Mughal Empire to buy cotton and spices to sell for profit in Europe.
- Jahangir was unimpressed with these traders and didn't try to encourage the manufacture and sale of goods or to develop a **navy** to develop trade.
- **Scandal** - it was well known that Jahangir drank too much and took too much opium. He even had a coin minted showing him drinking a glass of wine, outraging Muslims.

Nur Jahan – wife of Jahangir and the most powerful woman in 17th century India

- She married Jahangir in 1611 and for many years ruled the Mughal Empire as Empress alongside her husband
- In 1617, gold and silver coins, which bore her name opposite that of Jahangir, started circulating.
- Court chroniclers, foreign diplomats and visitors soon started to note her unique status.
- Nur lived a life that was unusual for women at the time - hunting, issuing imperial orders and coins, designing public buildings, taking measures to support poor women

Shah Jahan (1628-1658)

- Shah Jahan was a **capable ruler** who ruthlessly crushed the rivals to his throne after the death of his father Jahangir
- He **boosted the income** he received as emperor by **increasing taxes**
- Between **1630-32** there was a **famine** in Gujarat and the Deccan – Shah Jahan set up **food banks** and spent 150,000 rupees helping the poor

Photograph of the Taj Mahal

Architecture – Shah Jahan spent an estimated 30 million rupees building mosques, hospitals, schools, palaces and forts across his empire

Taj Mahal was built to express his Muslim faith and as a tomb for his favourite wife Mumtaz Mahal who died giving birth it took 21 years to build

Military – Shah Jahan sent his son **Aurangzeb** to defeat the rulers of **Bundelkhand** in north-east India after they were disloyal

Hugli - Shah Jahan destroyed a **Portuguese base** killing thousands after they upset the emperor by taxing Indian ships

Bijapur and Golconda – two wealthy states were crushed after refusing to accept Shah Jahan's lordship

Aurangzeb (1658-1707)

Aurangzeb was the **sixth ruler of the Mughal empire** and the last emperor before British rule Aurangzeb has been **criticised for helping to destroy the empire**

Religious tolerance came to an end and he reintroduced the **jaziya tax** on non-Muslims and ordered that Hindu temples should be destroyed this upset many of his subjects

Rebellions – as a result of his religious changes there were a series of rebellions during Aurangzeb's reign:

- **Deccan – Shivaji,** a Hindu, led raids that captured Mughal forts and in 1674 he was crowned king of the Marathas
- **Jat revolt (1669)** near Delhi after 20,000 men joined a rebellion over paying taxes to the Mughals
- **Sikh rebellion** – Guru Tegh Bahadur was executed by Aurangzeb leading to a huge rebellion amongst Sikhs in northern India
- **Marwar rebellion (1678)** – Hindu rebellion after Aurangzeb tried to impose a Muslim ruler on the powerful state of Marwar

End of the Empire – during the 18th century divisions in the Mughal empire were exploited by **the British East India Company:**

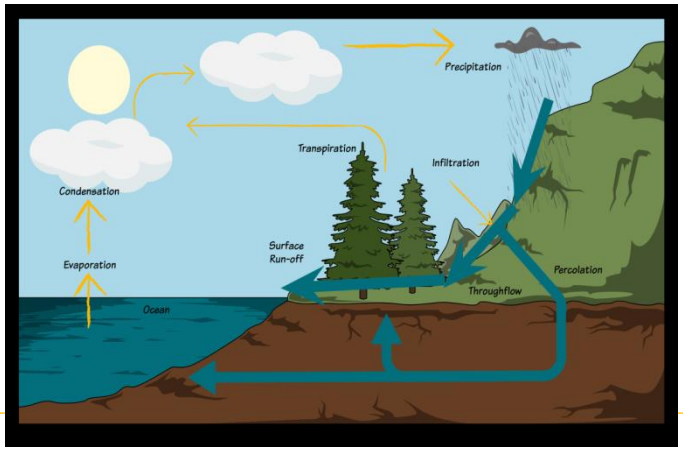
- Mughal empire was attacked by **Nader Shah from Persia (1739)** and **Ahmad Shah Abdali from Afghanistan (1748-67)**
- **Aurangzeb's successors were too weak** and there were numerous plots and murders as different rulers tried to seize the throne
- **The Empire had become too large** to be controlled by one ruler from the centre
- Mughal rulers became weak and they **struggled to maintain control over India**

Geography

Year 8 Unit 3: Rivers and Coast Knowledge organiser

The Water Cycle

The water cycle is the journey water takes as it moves from the land to the sky and back again. It follows a cycle of evaporation, condensation and precipitation. In the diagram below a river would usually be part of the surface run off.



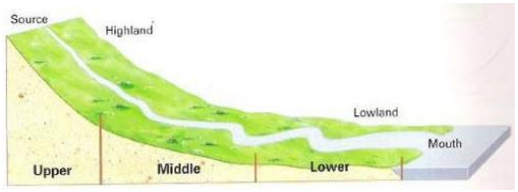
The River Valley

The land near the **source is high and steep.** Heading towards the mouth the land gets **lower and flatter.** The narrow **V-shaped valleys** open out, eventually becoming wide, flat **flood plains.**

Upper course – steep V shape downward erosion.	Middle course – U shaped lateral erosion.	Lower course – open U shape (wide) lateral erosion and deposition.
Features • rapids • waterfalls	Features • meanders	Features • oxbow lakes • floodplains • levees • deltas

The River Channel

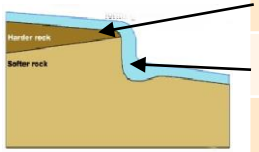
All rivers tend to follow the same pattern; as they flow from the source to the mouth; they start off narrow and **get wider;** they start off straight and end up **meandering.**

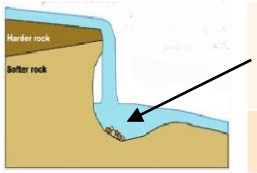


Upper Course of a River

Near the source, the river is flows over steep gradient from the hill/mountains. This gives the river a lot of energy, so it will erode the riverbed vertically to form narrow valleys.

Formation of a Waterfall





1) River flows over alternative types of rocks.

2) River erodes soft rock faster creating a step.

3) Further hydraulic action and abrasion form a plunge pool beneath.

4) Hard rock above is undercut leaving cap rock which collapses providing more material for erosion.

5) Waterfall retreats leaving steep sided gorge.

Middle Course of a River

Here the gradient get gentler, so the water has less energy and moves more slowly. The river will begin to erode laterally making the river wider.

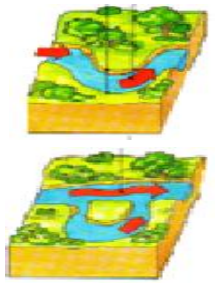
Lower Course of a River

Near the river's mouth, the river widens further and becomes flatter. Material transported is deposited.

Key Terms

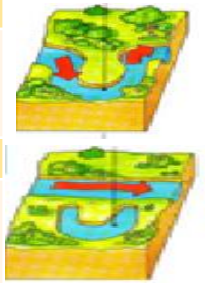
Condensation	Water vapour cools and is stored as a liquid in clouds.	Meander	A pronounced bend in a river,.
Discharge	The quantity of water that passes a given point on a stream or river-bank within a given period of time.	Ox-bow lake	A horse-shoe shaped lake which has been cut off from a meandering river.
Evaporation	Water lost from the ground's surface.	Precipitation	Moisture falling from the atmosphere - as rain, hail, sleet or snow.
Flood	Occurs when river discharge exceeds river channel capacity and water spills out of the channel onto the floodplain and other areas.	Surface run-off	Water flowing on top of the ground, usually in rivers and streams.
Flood plain	The relatively flat area forming the valley floor on either side of a river channel, which is sometimes flooded. Found in the lower course of a river.	Transpiration	Water lost through pores in trees and plants.
Gorge	A narrow, steep sided valley, often formed as a waterfall retreats upstream.	Tributary	A smaller stream or river that flows into a larger river
Infiltration	The flow of water into soil	Waterfall	Sudden descent of a river or stream over a vertical or very steep slope in its bed. Found in the upper course of a river.

Formation of Ox-bow Lakes



Step 1

Erosion of outer bank forms river cliff. Deposition inner bank forms slip off slope.



Step 2

Further hydraulic action and abrasion of outer banks, neck gets smaller.

Step 3

Erosion breaks through neck, so river takes the fastest route, redirecting flow

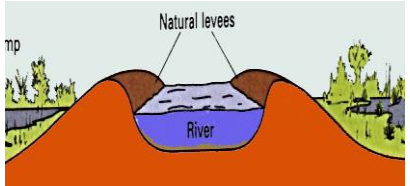
Step 4

Evaporation and deposition cuts off main channel leaving an oxbow lake.

Formation of Floodplains and levees

When a river floods, fine silt/alluvium is deposited on the valley floor. Closer to the river's banks, the heavier materials build up to form natural levees.

✓ Nutrient rich soil makes it ideal for farming.
✓ Flat land for building houses.

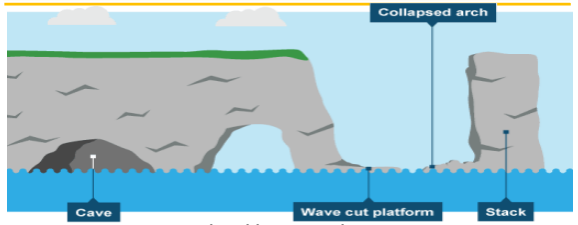


River Management Schemes

Soft Engineering	Hard Engineering
Afforestation – plant trees to soak up rainwater, reduces flood risk. **Demountable Flood Barriers** put in place when warning raised. **Managed Flooding** – naturally let areas flood, protect settlements.	**Straightening Channel** – increases velocity to remove flood water. **Artificial Levees** – heightens river so flood water is contained. **Deepening or widening river** to increase capacity for a flood.

Deposition

When the sea or river loses energy, it drops the sand, rock particles and pebbles it has been carrying. This is called deposition.



Example: Old Harry Rocks, Dorset

1) Hydraulic action widens cracks in the cliff face over time.
2) Abrasion forms a wave cut notch between HT and LT.
3) Further abrasion widens the wave cut notch to from a cave.
4) Caves from both sides of the headland break through to form an arch.
5) Weather above/erosion below –arch collapses leaving stack.
6) Further weathering and erosion eaves a stump.

Coastal Defences

Hard Engineering Defences

Groynes	Wood barriers prevent longshore drift, so the beach can build up.	✓ Beach still accessible. ✗ No deposition further down coast = erodes faster.
Sea Walls	Concrete walls break up the energy of the wave . Has a lip to stop waves going over.	✓ Long life span ✓ Protects from flooding ✗ Curved shape encourages erosion of beach deposits.
Gabions or Rip Rap	Cages of rocks/boulders absorb the waves energy, protecting the cliff behind.	✓ Cheap ✓ Local material can be used to look less strange. ✗ Will need replacing.

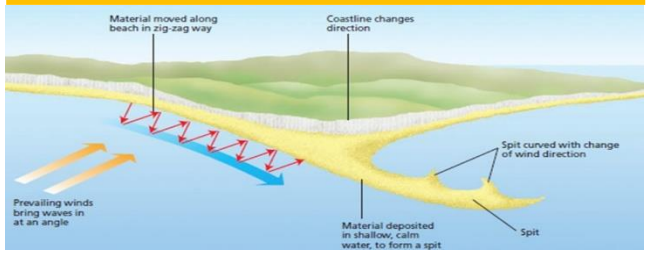
Soft Engineering Defences

Beach Nourishment	Beaches built up with sand, so waves have to travel further before eroding cliffs.	✓ Cheap ✓ Beach for tourists. ✗ Storms = need replacing. ✗ Offshore dredging damages seabed.
Managed Retreat	Low value areas of the coast are left to flood and erode naturally.	✓ Reduce flood risk ✓ Creates wildlife habitats. ✗ Compensation for land.

Formation of Bays and Headlands

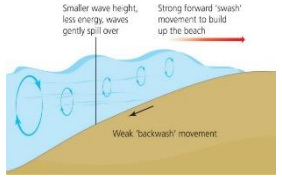
1) Waves attack the coastline.
2) Softer rock is eroded by the sea quicker forming a bay, calm area cases deposition.
3) More resistant rock is left jutting out into the sea. This is a headland and is now more vulnerable to erosion.

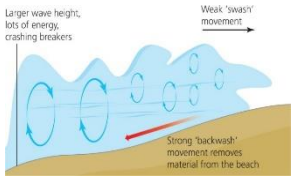
Formation of Coastal Spits - Deposition



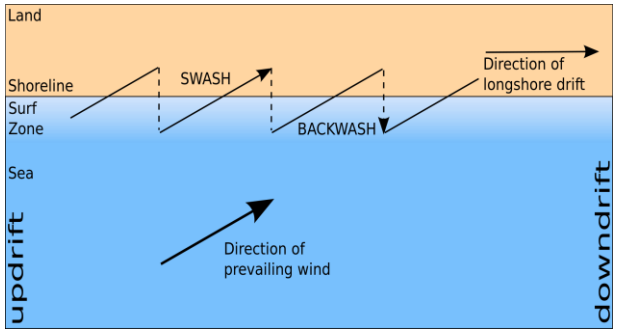
Example: Dawlish Warren spit

1) Swash moves up the beach at the angle of the prevailing wind.
2) Backwash moves down the beach at 90° to coastline, due to gravity.
3) Zigzag movement (Longshore Drift) transports material along beach.
4) Deposition causes beach to extend, until reaching a river estuary.
5) Change in prevailing wind direction forms a hook.
6) Sheltered area behind spit encourages deposition, salt marsh forms.





What is the longshore drift?



Why is Miami, Florida threatened by the sea?

Miami is located in south- eastern Florida, which is a peninsula on the the South-east coast of the USA.

Since 1870, global sea levels have risen by an average of 20 cm, but **Southeast Florida's local levels have risen by 30 cm.** By 2060, it could double or triple that.

Impacts of sea level rise in Miami

- Prolonged flooding after storms damages the city's drainage system (which would cost USD $206 million to repair).
- Porous limestone ground makes seawalls incapable of stopping salt water from infiltrating aquifers, negatively impacting agriculture and drinking water reserves.
- Beaches are eroding and domestic sand resources are dwindling. This impacts tourism and increases erosion.
- Hurricane-driven storm surges are more frequent and higher causing massive flooding.

Why are sea levels rising?

- Increase in sea level due to melting of ice sheets; this will remove water stored in a frozen state on land and enable it to flow to the sea increasing amount of water in the sea; relates to underlying cause – global warming and causes of this, e.g. increase in carbon dioxide.

Responses to sea level rise in Miami

- To build a network of huge pumps that force water out of flood-prone areas and into Biscayne Bay. There are over 30 pumps today, with 90 planned in total.
- The estimated cost for 3 pumps, including land acquisition, is USD $ 200 million.
- The Army Corps of Engineers estimated that the equivalent of 10,781 football fields covered in 30 cm of sand would be necessary to sustain Miami's beaches for the next 50 years.
- Less affluent areas do not have the financial resources to fight the inevitable. Even if they did, no sea wall or other barrier would be able to keep water from bubbling up through limestone.

Year 8 Unit 3: Rivers and Coast Knowledge organiser

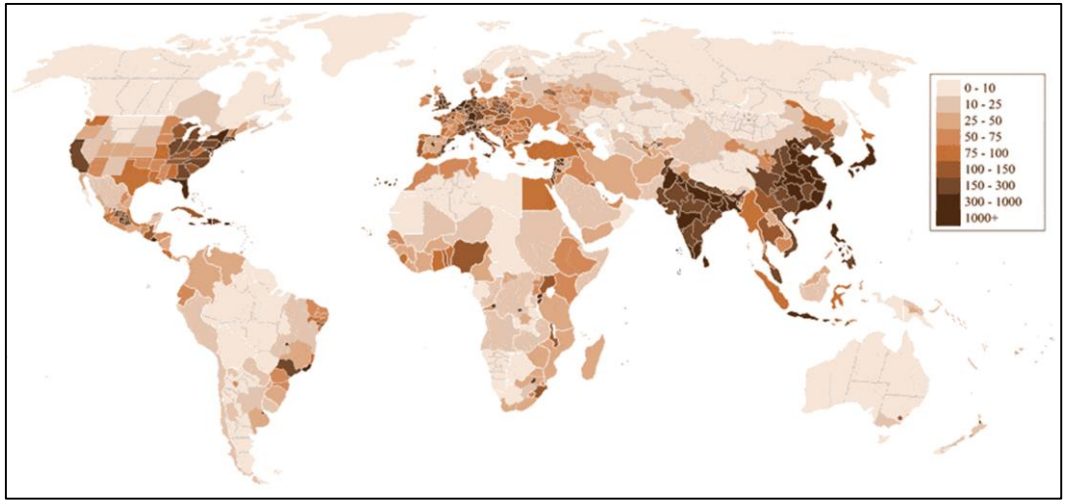
Geography

Population

Knowledge Organiser

Key word definitions

Population density: The amount of people living in a given area, normally a kilometre squared.
Birth rate: The number of births per 1000 people per year.
Death rate: The number of deaths per 1000 people per year.
Migration: The movement of people from one place to another.
Push factor: Reasons to leave a place e.g. fewer jobs and schools in rural areas.
Pull factor: Reasons that attract people to a new place e.g. higher paid jobs and better schools in urban areas.
Urbanisation: An increase in the proportion of people living in urban areas.

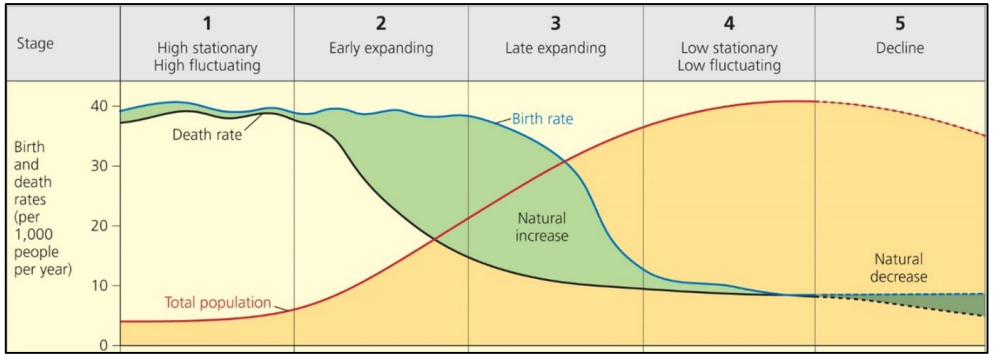


The world's population

- The world's population in 2022 is 7.9 billion.
- The world's population has grown rapidly over time from 1 billion in 1800, to 7 billion in 2011.
- The UN predict that by 2050 the population will be 9.8 billion, with 50% world's population growth expected to be in Africa, but the population of Europe is ageing (average age increasing).

The Demographic Transition Model

- This is a model that shows how a country's population changes as it becomes more developed.
- It shows the birth rate, death rate and total population.
- Over time the death rate falls as medical care improves and people live longer.
- The birth rate then falls as there is better access to family planning.
- By stage 5 there is natural decrease - population starts to decline as birth rate is very low.



Example countries

Stage 1: Tribes in the Amazon.
Stage 2: Niger
Stage 3: Brazil
Stage 4: UK
Stage 5: Japan

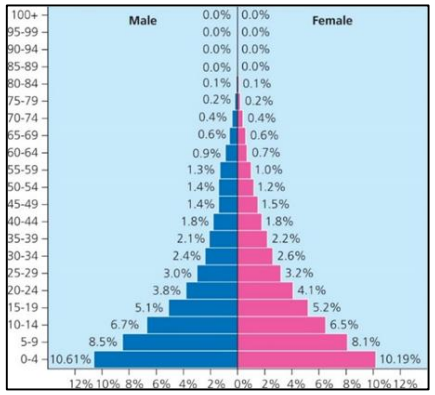
Reasons for world population distribution

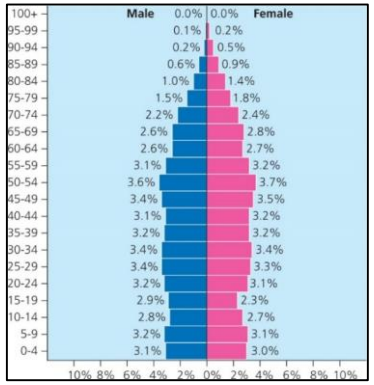
- As the map shows the world's population is not evenly spread around the world.
- Some areas such as Eastern China and India have high population densities, whilst parts of Canada, Russia and Australia have much lower population densities.

Physical reasons:
Climate: Some places have very hot climates such as the Sahara desert, whilst areas such as Canada have very cold climates which makes it harder to grow food.
Relief: Steep slopes in mountain ranges such as the Himalayas and Andes make it harder to build houses.
Human reasons:
Employment: Jobs and industry can attract people in search of work e.g. factories in eastern China.
Infrastructure: Places that are better connected make it easier for people to work so attract more people to live there.

Population pyramids

Population pyramids show the number of males and females in each age group. We can then identify the young dependents (aged 0-14), the independent or working population (15-64) and the elderly dependents (65 and over). This allows governments to plan how many schools and other facilities are needed for their population.





The left pyramid has a high birth rate, low life expectancy and high death rate. The right pyramid has a lower birth rate, higher life expectancy and lower death rate.

What is urbanisation and how is it changing over time?

- Urbanisation is an increase in the proportion of people living in cities. It is caused by rural to urban migration – the movement of people from the countryside (rural area) to the city (urban area).
- The number of megacities is increasing – these are cities with more than 10 million people living there.
- By 2030, 7 of the top 10 largest cities will be in Asia, 2 will be in Africa and 1 will be in S. America.
- Tokyo is the world's largest city with an expected population of 37.2 million by 2030.
- 828 million people currently live in informal settlements or slums and the number keeps rising.
- Rapid urbanisation puts pressure on fresh water supplies, sewage, the living environment, and public health.

China's strategy to manage their population

- In 1970 China's population was 800 million and it was growing very rapidly so it was at risk of over population when there are too many people for the resources available.
- In 1979 a law was brought in to make it a legal requirement that families only had one child.
- The policy lasted until 2015 and it is thought it reduced population by 400 million.
- Some families wanted a son to carry on the family name which created a gender imbalance with too many males and not enough females, as well as more elder people and less workers.
- The policy was changed to 2 children in 2015 and has recently been changed to 3 children.

Russia's strategy to manage their population

- Russia was experiencing population decline as there 16 deaths for every 10.4 births. This is called under population when there is not enough people to make use of the available resources.
- They introduced a policy to provide mothers with $11 000 if they had more than one child. This money could be put towards buying a house, the child's education or the mother's pension.
- By 2015 there were 1.9 million births a year, up from 1.5 million in 2005.
- The death rate also fell due to promotion of a healthier lifestyle but

Why do people migrate from Central America to Mexico/USA?

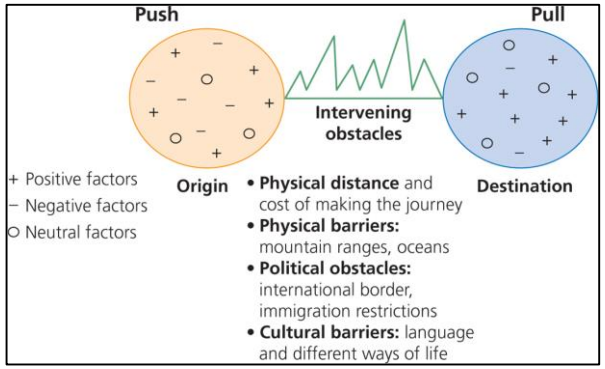
- Migration is the movement of people from one place to another. There are several different types of migration and reasons that people migrate e.g. refugees move due to war, people migrate for a better job or to join family.
- Push factors make people leave a place while pull factors draw them in to a new place.

Push factors:

- Work on banana plantations in Honduras is low paid - $5/day.
- Widespread corruption in Honduras so peoples' needs are not always prioritised by the government.
- High rates of violence in Honduras.

Pull factors:

- The "American Dream" idea that the USA offers lots of opportunities for people migrating.
- There are more jobs available in Mexico and USA.
- USA has a much lower crime rate.



French

Lionheart Modern Languages Year 7-9 High Frequency Words – FRENCH CORE

CORE

Time phrases/Sequencers

normally	**normalement**
often	**souvent**
usually	**d'habitude**
from time to time	**de temps en temps**
sometimes	**quelquefois/parfois**
tomorrow	**demain**
next week	**la semaine prochaine**
Summer / Autumn	**en été / en automne**
Winter / Spring	**en hiver / au printemps**
morning/afternoon/evening	**le matin/l'après-midi/le soir**
then	**puis**
always/still	**toujours**
at the moment	**en ce moment**
later	**plus tard**
in the future	**a l'avenir**
yesterday	**hier**
last night	**hier soir**
last week	**la semaine dernière**
last year	**l'année dernière**
next	**ensuite**
firstly	**d'abord**
after	**après ça**
before	**avant**
lastly	**enfin / finalement**

Key verb phrases

I have	**j'ai**
I have not	**je n'ai pas de**
I am	**je suis**
I am not	**je ne suis pas**
I would like	**je voudrais**
it is	**c'est**
it is not	**ce n'est pas**
there is	**il y a**
there is not	**il n'y a pas de**
it will be	**ce sera**
I'm going to….	**je vais** *+infinitive*
you must	**on doit** *+infinitive*
you must not	**on ne doit pas** *+infinitive*
you can	**on peut** *+infinitive*
you cannot	**on ne peut pas** *+infinitive*
it was	**c'était**
it wasn't	**ce n'était pas**
there was	**il y avait**
there wasn't	**il n'y avait pas de**
it would be	**ce serait**
it would not be	**ce ne serait pas**
if I was rich	**si j'étais riche**
in an ideal world	**dans un monde idéal**
in my dreams	**dans mes rêves**

Connectives

but	**mais**
and	**et**
because	**car/ parce que**
also	**aussi**
however	**cependant**
therefore	**donc**
as	**comme**
or	**ou**
however	**pourtant**
on the other hand	**par contre**
fortunately	**heureusement**
unfortunately	**malheureusement**
in addition	**en plus**

Negatives

not	**ne….jamais**
never	**ne…pas**

Comparisons

more… than	**plus … que**
less… than	**moins … que**

Quantifiers/ Intensifiers

very	**très**
too	**trop**
quite	**assez**
a bit	**un peu**
really	**vraiment**
a lot	**beaucoup**

Opinions

In my opinion	**à mon avis / selon moi**
I think that	**je pense que**
I Like	**j'aime**
I love	**j'adore**
I don't like	**je n'aime pas**
I hate	**je déteste**
I prefer	**je préfère**
My favourite … is	**ma/mon…. préféré(e) est**
I find that	**je trouve que**

Idioms

How awful !	**Quelle horreur !**
What luck !	**Quelle chance !**
What a surprise !	**Quelle surprise !**
What an idiot!	**Quel imbécile !**
It's brilliant !	**C'est le pied !**
It's not my thing !	**Ce n'est pas mon truc !**
It's a waste of time!	**C'est une perte de temps !**
It's a waste of money!	**C'est une perte d'argent !**

French

Lionheart Modern Languages Year 7-9 High Frequency Words – FRENCH CORE

CHALLENGE

Time phrases/ Sequencers

today	**aujourd'hui**
each/every	**chaque**
currently	**actuellement**
the next day	**le lendemain**
in my dreams	**dans mes rêves**
in an ideal world	**dans un monde idéal**
when I was little	**quand j'étais petit (e)**
when I'm older	**quand je serai plus âgé (e)**
for 5 years	**depuis 5 ans**
since I was 5 years old	**depuis l'âge de 5 ans**

Quantifiers/ Intensifiers

so	**si**
rather	**plutôt**
extremely	**extrêmement**
frankly	**franchement**
hugely	**énormément**
incredibly	**incroyablement**

Connectives

nevertheless	néanmoins
whereas	tandis que
even if	même si
furthermore	de plus
since	puisque
not at all	pas du tout

Key verb phrases

you can see	**on peut voir**
if it is	**si c'est**
there would be	**il y aurait**
there would not be	**il n'y aurait pas de**
you could	**on pourrait** *+infinitive*
you couldn't	**on ne pourrait pas**
you should	**on devrait** *+infinitive*
you shouldn't	**on ne devrait pas**
you must	**il faut** *+infinitive*
you must not	**il ne faut pas**

Negatives

no…more/longer	**ne… plus**
nothing	**ne… rien**
no one/nobody	**ne… personne**
neither …nor	**ne… ni… ni**

Comparisons/ Superlatives

best	**meilleur (e)**
worst	**pire**
the best thing is	**la meilleure chose est**
the most important thing is	**la chose la plus importante est**
what I like the most is	**ce que j'aime le plus est**

Opinions

for me	**d'après moi**
I believe that	**je crois que**
according to…	**selon…**
I really hate	**j'ai horreur de**
I really love	**j'apprécie**
I can't stand	**je ne supporte pas**
my friends say that	**mes copains disent que**
my parents say that	**mes parents disent que**
my teachers say that	**mes profs disent que**
my mum tells me that	**ma mère me dit que**
my dad tells me that	**mon père me dit que**
I would say	**je dirais que**
I like /love it / them	**j'aime/j'adore ça**
I am for	**je suis pour**
I am against	**je suis contre**
I agree with	**je suis d'accord avec**
I disagree with	**je ne suis pas accord avec**
what I like is	**ce que j'aime c'est**
it seems that	**il semble que**
as far as… is concerned	**en ce qui concerne…**

Idioms

Although it is…	**Bien que ce soit…**
That's life !	**C'est la vie !**
What a shame !	**Quel dommage !**
What a disaster !	**Quelle catastrophe !**
What a pain !	**Quel ennui !**
It was so boring !	**C'était la barbe !**
I was over the moon!	**J'étais aux anges !**
I was bored to death!	**Je m'ennuyais à mourir !**
I've had enough!	**J'ai le cafard !**
I was so fed up!	**J'en avais marre !**


LIONHEART
EDUCATIONAL TRUST