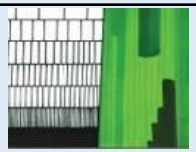
Art	Elements of Art and Artist Research	Year 8	Term 4

1- Elements of Art

The elements of art are the basic elements that are used by artists to create art. When we make art we need to understand and apply these seven elements of art.

	**Line** A mark made by a brush, pen or stick; a moving point.		**Form** Objects that are three-dimensional having length, width and height.
	**Shape** A flat, enclosed area that has two dimensions, length and width.		**Texture** Describes how a surface feels to the touch. We use mark making to show texture.
	**Colour** One of the most dominant elements. It is created by light.		**Space** Used to create the illusion of depth. Empty space is called negative space.
	**Value / tone** How light or dark something is. Difference between values is called contrast		

2- Vocabulary

A4 - paper size 21cm x 29.7 cm
A3 – paper size 29.7cm x 42cm

Composition: the way the elements of art and design are arranged on the page.

Quote: words from a text written by another person.

3- Annotations

Annotations are written explanations that record and communicate your thoughts. They are used to analyse the work of artists.

- **Describe** which elements of art are used in the artwork and how they are used
- **Explain** why you think the artist has used them this way
- **Explain** what mood and feelings does the artist use to communicate colour, texture, tone, shape, line and form?

4- What to include in your artist research

- Brief artist info: Country, birth / death, style, type of work they do.
- 5 to 7 images made by the artist: make short comments as why you like them.
- Materials: What materials did they use? How was the work made?

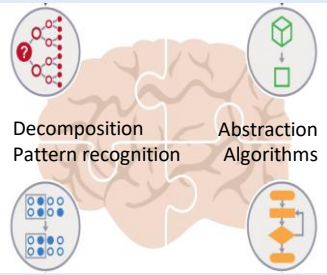
- One favourite image with
  - Larger clear picture
  - Annotations that are thoughtful and personal
  - Explain why you like the picture

This term you will study the art of Paul Klee, Duncan Cameron and Lynne Chapman

Computing	Computational Thinking	Year 8	Term 4

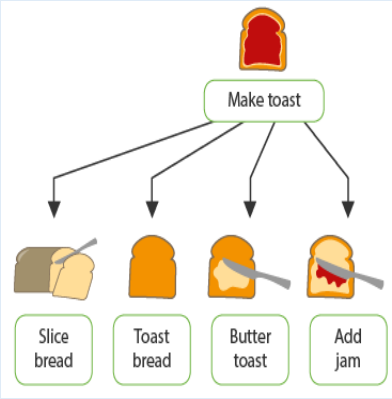
1: Introduction

Computational thinking: To take a difficult problem and develop a solution, that both a human and computer could understand.
Four cornerstones: Decomposition, pattern recognition, abstraction and algorithms.
Instructions: A set of step by step instruction that someone could follow or be used to create a program.
Computer program: A collection of instructions that can be executed by a computer to perform a specific task.



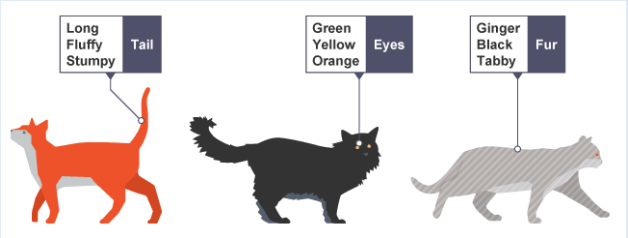
2: Decomposition

Decompose: Breaking a problem down in to manageable, smaller parts.
Complex task: A group or system of things connected in a complicated or difficult to understand way.
Smaller parts: The individual tasks that make up the main task E.g. Making toast has a number of smaller parts to complete the specific task.



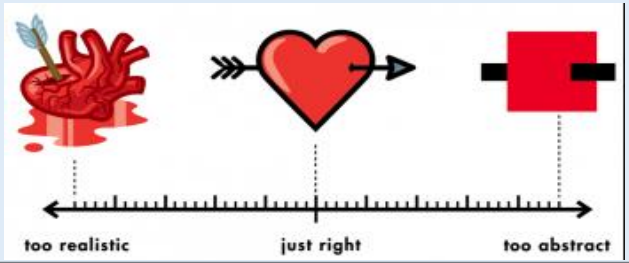
3: Pattern Recognition

Pattern recognition: To detect or find similarities or characteristics in a complex problem.
Characteristics: The features or properties given to something. E.g. all the cats have a tail.
Patterns: Exist among different problems and within individual problems. We need to look for both. E.g Multiple cats and one cat.



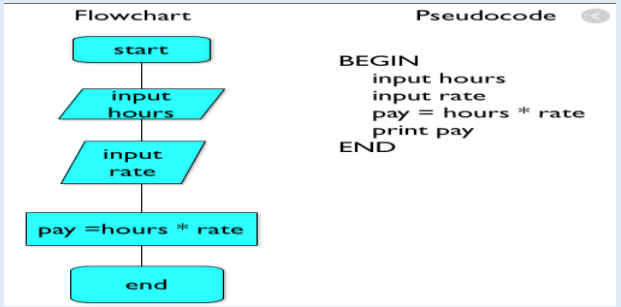
4: Abstraction

Abstraction: The ability to remove, filter out anything that is not relevant to solving a problem. Leaving the important simplified details to concentrate on.
Specific details: For example: the size, how many valves, the colour, how many feathers
General details: It's shape



5: Algorithms

Algorithm: A plan using a set of step-by-step instructions to solve a problem.
Flowchart: Represents a set of instructions using a number of different symbols.
Pseudocode: A set of instructions using plain english before committing to writing code.



6: Evaluating Solutions

Evaluation: Is the process that allows us to make sure our solution does the job it has been designed to do and to think about how it could be improved.

1. Is it easily understood?
2. Is it complete?
3. Is it efficient?
4. Does it do what we want it to do?
5. Are there parts that can be repeated using iteration?

Efficient: Reliable and quick at processing instructions, code.
Inefficient: Unreliable, takes a long time to process instructions, code.

Drama	Status	Year 8	Term 4

1: Status in Performance

- ✓ Status refers to the power conveyed by a character on stage, or the difference in the relationship between characters.
- ✓ A character in a high status behaves dominantly towards a character in a lower status.
- ✓ A character of low status is subordinate to the higher-status character, accommodating his or her actions to the other's cues.
- ✓ The status of a character is recognisable in their body language, actions, posture, gait and manner of speaking.

2: Proxemics/Space in Performance

Proxemics: The use of physical space between the actors on stage to create meaning

e.g.
Two characters are standing side by side and are mimicking each other's body language which suggests that they're united or on the same side. The characters then move to other ends of the stage and turn their backs on each other.

Putting space between them implies distance in their relationship. The fact that their backs are turned indicates that they're no longer united but in disagreement.

3: Vocal Skills

- **Pitch:** the degree of highness or lowness of the voice
- **Pace:** The speed at which someone speaks
- **Tone: A** quality in the voice that expresses the speaker's feelings or thoughts
- **Volume:** The degree of loudness or the intensity of a sound

4: NVC Skills

Non Verbal Communication (NVC) relates to the way movements, posture and gestures can show how someone feels without speaking.

Facial Expression: The appearance, mood or feeling conveyed by a person's face

Posture: The position a character holds themselves in when sitting or standing

Gesture: A movement made by part of the body (e.g. arms, head) to convey a character's emotions

Gait: A person's manner of walking

5: Performance Skills

To ensure that you give an effective performance, the skills and points below should be incorporated:

·Vocal Skills (see week 3)

· NVC—Non Verbal Communication (see week 4)

· remain in character

· Do not turn your back to the audience

<u>Oracy Focus</u>

Oracy: the ability to express oneself fluently and grammatically in speech

Volume: ensure that your voice reaches everyone in the audience

Clarity: ensure that you speaking clearly

Pace: ensure that your pace of speech is appropriate to your character

English	Short Stories	Year 8	Term 4

1. Language/Structure Methods

Perspective: point of view

First person narrative perspective: where the story is told from one person's viewpoint, speaking about themselves and their feelings

Third person <u>omniscient</u> narrative perspective: narrative written using pronouns such as 'he', 'she' and 'they', where the narrator knows all the thoughts and feelings of all characters in the story, such as in 'Subha'

Third person <u>limited</u> narrative perspective: an anonymous narrator written using 'he', 'she', and 'they' but who follows one character's perspective – such as in 'Harry Potter'

Themes: a 'big' idea that runs through a text, such as love, jealousy, isolation, fear

Cyclical structure: when a story ends similarly to how it began; the conditions of the story at the end are in the some way the same as they are at the beginning

2. Cultural Knowledge

Rabindranath Tagore: Writer of 'Subha'; he was a Indian novelist and poet who won the Nobel Prize for Literature. He wrote mainly about those from underprivileged parts of society in the 'social realism' genre.

Social Realism: a genre of writing which aims to draw attention to the real conditions of the working class or disadvantaged to criticise power structures

Bengal: a region of East Asia, which is in both India and Bangladesh

Caste system: the hierarchical Hindu class system

Disablism: discriminatory, oppressive, abusive behaviour arising from the belief that disabled people are inferior to others

Norms (noun): Typical rules or expectations of behaviour in society

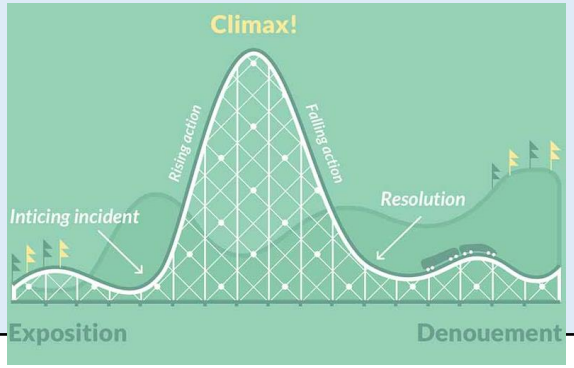
3. Key Elements of Writing Effective Narratives

Characterisation: developing interesting, believable characters in writing. You can do this by using the following:

- Give your characters clear motivations, dreams, hopes and desires – just like a real person!
- Give the protagonist an 'arc', when the character undergoes some kind of transformation.
- Go into detail about your character's physical world: their appearance, clothing, mannerisms, etc.

Imagery: use of techniques that helps the reader imagine your story's 'world': metaphor, simile, personification, pathetic fallacy

Narrative Structure:



English	Short Stories	Year 8	Term 4

4. Grammar: Dashes for Effect	5. Grammar: Conjunctions
Dashes can be used as an alternative to other punctuation marks to: 1. **Add more information to a sentence** (replacing brackets), e.g: *'Subha' - which tells the tale of a young Indian girl who suffers from others' prejudice - is a heart-breaking story.* 2. **Insert a break into a sentence** (replacing brackets, colon or semi-colon) and to **emphasise the idea** after the dash, e.g.: *'The teacher demanded one thing from her students – their attention.'* 3. Show **repetition of a word or phrase** for effect, to emphasise an idea, e.g.: *"It can't—it can't be—not—not a dragon!" she screamed.*	**Conjunctions** These are words that help to connect together clauses: · For, And, Nor, But, Or, Yet, So (**FANBOYS**) - used to make compound sentences · Since, Therefore, Though, While, Which, Who—used to make complex sentences **Compound and complex sentences** · A compound sentence is a sentence with more than one main clause connected by one of the FANBOY conjunctions. · A complex sentence includes a subordinate clause, which adds more detail to the main clause.

French | Family Relationships | Year 8 | Term 4

Trinity Academy Sowerby Bridge

1: Family and Possessive Adjectives

J'habite avec…	I live with…
ma belle-mère	my step-mum
ma cousine	my cousin (f)
ma demi-soeur	my half sister
ma mère	my mum
ma tante	my aunt
mes soeurs	my sisters
elle s'appelle	she is called
elles s'appellent	they are called
mon beau-père	my step-dad
mon demi-frère	my half brother
mon cousin	my cousin (m)
mes frères	my brothers
mon oncle	my uncle
mon père	my father
il s'appelle	heis called
ils s'appellent	they are called

Possessive adjectives:

	my	your	his/ Her
M	mon	ton	son
F	ma	ta	sa
P	mes	tes	ses

Remember: they must agree with the person or thing they are describing, **not** you or the person who they belong to:

son frère — his **or** her brother

2: Adjectives to Describe Family

je suis	I am
il est	he is
elle est	she is
ils sont	they are
elles sont	they are
amusant/e	fun
bavard/e	chatty
difficile	difficult
drôle	funny
ouvert/e	open
rigolo/te	funny
sérieux/sérieuse	serious
sportif/ive	sporty
timide	shy
aîné/e	older
aimable	kind
agréable	pleasant
casse-pieds	annoying
desagréable	unpleasant
égoîste	selfish
gâté/e	spoilt
heureux/euse	happy
jaloux/jalouse	jealous
méchant/e	naughty
paresseux/euse	lazy
pénible	difficult
sympa	nice/kind
sévère	strict
très	very
trop	too

3: Adjectival Agreement

Most adjectives in French come after the noun they are describing:

e.g. un stylo **bleu**—a **blue** pen

Adjective endings must agree with the noun they are describing: masculine, feminine, singular or plural.

Masculine singular	Masculine plural	Feminine singular	Feminine plural
amusant	amusant**s**	amusant**e**	amusant**es**
généreux	généreux	généreu**se**	généreu**ses**
sportif	sportif**s**	sporti**ve**	sporti**ves**
gentil	gentil**s**	gentil**le**	gentil**les**

4: Reflexive Verbs

s'amuser	to have fun
s'entendre	to get on
se fâcher	to get angry
se disputer	to argue
se moquer de	to make fun of
s'occuper	to look after
je m'entends	I get on
je me dispute	I argue
on s'amuse	we have fun
on s'entend	we get on
je ne m'entends pas	I don't get on

s'entendre – to get on
je **m'**entend**s**
tu **t'**entend**s**
il/elle/on **s'**entend
nous **nous** entend**ons**
vous **vous** entend**ez**
ils/elles **s'**entend**ent**

se disputer – to argue
je **me** dispute
tu **te** dispute**s**
il/elle/on **se** dispute
nous **nous** disput**ons**
vous **vous** disput**ez**
ils/elles **se** disput**ent**

5: Comparatives

Comparatives compare two things to each other.
In French you need to wrap your comparative around an adjective.

plus...que	- more than
moins...que	- less than
aussi...que	- as...as

e.g. il est plus sérieux que moi - he is more serious than me
e.g. elle est aussi intelligente que moi - she is as clever as me

Remember: your adjective endings still need to match the gender of the noun being described.

Irregular comparatives:
meilleur/e que - better than e.g. il est meilleur que moi.
pire que - worse than e.g. L'espagnol est pire que le français.

6: Superlatives

Superlatives are used to say the most or the least with an adjective.
Remember: you put them before the adjective and the article must agree with the noun and adjective.

le/la/les plus – the most
le/la/les moins – the least

e.g. il est le **plus** intelligent de la classe
elle est la **plus** sportive de ses amis
ils sont les **plus** amusants des étudiants

Irregular superlatives:
le/la meilleur/e – the best. e.g. Elle est la meilleure!
le/la pire – the worst e.g. Mon oncle est le pire.

Geography	Coasts	Year 8	Term 4

1: What is a Coast?

- **Coast** : The location in which the land meets the sea.
- The UK's coastline is **31,360 km** long because it is an island.
- Some parts of the coast are sandy or rocky whilst other parts contain cliffs.
- The coastline changes over time due to the geology (rock types) of the coastline.
- People use the coast for many purposes such as: fishing, recreation, trade, agriculture and human settlements.

2: Waves

Waves are created by wind blowing over the surface of the sea.
The size of a wave depends on:

- The strength of the wind
- The length of time the wind has been blowing
- The fetch of the wave

Fetch: The distance the wind blows over the surface of the water.
Swash: When a wave breaks and water is washed up the beach.
Backwash: When the water runs back down the beach.
Constructive waves: Bring material to the beach, they have a strong swash and a weak backwash.
Destructive waves: Remove material from the beach, they have a weak swash and a strong backwash.

3: Erosion

- **Erosion** - This is where material is taken away by the sea.
- **Abrasion -** This is when pebbles grind along a rock platform, much like sandpaper.
- **Attrition –** This is where rocks collide and become smaller and smoother.
- **Hydraulic Action –** This is the force of a river or a sea eroding a cliff or river bank.
- **Solution -** This is where rock is dissolved by the sea or river and carried away.

Destructive waves are responsible for erosion on the coastline.
Some areas of the coastline erode more quickly than others because they are made of less resistant rocks which are easily eroded by the waves.

4: Cliff Collapse

- **Cliff collapse:** when sections of a cliff fall away. This is caused by erosion and weathering. It is also known as **mass movement**.

1. Waves attack the bottom of the cliff, particularly during storms and at high tide.
2. Eventually a **wave-cut notch** is formed.
3. At the same time weathering attacks and weakens the top of the cliff.
4. The weakened cliff is left unsupported and eventually collapses.
5. Once the sea has removed the fallen rocks it can start the process again.
6. The cliff will move back and leave a rocky platform at the base called a **wave-cut platform**.

- Cliff collapse can cause buildings on the tops of cliffs to collapse into the sea.

5: Deposition and Transportation

- **Transportation:** The moving of sediment

4 main types of transportation:

- **Solution:** Dissolved chemicals often derived from limestone or chalk.
- **Suspension:** Particles carried within the water.
- **Traction:** Large pebbles rolled along the seabed.
- **Saltation:** A hopping or bouncing motion of particles too heavy to be suspended.

- **Longshore drift**: The zigzag pattern of swash and backwash which transports sediment in the direction of the prevailing wind.
- **Deposition**: The dropping of sediment where the flow of water slows down. Coastal deposition most commonly occurs in bays.

6: How Can We Stop Coastal Erosion?

There are two methods to stop erosion on the coast.

1) Man Made structures. Also known as **hard engineering.** These can be sea walls which **absorb** the energy of a wave to reduce erosion. These are **very effective** at protecting cities and towns. However, they are very **expensive**.
2) Natural methods. Also known as **soft engineering.** These methods use the natural world to protect the coastline. This is where sand is added to a beach or trees are planted. These are **low cost** but they are **not as effective** as hard engineering.

History	A Divided Ireland	Year 8	Term 4

1 – British Involvement

Timeline of Key Dates:
1169 – Norman control reached Ireland.
1603 – Britain gained complete control over Ireland.
1649 – Cromwell confiscated 80% of Irish land.
1801 – The United Kingdom of Great Britain and Ireland was created.
1870s – British Prime Ministers supported Irish Home Rule.
1900 – Ireland was part of the British Empire.

Language of the Lesson:
Empire - When a country takes over other countries
Home Rule – A country's right to rule themselves without involvement by others.

2 – The Irish Famine

- The Irish Potato Famine, also known as the 'Great Hunger' began in 1845.
- A fungus-like organism spread rapidly throughout Ireland.
- The infestation ruined up to 50% of the potato crop that year, and about 75% of the crop over the next seven years.
- The Potato Famine resulted in the death of roughly one million Irish from starvation and related causes, with at least another million forced to leave their homeland as refugees

Key Dates:
1845 – The Potato Famine began.
1852 – The Potato Famine ended
Language of the Lesson:
Famine – An extreme shortage of food

3 – The Easter Rising

- The Easter Rising took place in Dublin.
- It happened on Easter Monday in April 1916.
- The aim was to end British rule in Ireland and to establish Ireland as a republic.
- The Rising lasted for 6 days.
- It was launched by Irish Nationalists.
- **British casualties included:**
  - ❑ 116 dead
  - ❑ 368 wounded
- **Irish casualties included:**
  - ❑ 318 dead
  - ❑ 2,217 wounded
  - ❑ 15 executed as punishment.

Language of the Lesson:
Republic – a country which does not have a King or Queen.

4 – Irish War of Independence

- Sinn Fein (the most popular Irish Political party) wanted Ireland to be independent.
- They encouraged the setting up of the IRA (Irish Republican Army).
- 1919-21 The Irish War of Independence between the IRA and the British Black and Tans took place.
- The government of Ireland Act 1920 divided Ireland into two.
- The Anglo-Irish Treaty set up a Home Rule parliament in Dublin.

Key Dates:
1919-1921 – Irish War of Independence
1920 – Ireland was divided into two: North and Republic (South)

5 – Michael Collins

- Michael Collins was a Catholic and a Nationalist.
- He participated in the Easter Rising in 1916 and was arrested – he spent 8 months in prison.
- On his release he joined Sinn Fein and built up the IRA.
- Collins eventually accepted the partition of Ireland in 1920.
- He became the became the first leader of the Irish Free State in 1922.
- 22 August 1922 he was murdered.

Key Date:
1922 – Michael Collins was murdered.
Language of the Lesson:
Nationalist – A person who wants their country to be independent of others.

6 – The Troubles

- Most Protestant lives in Northern Ireland and most Catholics lived in the Irish Free State (Republic – the South).
- By 1968 Catholics were demanding equal rights with Protestants.
- Riots broke out in Londonderry and Belfast.
- British troops were brought in to restore order.
- The IRA and Protestant groups carried out bombings and other acts of terrorism. This became known as 'The Troubles'.
- More than 3,000 people were killed.

Language of the Lesson:
Terrorism – Acts of violence carried out, usually for political reasons.

Mathematics	Developing Number	Year 8	Term 4

1. Times Tables

12 x 1 = 12	12 x 7 = 84
12 x 2 = 24	12 x 8 = 96
12 x 3 = 36	12 x 9 = 108
12 x 4 = 48	12 x 10 = 120
12 x 5 = 60	12 x 11 = 132
12 x 6 = 72	12 x 12 = 144

2. Fractions, Decimals and Percentages

Numerator - The top number in a fraction. It tells us how many parts we have

Denominator - The bottom number in a fraction. It shows how many parts an item has been split into

Terminating decimals - Have an end point *e.g. 0.64*

Recurring decimals - Do not have an end *e.g. 0.33333… would be written as* $0.\dot{3}$

Percent – A fraction out of a hundred. *E.g. 15% is* $\frac{15}{100}$

Equivalent - The same value. Some key equivalence are:

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

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

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

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

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

3. Percentages

Multiplier - Used in percentages to increase / decrease an amount by multiplying it by a single number.
E.g. to increase an amount by 20% multiply it by the multiplier 1.2

Factors - Numbers that whole numbers that multiply to make that number. *E.g. 1,2,3 and 6 are factors of 6 because 1 x 6 = 6 and 2 x 3 = 6*

Multiples – Numbers that are found by multiplying that number by an integer
E.g. Multiples of 5 are 5,10,15,20,25,30……

Profit - When money is gained.

Loss - When money is lost.

Interest - The amount of money paid for a loan or an investment

Reverse Percentage – When we find an original amount before an increase or decrease

4. Standard Form

Index – A number tells you how many times to multiply the number by itself

Base - The number that is being powered

Standard form - A way of writing really big and really small numbers in the form $x \times 10^n$ where x is between 1 and 10
e.g. 8,000 is written as 8 x 10^3

Scientific Notation - Another word for Standard form. Standard form is used regularly in science to represent numbers
e.g. the distance from Earth to sun is 1.5 x 10^8 km
The diameter of a Hydrogen atom is 2.5 x 10^{-11} m

Ordinary Numbers - Are not written in standard form. e.g. 9.4 x 10^5 as an ordinary number is 940,000

5. Number Sense

One Significant Figure means have just one leading digit for a number. Leading zero's are not significant
e.g. the first significant figure in 534 is 5
The first significant figure in 0.000534 is also 5

Estimate is a rough or approximate answer.
When we estimate the answer to a calculation every number is rounded to 1 significant figure

Continuous data is quantitative can be measured. It has an infinite number of possible values within a selected range *e.g. temperature*

Discrete is quantitative can be counted.
e.g. the number of students in a class. There is not an infinite number of possible value within a range

Credit is money going into a bank account

Debit is money going out of a bank account

6. Metric Units

Metric - units are units that use powers of ten

Prefix - a word at the front of another word that changes its meaning

<u>Units of length</u>

Millimetre (mm) - thickness of a credit card

Centimetre (cm) – width a paper clip

Metre (m) – width of a school desk

Kilometre (km) – around the length of ten football pitches

<u>Units of weight</u>

Gram (g) – about the weight one paper clip

Kilogram (g) - weight of a bag of sugar

<u>Units of capacity</u>

Millilitre (ml) - tip of a teaspoon

Litre (L) – approximately two pints of milk

Music	Reggae and Syncopation	Year 8	Term 4

1: How did reggae develop?

Reggae is a traditional style of music from Jamaica.

It is developed from:

Mento: A form of Jamaican folk music

Ska: Fast dance music fusing American R&B (rhythm and blues) with Mento

Rock Steady: A vocal style of dance music which used riffs and offbeats.

Reggae was first heard in the UK in the 1950's. Reggae is known as the national music of Jamaica

2: Reggae features

Syncopation: when music is played off the beat

Call and reponse: a lead singer performs a short melody. This is answered by a larger group of performers.

Riffs: a repeated musical idea

Song Form: made up of VERSE, CHORUS and MIDDLE 8 (Instrumental)

3: What are reggae songs about?

Reggae is closely associated with **Rastafarianism** (a religious movement worshipping Halle Selassie as the Messiah). The lyrics of Reggae songs are strongly influenced by Rastafarianism and are often political including themes such as love, brotherhood, peace, poverty, anti-racism, optimism and freedom.

4: Key Words

Melody: the main tune

Improvisation: where music is made up on the spot

Chords: when two or more notes are played together

Triad: a chord made up of three notes. Usually the 1st, 3rd and 5th degree of the scale.

Bass line: the lowest pitched part of a piece of music which is often played on the bass guitar.

5: Bob Marley

Bob Marley was a famous reggae singer, songwriter and musician who first became famous in his band The Wailers, and later as a solo artist.

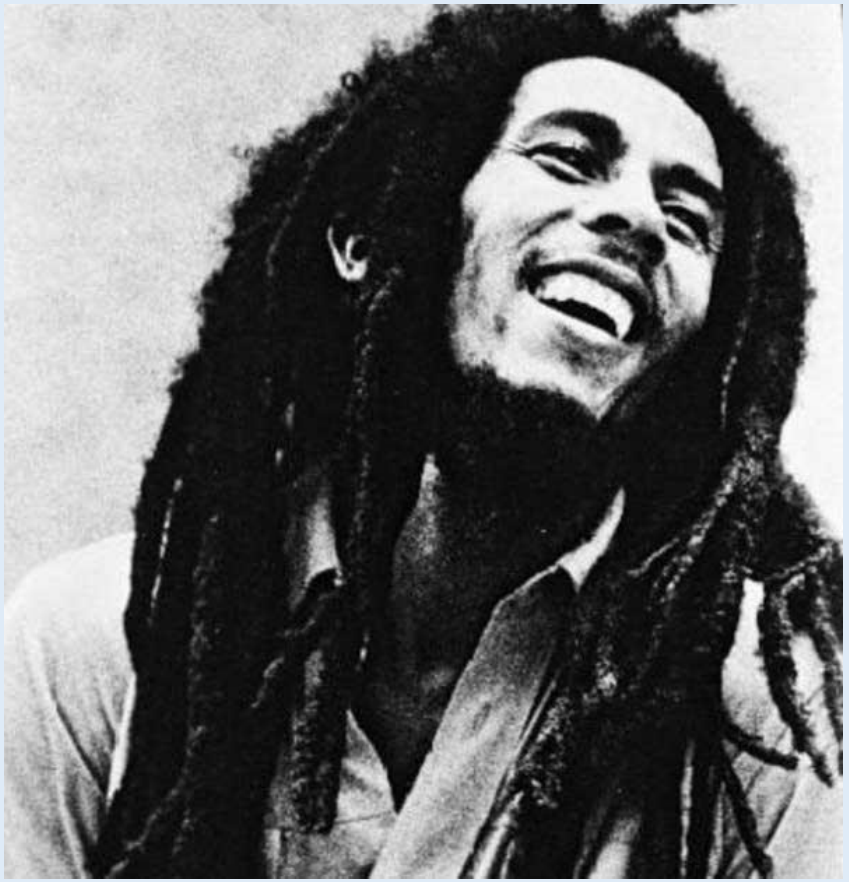
He was born Nesta Robert Marley on February 6th, 1945 in Nine Mile, Saint Ann, Jamaica.

Although, he grew up in poverty, he surrounded himself with music and met some of the future members of The Wailers.

Bob Marley became involved in the Rastafarian movement and this influenced his music.

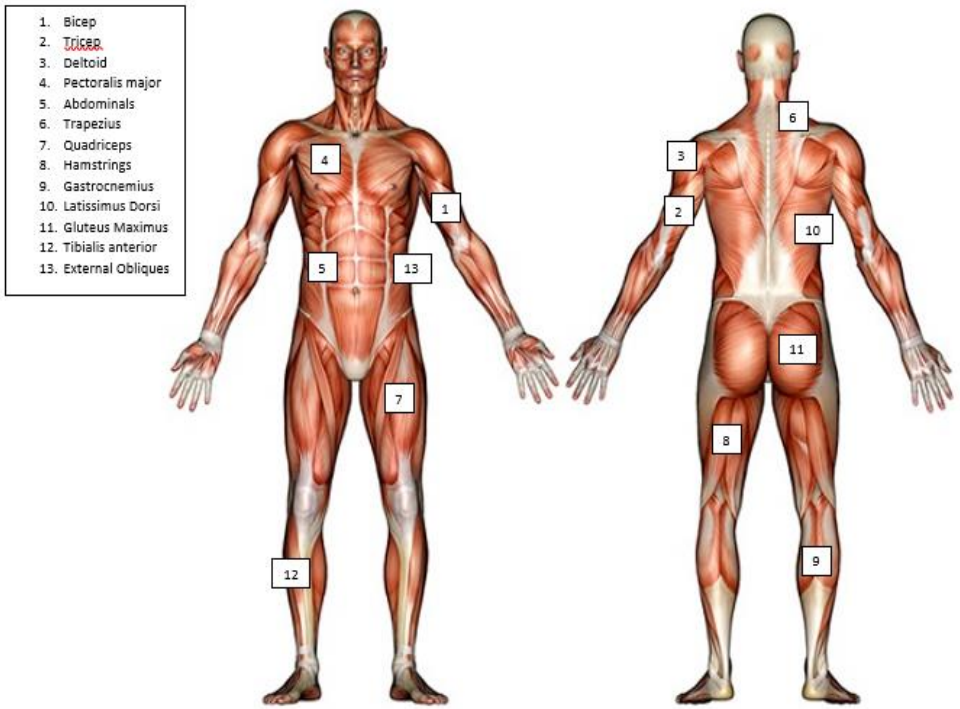
Bob Marley and The Wailers worked with several famous musicians before becoming famous on their own. His career flourished and he became a cultural icon.

He was the first international superstar to have been born in poverty in a Third-World country.



PE	Fitness	Year 8	Term 4

Term	Definition
power	the product of strength and speed, expressed as work done in a unit of time
reaction time	the time taken for a sports performer to respond to a stimulus and the initiation of their response
coordination	the smooth flow of movement needed to perform a motor task effectively and accurately
agility	the ability of a sports performer to quickly and precisely move or change direction without losing balance
balance	the ability to maintain centre of mass over a base of support: there are two types of balance: static and dynamic
body composition	the relative ratio (amount) of fat mass to fat-free mass in the body
aerobic endurance	the ability of the cardiorespiratory system to work efficiently, supplying nutrients and oxygen to working muscles during sustained physical activity
muscular strength	the maximum force (strength) that can be generated (made) by a muscle of muscle group
speed	distance divided by the time taken. The faster a distance covered, the greater the speed, measured in m/s
flexibility	being able to move a joint fluidly (smoothly) through its complete (whole) range of movement
muscular endurance	the ability of the muscular system to work efficiently and continue to contract over a period of time against a light to moderate load



Method of training: High intensity interval training (HIIT)

Periods of maximum effort work followed by periods of rest and recovery. Work periods must be max intensity meaning heart and breathing rate should be very high afterwards.

Can be designed to improve a number of components of fitness and work whole or specific parts of the body.

RS	Hinduism	Year 8	Term 4

Box 1 - The Four Aims in Life

The purpose of life for Hindus is to achieve four aims, called **Purusharthas**. These are **dharma, kama, artha** and **moksha.** These provide Hindus with opportunities to act morally and ethically and lead a good life. Throughout their lives, Hindus attempt to end the cycle of **samsara** and behave in a way that provides good **karma** in this life and the next.

Dharma -This is related to a person's true purpose and is concerned with a person's duty and the actions the person takes.

Kama - This Sanskrit word means love, desire and pleasure. It is a very practical part of Hindus' aims in life.

Artha - Artha means prosperity. To Hindus this means the pursuit of wealth.

Moksha - Moksha is the ultimate aim in life for Hindus. It means to be saved (salvation). When a Hindu achieves moksha, they break free from the cycle of samsara.

Box 2 - Karma & Making Ethical Decisions

The key ideas in Hinduism show good ways to live. If Hindus can gather good **karma**, then moral action in this life can lead to a better **reincarnation** in the next life.

The law of karma

Hindus refer to karma as a 'law. It can be likened to the 'law' of gravity. Karma is the idea that actions have consequences. One thing leads to another, so what is done today makes a difference tomorrow. Karma can also be used by Hindus as an explanation of the question 'Why do I suffer?' The answer could be, 'as a result of a bad action in a past life'. 'Why am I happy and blessed?' could be 'because in a previous incarnation I collected good karma'. Belief in the law of karma gives Hindus a reason to do good deeds now in order to be rewarded in the next life. The karma that is collected now, which will lead to consequences in the next life, is called kriyamana karma.

Box 3 - The Caste System

A **caste** is a group within Hindu society. There are four main traditional castes and thousands of subgroups, called jat or jati, within these. The group a Hindu is born into can decide what jobs they may get and what their duties are in life. Some aspects of this concept are controversial because they raise human rights issues about fairness and equality in Hindu societies today.

The **Rig Veda** describes the whole of society as if it were a human body:

•The teachers and priests are like the head.
•The warriors and leaders are like the upper body.
•The merchants, traders and farmers are like the strong legs.
•The manual workers and labourers are like the

Box 4 – The Cycle of Life

Reincarnation is a key belief within Hinduism. In Hinduism, all life goes through **birth, life, death**, and **rebirth** and this is known as the cycle of **samsara**. According to this belief, all living things have an **atman**, which is a piece of Brahman, or a spirit or soul. It is the atman that moves on into a new body after death.

An atman can go into the body of any living thing, such as a plant, animal or human. Once a living being dies, its atman will be **reborn** or reincarnated into a different body depending on its karma from its previous life. For example, if a person has good karma in a previous life, then their atman will be reborn or reincarnated into something better than they were previously. A person gains good karma for doing good things in life, such as helping others through following their **dharma**.

Box 5 – Life After Death	Box 6 – Key Vocabulary
Most Hindus believe that humans are in a cycle of death and **rebirth** called **samsara**. When a person dies, their **atman** is reborn in a different body. Some believe rebirth happens directly at death, others believe that an atman may exist in other realms. Hindus believe that an atman may enter **swarg** or **narak** for a period before rebirth. Hindus believe in **karma** or 'intentional action'. Many believe good or bad actions in life leading to positive or negative **merit**, determines the atman's rebirth. Some Hindus believe that humans may be reborn in animal form, and that rebirth from human to animal form only occurs if an atman has repeatedly failed to learn lessons in human form. Living life according to teachings in the scriptures will eventually lead to **moksha**. Some Hindu scriptures describe moksha as the atman becoming absorbed with **Brahman**, from where each atman is believed to originate. Other Hindu scriptures describe moksha as living in the realm of a personal God.	**Origin** – where something comes from. **Polytheism** – belief in more than one God. **Trimurti** – three faces. **Puja** – prayer. **Diwali** – festival of light. **Evaluate** – look at the good and the bad of something. **Dharma** – the power that holds up society. **Karma** – good and bad that comes from your actions. **Caste** – a Hindu group in society. **Reincarnation** – coming back to life after death; sometimes as something different. **Compare** – looking at similarities and differences. **Determined** – making sure you do something.

Science	Enzymes, The Carbon Cycle and Energy	Year 8	Term 4

1: Biology: Digestion

enzyme	a biological catalyst
monomer	a molecule that can bond to other identical molecules to form a polymer
polymer	a large molecule that consists of many smaller repeating units called monomers
digest	to break something down
small intestine	where food molecules are absorbed into the blood
large intestine	where water molecules are absorbed into the blood

2: Biology: Enzymes in Plants

Polymer	Enzyme	Monomer	Monomer uses
carbohydr-ates	carbohydr-ase	sugar	energy
proteins	protease	amino acids	growth and repair
lipids	lipase	glycerol and fatty acid	energy and insulation

3: Chemistry: The Atmosphere

atmosphere	the gases surrounding a planet
composition	what something is made up of
respiration	a process that provides organisms with energy
combustion	the process of burning fuels in the presence of oxygen
photosynthesis	the process which plants use to produce glucose from carbon dioxide and water

4: Chemistry: Climate Change

climate	the weather conditions in an area, or over a period of time
enhanced greenhouse effect	a process in which the average temperature of a planet increases due to the atmosphere absorbing radiation from the sun
deforestation	clearing a large area of trees
fossil fuel	non-renewable fuels that form, over millions of years, from the remains of living organisms under high pressure, e.g. coal or gas

5: Physics: Energy Stores

thermal	hot objects (hot coffee)
kinetic	moving objects (moving bus)
electrostatic	charged materials (thunder clouds)
gravitational potential	objects that are high up (aeroplane, kite)
chemical	stored in chemical bonds (food, batteries)
elastic potential	stretch or compressed materials (spring, balloons)
magnetic	magnetic field around magnets (compasses)

6:Physics: Energy Transfers

conduction	process where thermal energy is directly transferred through a material
radiation	process where thermal energy is transferred through the emission of waves/particles through space or a substance
convection	process where thermal energy is transferred through the bulk movement of fluids, e.g. liquids or gases
insulation	material that is used to prevent the transfer of thermal energy
efficacy	how effective something is

Food		Year 8	Term 4

1: Protein	2: Fat	3: Carbohydrates
We need this for muscle growth and body repair. Any left is used as a secondary source of energy. Proteins are made up of building blocks called **Amino Acids.** There are 20 needed by our body – 10 can be made by our body – the remaining 10 we need to get from the food we eat (these are called essential amino acids) There are two types- **HBV (High Biological Value) and LBV (Low Biological Value).** Essential Amino Acids are found in animal protein and soya beans – these are known as High Biological Value Proteins (HBV) HBV proteins are mainly found in meat, fish, eggs and dairy products, so if you are a vegan, it can be difficult to source the amount of amino acids needed for a balanced diet. Proteins from plant sources are missing at least one of the essential amino acids – these are known as Low Biological Value Proteins (LBV) so a variety of these should be eaten together – this is know as protein complementation	**We need this for energy, to protect our vital organs, to insulate our body and to provide the fat soluble vitamins A D E & K.** **There are two types- saturated & unsaturated.** **Saturated fats** come mainly from animals and are high in cholesterol which is bad for our heart as it can clog our arteries and can cause long term health problems **Unsaturated fat** comes mainly from plant sources such as nuts and oils and is lower in cholesterol which makes it a healthier choice. We should aim to eat mainly unsaturated fats from sources such as nuts and oils. Saturated fats can clog our arteries and cause long term health problems, such as Type 2 diabetes and strokes.	**We need these for energy. There are two types- simple and complex.** **Simple carbohydrates** are mainly sugars which can lead to long term health problems such as tooth decay, obesity and type 2 diabetes. They give us a quick burst of energy but leave us feeling hungry. **Complex carbohydrates** are starch foods such as bread, rice, pasta and potatoes. We should try and eat mainly complex carbohydrates as these give us more fibre and our bodes find them harder to break down, so the energy lasts longer keeping us feeling fuller for longer. **Dietary fibre** is very important in the diet as it keeps our digestive system working healthily and prevents complications such as constipation or more seriously cancer of the bowel. Foods high in dietary fibre are wholemeal bread, rice and pasta, jacket potatoes, baked beans, fruit and vegetables and high fibre breakfast cereals such as Shreddies, Weetabix, Shredded Wheat

2: Micro Nutrients

Nutrients that we need in small amount in our diet

Vitamin A (fat soluble)
Function – normal growth of children, to see in dim light
Sources – oily fish, dairy foods, carrots, green veg

Vitamin B
Function – to allow the body to get energy from food
Sources – wholemeal cereals, meat, marmite

Vitamin C
Function – clear skin, healing of wounds. Healthy teeth and gums, prevents infections e.g. colds
Sources – fruit e.g. berries and citrus fruit, tomatoes, potatoes, green vegetables

Vitamin D
Function – works with calcium to form strong bones and teeth
Sources – oily fish, margarine, eggs, sunshine

Minerals include calcium, iron, fluoride, zinc, phosphorous and magnesium,

Calcium
Function - Works with vitamin D to make strong bones and teeth and needed for the clotting of the blood
Sources – milk, cheese, yoghurts, fish bones e.g. tinned salmon, added to white bread by law

Iron
Function – needed to form red blood cells which carry oxygen to all parts of the body
Sources – red meat, green vegetable

3: Vegetable cuts

Jardinière - Baton cut.
Used with dips.

Macédoine - Diced Jardiniere (cube). Should be approx 1cm cube.
Ideal for use in casseroles etc

Julienne - Matchstick sized pieces. Ideal for use in noodles and stir fry

Brunoise - Cubed julienne sometimes called a fine dice.
Should be approx ½ cm cube.
Ideal to use as a base for sauces.

Paysanne - Any regular slice through the vegetable. Used in soups and as garnish

Chiffonnade- Another word for shredded vegetables, used in coleslaw.

Technology	Resistant Materials	Year 8	Term 3 & 4

1 – Staying Safe in a Workshop

We use signs to help us stay safe in a workshop.

Red signs prohibit actions.

Yellow signs show warnings.

Blue signs show mandatory (must do) actions.

Green signs highlight areas of safety.

2 – Tools/Equipment

Tenon Saw – A hand saw for cutting straight lines in wood.

Coping Saw – A hand saw for cutting intricate lines in wood.

Band Facer – A machine that uses sandpaper to shape wood.

Pillar Drill – A machine fixed in place that can drill holes in to material.

Bench Hook – A piece of equipment used to hold material against whilst working on it

3 – Tools/Equipment

Scroll Saw – A machine that can be used to cut intricate lines into material.

Isometric drawing– A way of presenting designs in 3D.

G-Clamp – A tool used to hold work firmly in place without assistance.

Abrasive paper – Material or paper with grains of abrasive material glued on to it.

Adhesive – A substance that is used to bond (glue) objects together.

4 – Materials

Manufactured board– Sheet material formed by gluing together wood particles or layers. Eg. MDF.

Plywood – A manufactured board made from wood veneers that are glued together in adjacent layers.

Veneer – A thin layer/sheet of wood.
PVA Glue– A water based, non-toxic, adhesive. Good for general use on porous materials, such as wood and fabric.

MDF– A manufactured board that is made from compressed and glued together wood fibres. It is often used in flatpack furniture (IKEA).

5 – Evaluation

In Design Technology we often have to analyse products or evaluate our own designs. To do this we can use the acronym **'ACCESSFM'.**

A – Aesthetics
C – Cost
C – Customer
E – Environment
S – Size
S – Safety
F – Function
M – Material