



THE
BRIAN CLARKE
CHURCH OF ENGLAND ACADEMY

Year 8- Term 1 Knowledge Organisers

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Diocese of
Education Trust

Contents

Subject

Art

Design Technology

Drama

English

German

History

Mathematics

Music

PE

Religious Studies

Science



How to use the Knowledge Organisers

1. You can create quizzes to test yourself and your peers.
2. You can create flash cards to help you remember important information and essential vocabulary. By repeating the number of times, you read this essential vocabulary, you will be more likely to use it and remember it.
3. Creating mind maps helps us organise the knowledge that is important to us. This allows us to make connections to our prior knowledge and to help us make links to future learning.

Art – Write Like An Artist – Content, Form, Process & Mood

What is Content, Form, Process & Mood?

Content, Form, Process & Mood, is the structure we use to analysis artwork, we can any break down any piece of art into the four areas below:

Content - What is it?

Form - How have the formal Elements been used?

Process - How has the work been made?

Mood - Looking at the communication of moods and feeling?

Content - What is it?

- What is in the work?
- What exactly can you see?
- What is happening?
- What is it about?
- What is the theme of the work?

Example Sentence: In this painting there is a portrait of a man sat looking towards the artist.

Content – Keywords

Landscape	Moment	Journey	Memory	Event
Surreal	Fantasy	Abstract	Realistic	Portrait

Process - How has the work been made?

- What materials and tools have been used?
- What is the evidence from the painting?
- Might the artist have made supporting studies sketches, photographs, maquettes, collages and stencils, for example?
- Was the work executed rapidly or did it evolve slowly over a long period?

Example Sentence: The artist uses an impasto technique, where they have applied thick layers of oil paint onto the canvas.

Process – Keywords

Painted	Drawn	Woven	Sewn	Constructed
Collage	Layered	Cast	Sketched	Stitched

Form - How have the Formal Elements been used?

- Texture - What is the surface like? What textures can you see?
- Pattern - What patterns can you see?
- Colour - What colours have the artist used? How and why?
- Shape - What kind of shapes are there?
- Line - What kind of lines and marks?
- Tone – What is the light like in the work?

Example Sentence: The artist has painted themselves wearing cool and cold blues and greens, to create a sense of sorrow and sadness.

Form – Keywords

Dark	Scale	Light	Blended	Smooth
Bold	Geometric	Dull	Dark	Soft

Mood - Looking at the communication of moods and feeling?

- How does the work make you feel? Why do you feel like this?
- Does the colour texture, form or theme affect your mood?
- Can you imagine what the artist's feelings were while producing the work?
- What do you think the artist is saying? Why?
- What message is the work/artist trying to communicate? Why?

Example Sentence: The painting gives a sense of dread and sadness, making us question why the artist has painted this self portrait in this depressed state of mind.

Mood – Keywords

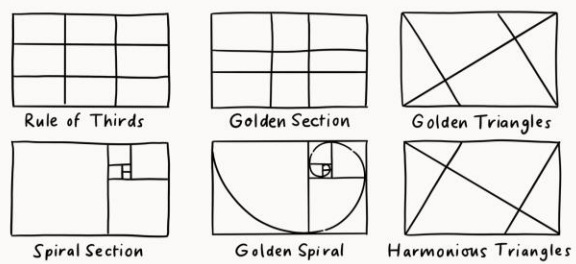
Quiet	Relaxed	Thoughtful	Hopeful	Peaceful
Sorrowful	Reflective	Pensive	Disturbed	Soothing

Art - The Formal Elements

The Formal Elements are the visual parts used to make a piece of artwork. The art elements are line, shape, space, form, tone, texture, pattern, colour and composition. They are often used together, and how they are organised in a piece of art determines what the finished piece will look like. Artists consider each of the formal elements carefully when making their artwork

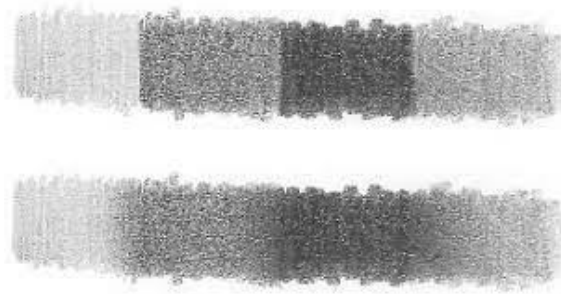
Composition

Composition refers to how an artwork's layout. Referring to the key subjects of the artwork and how they are arranged in relation to each other.



Tone

This refers to the lightness or darkness of something. This could be a shade or how dark or light a colour appears.



Shape

A shape is created when a line is enclosed. It could just be an outline or a flat area of shade or colour.



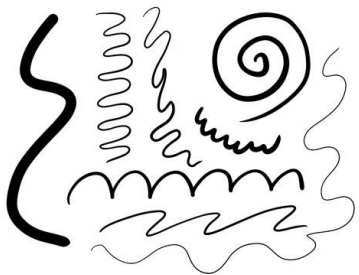
Form

Form refers to three dimensional objects (3D). While shapes have two dimensions (height and width), forms have three dimensions (height, width and depth)



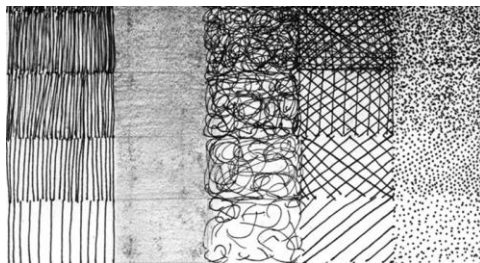
Line

Line is the path left by a moving point. For example, a pencil or a brush dipped in paint.



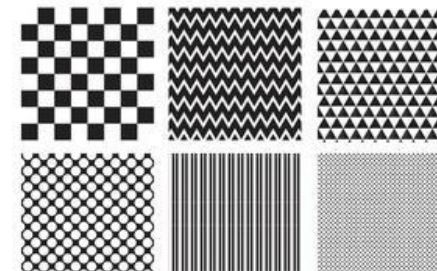
Texture

This is to do with the **surface quality** of something, the way something feels or looks like it feels. There are two types of texture: actual texture and visual texture.



Pattern

A pattern is a design in which lines, shapes, forms or colours are repeated. The part that is repeated is called a motif. Patterns can be regular or irregular



Colour

Red, yellow and blue are **primary colours**, which means they can't be mixed using any other colours. In theory, all other colours can be mixed from these three colours.



Art - Year 8: Fantastic Creatures – Artists 1 & 2

Use the Knowledge organiser below and the 'Write Like An Artist' structure to support your critical artist analysis.

Maurice Sendak: 1928 - 2012

Where the Wild Things is a children's book written by Maurice Sendak 2023, with its unforgettable colour palette of pinks, blues and greens and its depiction of perennial childhood joys like tree swinging and piggyback rides, it looks as fresh as the day it was born. The story of a loveable rascal called Max whose mother sends him to his room for causing mayhem, it takes a more mysterious turn when, left alone, Max conjures a vivid world of towering trees and vines and sails off to become king of an island of party-loving monsters, before getting lonely and returning home.

The son of Polish Jewish immigrants who arrived in the US before World War One, Sendak was born in Brooklyn in 1928. He was obsessed with storytelling from a young age, partly thanks to the wildly imaginative tales his father recounted to entertain him and his older siblings, Natalie and Jack. He was passionate about the cinema, especially Disney films, and an avid reader. When ill health left him confined for long periods at home as a child, he developed strong attachments to particular books, toys and objects in his room, and constantly drew pictures.



Where the Wild Things are, 1963

Chris Ryniak: 1976 - Present

Chris Ryniak is an illustrator and artist, born in the suburbs of Detroit, he is known for his weird and wonderful drawings of creatures, inspired by movies of the late 70's and early 80's. Such as Star Wars, Gremlins, Clash of the Titans, Ghostbusters and Tremorsto name a few. Basically, anything that had a creature in it.

He has been drawing in and filling up sketchbooks since school, but never showed them to anyone publicly. In 2011 I started posting my morning drawings or "scribbles" on social media outlets which quickly became very popular with my followers.

He works in a variety of sculpting, casting and mold making mediums and techniques for various applications. Using his drawings to inform a lot of what goes into his sculptures for gallery shows, limited edition resin figures and toys.



Monster Drawing

Further Context: Children Book Illustration

Children's picture books can be key to the work of illustrators, but there are many different types of book illustration, all of which are important in the life of a book. These include full cover illustrations in colour for fiction titles, mono illustrations throughout the text or chapter header art for younger titles, and full colour art throughout for a picture book.

Further Context: Illustrator

An illustrator is an artist who specializes in creating visual images through a combination of design, art, and creative skills. In the most simplified terms, an illustrator is someone who draws or creates images for magazines, books, advertisements, posters, birthday or greeting cards, medical material, and much more. The simple meaning is — it is an artist who makes the illustrations.

Use the Knowledge organiser below and the 'Write Like An Artist' structure to support your critical artist analysis.

Tim Burton: 1958 - Present

A world full of contradictions, both dark and light, frightening and welcoming, cruel and tender. A world where darkness cohabits with bright colours, where weird-looking people and monsters are brave and generous and where the horrible becomes poetic. Tim Burton has his own style that remains inimitable, and his extravagance has become extremely popular. The audience is more familiar with his film work, but few are aware of the origins of his films and of his creativity in general.

Tim Burton is an artist before anything else. He is a talented drawer who expresses himself through his art. With him a film is often born from a little drawing at the corner of a page. The drawing already sets up the tone of the film, the colours of the set or the personality of a main character.

Burton describes this need to draw as a way to focus and to unleash his imagination. He identified with his characters, timid and left out. Being unusual gave him more artistic freedom and it became a characteristic trait of his art.



Frankenweenie Illustration, 2012

James De Rosso: 1963 - Present

James' love of ceramics began in junior high, and though he received his college degree in graphic design, he spent a lot of time during those college years in electives in the ceramic studio.

The monsters grew out of the small guardian creatures James would make to watch over the firing of the kiln while in college, but these small gargoyle-like figures kept disappearing from the top of the kiln. James then decided that perhaps there was something to these little characters and started to focus his energy into creating more realized versions.

James creates both standalone sculptural pieces and functional pieces. His monsters aren't scary or gory. They seem more grumpy or annoyed, but they have a fun and comical air to them with their large eyes, visible teeth, and expressive faces. This was something that really drew me in and inspired my monsters. With all of James' monsters, he draws attention to the eyes and often glazes them with a bright red, a vivid blue, or an opaque white to make them contrast the body and really stand out.



Rock Monster Light Blue Eyes, 2014

Further Context: Tim Burton as a Director

Tim Burton, director and artist, is widely regarded as one of cinema's most imaginative and visual filmmakers. Over the years, Burton has achieved both critical and commercial success in the live-action and animation genres. Many of his films – such as *Sleepy Hollow* (1999), *Big Fish* (2003), and *Alice in Wonderland* (2010) – have garnered numerous Academy Awards, BAFTA, and Golden Globe nominations and wins, cementing his status as one of the greatest film makers of our time.

Further Context: Ceramics

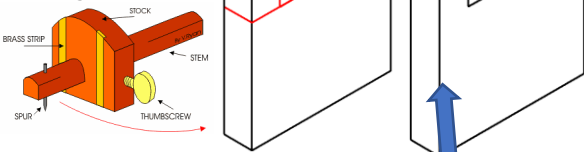
Ceramics comes from the Greek *keramikos*, which means “pottery,” and *keramos*, which means “potter's clay.” Most ancient ceramics were made of clay or clay with additives pressed and fired. This method is still used for tableware and decorative ceramics. Ceramic engineering is the art and science of making useful objects out of ceramic materials. Ceramic art sculpture has been around since the earliest civilizations and is one of the first types of artwork ever made by humans.

Design & Technology - Year 8: Unit 1 - Bookend

1. Material & Marking Out

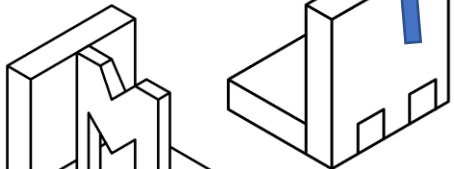
Marking Gauge

This allows lines which are square/parallel to the edges.



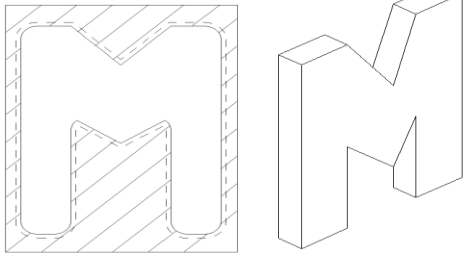
Finger/Comb Joint

When completed with wood glue, this is a permanent joint used in box construction. A steel rule, try-square, pencil and a marking gauge are required to complete the marking out.



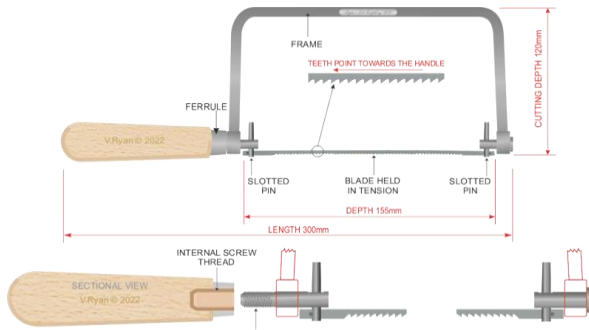
Centre Piece

Any 2D design can be added to the material accurately by using a template. Once the outline is on add a cut line 2-3mm from the design edge. Finally add neat diagonal lines on all waste areas.



Marking Out: the process of transferring a design or pattern to a workpiece, as the first step in the manufacturing process.

2. Wasting & Shaping



Alternative Processes

Irregular shapes can be cut out using both hand and power tools. Each has its advantages and disadvantages depending on the shape, size, material and experience of the user. Here is a coping saw and scroll saw which are suitable alternative processes to each other.



Chiselling

A bevelled edge or firmer chisel, a mallet is used to strike the handle tip in order to apply enough pressure to break the grains of wood.

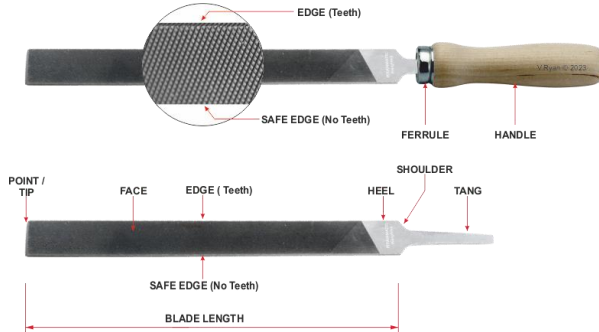


Wasting: The shaping and removal of unwanted material via filing, sanding, cutting or drilling.

3. Edge Treatment & Surface Design

Hand File

These come in a variety of shapes and sizes, but with the same key features. The file below is a flat file as it is flat on all faces.



Pyrography

This is the free handed art of decorating wood or other materials with burn marks resulting from the controlled application of a heated object such as a pen. The term means "writing with fire", from the Greek *pur* (fire) and *graphos* (writing).

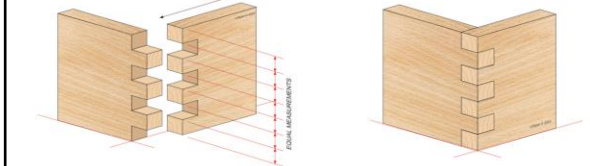


This can be used on untreated timbers but when surfaces are oiled, waxed, varnished or painted it should not be carried out.

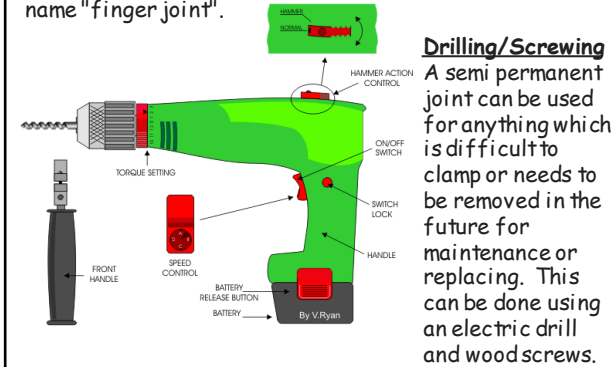


Assembly: Putting together a group of components of a product.

4. Assembly & Finishing



The interlocking profiles in two pieces of wood, are then glued together. The cross-section of the joint resembles the interlocking of fingers between two hands, hence the name "finger joint".



Drilling/Screwing

A semi permanent joint can be used for anything which is difficult to clamp or needs to be removed in the future for maintenance or replacing. This can be done using an electric drill and wood screws.

Timber Finishes

Danish oil can be applied to both new/unprotected and previously oil coated timber without the need for surface preparation apart from ensure it is clean and dust free. It can be applied using a brush, cloth or sponge.

DANISH OIL WIPED ACROSS THE SURFACE FOLLOWING THE GRAIN. EXCESS OIL REMOVED



Finishing: Materials and items used to improve the service and decorative qualities of a product

Year 8- Artaud and 'The Woman in Black'



A real theatrical experience shakes the calm of the senses, liberates the compressed unconscious and drives towards a kind of potential revolt...

Antonin Artaud

Antonin Artaud
1896- 1948

Artaudian Techniques

- Unusual sound effects
- Unusual costumes
- Bright lighting that would abruptly change
- Rare and strange musical notes and sounds
- Masks
- Tall puppets
- Objects of strange proportions
- Sign language and mime
- Rhythms and repetition, e.g chanting
- Audience in the middle, actors surrounding them.

'The Woman in Black'

'The Woman in Black' is a hugely successful play and has been performed at the Fortune Theatre in London since 1989. The plot follows Arthur Kipps, a young lawyer, who is sent to Eel Marsh House by his law firm following the death of the old lady who lives there. As he completes his work at the house, Arthur discovers that the house holds strange and sad secrets that will haunt him long after he leaves.



Theatre of Cruelty

Artaud wanted to create theatre that was strange and unusual. Unlike Stanislavski, he drew the audience's attention to the fact that they were watching a play by using surrealist techniques

Artaud wanted his audience to feel as though they were in a dream-like/ nightmarish world.

His style of theatre is called 'Theatre of Cruelty'.

What are the key Drama techniques I will be learning/ developing this half term?

- Sound Collage
- Creating Tension and Atmosphere
- Narration
- Using the space in a creative manner to involve the audience
- Physical Theatre
- Stylised Movement
- Choral Speaking

Key Terms and Concepts

Metatheatre-

A play that draws attention to the fact that it is a piece of theatre. For example, there is a play within a play.

Tension-

The build-up to a dramatic/ important moment in a piece of Drama.

Atmosphere-

The mood or emotion that is created onstage. Performance skills can be used to create atmosphere and so can the elements of Drama e.g. sound, lighting.

Surrealism-

The word surreal means 'to be out of this world'. Surrealist Drama aims to create a dreamlike or distorted atmosphere onstage.

Artaud Timeline

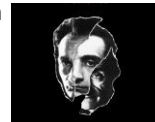
Artaud was born in Marseilles, France in 1896

Following a severe illness, Artaud became addicted to the drug opium in 1914



Between 1918-1920 Artaud was confined to a clinic for mental illness

Artaud worked as an actor in theatre and film in the 1920's



At the same time he became interested in the Surrealist movement

In 1932-33 he published his first work of dramatic theory outlining his ideas for Theatre of Cruelty



Artaud died of cancer in 1948

English Year 8 : Unit 1 & 2 The Gothic (Dracula) & Creative Writing

Essential Vocabulary

Gothic (adj) : characterised in literature by mystery, fear, and dread.

Epistolary (n) : literature written in the form of letters

Metamorphosis (n): a change of the form or nature of a thing or person into something completely different.

Allusions (n): to call something to mind without making a direct reference to it.

Supplication (n): the act of asking or begging for something earnestly or humbly.

Volition (n) The act of making choices or decisions of your own free will..

Misogynist (n): a person who dislikes, despises, or is strongly prejudice against women.

Superstition (n): a belief or way of behaving that is based on fear of the unknown or faith in magic or good luck.

Rapacious (adj): aggressively greedy or grasping.

Uncanny (adj): strange or mysterious in an unsettling way.

Promethean (adj): doing things in an individual and original way, having no respect for authority or rules.

Avarice (n): extreme greed for wealth or material gain.

Anadiplosis: repetition of the last word of a sentence at the beginning of the next.

Callous (adj): showing or having an insensitive or cruel disregard for others.

Link: Show your understanding of key vocabulary

- Create flashcards with the essential vocabulary on one side and the definition on the other.
- Write an example of anadiplosis.
- How can you connect volition to promethean?
- Where do you see an example of the uncanny in Dracula?

The Fertile Question

'How has English Language and Literature revolutionised the world?'

Key Knowledge

Context

- **Victorian view of women** - Women in the Victorian society had one main role in life, which was to marry and take part in their husbands' interests and business. Before marriage, they would learn housewife skills such as weaving, cooking, washing, and cleaning, unless they were of a wealthy family.
- **Victorian view on new technologies/industrialization** - The Victorian era was a remarkably fertile period for the adoption, expansion, and transformation of technology. Photography, telegraphy, telephony, steamships, railways, electric lighting, and industrial control engineering are only a few of the many complex systems and processes developed during the era
- **Victorian view on theories that question religion** - A crisis in faith ensued during this time. People were questioning organized religion and its role in their lives. When Darwin's Theory of Evolution was printed and the discovery of the Neanderthal Man made the news, people started questioning the meaning of time, faith, spirituality and mysticism.

Link: Apply your knowledge:

Research life for women during the Victorian era. Create a mindmap of your findings.

Key Literary Figures

Bram Stoker, Mary Shelley, Edgar Allan Poe,



Link: Show your understanding

Research: What was the biggest influence of these different gothic writers?



Misconceptions

The Gothic genre does not mean a story that we should connect to 'horror' only. There are many elements that make up what we should consider 'gothic', such as the uncanny.

Link: Show your understanding

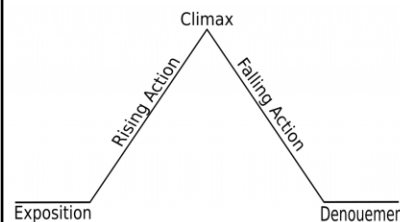
Practise plotting well known stories of films using Freytag's Pyramid. What do you notice about the parts of the stories you remember?

Quotations

How to select the most relevant evidence from a text. Remembering to use quotation marks "..." Try analysing these two quotes for revision.

"I am all in a sea of wonders. I doubt; I fear; I think strange things, which I dare not confess to my own soul."
"...the world seems full of good men--even if there are monsters in it."

Freytag's Pyramid



Narrative Structure

What is Freytag's Pyramid?

Understand how the writer uses language to create effective opening.

How does a writer create tension?

Key Knowledge

Representation of women

Bram Stoker's novel Dracula presents two different kinds of women of the Victorian era: Lucy Westenra and Mina Harker. This era is characterised with the emerging 'New Woman' movement. The male characters in Bram Stoker's Dracula perceive women from a misogynistic viewpoint, meaning they consider women to be the weaker sex and are honoured only for their beauty and innocence.

Themes

The novel Dracula was written in 1897 by Bram Stoker. The themes of religion, superstition, imprisonment and love are addressed. The first theme is religion. Count Dracula, as a vampire, represents all the evil in a Christian world.

Link: Apply the knowledge, master the skill.

Using any information from your knowledge organiser:

Create a mind map that focuses on a key word from a text we are studying - how many different connotations can you find?

Create a character profile for a protagonist and antagonist.

CORE KNOWLEDGE – Year 8 HT2

Adjectives

irre	amazing	faszinierend	fascinating
sehr gut	very good	ruhig	quiet
super	super	schön	beautiful
toll	great	teuer	expensive
gut	good	nicht schlecht	not bad
cool	cool	okay	OK
interessant	interesting	langweilig	boring
praktisch	practical	nervig	annoying
einfach	easy	stinklangweilig	deadly boring
bequem	comfortable	furchtbar	awful
modisch	fashionable	klein	small
groß	big	alt	old
neu	new	schmutzig	dirty
modern	modern	laut	loud
sauber	clean	altmodisch	old-fashioned

Rooms in the school

Wie ist deine Schule?	What is your school like?
der Computerraum	the computer room
der Schulhof	the school playground
die Sporthalle	the sports hall
die Aula	the assembly hall
die Kantine	the canteen
die Bibliothek	the library
das Klassenzimmer	the classroom
das Lehrerzimmer	the staff room
das Labor	the science lab
ist ...	is ...
die Toiletten	the toilets
die Labors	the science labs
sind ...	are ...

Key verbs

tragen	to wear	haben	to have	sein	to be
ich trage	I wear	Ich habe	I have	ich bin	I am
du trägst	you (singular) wear	du hast	you (singular) have	du bist	you (singular) are
Trägst du ...?	Do you wear ?	Hast du ...?	Do you have ?	Bist du?	Are you ?
er/sie trägt	he / she wears	Er /sie hat	he / she has	er / sie ist	he / she is
wir tragen	we wear	Wir haben	we have	wir sind	we are
ihr tragt	you (plural) wear	Ihr habt	you (plural) have	ihr seid	you (plural) are
sie tragen	they wear	Sie haben	they have	sie sind	they are

School rules

Man muss (You must)

Man muss nicht (You must not)

Man darf (You are allowed)

Man darf nicht (You are not allowed)

Wir müssen (We must)

Wir müssen nicht (We must not)

Wir dürfen (We are allowed)

Wir dürfen nicht (We are not allowed)

im Computerraum (in the computer room)

im Schulhof (in the school playground)

in der Sporthalle (in the sports hall)

in der Aula (in the hall)

in der Kantine (in the canteen)

in der Bibliothek (in the library)

im Klassenzimmer (in the classroom)

im Lehrerzimmer (in the staff room)

im Labor (in the science lab)

in den Toiletten (in the toilets)

in den Labors (in the science labs)

lernen. (learn.)

ruhig sein. (be quiet.)

lesen. (read.)

Sport machen. (do sport.)

essen. (eat.)

trinken. (drink.)

Sportschuhe tragen. (wear trainers.)

gehen. (go.)

spielen. (play.)



Phonemes

- e	eh in Porsche	ch	h in human
ü	ooooo	z	ts in tsunami
ei	i in mice	eu	oi in noise
ig	h in huge	w	v in very
en	en in engaged	au	ou in loud
ß	ss in boss	sch	sh in shine
g	g in guitar	j	y in yes
th	t in top	er	air in air
sp	shp	qu	kv

Future tense - After school / school trip

You need four parts to form the future tense in German:

- 1: the subject - ich (I)
- 2: a form of werden - **werde** (will)
- 3: the rest of the information (e.g. football, a book, my friends, a pizza)
- 4: the infinitive (the verb ending in 'en' which is at the end of the sentence.)

Ich werde	I will
Du wirst	You (sing) will
Er /sie / es wird	He / she / it will
Wir werden	We will
Ihr werdet	You (pl) will
Sie werden	They will

in die Stadt gehen.	go to town.
in den Park gehen.	go to the park.
in die Schule gehen.	go to school.
ins Kino gehen.	go to the cinema.
zum Wasserpark gehen.	go to the water park.
nach Deutschland fahren.	go to Germany.
einkaufen gehen.	go shopping.
Fußball spielen.	play football.
einen Film sehen.	see a film.
Hausaufgaben machen.	do homework.
ein Buch lesen.	read a book.
mit Freunden online chatten.	chat with friends online.
chillen.	chill.
draußen spielen.	play outside.
fernsehen.	watch TV.
ein Museum besuchen.	visit a museum.
Deutsch lernen.	learn German.
Freunde treffen.	meet friends
eine Radtour machen.	do a bike tour.



Intensifiers

sehr	very
wirklich	really
total	totally
ziemlich	quite
ein bisschen	a bit
gar nicht	not at all

Connectives

und	and
aber	but
denn	because
auch	also
weil →	because
obwohl →	although

Future tense - What you will wear on the trip



Ich werde	I will
Du wirst	You (sing) will
Er /sie / es wird	He / she / it will
Wir werden	We will
Ihr werdet	You (pl) will
Sie werden	They will

einen (a) keinen (no)	blauen (blue) braunen (brown) gelben (yellow) grauen (grey) grünen (green) roten (red) schwarzen (black) weißen (white) rosa (pink)	Rock (skirt) Pulli (jumper) Kapuzenpulli (hoodie) Anzug (suit)
eine (a) keine (no)	blaue (blue) braune (brown) gelbe (yellow) graue (grey) grüne (green) rote (red) schwarze (black) weiße (white) rosa (pink)	Jacke (jacket/blazer) Hose ((a pair of) trousers) Schuluniform (school uniform)
ein (a) kein (no)	blaues (blue) braunes (brown) gelbes (yellow) graues (grey) grünes (green) rotes (red) schwarzes (black) weißes (white) rosa (pink)	Kleid (dress) Hemd (shirt) T-Shirt (T-Shirt)
	blaue (blue) braune (brown) gelbe (yellow) graue (grey) grüne (green) rote (red) schwarze (black) weiße (white) rosa (pink)	Schuhe (shoes) Socken (socks) Sportschuhe (trainers)

tragen
wear

Year 8 History Topic 1 - What was the impact of the Industrial Revolution on Britain?

Core Knowledge



Essential Vocabulary

Industry—This means economic activity concerned with the processing of raw materials and manufacture of goods in factories.

Slum- an area of a city that is very poor and where the houses are dirty and in bad condition

Revolution- a great change in conditions, ways of working etc which affects large numbers of people

Agriculture—the science or practice of farming

Smog— a mix of smoke and fog

Domestic System— a manufacturing system where workers make products in their own homes

Factory System— a manufacturing system where products are made in a factory

Population— all the people who live in a particular area

Increase— to become greater in number/amount

Decrease— to become smaller in size/number

Transport— A system of carrying people from one place to another

Invention— a thing or idea which has been invented

1. What was life like in 1750?

- In 1750 the main industry was the domestic system
- Britain had been unified in 1707 when England and Scotland formed into Great Britain
- Britain was now a Parliamentary democracy and had a Prime Minister... but only 3% of the population could vote (215,000 people)
- Britain's cities were beginning to grow
- Land was starting to be closed off by nobility
- 18,000 people lived in Manchester
- Britain began profiting from the Transatlantic Slave Trade
- Cotton machines were starting to spin cotton easier
- Majority of the population lived in poverty
- The average wage for a labourer was 15 pence

2. Why did Britain's population grow?

- After 1860 councils began to clean up towns and cities
- Parents had more children to send them to work in factories
- Midwives led the improvements in care of pregnant women
- Edward Jenner discovered the Small Pox vaccine
- After 1750 couples married at a younger age

3. What was the agricultural revolution?

- Agricultural Revolution was when there was an improvement in farming techniques
- A larger agricultural output meant that the population could grow (there was more food available)
- Fewer people were needed on the land, so they moved to factories
- Landowners made a lot of money selling crops and then invested that money in canals, roads and industry

4. What caused the industrial revolution?

- There was a transport revolution, which meant goods could be moved faster over the railways and canals
- The Spinning Jenny was invented to help create cotton quickly
- There was now a big demand for clothes
- The steam engine was invented in 1770, leading to steam power being used in mills
- The banking system was invented, meaning loans could be given for people to spend on investing in technology
- Britain was able to harvest resources from the colonies, such as coal, diamonds and spices which could be traded for cloth- this made Britain rich














5. What was life like in industrial towns?







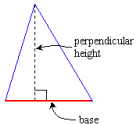
- Most houses did not have pipes water, people got water from cisterns (underground water containers), but this meant that many diseases such as cholera easily spread
- By 1860, nearly all workshops and factories were powered by coal burning steam engines. This meant that cities were often covered with smog (a mix of smoke and fog)
- In 1873 around 700 Londoners died from smog inhalation in one day
- Many found it difficult to bathe or wash their cooking utensils and bedding. This meant diseases such as typhoid spread easily.
- The population in towns increased hugely. In 1750 675,00 people lived in London, but in 1091, 4,563,000 people lived in London (Over 700% increase). This meant there was a demand for housing and builders and landowners, quick to make a cheap profit, made poorly constructed houses. Often there was only one room for each family which meant there was no/little privacy.

6. What was life like in industrial Oldham?

- Oldham was first mentioned in 1348 as a town which was part of the inheritance of Richard de Oldham
- The first cotton mill was built in Oldham in 1778
- Oldham was good for cotton mills as it was close to Manchester, local rivers/canals and the climate [rain]
- Oldham was called Spindleopolis because in 1911 it had 10% of all the cotton spindles in the world

Essential Vocabulary

Word	Definition	Example
Polygon	A closed 2D shape with straight sides.	
Quadrilateral	A polygon with 4 sides.	
Isosceles Triangle	A triangle with 2 sides of equal length and 2 angles of equal size.	
Equilateral Triangle	A triangle with 3 sides of equal length and 3 angles of equal size (60°).	
Scalene Triangle	A triangle where all the sides are different lengths and all the angles are different sizes.	
Right-angled triangle	A triangle where one angle is a right angle (90°).	
Obtuse-angled triangle	A triangle where one angle is greater than 90°	
Rectangle	A quadrilateral with 2 pairs of parallel sides of equal length and 4 right angles.	
Square	A rectangle with all the sides of equal length and 4 right angles (a regular rectangle).	
Parallelogram	A quadrilateral with 2 pairs of parallel sides.	
Rhombus	A parallelogram with all sides of equal length and where the opposite angles are equal (a regular parallelogram).	
Kite	A quadrilateral with 2 pairs of sides of equal length and 1 pair of equal angles. The sides of equal length are next to each other.	
Trapezium	A quadrilateral with 1 pair of parallel lines (labelled a and b).	
Regular	A regular polygon is one where all the sides are equal in length and all the angles are equal in size.	
Irregular	An irregular polygon is one where the angles are NOT all the same size and/or the sides are NOT all the same length.	

Word	Definition	Example
Perimeter	The complete distance around the outer sides/edges of a shape. The total length of all the sides.	
Area	The space inside a boundary.	
Parallel	Two lines are parallel if they are always the same distance apart and if extended would never meet.	
Perpendicular	Two lines are perpendicular when they meet at a 90°.	
Rectilinear	A shape made up of rectangles, with straight lines joined at right angles.	
Composite shape	A shape made up of two or more different shapes.	
Diagonal	A straight line within a polygon joining two corners that are not joined by a side.	
Base length	The length of a side which is perpendicular to the height of the polygon.	
Perpendicular height	The height measured at the right-angles from the base.	
Not to scale	That the diagram is not drawn accurately (you can not measure it using a ruler or protractor).	

Key Area Formulae

Shape	Area Formula in Words	Area Formula
Square	Area = length × length	$A = l^2$
Rectangle	Area = length × w	$A = lw$
Triangle	Area = $\frac{\text{base} \times \text{perpendicular height}}{2}$	$A = \frac{bh}{2}$
Parallelogram	Area = base × perpendicular height	$A = bh$
Trapezium	Area = $\frac{\text{parallel side } a + \text{parallel side } b}{2} \times \text{perpendicular height}$	$A = \frac{h(a+b)}{2}$

Music Year 8: Unit 1 Melody & Dynamics (Film Music)

Core Knowledge - Melody & Dynamics

Melody

Melody is the main tune or idea in a piece of music. Throughout this topic we look at how composers use melody to create an effective atmosphere appropriate for different genres of film. One of the main ways composers do this is through the use of a **leitmotif**. A leitmotif is a piece of music that is connected to a particular character, thing or idea within a film. It can be used to highlight how we are supposed to feel about a certain character and can be adapted to reflect the different situations the character may find themselves in. Some of the most famous leitmotifs can be found in Star Wars, Jaws, Mission Impossible and many more.



Dynamics

Dynamics means how loud or quiet the music is. We have looked at dynamics throughout year 7 and we will expand our understanding of this key element through film music. Many composers use dynamics to create a certain atmosphere or tension within their films. Moving from pianissimo to fortissimo. You will need to understand their definitions and their symbols also.

crescendo

pp pianissimo
p piano
mp mezzo-piano
mf mezzo-forte
f forte
ff fortissimo

diminuendo

sfz sforzando

Link: Apply your knowledge:

- Research some famous leitmotifs, see how many of the films you have watched.
- Listen to a famous leitmotif in a film in various situations, how does the composer change the leitmotif to reflect the situation the characters are in?

Context

Film Composers

Throughout this unit, you will learn about the context behind film composers and some of their famous works. You may know some of the films they composed for but not necessarily the composers themselves. Some of the composers you will look into include:

- John Williams (Star Wars, Harry Potter, Jaws)
- Hans Zimmer (Gladiator, Inception, The Dark Knight)
- Ennio Morricone (The Good, the Bad and the Ugly)



Link: Show your understanding

Research the composers to the music of your favourite films. See if there are any similarities between films that you like and their composers.

Core Knowledge - Film Music

Film music is used in two ways - diegetic and non-diegetic.

Diegetic music is contained within the scene. Both the character and the audience can hear it. An example of this would be the radio playing or a character going to a concert.

Non-diegetic music is background music used to support the scene. Only the audience can hear this music and not the character. Leitmotifs and theme music is an example of non-diegetic music.

3. The Harry Potter Leitmotif

This Leitmotif sounds good played with a "magical" or "fantasy" sound tone or voice from your keyboard - try a "Celesta" or "Glockenspiel" tone. If your keyboard has one and watch out for the black notes!



Musical notation for the Harry Potter Leitmotif, showing a melody line and a bass line with chord symbols below.

Performance Skills - Film Music

You will perform a variety of themes and leitmotifs across this unit. You will need to think about how the audience are intended to view this character, situation or theme and reflect that in your performance. Some questions you can ask yourself are:

- Is this character good/evil?
- Are they in danger?
- Are they in love?
- What genre of film is this score from?
- How are the audience meant to feel at this point?

5. The Darth Vader Leitmotif (The Star Wars Imperial Death March)

Musical notation for the Darth Vader Leitmotif, showing a melody line and a bass line with chord symbols below.

Link: Apply the knowledge, master the skill.

- Compose your own leitmotif for a character. Try to adapt it using DR PITTS.
- Listen to your favourite piece of film music. Look at how DR PITTS has been used in this piece to create an effective composition.

Key Vocabulary

Dynamics	How loud or quiet the music is.
Melody	The main tune or idea in a piece of music.
Pianissimo	A very quiet dynamic.
Piano	A quiet dynamic.
Mezzo-piano	A moderately-quiet dynamic.
Mezzo-forte	A moderately-loud dynamic.
Forte	A loud dynamic.
Fortissimo	A very loud dynamic.
Crescendo	Gradually getting louder.
Diminuendo	Gradually getting quieter.
Sforzando	A musical direction to play with a stress or an accent.
Leitmotif	A short piece of music that is connected with a particular person, thing or idea.
Diegetic	Music contained within the scene.
Non-diegetic	Background music used to support the scene and represent the mood.

Link: Show your understanding of key vocabulary

- Find an example of diegetic and non-diegetic music in one of your favourite films.
- Link the definitions of dynamics with what is written on music scores.
- Listen to a variety of pieces of music, try to identify the dynamics accurately (with changes).

Physical Education - Year 8 Badminton

Net/Wall

Badminton is a game that is played between single or doubles. The purpose of a net/wall game is to outwit their opponent through strategy and tactics.

Type of shots

There are number of different shots played in badminton to outwit your opponent .

A **serve** starts the match off, it must be served diagonally and land in the serving box.

A **forehand overhead clear/backhand overhead clear** is a defensive shot played to the back of the court to force the opponent back.

A **forehand smash/ drop shot** is a very attacking shot played at someone's feet with power to win the point.

A **net sheet** is a shot played to force an opponent to front of the court, it is played with a light touch to just land over the net.

Link: Apply your knowledge:

- Why would you play a defensive shot?
- How can you outwit your opponent?
- What qualities do you need to be a badminton player?

Defensive shots

Backhand Overhead clear:

- Side on position- lead with foot with racket hand
- L Shape- wrist, elbow and shoulder
- Racket head square at contact
- Follow through to complete the action with back foot coming through.
- Get back to the centre of the court

Net shots

- Lead with racket hand foot.
- Side on position using either forehand/backhand.
- Concentrate focussing on the racket head meeting the shuttlecock above your hip and in front of you
- Follow through completing your action by transferring your weight through your front foot

Rules

Serving	Players must serve diagonally across the net to their opponent. As points are won then serving stations move from one side to the other. There are no second serves so if your first serve goes out then your opponent wins the point
Fault	If a player touches the net with any part of their body or racket, then it is deemed a fault and their opponent receives the point.
Let	Let may be called by the referee if an unforeseen or accidental circumstance arose. These may include the shuttlecock getting stuck in the net, server serving out of turn, one player was not ready or a decision which is too close to call.

Link: Apply the knowledge, master the skill.

1. How could badminton help with 3 aspects of health, physical, emotional & social. Provide a reason for your answer.
2. What is the role of an official?
3. What is the local badminton club?

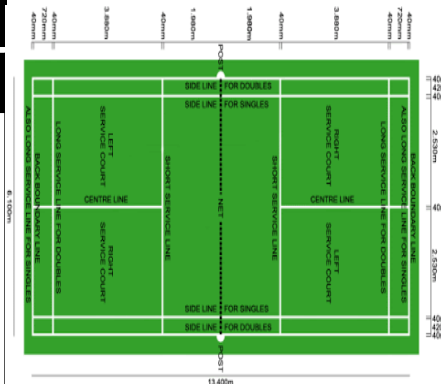
Attacking shots

Drop shot:

- Side on position
- L shape- wrist, elbow and shoulder
- Hit at the highest point
- Look to smash but slow momentum down
- Follow through to complete the action with back foot coming through
- Get back to the centre of the court

Singles and Doubles format

- Single format is played on a long and thin court
- Doubles played on a shorter and wider court
- Serves are rotated on each side of the court if the server wins the point
- If the server loses it transfers to the opposition.



Badminton Court

A badminton court is divided in 2 equal parts. It has a serving box and a different size court depending whether you playing singles or doubles. You play to 21 points.

Key Vocabulary

Serving

Forehand

Backhand

Overhead clear

Forehand drop shot

Net shots

Trajectory

Precision

Control

Momentum

Physical Education - Year 8 Netball

Players

Netball is an invasion game played between two teams of 7. A netball team consists of seven players per side and is divided into different positions. Like most sports the team has very clear roles to support their overall success.

Positions

Centre (C) - this position starts the game and is allowed anywhere on the court except their own and the opposing team's goal semi circles.

Wing attack (WA) - this position aims to collect the ball and deliver it safely into the goal circle to the shooters. The wing attack is only allowed in the top 2 thirds of their court.

Goal attack (GA) - this position aims to collect the ball safely from the wing attack or centre and either passes to the shooter or has a shot for themselves. The goal attack is only allowed in the top two thirds of their court and the goal circle.

Goal shooter (GS) - this position aims to find space in order to receive the ball from their teammates and shoot at the net. The goal shooter is only allowed in the top third of their court and the goal circle.

Wing defence (WD) - this position is required to close down opposition players, intercept and protect the goal circle. The wing defence is only allowed in the bottom two thirds of their court.

Goal defence (GD) - this position deals with preventing the opposition from passing the ball into the goal circle. The goal defence is only allowed in the bottom two thirds of their court and the goal circle.

Goal keeper (GK) - this position aims to close down opposition shooters in order to stop the ball from being shot at the net. The goal keeper is only allowed in the bottom third of their court and the goal circle.

Task – Watch a netball match on TV. You tube have an amazing range of Manchester Thunder games.

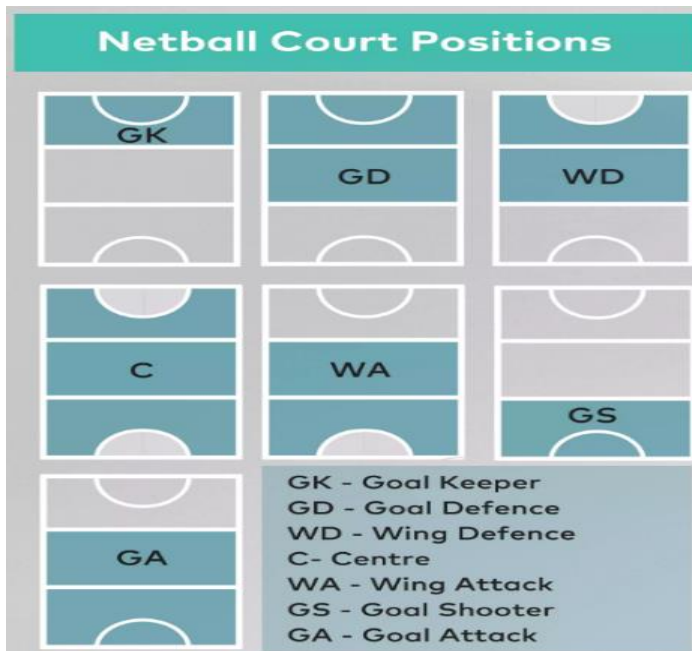
Challenge – Tell me what League Manchester Thunder play in.

Centre Pass

A Centre pass is carried out at the start of a game of netball and then alternates from team to team once a goal has been scored. The Centre pass will alternate regardless of the score.

The player who plays Centre is the only position on the court who can take a Centre pass and a Centre pass must be received in the Centre third.

Players that can receive a Centre pass are GA, WA, WD and the GD. Why can't the GS or GK receive it?



Link: Apply the knowledge, master the skill.

When working as a team it is important that all team members feel supported. How can we do this when playing?

Backline / side-line pass

If the netball goes out of play it means the ball has gone outside of the netball court markings. Depending on which area the ball goes out of play will depend on what type of pass will be awarded to the team who did not touch the ball last.

A backline pass – will be awarded when the ball goes out of play behind the netball post. In this situation, if the ball is in the defensive area the GK should take the pass. In the attacking area either the GS or GA.

A side-line pass – will be awarded when the ball goes out of play along the side of the court. In the defensive goal third the GK should take the pass. The centre third WD or GD and in the attacking goal third WA or C. this allows the other players to find space and to get into a good position.

When taking a backline or side-line pass players must ensure their feet are well behind the court's lines. If a player take the pass with their foot on the line a free pass will be awarded to the opposition. The official would blow the whilst and say "Foot on the line, free pass to"

Spatial awareness

Netball is a game that is all about space. Attackers try to create space and defenders try to shut down space to get an intercept. The netball court should be balanced at all times. There needs to be enough room for all players to make effective breaks. If you are not actually making a break for a ball, then you should be creating space for someone else to use.

Rules

Footwork/ 3 seconds/ obstruction/ Contact/ offside/ Over a third/ Out of court

Key Vocabulary

Passing

Positions

Centre pass

Attack

Defend

Obstruction

Communication

Teamwork

Positions

Backline/side-line pass



Task - A friend a trying to shoot. Write a technique card explaining the different steps for correct shooting technique.

Year 8 Topic 1: How can we live a morally good life?



Topic overview:

Rules, role models and guidance from religion all influence the way that people live in the modern world. This unit looks at the way in which religious and non-religious people make moral decisions, how they know what is right and wrong and what they believe makes us a 'good' person.

What do we mean by 'morality'?

When we say that someone is making a 'moral' decision, we mean that they are making a decision about what they think is right or wrong or good or bad, for example whether or not it is acceptable to tell a lie or to kill animals for food.

Good and right are words used to describe behaviour that we think is correct. Bad and wrong are words we would use to describe behaviour that we think is incorrect. For most people, the aim is to be good person and avoid actions that would be described as bad.

'Sources of moral authority' are the things that help us to make these decisions, such as holy books, the law, influential people, religious leaders, or the influence of our family and society.



Divine Command Theory - we can live a morally good life by following God's rules

Actions are morally right/good because God (the Divine) commands them to be. Actions that are considered morally bad are wrong because they are forbidden by God. God reveals these rules to humans through holy books, for example, the 10 Commandments are found in the Bible.

Divine Command Theory is an example of absolute morality. This means that any action that goes against what God has commanded is classed as wrong, no matter the situation. For example, it is always wrong to kill as it breaks God's commandment "Do not kill."

Divine Command Theory relies on the idea that God is omnipotent, so has ultimate authority to make decisions about right and wrong.

Humans are expected to follow these rules at all times and in all situations, so it is their duty.

What would Jesus do? - Christians can follow the example of Jesus to live a morally good life



For Christians, Jesus is a source of moral authority because he was God 'incarnate'. This means that he had perfect knowledge of what is right and wrong. Christians often ask 'What would Jesus do?' when they are faced with a moral dilemma.

The Sermon on the Mount is Jesus's most famous teaching about what is necessary to live a good life. Jesus spoke to a big crowd who were interested in what he had come to say. Jesus told people what they had to do to enter the kingdom of God (heaven). There were occasions when Jesus seemed to go against the traditional laws of Judaism, for example, he healed a person on the Sabbath. He said that the greatest two commandments were to love God and love our neighbour. The word used in the New Testament when Jesus talks about love is 'agape'.

Is showing love more important than following the law? - Situation Ethics

In the 1960s, a Christian minister called Joseph Fletcher created a new Christian moral theory based on the actions of Jesus in the New Testament. He called his theory 'Situation Ethics'. Fletcher described 'agape' as the 'boss principle' of Situation Ethics. This means that the most important law was to love others. This is the only law that applies at all times in all situations for Fletcher. He said that in some situations, the traditional laws of Christianity, like the Ten Commandments, can be set aside in order to bring about the most loving outcome. Situation Ethics is therefore a theory that shows relative morality. This is the idea that actions are right or wrong depending on the situation/circumstances.



Utilitarianism - we live a morally good life when we bring happiness to the majority

Jeremy Bentham (1748 - 1832) believed that when we make moral decisions, we should focus on the consequences of our actions rather than the actions themselves. So, when faced with a moral dilemma, we must predict what will happen if we carry out different actions.

Bentham developed his ideas based around what would give the 'greatest happiness for the greatest number of people'. He thought that doing something that increases happiness is a good thing. Doing something that increases suffering/pain is a bad thing. The happiness of a lot of people (the majority) usually counts for more than the happiness of a few (the minority). He called this idea the Principle of Utility.



Utilitarianism is, therefore, the name given to the belief that actions are right if they bring about the greatest good (happiness) for the greatest number of people. This theory does not rely on belief in God so shows us how we can be morally good without God.

How can Muslims live a morally good life? - we can live a morally good life by following Shari'ah Law

In Muhammad's final speech he said, "I leave behind me two things, the Qur'an and my example, the Sunnah, and if you follow these you will never go astray". Muslims believe that if they follow Allah's laws and the actions of Muhammad, they will live a morally good life and have a better chance of getting into paradise.



In the Qur'an it says... "The Qur'an guides to all that is good". This means that it acts as a guide for Muslims in terms of how to live their lives. It tells them what is allowed and encouraged (halal) and also tells them what actions are forbidden (haram). For example, worshipping only one God is halal, and drinking alcohol and gambling are haram.

Muslims also believe that they have a duty in their lives to follow the Five Pillars. By doing this, Muslims show their dedication to God and develop important qualities such as empathy, commitment and a sense of brotherhood. Following the pillars can sometimes be difficult for Muslims, for example in situations where fasting may be physically challenging.

Buddhism - we can live a morally good life by following the Five Moral Precepts

The Buddha called his followers to follow five intentions to live a morally good life. These are called the Five Moral Precepts. These are not rules given by the Buddha but suggestions based on his own experiences.

The Precepts are:

1. To avoid taking life
2. To avoid taking what is not given
3. To avoid sexual misconduct
4. To avoid speaking falsely
5. To avoid drink and drugs that could cloud the mind



The Buddha believed that if people kept the Precepts, they would grow in wisdom and understanding of what is right and wrong. He believed that wrong actions would lead to suffering. The Buddha also believed that if people followed the Precepts, they would develop karuna (compassionate love for others).

Key Term Box

Morality: The word used to describe the rules or guidance that help us to make decisions about what is right and wrong.

Moral decision: A decision about whether something is right or wrong/good or bad.

Moral authority: Someone or something that influences our decisions about what is right or wrong.

Divine Command Theory: The belief that what is morally good is commanded by God, and what is morally bad has been forbidden by God.

Absolute morality: The idea that certain actions are always right or wrong, no matter what the situation.

Duty: A responsibility; something that you are expected to do.

Agape: A caring, unconditional and self-sacrificing love which seeks only the benefit of others.

Situation Ethics: The belief that what is morally good is what brings about the most love (agape) for others.

Relative morality: The idea that actions are right or wrong depending on the situation/circumstances.

Shari'ah Law: Islamic law based on the Qur'an (holy book), Sunnah (teachings and example of Muhammad) and Hadith.

Five Moral Precepts: Five moral intentions that Buddhists try to live their lives by. These were given by the Buddha.

Karuna: Compassionate love for all humans. The Buddha believed this could be developed by following the five moral precepts.

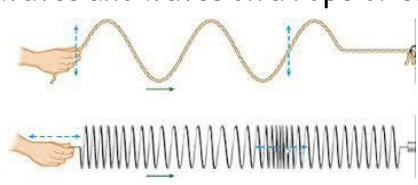
Principle of Utility: The belief that what is morally good is what brings about the greatest good for the greatest number of people.

Virtue Ethics: a theory that tells people to develop virtues (good qualities) in order to live a good life.

1. What are waves

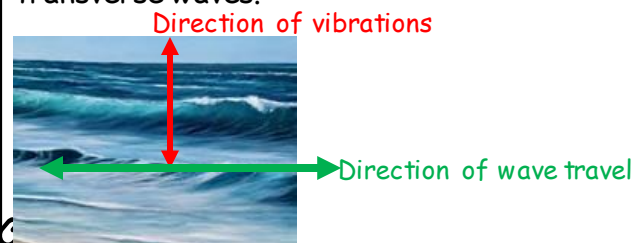
Waves are **vibrations** that transport energy from place to place without transporting matter.

Examples of waves include water waves and waves on a rope or slinky spring.



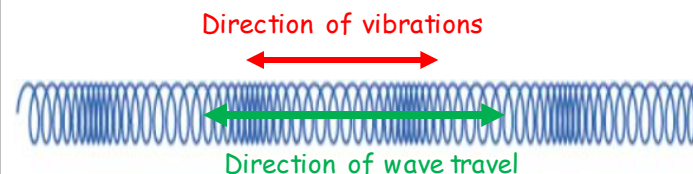
2. Transverse and Longitudinal Waves

Transverse waves **vibrate perpendicular** to the direction that wave travels in. **Water waves** and **waves on a rope** are examples of transverse waves.



Link: Show your understanding
What is the unit for energy?
What is the Law of Conservation of Energy?

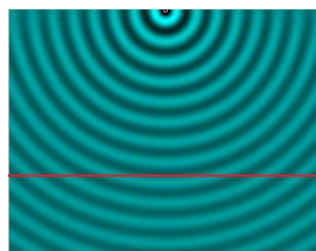
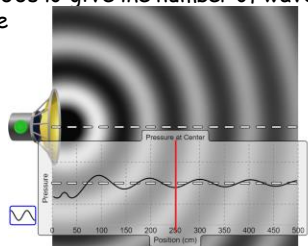
Longitudinal waves **vibrate parallel** to the direction that wave travels in. Longitudinal waves can be demonstrated **on a slinky spring**.



4. Measuring Frequency

The frequency of a wave can be measured using laboratory equipment. This can be done using an oscilloscope or ripple tank.

The **number of waves passing a point** is counted over a period of 5 minutes (300s). The number of waves is then divided by 300s to give the number of waves per second.



5. Wave Speed

Wave speed is **how quickly** a wave moves through a medium.

The wave speed tells us how quickly energy or information is being transferred.

Wave speed can be calculated using a formula.

$$\text{Wave Speed (m/s)} = \text{distance travelled (m)} \div \text{time(s)}$$

Alternatively the following formula can be used

$$\text{Wave Speed (m/s)} = \text{frequency (Hz)} \times \text{wavelength (m)}$$

Try these questions for practice.

1. Calculate the speed of a wave that travelled 4m in 2s
2. Calculate the speed of a wave that travelled 15m in 5s.
3. Calculate the speed of a wave that has a frequency of 10Hz and a wavelength of 3m.
4. Calculate the speed of a wave that has a frequency of 120Hz and a wavelength of 1.5m.

6. Measuring Wave Speed

Wave speed can be **measured** in a laboratory, Usually, this is done using a **ripple tank**. The speed of sound can also be measured using **echo**.

To measure wave speed, **time how long it takes for a wave to travel a certain distance** in the ripple tank. Then, use the formula to **calculate** the speed of the wave.

To measure sound, **stand a distance from a wall** and bang two objects together. **Time how long it takes to hear the echo**, divide the time by two, to find how long the wave takes to travel the distance between you and the wall. Then use the formula to **calculate** the speed.

Waves - Vibrations that transport energy from place to place without transporting matter.

Transverse Wave - Where the direction of vibration is perpendicular to that of the wave.

Longitudinal - Where the direction of vibration is parallel to that of the wave.

Perpendicular - forming an angle of 90° with another line or surface.

Parallel - two or more lines that are parallel to each other are the same distance apart at every point and do not cross.

Frequency - The number of waves produced in one second, in hertz.

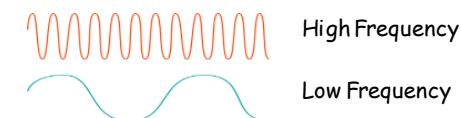
Wavelength - Distance between two corresponding points on a wave, in metres.

Wave Speed - The distance a wave

3. Frequency

The **frequency** of a wave is the number of waves that pass a point every second.

Frequency is measured in **Hertz (Hz)**



Science Year 8: 8.2 Digestion Core Knowledge

Essential Vocabulary

1. Balanced Diet

A **balanced diet** is A diet that contains the correct amounts of each of the nutrient groups. (Fats/lipids, carbohydrates, fibre, vitamins, minerals, water, protein).



Nutrient group	Found in foods like...
Lipids / fats	Avocado, olive oil, fish, eggs, soya beans. Processed food such as pastry and biscuits.
Carbohydrates	Sugars - fruits, vegetables, beans and dairy. Starches - rice, potatoes, bread, grains and cereals. Lean meat, eggs, fish, tofu, nuts, seeds and beans.
Protein	Fresh fruits and vegetables.
Vitamins and minerals	Dairy products - milk, yoghurt, cheese. Leafy green vegetables, nuts and seeds.
e.g. Calcium (a mineral)	Brown rice, wholegrain bread, cereal, nuts, seeds, fruit and vegetables.
Fibre	Drinks, fruit and vegetables.
Water	Drinks, fruit and vegetables.

2. Food Tests

Food samples can be tested to see if they contain different nutrient groups:

Carbohydrates (sugars)

Add Benedict's solution to food → Heat in a water bath → Benedict's solution changes colour when heated

Carbohydrates (starch)

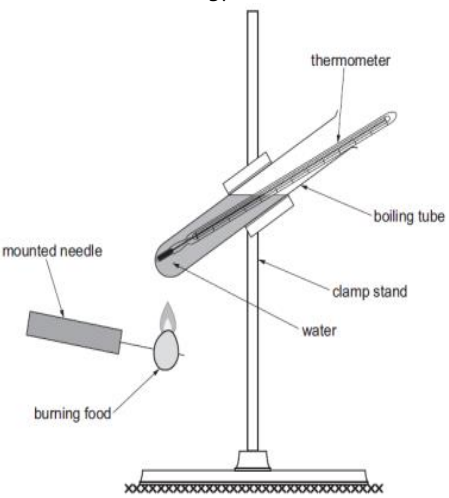
Potato → Peeled → Add iodine

Protein

A purple colour indicates protein is present Or A purple ring between the layers indicates protein is present

4. Energy In Food

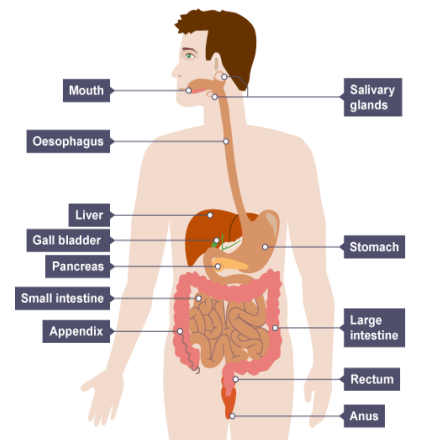
- Food is a store of energy, transferred from the food to the consumer.
- 'Food energy' is measured in joules (J) or kilojoules (kJ.)
- Food types (groups) have different amounts of energy.
- Different people need different amounts of energy.



Link: Show your understanding
What is the unit for energy?
What is the Law of Conservation of Energy?

5. Digestive System

Structure of the digestive system



6. Enzymes

Enzymes are substances that speed up the chemical reaction of digestion.

- Carbohydrase - found in mouth, pancreas and small intestine
- Protease - found in the stomach, pancreas and small intestine
- Lipase - found in the pancreas and small intestine

3. Unhealthy Diet

An unhealthy diet can put a person at risk of developing diseases. Some common diseases associated with poor health include:

- Malnutrition** - Caused by too little food or a lack of nutrients
- Obesity** - Caused by a poor diet leading to an excess of body fat (BMI above 30kg/m²)
- Anorexia** - Caused by the restriction of nutrients relative to the body's requirements
- Type 2 Diabetes** - A disease more common in older people where person's body cells no longer respond to insulin produced by the pancreas.

5. Digestive System (function of parts)

Part	Function
Mouth	Teeth break down the food and mix it with the enzymes in saliva.
Oesophagus	This is a thin tube that connects the mouth to the stomach.
Liver	This releases a chemical called bile into the intestines. Bile breaks down lipids in the food.
Stomach	This is a muscular bag which mixes food and drink with acid.

Part	Function
Pancreas	Releases enzymes to break down carbohydrates, protein and lipids.
Small intestine	Carbohydrates, proteins and lipids are digested and are absorbed into the blood.
Large intestine	Fibre - passes into the large intestine. Water is absorbed into the blood.
Rectum	Any undigested food is stored as faeces.
Anus	faeces leaves the body.

Carbohydrate - The body's main source of energy. There are two types: simple (sugars) and complex (starch).

Protein - Nutrient the body needs for growth and repair.

Fats/lipids - A source of energy. Needed for warmth, protection of organs and cell production.

Fibre - Parts of plant waste that cannot be digested, needed to eliminate waste.

Vitamins and minerals - Nutrients needed to remain healthy.

Oesophagus - A tube in the neck that food passes down towards the stomach.

Stomach - A sac where food is mixed with acidic juices to start the digestion of protein and kill microorganisms.

Small Intestine - Upper part of the intestine where digestion is completed and nutrients are absorbed by the blood.

Large Intestine - Lower part of the intestine from which water is absorbed and where faeces are formed.

Gut Bacteria - Microorganisms that naturally live in the intestine and help food break down.

Enzymes - Substances that speed up the chemical reactions of digestion.