



KNOWLEDGE ORGANISERS

2021-22

YR8

HONESTY | EXCELLENCE | ACCOUNTABILITY | RESPECT | TEAMWORK



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A Guide to Using your Knowledge Organisers

What is a knowledge organiser?

In this booklet you will find knowledge organisers for every subject you study at Maddani. Your teachers have thought about **the most important key vocabulary, diagrams, information, and ideas that you need to know to understand each topic and have summarised them on one A4 sheet of paper** for you. The information has been organised into clear tables, diagrams or key points to make the knowledge organiser easy to use and to understand.

How will Knowledge organisers help you?

People remember what they have learned by thinking about it often, and by linking key knowledge to other ideas within a topic. Your knowledge organisers include the key information and ideas for the topic you are studying, so that you can think about how these ideas are linked to what you are learning in each lesson. **This means that you are thinking about these key ideas many times as you study the topic.** This will make it easier to remember what you have learned and add new knowledge each lesson

Your knowledge organisers are also useful if you have been absent because the knowledge organiser will include the key ideas from the lesson you missed. This will make it much easier to understand and catch up with the activities you need to complete independently.

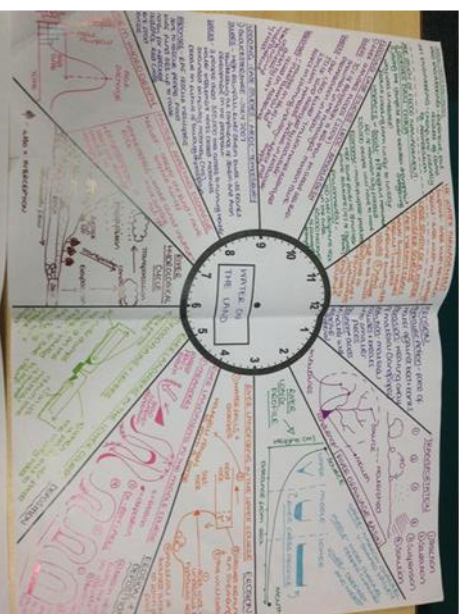
How can you use your knowledge organisers?

There are many activities that you can do using your knowledge organisers. Try some of the ones explained below:

Homework: Your teachers may assign homework linked to your knowledge organisers to help you understand key terms and ideas from the topic. This will help you prepare for your next lesson and understand the new information more clearly

Independent Research: You could do your own research to learn more about the key ideas included in your booklet

Creating more revision and learning tools: You can use the information on your knowledge organiser to create mind-maps or revision clocks. You can do this by taking the key ideas from the knowledge organiser and creating your mind-map or Round the Clock sheet (like the one shown below with 12 sections for information – just like a clock) by starting with the main ideas from your knowledge organiser and adding all the specific detail you remember from your lessons to the different sections of your mind-map or Round the Clock Diagram.



They are great for revision and testing your level of knowledge:

Test yourself: Because knowledge organisers include the key information and ideas for each topic, you can use them to help you revise for tests. You can self-quiz by covering sections of the knowledge organiser and testing yourself to see what you remember. Then uncover the information on your knowledge organiser and see if you were correct.

See how well you know the topic: Turn your knowledge organiser over and create a mind-map or write everything you know about the topic on a blank piece of paper. Then turn over the knowledge organiser and check to see if your information is correct or if there is anything that you missed. Revise it and make sure you will remember more the next time.

Create your own quizzes: Use the knowledge organiser to write your own set of questions based on the information included. Once you have a set of questions, turn the knowledge organiser over and see if you can remember the answers. Make sure you revise anything that you couldn't answer so that you will be able to next time. Try to answer the questions each week and see if you are able to remember more each time.

Create your own flashcards. For example, you could write the key terms from your knowledge organiser on one side of the card and the definition on the other. Then use the cards to quiz yourself.

Many of the key ideas you need to know for exams are on the mind-map. If it is included on the knowledge organiser your teacher thinks it is important for you to know it and you can expect it to be tested on an exam in some way.

It is important to remember that knowledge organisers don't include all the information that you need to know – only the main ideas. You can use them to help you remember the detail from your lessons.

How can your parents/carers use knowledge organisers to help you learn?

Read through the organiser with someone in your family and explain the information included in the knowledge organiser to them. Make sure you use examples and provide as much detail as you can, and then answer any questions your family member might have. Teaching someone else what you know helps you to understand the key ideas more clearly and helps you remember them more easily next time.

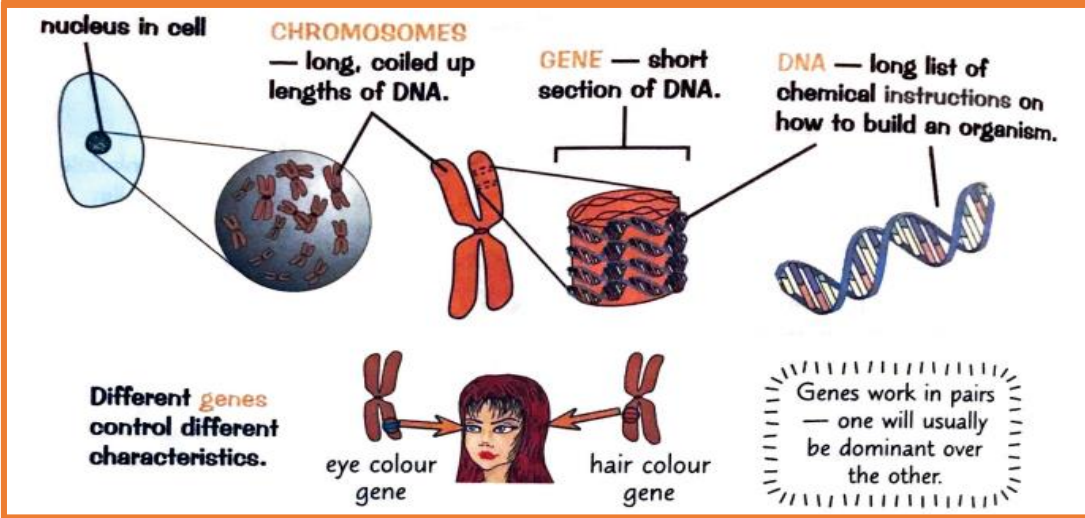
Ask your family to test or quiz you on the information included in the knowledge organiser. You should try to do this regularly and keep track of what you remember to see if you improve each time.

Ask your family to read out sections of the knowledge organiser to you, but to miss out key words or pieces of information and see if you can fill in the key terms or knowledge.

Ask your family to test you regularly on the spellings of key words until they are perfect. Make a note of the ones that you spell incorrectly to make sure that you know them next time.



Chromosomes, Genes and DNA



Variation

VARIATION — the differences between all living things.

Variation between species occurs because their genes are all very different.



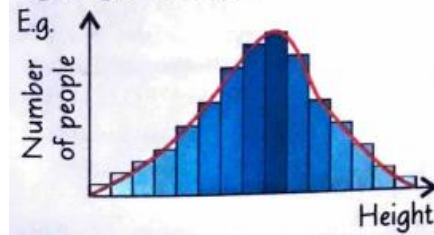
Variation within a species occurs because of:

- differences in genes
- environmental factors (e.g. the conditions an organism lives in).

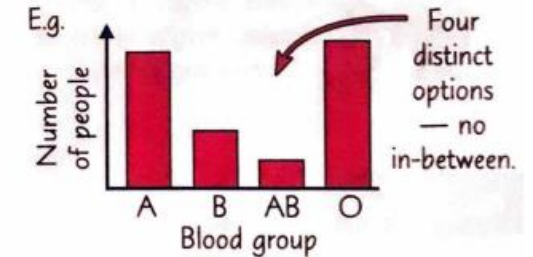


Differences between members of same species (e.g. skin colour) are known as **characteristic features**.

CONTINUOUS VARIATION — where a characteristic feature can have any value within a certain range, e.g. height or weight.



DISCONTINUOUS VARIATION — where a characteristic feature can only take certain values, e.g. human blood group.

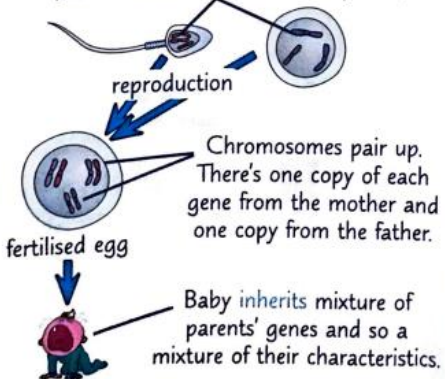


Inheriting Characteristics

HEREDITY — the process by which genes are passed down from parents to offspring.

In humans, sex cells have 23 chromosomes and body cells have 46.

Sex cells contain chromosomes (half the number that's in body cells)

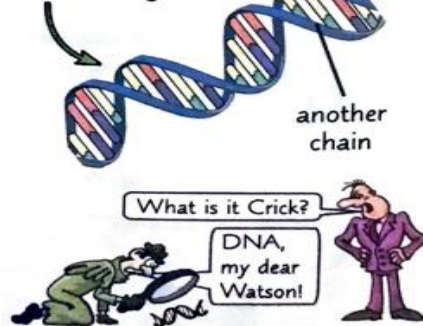


The First Model of DNA

Crick and Watson were the first scientists to build a model of DNA.

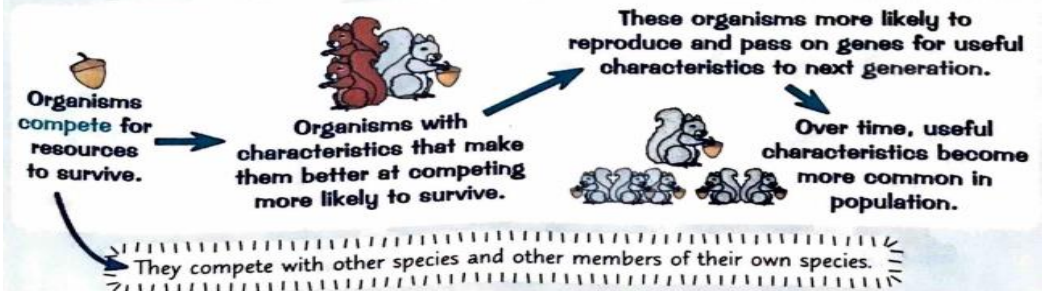
X-ray data from Wilkins and Franklin helped them understand that DNA was a **double helix**.

Double helix (a spiral made of two chains wound together)



Natural Selection

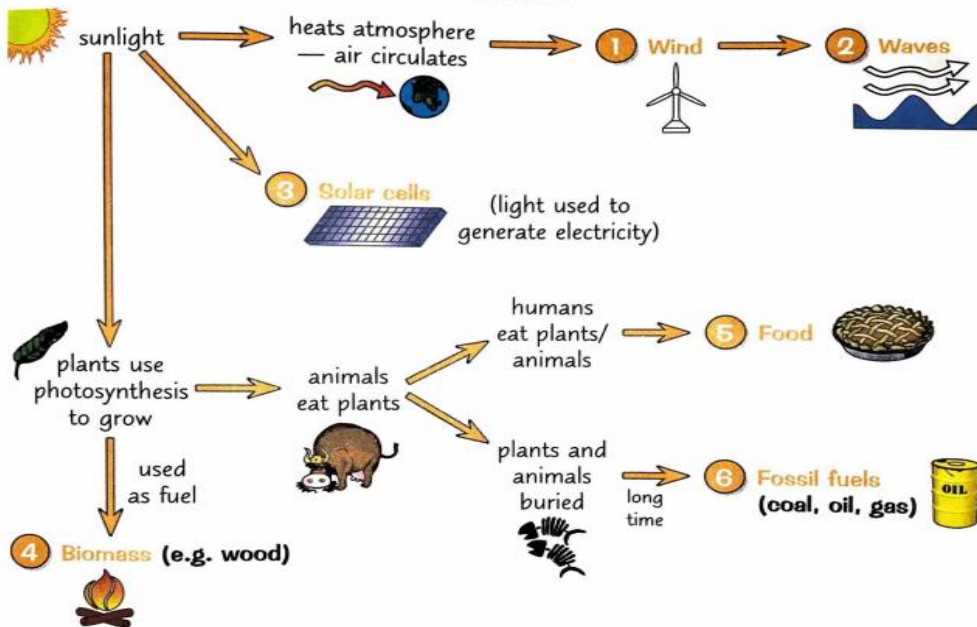
NATURAL SELECTION — the process by which a characteristic gradually becomes more (or less) common in a population.



Energy Resources

Six Energy Resources

The Sun supplies almost all of the energy on Earth — it is transferred to different stores before we use it.



Calculating Energy Transfers

ELECTRICAL APPLIANCE — anything that needs electricity to work.

Appliances transfer energy electrically to other stores.



POWER RATING — amount of energy an appliance transfers per second when working at its recommended maximum power.

energy transferred E Power — how fast energy is transferred. P time t

Equation	$E = P \times t$		
Units	joules, J kilowatt-hours, kWh	watts, W kilowatts, kW	seconds, s hours, h

You could use either of these sets of units in the equation.

Electricity at Home

Electricity meters record amount of energy transferred in kWh. **4 4 2 8 1 . 2 5 kWh**

energy transferred in a time period =
meter reading at end — meter reading at start



This is then used to calculate fuel bills.

$$\text{cost} = E \times \text{price}$$

energy transferred in kWh (pointing to E)
per kWh (pointing to price)

Appliances with higher power ratings cost more to run — they transfer more energy in a set time period.

Renewable and Non-Renewable Resources

We use energy resources for things such as:

generating electricity heating transport

NON-RENEWABLE RESOURCES	Energy resources that will run out one day.	E.g. fossil fuels (take too long to replenish)
RENEWABLE RESOURCES	Energy resources that will never run out.	E.g. solar energy, wind, waves, plants

One problem with renewable resources is unreliability — e.g. it's not always windy or sunny.

Energy in Food



All food contains energy — we need to take in the right amount of energy each day.



Food labels tell you how much energy is in the food, measured in kJ. You might also see food labels that give energy in kcals — that's just a different unit.

You can use this information to compare different foods.

Ratio

The ratio of apples to bananas is 4:3

How many apples are there?
How many bananas are there?

apples	apples	apples	apples	bananas	bananas	bananas
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Apples	Apples	Apples	Apples	Bananas	Bananas	Bananas
4	4	4	4	4	4	4

There could be
16 apples: 12 bananas

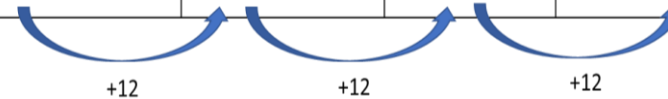
Apples	Apples	Apples	Apples	Bananas	Bananas	Bananas
10	10	10	10	10	10	10

There could be
40 apples: 30 bananas
Etc.

Simple Interest

Example: You invest £300 at an interest rate of 4% per year.

Simple interest 4% of 300 = 12, so it increases by £12 per year.	Value of investment after 1 year	Value of investment after 2 years	Value of investment after 3 years	Quick way of calculating the new value of the investment after 3 years
£300	£312	£ 324	£336	300 + 36



Direct proportion: Best buys

Which deal is the best value?

Eat Fresh



2 for 68p

$$68p \div 2 = 34p \text{ each}$$

Max-Mart



3 for 96p

$$96p \div 3 = 32p \text{ each}$$

price per item = total cost ÷ quantity



Reverse Percentages

I go to a sale. I see an item that says 20% off. It is now £400. What was the full price of the item?

Firstly, lets write this scenario out mathematically.

$$\text{The full price} - 20\% = 80\%$$

$$100\% - 20\% = 80\%$$

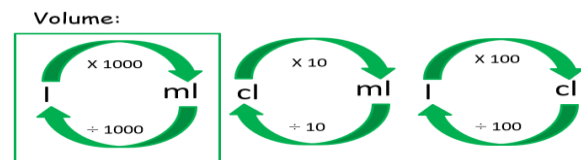
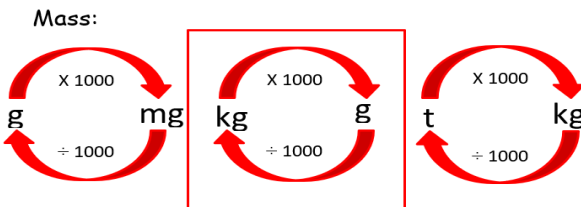
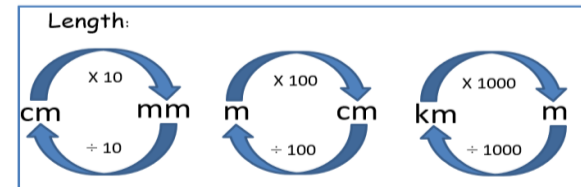
$$80\% = £400$$

$$1\% = £5$$

$$100\% = £500$$

In other words, 100% of the price, the full price, is equal to £500.

Metric Conversions



Topic

Algorithms

Pattern Recognition

Finding patterns is extremely important. Patterns make our task simpler. Problems are easier to solve when they share patterns, because we can use the same problem-solving solution wherever the pattern exists.

The more patterns we can find, the easier and quicker our overall task of problem solving will be.



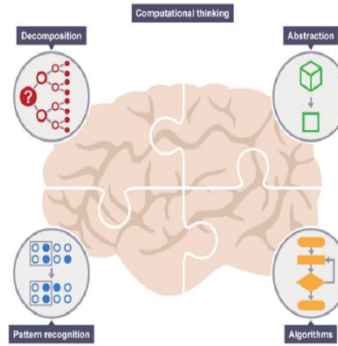
Computational Thinking

Decomposition - breaking down a complex problem or system into smaller, more manageable parts

Pattern Recognition - looking for similarities among and within problems

Abstraction - focusing on the important information only, ignoring irrelevant detail

Algorithms - developing a step-by-step solution to the problem, or the rules to follow to solve the problem



Computational thinking involves taking that complex problem and breaking it down into a series of small, more manageable problems (**decomposition**). Each of these smaller problems can then be looked at individually, considering how similar problems have been solved previously (**pattern recognition**) and focusing only on the important details, while ignoring irrelevant information (**abstraction**). Next, simple steps or rules to solve each of the smaller problems can be designed (**algorithms**).

Finally, these simple steps or rules are used to **program** a computer to help solve the complex problem in the best way.

Boolean Operators

Operator Symbol	Operator Meaning
>	greater than
<	less than
=	equal to
>=	greater than or equal to
<=	less than or equal to
<>	not equal to

Mathematical Operators

Operator Symbol	Operator Meaning
+	Addition
-	Subtraction
*	Multiplication
/	Division

Abstraction

Abstraction involves filtering out – essentially, ignoring - the characteristics that we don't need in order to concentrate on those that we do.

An example of abstraction is the London Underground map. It details tube and rail lines and the stations that are on them. That is all that is required for a passenger to be able to plan a journey from one station to another. Other details, such as real geographical location, distance between stations, depth underground and number of platforms are not included as they are irrelevant to journey planning on the Underground.



Decomposition

Decomposition involves breaking down a complex problem or system into smaller parts that are more manageable and easier to understand. The smaller parts can then be examined and solved, or designed individually, as they are simpler to work with.

For example, a police officer would need to know the answer to a series of smaller problems:

- what crime was committed
- when the crime was committed
- where the crime was committed
- what evidence there is
- if there were any witnesses
- if there have recently been any similar crimes

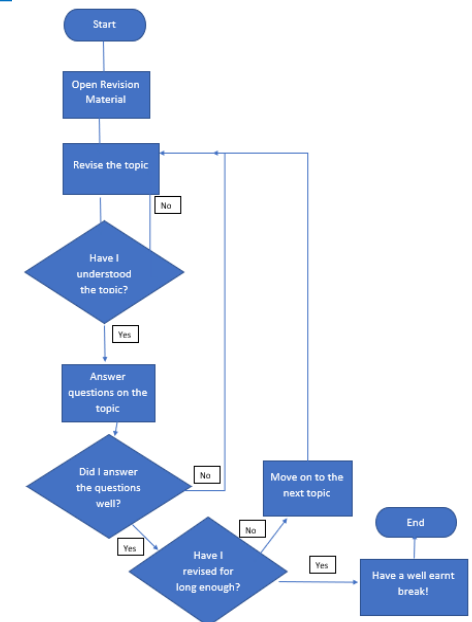
The complex problem of the committed crime has now been broken down into simpler problems that can be examined individually, in detail.



Flow Diagrams

A flow diagram is a diagram that shows an overview of a program. Flow diagrams normally use standard symbols to represent the different types of instruction. These symbols are used to construct the flowchart and show the step-by-step solution to the problem. Flow diagrams are sometimes known as flowcharts.

Symbol	Name	Function
	Start/end	An oval represents the start or end point
	Arrows	Lines show the relationship between different representative symbols
	Input/ Output	A parallelogram represents input or output
	Process	A rectangle represents a process
	Decision	A diamond indicates a decision



Context– A Christmas Carol was written by Charles Dickens in 1843

Charles Dickens – Charles Dicken was born in 1812 and spent the first years of his life in Kent, England. At 9, he moved to London. At 12, his father was sent to debtors' prison for racking up huge debts, and Charles was given a painful job labelling bottles near the prison. He found this period in his life hellish, and it doubtlessly led him to draw readers' attention to the plight of the poor when he later found success as an author. Many of his works are about social hardships and inequalities.



Class Divides – Despite industrial changes altering the social landscape, there were still relatively distinct social classes in operation: the nobility upper class, the middle class, and the working class. Life was terrible for the poorest: Lack of money resulted in a negligible food supply. For some working families, money was so tight that they required their children to work in order to survive.



The Victorian Era– The Victorian era describes the period in which Queen Victoria sat on the English throne – between 1837 and 1901 (most of Dickens' life). Whilst this was a time of industrial revolution, it was also an extremely harsh time to live, and the differences between the lives of the richest and the poorest were exacerbated. The Victorian era was a period of great change. In this time, the population of England doubled – from 16.8 million 1851 to over 30 million in 1901.



Health and Medicine –Healthcare was more of a luxury at the time, and medicine was nowhere near as advanced today, Many diseases were rife, and childbirth and poverty were very real dangers to people living in the era. As a result, a middle class person may expect to live to 45 at the time, whereas a working class person would have been lucky to have lived half that time. In *A Christmas Carol*, the restrictions in healthcare are evident in Tiny Tim's continued suffering.



Workhouses– A workhouse was a place where a person went if they could not afford to financial support themselves and their families. Men , women and children (mostly orphans) lived and worked in the workhouses, which were very crowded – making living conditions unhealthy and unpleasant. People slept in dormitories, where disease was easily spread. In *A Christmas Carol*, Scrooge voices his support for workhouses.



Christmas– We now associate Christmas as being a time of seasonal goodwill, love and friendship. However, before the Victorian era, when writers such as Dickens spread these messages through their novels, there was no Santa Claus, Christmas cards, and no holidays from work! Christmas Day was a far more low-key affair. Writers such as Dickens encouraged middle-class families to share their wealth and act selflessly.



Main Characters – Consider what Dickens intended through his characterisation of each of the below...

Ebenezer Scrooge – Scrooge is the lead protagonist of the novella. He is a miserly owner of a counting house (what would now be called an accountant's office). Initially greedy, selfish and cold, Scrooge hates Christmas and lacks any form of Christmas spirit. He experiences a moral and psychological transformation through his visits from the Ghosts of Christmases Past, Present and Yet to Come.

Quote: "It's enough for a man to understand his own business"

The Cratchits– Bob Cratchit is Scrooge's kind, mild-mannered clerk, who is treated terribly by his employer. He is a very poor man, with a large family, including Tiny Tim. Tiny Tim is a young boy who has been born with physical disabilities that his family are too poor to have treated. Despite these hardships, the family are cheery and determined to enjoy the few positives that they can get from life.

Quote: "I am sure we shall none of us forget poor Tiny Tim"

Jacob Marley and Fred– Joseph Marley is Scrooge's late business partner, and Fred is Scrooge's nephew. They represent the two extremes of Christmas spirit. Joseph Marley symbolises the limitations of a life-lived focused on greed and selfishness, whilst Fred's life appears fulfilled through his perpetual joy, kindness and interactions with others. After his death, Joseph Marley has been condemned to wander the world as a miserable ghost.

Quote: "you have yet a chance and hope of escaping my fate."

The Ghost of Christmas Past – This is the first spirit to visit Scrooge. He is a curious child-like figure that has an illuminated head, symbolising how shining a light on memories from the past can be used to illuminate one's thoughts and behaviours in the future. The Ghost of Christmas Past takes Scrooge to a number of places from his childhood and early adulthood, including his old school, hometown, and the scene of his engagement being broken off.

Quote: "Strange to have forgotten it for so many years!"

The Ghost of Christmas Present – The Ghost of Christmas Present is the second of the three ghosts to visit Scrooge. He is a majestic jolly giant, who is dressed in a green robe. His lifespan is restricted to Christmas Day, and he has 'over 1800 brothers', representative of the other Christmas Days that were once in the present. He escorts Scrooge on a tour of how his contemporaries spend Christmas day, to force him to contemplate his own solitary existence. He also shows him the need to consider 'Want' and 'Ignorance.'

The Ghost of Christmas Yet to Come – The Ghost of Christmas Yet to Come is the third and final spirit to visit Scrooge. He is a silent phantom that is clad in robes (he rather resembles common characterisations of 'Death'). He presents Scrooge with an ominous view of his own death: the only people who his death remotely affects are those he owes money to (who are relieved), those who can make money from him (such as those dealing with his estate) and those who he could have saved (Tiny Tim).

Quote: "The Spirit answered not, but pointed onward with its hand."

Old Major Quote: ""Come in! and know me better, man!"

Dickens' Literary Devices

Simile	This gives the reader a better image of characters and places, e. g Scrooge described as 'hard and sharp as a flint.'
Clear Narrative Viewpoint	The narrator gives views to tell the reader how to think – e.g. Scrooge was a 'tight-fisted hand at the grindstone.'
Metaphor	Used to represent deeper meanings and ideas. For example, the children 'Want' and 'Ignorance' represent the poor in society.
Personification	To emphasise the atmosphere of places and settings: e.g. 'the crisp air laughed to hear it.'

Scene-by-Scene Summary – Alongside key quotations from each scene.

STAVE 1	<p>It is a foggy Christmas Eve, and Scrooge is working in his counting house. He refuses to buy another lump of coal to heat Bob Cratchit's (his clerk's) office. Scrooge's cheerful nephew, Fred, enters, inviting Scrooge to Christmas party, but he declines. After he leaves, two gentlemen enter, asking if Scrooge is willing to make a charitable donation to the poor. Scrooge again declines. He begrudgingly gives Bob Cratchit the day off. Scrooge follows his usual routine on the way home. At home, he sees the ghost of his old business partner (Jacob Marley) in the knocker. Marley is in chains as punishment for his selfishness and greed when living. He says that he seeks to save Scrooge from the same fate, and hence Scrooge will be visited by 3 ghosts over the next 3 nights.</p>	<p><i>"Marley was dead: to begin with. There is no doubt whatever about that. The register of his burial was signed by the clergyman, the clerk, the undertaker, and the chief mourner. Scrooge signed it."</i></p>
STAVE 2	<p>Scrooge is confused to wake at midnight, as it was after 2am when he went to sleep. At one o'clock, Scrooge is visited by a strange child-like figure that emanates wisdom – The Ghost of Christmas Past. The spirit touches Scrooge's heart, granting the power to fly. The ghost takes Scrooge back to where he was raised – Scrooge is touched by memories of his childhood. He sees himself as a schoolboy spending Christmas alone, being visited by his sister, being at a party held by Scrooge's old boss Fezziwig, and with his old partner Belle, who is breaking off their engagement on account of his greed. He sees Belle in a more modern time, with her husband, discussing how Scrooge is now 'quite alone in the world.' Scrooge is upset by the visions, and begs with the ghost to take him back home. Scrooge finds himself back in his bedroom, where he once again falls asleep almost instantly.</p>	<p><i>"But the strangest thing about it was, that from the crown of its head there sprung a bright clear jet of light, by which all this was visible; and which was doubtless the occasion of its using, in its duller moments, a great extinguisher for a cap, which it now held under its arm."</i></p>
STAVE 3	<p>The bell strikes one, and Scrooge is awake once more. At fifteen minutes past one, he wanders into the next room, where he finds the Ghost of Christmas Present waiting for him. He is a majestic jolly giant, and sits atop of a mountain of food. The spirit takes Scrooge to the bustling streets on Christmas morning, where passers-by joyfully greet each other. The spirit then takes Scrooge to the home of Bob Cratchit, where the family savour the Christmas that they can afford. Their visibly-ill son, Tiny Tim, is cheering despite his ailments. Scrooge begs to know whether he will survive. They also visit Fred's Christmas party, which Scrooge enjoys (though no one can see him). Eventually, Scrooge is brought to a vast expanse, where two sickly children, 'Want' and 'Ignorance' emerge. When Scrooge asks if there is anything that can be done, the spirit mocks his prior selfishness.</p>	<p><i>"Its dark brown curls were long and free; free as its genial face, its sparkling eye, its open hand, its cheery voice, its unconstrained demeanour, and its joyful air."</i></p>
STAVE 4	<p>Scrooge is approached by a hooded phantom. The spirit is silent, and Scrooge is terrified by him. Scrooge pleads with him to provide his next lesson. The ghost takes him to the stock exchange, where men discuss the accounts of a rich man, a dingy pawn shop, where the rich man's stolen goods are being sold, and the Cratchit household, where the family struggles with the death of Tiny Tim. Scrooge is then taken to a freshly dug grave in a graveyard. The gravestone reveals that it is his own grave. Appalled, Scrooge begs with the spirit to give him another chance to show that he has learnt his lesson. The phantom begins to tremble and disappears, and once again Scrooge finds himself in the relative safety of his own bed.</p>	<p><i>I fear you more than any spectre I have seen. But as I know your purpose is to do me good, and as I hope to live to be another man from what I was, I am prepared to bear you company, and do it with a thankful heart"</i></p>
STAVE 5	<p>Scrooge realises that he has been returned to Christmas morning, and is utterly overjoyed. He pays the first boy that he meets a huge sum to deliver a great big turkey to Bob Cratchit's household. He bumps into the gentlemen collecting for charity, apologises for his prior behaviour, and promises to donate lots of money to the poor. He attends Fred's party and is so happy and kind that the other guests can barely believe his behaviour. The next morning, he pretends to scold Bob Cratchit for arriving late, before promising to give him a large raise and to care for his family. As time passes by, he stays true to his word – he helps the Cratchits and becomes like a second father to Tiny Tim, who does not die. Scrooge brings Christmas cheer to every day, and shrugs off the doubts that others have about his changed behaviour. The narrator concludes by suggesting that Scrooge's changed attitude and behaviour should be shared by everyone.</p>	<p><i>"He had no further intercourse with Spirits, but lived upon the Total Abstinence Principle, ever afterwards; and it was always said of him, that he knew how to keep Christmas well, if any man alive possessed the knowledge....God bless us all, every one!"</i></p>

Themes – A theme is an idea or message that runs throughout a text.

Greed and Selfishness – Characters such as Scrooge represent the selfish middle classes, who sought to amass, rather than share their wealth. Jacob Marley demonstrates the burden that such a selfish life will inevitably bring. Through these characters and the events of the novel, Dickens criticises how wealth had become associated with the root of happiness, at the expense of close relationships and goodwill.

Divisions – Divisions are evident throughout the novel, as those with power and money seek simply to exert and recycle their advantages over those without (rather than aiding them). The book shines a light on the plight faced by poor families such as the Cratchits, which demonises the negative attitudes towards the poor held by the rich.

Transformation – Physical transformations are evident throughout *A Christmas Carol*, as objects, settings, and characters appear and vanish under the manipulation of the ghosts. Spiritual transformations take place too, as the reader witnesses a lonely boy's transformation into an embittered old man, and the efforts made to transform his character to reconnect with those around him.

Time – Time is stretched by the ghosts – the events that Scrooge experiences appear to have taken days, and yet all takes place in the space of one night. A race against time is also taking place, as the spirits work to prevent Scrooge (and in turn, Tiny Tim) from experiencing their fateful demise. The reader is taught to value the time that we have, and use it to spread happiness to others.

Structural Features

Five Staves – The story is set out in five Staves – a structure that mimics musical organization – the opening sets the scene, the middle is the turning point, and the last stave concludes.

Surface Level Story – A literal story that works on a surface level, e.g. The story of one cruel and harsh man being visited by ghosts who teach him a lesson, making him kind and compassionate.

Symbolic Level Story – A deeper, more hidden meaning to the story, e.g. There exists a selfish society, who needs to heed this warning, in order to become more caring.

The Number 3 – Scrooge is visited by 3 ghosts: Past, Present, and Yet to Come. This is a common feature in magical fairy stories: e.g. 3 wishes, 3 choices etc. This adds to the mystical feel of the novella.

Learning Objectives

By the end of the term, I can communicate (talk, ask and answer) about:

- Where you live
- Where you're going to live
- French speaking countries in Africa

Grammar Objectives

I will be able to understand and apply rules about:

- Comparisons using plus/ moins
- The near future
- Expressions using avoir: *faim/ soif/ peur*

Key Grammar

Near future – *aller + infinitive*

When you talk about what you are *going to do*, you use the immediate future formed with *aller + infinitive*.

Je vais organiser une vente de gâteaux. – I am going to organise a cake stall.

Tu vas faire du travail bénévole? – Are you going to do voluntary work?

Nous allons collecter de l'argent. – We are going to collect money.

Expressions with *avoir*

There are lots of expressions that take *avoir* (to have) in French. You already know *avoir* ___ ans (to be ___ years old).

Here are some more:

j'ai faim – I **am** hungry

j'ai de la chance – I **am** lucky

j'ai soif – I **am** thirsty

j'ai peur – I **am** scared

j'ai confiance – I **am** confident

on a faim – we **are** hungry

on a peur – we **are** scared



Comparisons

Use *plus* (more) and *moins* (less) *que* (than) to make comparisons.

C'est plus tranquille que Londres. – It's quieter (more quiet) than London.

*C'est moins tranquille qu'*Oxford. – It's less quiet/It's noisier than Oxford.

C'est plus tranquille. – It's quieter.

C'est moins tranquille. – It's noisier.



Decimal Points

Decimal points

In French, the comma is used as a decimal point. For example, 'there are around **96.2** million French speakers in Africa' but *il y a environ 96,2 millions de francophones en Afrique.*

Watch out for words like *environ* ('around' or 'about') which can have an effect on numbers.



Daily issues and life in francophone countries

<i>j'habite</i>	<i>I live</i>
<i>je vais habiter</i>	<i>I am going to live</i>
<i>dans le nord/le sud/l'ouest/ l'est</i>	<i>in the north/south/west/ east</i>
<i>dans le centre</i>	<i>in the centre</i>
<i>C'est (plus/moins) ...</i>	<i>It's (more/less) ...</i>
<i>bruyant/tranquille</i>	<i>noisy/peaceful</i>
<i>désert/peuplé</i>	<i>sparsely-populated/ densely-populated</i>
<i>moderne/historique</i>	<i>modern/historic</i>
<i>pittoresque/moche</i>	<i>picturesque/unattractive</i>
<i>plat/montagneux</i>	<i>flat/mountainous</i>
<i>propre/sale</i>	<i>clean/dirty</i>
<i>urbanisé/rural</i>	<i>built-up/rural</i>
<i>vivant/ennuyeux</i>	<i>lively/boring</i>

Model Text

Où habites-tu?	Actuellement, j'habite à Lyon.	Currently, I live in Lyon
	J'habite dans le nord de la ville.	I live in the north of the town/ city.
Tu viens d'où?	Je suis de Lyon	I am from Lyon
C'est comment ?	Lyon me plaît parce que...	I like Lyon because...
	Lyon m'énerve car C'est très bruyant et historique.	Lyon annoys me because... It's very noisy and historic.
Où vas-tu habiter à l'avenir ?	Je vais habiter dans le sud de Provence	I am going to live in the south of Provence
C'est comment ?	C'est plus tranquille que Lyon.	It's more peaceful than Lyon.
	C'est moins urbanisé que Lyon.	It's less built-up than Lyon.

Rugby Skills

Hands:

- passing (lateral, spin)
- Tackling
- Ball presentation
- offloading (before contact)
- catching (from pass)
- running with the ball (evasion – side step or swerve)
- Intercepting

Rugby-Use of Skills In Game Situations

Head:

- Contributing to strategy and tactics
- Decision making
- Adhering to rules, health and safety guidelines

Heart:

- Ability to influence the performance and motivation of self and others
- Accurate repeating of actions and sequences.
- Adhering to rules, health and safety guidelines



Basketball Skills

Hands:

- passing – chest and bounce pass
- shooting – lay-up, set shot
- dribbling – either hand, changes of direction
- rebounding
- footwork – pivot



Basketball – Use of skills in a game situation

Head:

- Half court defence
- Out of bounds
- Decision making

Gymnastics

Hands:

Perform a mixture of balances and rolls

Head:

To plan 3 balances.
To plan a sequence of balances and rolls.



Key Concepts

Talk about relationships with friends and family, describe physical appearance and characteristics.

Grammar

Adjectives, grammar rules in relation to dual body parts, forming the comparative/superlative, all attached and detached pronouns

Points To Think About

- How would you describe someone's physical appearance?
- How would you describe someone's character?
- What are the reasons that you may like or dislike someone?
- What will be the grammatical difference between describing males and females?

Sample Writing

يُوجَدُ فِي عَائِلَتِي أَشْخَاصٍ
لَدَيَّ إِخْوَةٌ وَ.....
أَخَوَاتٍ
أَنَا أَحِبُّ عَائِلَتِي،
وَأَحِبُّ أُمِّي لِأَنَّهَا.....، لَكِنْ
هِيَ
وَلَا أَحِبُّ إِخِي لِأَنَّهُ
أَحْسَنُ صَدِيقِي فِي
الْمَدْرَسَةِ.....
لِأَنَّهُ.....

Sample Writing

إِسْمِي يُوسُفُ، لَدَيَّ عَائِلَةٌ كَبِيرَةٌ،
يُوجَدُ فِي عَائِلَتِي ثَمَانِيَةَ أَشْخَاصٍ، أَنَا
أَحِبُّ عَائِلَتِي لِأَنَّنَا نَتَفَاهَمُ وَنَسْكُنُ مَعًا
بشَكْلٍ جَيِّدٍ، لَكِنِّي لَا أَحِبُّ إِخِي لِأَنَّهُ
أَنَايَّ، أَنَا أَحِبُّ أُمِّي كَثِيرًا لِأَنَّهَا
مُجْتَهِدَةٌ وَلطيفةٌ جِدًّا، هِيَ طَوِيلَةٌ
وَشَعْرُهَا طَوِيلٌ أَيْضًا، أَمَّا أَبِي فَهُوَ
لطيفٌ أَيْضًا لَكِنَّهُ شَدِيدٌ فِي بَعْضِ
الْأَحْيَانِ، وَأَنَا أَحِبُّهُ أَيْضًا كَثِيرًا

Main Vocabulary

Funny	مُضْحِكٌ	Father	أَبٌ
Kind	لطيفٌ	Mother	أُمٌّ
Polite	مُؤَدَّبٌ	Brother	أَخٌ
Loyal	وَفِيٌّ	Sister	أُخْتُ
Annoying	مُزْعِجٌ	Grandfather	جَدٌّ
Head	رَأْسٌ	Grandmother	جَدَّةٌ
Hair	شَعْرٌ	Tall	طَوِيلٌ
Nose	أَنْفٌ	Short	قَصِيرٌ
Ear	أُذُنٌ	Thin	نَحِيفٌ
Eye	عَيْنٌ	Fat	سَمِينٌ
He is	هُوَ	Beautiful	جَمِيلٌ
She is	هِيَ	Clever	ذَكِيٌّ
Because he is	لِأَنَّهُ	Rich	غَنِيٌّ
Because she is	لِأَنَّهَا	Lazy	كَسْلَانٌ
But he is	لَكِنَّهُ	Hardworking	مُجْتَهِدٌ
But she is	لَكِنَّهَا	Creative	مُبْدِعٌ

Topic

Natural hazards

Natural hazards	
Natural hazard	A natural process that poses a threat to people and property
Meteorological hazard	A hazard in the atmosphere (hurricane, thunder and lightning, drought)
Hazard risk	The probability that a natural hazard occurs Layers of the earth 4 layers of the earth – inner core, outer core, mantle and crust
Tectonic plates	The crust is split into several pieces called tectonic plates. They float on the mantle.
Crust	Layer of the earth found under the oceans (oceanic crust – thinner, younger, more dense) or under the land (continental crust – thicker, older less dense)
Convection currents	Circular currents in the mantle that cause tectonic plates to move
Plate boundary/margin	The line between two plates, also known as a fault line
Subduction zone	The area where a more dense plate moves underneath a less dense plate

Earthquakes

Earthquake	A sudden movement of tectonic plates due to a release of energy of pressure. It is followed by a series of aftershocks.
Focus	The point of movement in the earth's crust.
Epicentre	The point directly above the focus on the earth's surface.
Shockwaves/ Seismic waves	As tectonic plates suddenly move, they send out SHOCK WAVES (seismic waves) that travel through the earth's crust and cause the ground to shake.
Magnitude	The amount of energy released during an earthquake.
Richter Scale	The scale that measures the magnitude of an earthquake.

Types of earthquakes

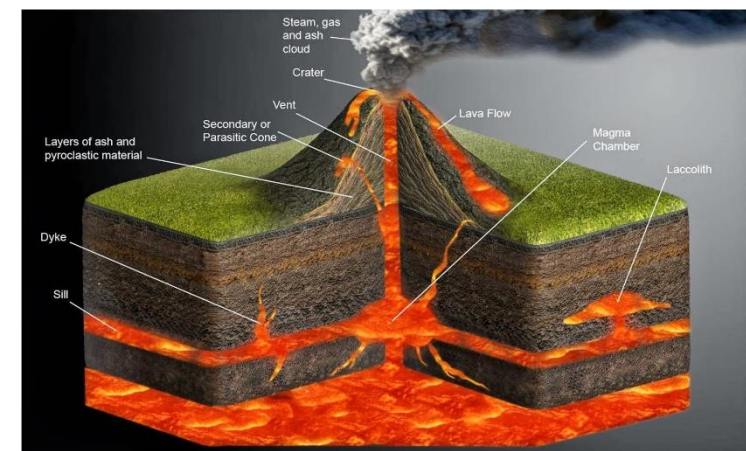
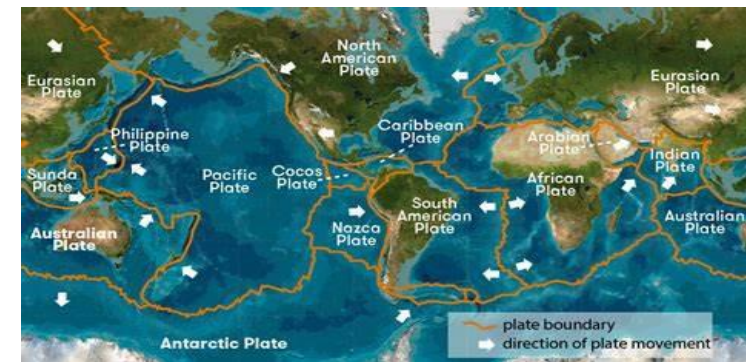
Conservative plates:	These are plate boundaries where two plates are either slipping past each other in opposite directions or at different rates in the same direction.
Constructive plates:	These plates are moving apart from one another. When this happens, the magma from the mantle rises up to make (or construct) a new crust.
Destructive plate:	The plates are moving towards each other. This usually involves a continental plate and an oceanic plate. The oceanic plate is denser than the continental plate. As they move together, the oceanic plate is forced underneath the continental plate.

Volcano

Volcano	A volcano is an opening in the ground from which lava, ash and gases erupt.
Magma	liquid rock inside the volcano
Lava	Molten rock that has been erupted from a volcano.
Shield volcano	A volcano found at constructive plate margins. It has runny lava, is low in height and has frequent eruptions. For example Laki in Iceland.
Composite volcano	A volcano found at destructive plate margins. It has thick lava, is tall in height with steep sides and has explosive eruptions. For example Mt Fuji in Japan.
Pyroclastic flow	Very hot gases and ash (800°C) rush down the volcano at speeds of 500mph, destroying everything in its path.
Ash cloud	The ash that is ejected from the volcano falls across large distances, causing respiratory problems

Key Words

Drought	A long period of abnormally low rainfall.
Tropical Storm	A large low pressure system that brings rain and strong winds (above 73 mph). Other names hurricane, typhoon, cyclone.
Track	The path of a storm – where it's going.
Storm Surge	A rising of the sea as a result of the wind and low pressure of a storm.
Social	Anything to do with people.
Economic	Anything to do with money and jobs.
Environmental	Anything to do with nature or the built environment (cities/towns).



Topic

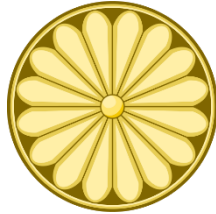
Were the Mughals more successful than the Tudors?

Key Words

Akbarnama
Administration
Empire
Conquer
Exile
Fort
India
Pakistan
Afghanistan
Rajputs
Revenge
Siege
Patronage

Key Rulers

- **Babur:** 1526 – 1530
- **Humayun:** 1530- 1542
- **Akbar:** 1542 – 1605
- **Jahangir:** 1605 – 1627
- **Shah Jahan:** 1627- 1658
- **Aurangzeb:** 1658- 1707
- **Muhammed Shah:** 17-19 – 1748



Key Questions

You will need to consider each of the following in your comparison between Elizabeth I and the Mughals

Religion:

The Mughals had to rule a Hindu population while being Muslim themselves. How did they manage this and how successful were they? Elizabeth I had to deal with the conflict between Catholics and Protestants. Who dealt with their religious problems more successfully?

Warfare:

Both the Elizabeth I and the Mughals fought great battles and expanded their empire beyond the borders of their original land. How did each manage this and who do you think was the most successful?

Money Matters:

One of the most important jobs for a ruler is working out how to pay to run their country or empire. Think carefully about how to do this successfully. Who was more successful in money matters?

Government:

Each leader had to try to find ways to make the people of the country respect them and run their country with authority. Think about how each ruler accomplished this. Was it better to rule on his or her own or to share power and what were the results of their choices? Were rebellions a sign of weakness?

Background

The Mughal Empire was located in modern day India and Pakistan and was in existence from 1526- 1858. This was the at the same time as the Ottoman Empire and the Tudors and Stewarts in Europe. They ruled over 200 million people had had a rich culture in art, architecture and trade. It was one of the most powerful empires in the world.

Overview

This topic will focus on a comparison with the rule of Elizabeth I of England with Akbar the great of Mughal India. You will learn about how Akbar came to power, the challenges he faced, how he overcame them, how he ruled over different religious groups and how art and architecture flourished during his reign.



Politics & Participation -Key Terms

Political Rights	Entitlement to participate in the civil and political life of society and the state without discrimination or repression.
Human Rights	Are the basic <i>rights</i> and freedoms that belong to every person in the world, from birth until death. They apply regardless of where you are from, what you believe or how you choose to live your life. These basic <i>rights</i> are based on shared values like dignity, fairness, equality, respect and independence.
Legal Rights	Rights and freedoms according to the UK law.
Moral Rights	Basic rights and freedoms protected by ethical and moral philosophy and law.
Parliament	The group of (usually) elected politicians or other people who make the laws for their country
Democracy	The belief in freedom and equality between people, or a system of government based on this belief, in which power is either held by elected representatives or directly by the people themselves.
MPs	The UK public elects Members of Parliament (MPs) to represent their interests and concerns in the House of Commons.
PM	The Prime Minister is the head of Government in a parliamentary system.
Petitions	A formal written request, typically one signed by many people, appealing to authority in respect of a particular cause.

What Skills will I Develop in Heart for Life?

Each lesson will have opportunities to develop your skills through a variety of learning activities, ranging from:

- Thinking skills
- Enquiry and evaluation skills
- Research skills
- Debate and communication skills
- Active learning.
- Reflective learning skills.
- Personalised learning skills.
- Revision and recall.



Overview

Students will explore the UK parliamentary system, the role of MPs and the prime Minister, how laws are made and what it means to live in a democratic country.

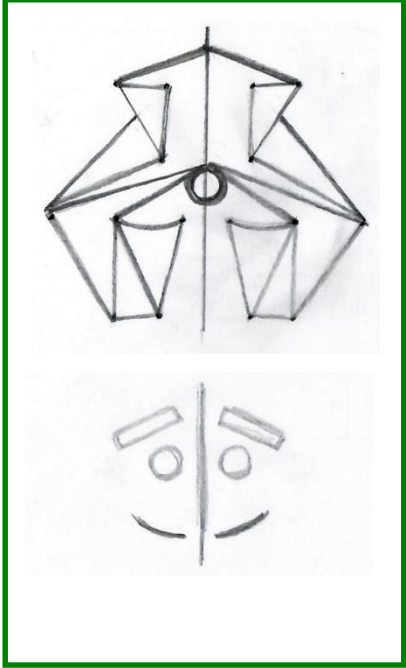
Key Concepts

Relationships, Living in the Wider World and Health and Wellbeing.

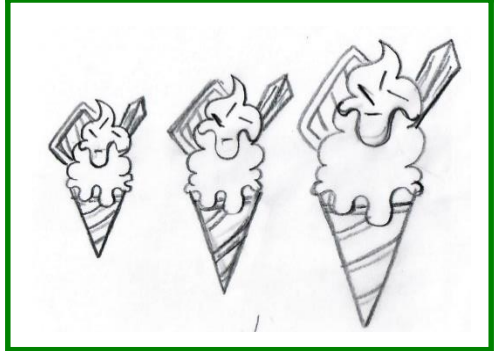
Essential Attributes Developed Through Heart for Life

- Self-Improvement
- Resilience
- Self-organisation
- Clarifying own values
- Developing and maintaining a healthy self concept
- Empathy and compassion
- Respect for others
- Skills for employability
- enterprise skills

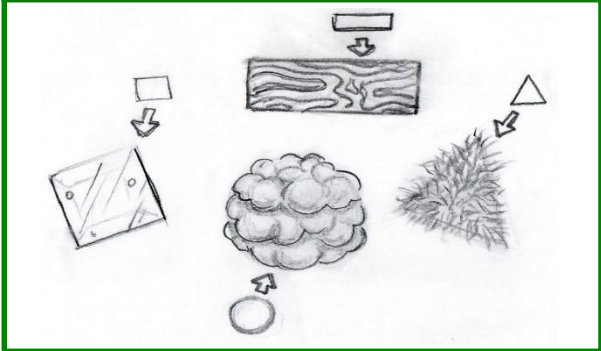
Symmetry



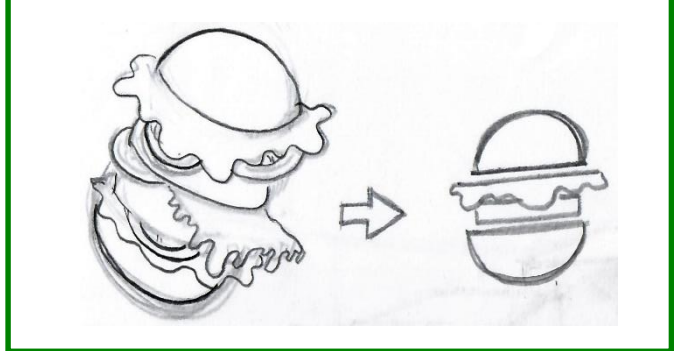
Proportion/ Scale



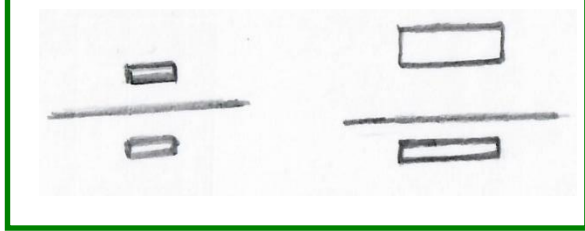
Texture



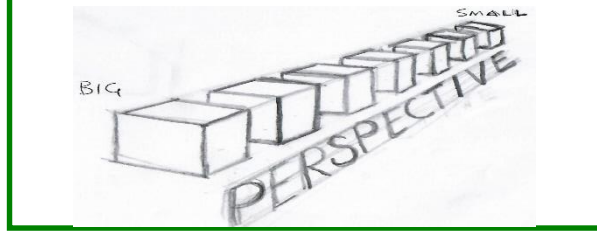
Minimalism



Balance



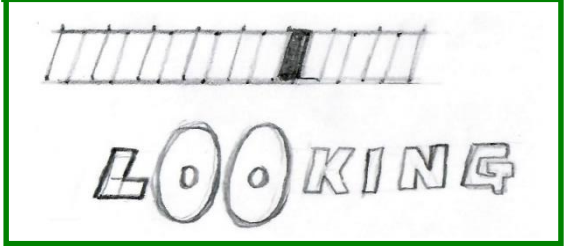
Perspective



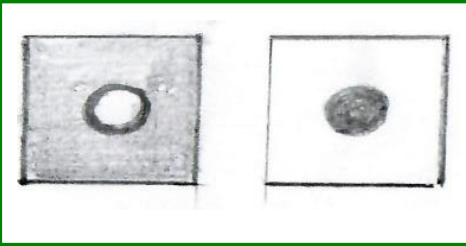
Line



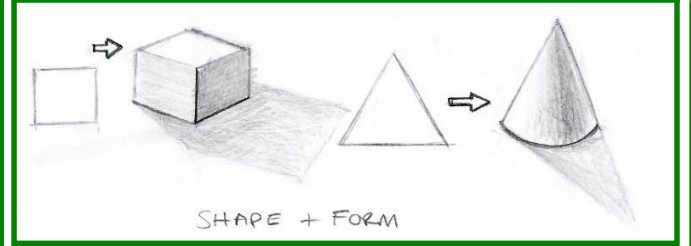
Emphasis



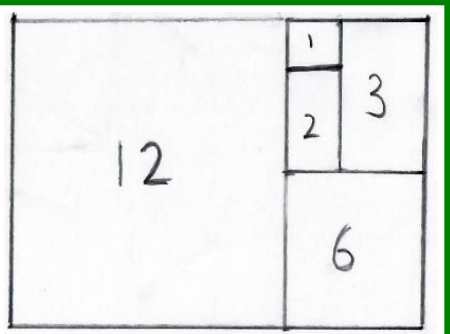
Space



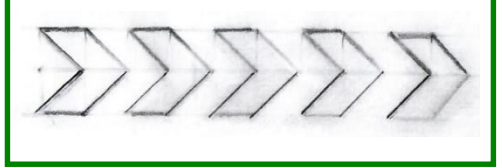
Shape & Form



Golden Ratio



Rhythm & Movement



Value



$$1 \rightarrow 1+1=2 \rightarrow 1+2=3 \rightarrow (1+2)+3=6 \rightarrow (1+2+3)+6=12 \rightarrow (1+2+3+6)+12=24$$

$$3+3=6 \quad 6+6=12 \quad 12+12=24$$

Topic

Engineering Manufacturing Processes

Additive Manufacturing

Sintering: Is a process that is used to make products from metal powders

Rapid Prototyping: Involves using additive manufacturing to make a complete part or component in a single operation.

Fused Deposition Modelling: Is the most common rapid prototyping process; used in 3D printing with ABS, PLA polyamides and nylon

Stereolithography: Is a rapid prototyping process that uses a laser to make polymer products

Joining & Assembly

Threaded Fastenings: Include nuts, bolts and screws. These are available in a wide range of materials, including steel, brass and thermoplastic polymers

Rivets: Are used to hold sheets of material together, for example attaching overlapping metal plates to form the hull of a ship or attaching the skin to an aircraft

Soldering: Is a process in which two (or more) metal parts are joined together. It involves melting solder to form a joint between the pieces being joined



Shaping, Forming & Manipulation

Bending: involves physically deforming a material. The material to be bent must be ductile and malleable; brittle materials tend to shatter

Folding: is bending material over on itself, so that one part covers another

Press Forming: is used in industry to make 3D shapes from metal sheet

Press Moulding: Polymer sheets can be formed into shapes using a similar process to press forming

Punching and Stamping: are used to cut shapes in metal sheets

Composite Lay Up: is made up of thin layers of composite material resulting in a thick shaped composite material using a shaped mould

Material Removal

Cutting: sawing, shearing, laser cutting

Sawing: use of movement to progressively cut away material as it moves against it

Shearing: involves applying force from opposite sides of a sheet of material

Laser Cutting: is used to cut thin sheets of material; the material along the cut line is vapourised

Turning: involves the use of a lathe to make parts with a round profile

Milling: milling machines use a rotating tool to remove metal one thin layer at a time; they can be used to face a piece of material producing a flat surface with a good finish

Drilling: makes holes in the material using a rotating tool to progressively remove material

Chemical Etching: uses chemicals to remove material rather than a tool; usually used to make PCB's



Casting & Moulding

Sand Casting: is used to make metal parts. It gets its name from using a mould that is made from bonded sand

Pressure Die Casting: is mainly used to make parts from non-ferrous metal. The special type of mould called a 'die' usually has two halves

Injection Moulding: is a similar process to pressure die casting but it is used for parts made from polymer

Heat and Chemical Treatment & Surface Finishing

Normalising: is carried out on steel that has been work hardened

Annealing: involves heating the metal to a suitable temperature and holding it there for a given time

Hardening and Quenching: High-carbon steel, can be hardened by heat treatment. The steel can then be put through the process of quenching which involves cooling it rapidly by immersing it in oil or brine (salt water)

Tempering: involves heating it to a temperature of 230-300 °C, then quenching it again in oil or brine

Painting: is one of the most common surface finishing processes; it can increase corrosion resistance and visual appearances

Dip Coating: is used to apply polymer coatings such as PVC, nylon or polyethylene to metal parts

Electroplating: uses electricity and a chemical solution to create a coating on a metal part

Polishing: is a physical process that gives a material a shinier appearance. It also makes the surface smoother



Sikhism

Kesh (uncut hair)	Throughout history hair (kesh) has been regarded as a symbol both of holiness and strength. One's hair is part of God's creation. Keeping hair uncut indicates that one is willing to accept God's gift as God intended it. It follows the appearance of Guru Gobind Singh, founder of the Khalsa.
Kara (Steel bracelet)	A symbol of restraint and gentility. A symbol that a Sikh is linked to the Guru. It acts as a reminder that a Sikh should not do anything of which the Guru would not approve. A symbol of God having no beginning or end. A symbol of permanent bonding to the community-being a link in the chain of Khalsa Sikhs (the word for link is 'kari'). The Kara is made of steel, rather than gold or silver, because it is not an ornament.
Kanga (Wooden comb)	This symbolises a clean mind and body; since it keeps the uncut hair neat and tidy. It symbolises the importance of looking after the body which God has created. This does not conflict with the Sikh's aim to move beyond bodily concerns; since the body is one's vehicle for enlightenment one should care for it appropriately.
Kaccha (cotton under garment)	This is a pair of breeches that must not come below the knee. It was a particularly useful garment for Sikh warriors of the 18th and 19th centuries, being very suitable for warfare when riding a horse. It's a symbol of chastity.
Kirpan (Steel sword)	There is no fixed style of Kirpan and it can be anything from a few inches to three feet long. It is kept in a sheath and can be worn over or under clothing. The Kirpan can symbolise: Spirituality The soldier part of the Soldier-Saints Defence of good Defence of the weak The struggle against injustice A metaphor for God

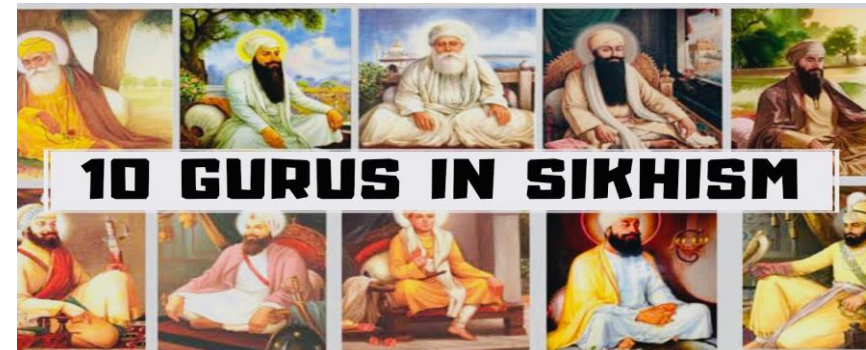
Key Words

- Sikhism
- Guru
- Khalsa
- Kirpan
- Kesh
- Kara
- Kanga
- Kaccha



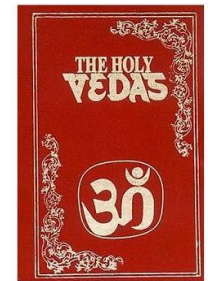
What Are the Sikh Gurus?

Founded in the Punjabi region of India over 500 years ago, one would think the Sikh religion would have more than ten Gurus, who are holy leaders and teachers. Sikhism developed in an area where contact between Muslims and Hindus occurred frequently with periods of cooperation and conflict. Sikhism, while sharing some traits with each, is a completely separate religion that follows a single god but believes that all religions follow this god in their own way. Let's look at how each Guru helped shape Sikhism.



Hinduism

Beliefs	Hindus believe in One Supreme Spirit, or Power called Brahman. Brahman can take the form of many gods and goddesses, also known as deities. Hindus believe in the concept of karma. Karma is the law of cause and effect. Hindus believe that good actions lead to good karma and bad actions lead to bad karma.
Holy Book	There are many holy books in Hinduism. The oldest ones are called the Vedas and the Upanishads. The Bhagavad Gita and the Ramayana are also read by many Hindus, and they help to guide them in their daily life.
Worship	Hindu worship is called puja. Hindus can worship at their holy building, called a mandir, or in their home. Puja involves praying to a favourite god or goddess. A statue or image is often used as a focus, and these are sometimes called murtis (meaning forms). During puja offerings of fruit and sweet foods are made to the deity.
Symbol	This is the Om symbol (sometimes written as Aum) and it is the Hindu word or sound for God. Hindus will say this at the beginning and end of all prayers.
Hindu shrine	A Hindu place of worship is called a mandir, but the majority of Hindus have a shrine at home where they perform personal and family worship. Worship in Hinduism is called puja.
Trimurti	Hindus believe that Brahman is beyond their understanding, so the different gods and goddesses help them to understand various aspects of Brahman. Three of the Hindu gods are known as the Trimurti.



Buddhism

Beliefs	Buddhism focuses on personal spiritual development, and Buddhists try to live a good life by following the Buddha's teachings, called the Dharma. In the Four Noble Truths the Buddha taught that life is full of suffering. Suffering is caused by desire and wanting things, and attachment to possessions. The way to stop suffering is to stop wanting things by following the Eightfold Path.
Holy Book	The Buddhist scriptures are known as the Tripitaka which means 'three baskets'. This is because the original writings were made on palm leaves and stored in baskets. The Tripitaka contains the teachings of the Buddha and his companions, comments on those teachings, as well as rules for monks. Buddhists call the teachings of the Buddha 'dharma', which means 'truth'.
Worship	Buddhists do not worship in the traditional sense, but they show their devotion by a ritual called puja, either at home, in a temple or a vihara. A vihara is a Buddhist monastery, which is open to the community for study, meditation and worship. In Buddhist countries, there are many temples. People bring flowers and incense for the shrine and food for the monks. When entering a temple or vihara, Buddhists will take off their shoes, put their hands together and bow to the image of the Buddha. They may also use prayer beads called malas.
Symbol	The dharmachakra, also known as wheel of dharma, is widely used as the symbol of Buddhism. It shows a wheel with eight spokes, representing the Noble Eightfold Path and the teachings of the Buddha.
Meditation	Meditation is important in all branches of Buddhism. It can help clear the mind, so that negative thoughts of anger or hatred can be replaced with positive ones of loving kindness and peace. By meditating frequently, Buddhists hope to develop insight and wisdom, helping them to see the true nature of things.





MADANI SCHOOLS FEDERATION