

## 1 – Colour Theory

**primary colours:** red, blue and yellow

They are colours that are used to mix other colours.

These colours can't be made by mixing other colours together.

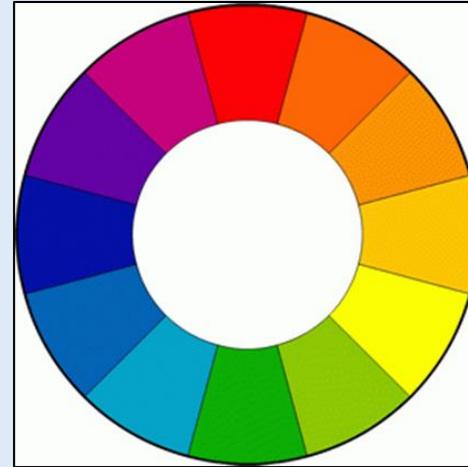
**secondary colours:** green, orange and purple

They are made by mixing primary colours:

**complementary colours:** colours that are opposite one another on the colour wheel. E.G. red and green

**harmonious colours:** colours are next to each other on the colour wheel

## 2 – Colour Theory



**tint:** colour mixed with white.

It increase its lightness.

**shade:** colour mixed with black. It increases its darkness.

**value:** how dark or light something is

## 3 – Key Vocabulary

**abstract art:** art that does not attempt to represent reality but instead use shapes, colours, forms and gestural marks

**blending:** gently mixing two or more colours or values to create a gradual transition

**gradient:** gradual blending from one colour to another colour

**shape:** a two-dimensional area, flat, or limited to height and width

**Orphism:** an abstract, painting style started in the 1920s where patches of subtle and beautiful colour are brought together to create harmonious compositions



## 3 – Artist Focus – Michael Lang

- Michael Lang is an American artist base in New York (USA)
- Lang's work is inspired by Orphism.
- He uses abstract shapes, subtle gradients and blends of colours.
- He uses a combination of complementary and harmonious colours.



## 1 – What is Programming?

### Key Vocabulary

**programming**: the process of designing and building a computer programme for a specific task

**print**: displays a statement or variable on the shell window

**input**: allows the user to input information into the programme

**shell**: the place where code is run

**syntax**: the rules of the programming language that need to be followed in order for it to work

**debug**: tells us where the error is and what type of error. This allows the programming to fix the error and run the code.

**algorithm**: a set of instructions or code used to solve a problem

## 2 – Data Types

### Key Vocabulary

**data types**: different types of data are stored in variables as different data types

**string**: a variable data type that can store a combination of letters, characters and numbers

**integer**: a variable data type that can store whole numbers E.G. 65

**floats/real**: a variable data type that can store decimal numbers E.G. 2.5

**boolean**: a variable data type that stores either TRUE or FALSE

**variable**: a name given to an item of data so that the data can be stored in memory while your python programme is running

**operators**: special symbols that carry out arithmetic or logical tasks e.g. > ==

## 3 – Selection

### Key Vocabulary

**selection**: these allow your python programme to follow one path in the code if a certain condition is true, or to follow another path of the code if the condition is false

**IF**: checks if the condition is TRUE, if so the programme runs the indented code below it

**Elif**: if the first IF is not TRUE, then this elif condition is checked, there can be multiple of these

**Else**: if all the IF and Elif statements are not TRUE, then the code indented below else will run

## 4 – Iteration

### Key Vocabulary

**iteration**: is used to repeat a set of instructions or commands in a programme. It saves having to write them all out over and over again.

**for loop**: runs for a specific amount of times and stops when it reaches the desired number

E.G.

for l in range (5):

    movie = input ("what is one of your top 5 movies?" )

This would ask the question five times, then end the loop.

## 1 - Naturalism

### Key Vocabulary

**naturalism**: the illusion of real life presented on stage. It aims to be an accurate representation of ordinary people in believable situations.

**system of techniques**: created by Stanislavski and can be used to produce a naturalistic performance which includes emotion memory

**emotion memory**: when the actor finds a real past experience where they felt a similar emotion to the role they are playing. They then 'borrow' those feelings to bring the role to life.

**fourth wall**: the invisible wall between the audience and the actors on stage

## 2 - Given Circumstances

### Key Vocabulary

**dialogue**: the text that is spoken by the actor

### Given Circumstances

Information about the character and the play that you start off with.

E.G.

- How old is the character?
- What's their situation in the play and in relation to the other characters?
- Are there any notes provided about the play and its characters?

*Such notes and stage directions may not tell you everything you need to build a character but they are a starting point.*

## 3 – Magic If

- The '**Magic If**' is used to get actors to open up their imaginations in order to discover new and interesting things about the character they are playing.
- Stanislavski said that the character should answer the question, 'What would I do if I was in this situation?'
- This technique means that the actor puts themselves into the character's situation.
- This then encourages the motivation needed to enable the actor to play the role.

## 4 – Characterisation Skills

### Key Vocabulary

**facial expression**: the appearance, mood or feeling shown 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 show a character's emotions

**gait**: a person's way of walking

**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

## 1 – Capturing a Slave

### Key Vocabulary

**capture:** to take something

**trade:** swapping products with one another



- The British acquired slaves using the slave trade triangle.
- This triangle moved between: Britain, Africa, North America/the Caribbean.
- The British provided goods to African leaders.
- African leaders traded African people they had captured for these goods – they became slaves.
- The African slaves were then transported to North America or the Caribbean using the Middle Passage.

## 2 – The Middle Passage

### Key Vocabulary

**slave:** someone who is forced to work and has their identity taken from them

**voyage:** a journey on the sea

- The Middle Passage was a traumatic voyage between Africa and North America/the Caribbean.
- Conditions on the boats were deadly: disease, lack of food and clean water, and being tied together was common.
- The voyage took 80 days on average.
- 15% of slaves died during the Middle Passage.

## 3 – Auctions

### Key Vocabulary

**auction:** a place where items are bid for

- The arrival of slaves was advertised beforehand, ready for white plantation owners to buy them.
- Slaves were washed and their skin rubbed with oil to make them appear healthier.
- Slaves were branded with a hot iron, so it was known they were a slave.
- Slaves might be sold individually or in a group.
- The price of a slave would depend on their physical condition.

## 4 – Slave Plantations

### Key Vocabulary

**plantation:** a field where slaves worked



- Plantation mostly grew sugar, coffee or cotton.
- Work on a plantation would start at sunrise and finish at sunset.
- During the harvest, a slave could work up to 18 hours per day.
- Whipping was the most common punishment.

## 5 – The Underground Railroad

### Key Vocabulary

**escape:** to get away from someone/somewhere

- The Underground Railroad was a group of Americans who gave shelter to slaves who had escaped.
- The people who helped were called ‘conductors’.
- Harriet Tubman rescued approximately 70 slaves.
- Conductors’ hiding places could include: homes, schools, Churches.
- The Underground Railroad began in the late 1700s.

## 6 – Abolition of Slavery

### Key Vocabulary

**abolish:** to get rid of something

**colonies:** countries under the control of other countries

- Bringing slaves into America became illegal in 1807.
- Slavery was abolished in America in 1865. After this, all existing slaves in America were freed.
- Slavery was abolished in Britain and their colonies in 1833.
- This law freed 800,000 slaves in the British Empire.

## 1 – Purpose of Poetry

- A poem is a collection of spoken or written words that expresses ideas, emotions and viewpoints in an imaginative way.

**the form of a poem:** this refers to line lengths, rhythms and patterns of rhyme.

- A poem can take various forms.

**stanza:** one of the parts into which a poem is divided

- They separate ideas and give shape.
- They guide the reader through the poem.

**narrative:** refers to the story or message that the poet is trying to show

## 2 – Context

**Maya Angelou:**

- An African-American writer and civil rights activist.
- Angelou was born in 1928 in the American South

**Vanessa Kisuule:**

- A black-British poet from Bristol, in the south of England.
- Kisuule wrote 'Hollow' in response to the destruction of the Edward Colston in June 2020.
- Edward Colston was a slave trader who profited from the enslavement of African-Americans in the 19<sup>th</sup> century.

**Suhaiymah Manzoor-Khan:**

- Suhaiymah is a Bradford-born British Muslim poet, who is very successful on the 'slam' (live) poetry circuit.
- Her poem is about resisting prejudice and stereotyping.

## 3 – Terminology

**enjambment:** the running of a sentence from one line of verse into the next

**caesura:** a break or a pause in a line of verse

**stanza:** one of the parts into which a poem is divided

**sibilance:** a literary device that relies on the repetition of soft constant sounds, like 's' or 'sh', in words to create a whooshing or hissing sound

**metaphor:** a figure of speech comparing two things which are not literal or physically possible

## 4 – Vocabulary

**Key Vocabulary**

**multicultural (adj.):** relating to people of many different nationalities and cultures

**dignity (noun):** being worthy of honour or respect

**prejudice (verb):** to judge and/or treat others differently because of their race/gender/religion

**adversity (noun):** a very difficult situation

**to empower (verb):** to give or delegate power or authority

## 5 – Grammar: Clauses

**a clause:** one or more phrases linked to a verb that express an idea to make up a sentence.

- A main clause is able to stand alone
- A subordinate clause cannot stand alone

***Due to the adversity Maya Angelou experienced in her past, her writing often includes themes such as oppression and discrimination.***

**The subordinate clause is in bold. It cannot make sense alone.**

1 – Countries and Destinations

en Algérie	to Algeria	à la campagne
en Angleterre	to England	to the countryside
en Belgique	to Belgium	à la mer
en Espagne	to Spain	to the sea
en France	to France	à la montagne
en Grèce	to Greece	to the mountains
en Italie	to Italy	en ville
en Suisse	to Switzerland	to/in the city
au Portugal	to Portugal	au bord de la mer
aux États-Unis	to the USA	to/at the beach

To say **to**, **at**, or **in** in French we use the following:  
 For **towns** we use 'à' J'habite à Wakefield.  
 For **feminine** countries use 'en' Je vais en Belgique.  
 For **masculine** countries use 'au' Je vais au Brésil.  
 For **plural** countries use 'aux' Je vais aux États Unis.

2 – Means of Transport

je vais	I go	cher/chère	expensive
je prends	I take	confortable	comfortable
je voyage	I travel	fatigant/e	tiring
on va	we go	pratique	practical
		lent/e	slow
		rapide	fast
en avion	by plane	sûr/e	safe
en bateau	by boat		
en bus	by bus	plus	more
en car	by coach	moins	less
en métro	by subway	très	very
en train	by train	trop	too
en voiture	by car	à mon avis	in my opinion
		selon moi	in my opinion
à pied	on foot	je pense que	I think that
à vélo	by bike	je préfère	I prefer

3 – Holiday Activities

- We use **on peut** (you can) for general statements to say what someone can do.
- It does not related to a particular person.
- It is always followed by an **infinitive verb**.

<b>on peut...</b>	you can...
<b>on ne peut pas...</b>	you can not...
<b>...se bronzer</b> à la plage	tan on the beach
<b>...nager</b> dans la mer	swim in the sea
<b>...voir</b> les monuments	see the monuments
<b>...envoyer</b> une carte postale	send a postcard
<b>...faire</b> un tour en barque	do a boat tour
<b>...prendre</b> des photos	take some photos
<b>...rencontrer</b> les gens	meet people
<b>...se relaxer</b> à l'hôtel	relax at the hotel
<b>...visiter</b> les sites touristiques	visit tourist sites

4 – Holiday Vocabulary

<b>faire...</b>	<b>to do...</b>
du camping	camping
du ski	skiing
du ski nautique	water skiing
du vélo	cycling
de la natation	swimming
des randonnées	hiking

**Time phrases:**  
 tous les jours every day  
 tous les soirs every evening  
 le matin in the morning  
 l'après-midi in the afternoon  
 le soir in the evening

du patinage	ice skating
du roller	roller-skating
de la parapente	hang-gliding
de la pêche	fishing
de l'équitation	horseriding
de la voile	sailing
de la planche à voile	windsurfing

5 – Weather

We usually use **il** to mean 'he' but it can also mean 'it'. In this case, we use **il fait** or **il y a** to say what the weather is doing.

il fait beau	it's nice
il fait mauvais	it's bad
il fait chaud	it is warm
il fait froid	it is cold
il neige	it is snowing
il pleut	it is raining
il y a du soleil	it is sunny
il y a du vent	it is windy

Use **quand** (when) to say what you can do in different weather:  
**Quand il fait beau, on peut nager dans la mer.**  
 When it is nice weather, you can swim in the sea.

Remember: **il y a** also means **there is** or **there are**.

6 – The Perfect Tense

To form a verb in the perfect tense, you need:

A pronoun	Part of avoir	Past participle
j'	ai	mangé
elle	a	bu

Some verbs take 'être' for step 2 instead of 'avoir':

A pronoun	Part of être	Past participle
je	suis	allé(e)
nous	sommes	resté(e)s

j'ai regardé	I watched	
j'ai visité	I visited	
j'ai fait	I did	<b>l'année dernière</b>
j'ai pris	I took	last year
j'ai vu	I saw	<b>la semaine dernière</b>
je suis allé(e)	I went	last week
je suis arrivé(e)	I arrived	<b>dans le passé</b>
je suis resté(e)	I stayed	in the past

## 1 – Water Cycle

## 2 – Drainage Basin

## 3 – Long Profile

### Key Vocabulary

**evaporation:** heated water turning into water vapour

1. The sun heats up water on land, in rivers, lakes and seas and turns it into water vapour. The water vapour rises into the air.
2. Water vapour in the air cools down and condenses back into tiny drops of liquid water, forming clouds.
3. Water falls as precipitation. The clouds get heavy and water falls to the ground in the form of rain or snow.
4. Rain water runs over the land and collects in lakes or rivers, which take it back to the sea. This repeats.

### Key Vocabulary

**drainage basins:** the area of land drained by a major river and its tributaries

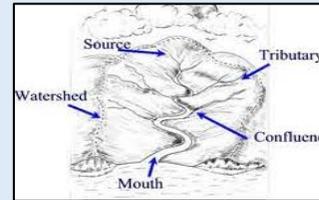
**watershed:** the edge of the drainage basin

**source:** the start of a river (usually high relief)

**mouth:** the end of a river (low relief)

**confluence:** the point where two rivers meet

**tributary:** a smaller river joining the main one



### Key Vocabulary

**long profile:** shows the gradient of a river as it journeys from source to mouth

**upper course:** found in steep areas. There may be waterfalls as the river flows through steep V-shaped valleys.

**middle course:** further downstream and the relief is hilly. Usually find in meanders (large bends in a river).

**lower course:** is closest to the mouth of the river where the land is low-lying. The gradient is almost flat due to the lack of vertical erosion (wearing away of river bed).

## 4 – Waterfalls

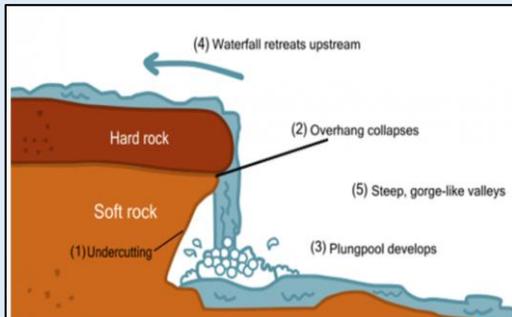
## 5 – Meanders

## 6 – Importance of Rivers

### Key Vocabulary

**waterfall:** where water flows over a drop or a series of steep drops in the upper course of a stream or river

**erosion:** the wearing away of rock



### Key Vocabulary

**meander:** a bend in the river

**deposition:** the dropping of sediment

**transportation:** the moving of sediment

- As the river erodes laterally (side to side), bends form.
- The force of the water erodes and undercuts the river bank on the outside of the bend where water flow has most energy due to decreased friction.
- On the inside of the bend, where the river flow is slower, material is deposited, as there is more friction.

### Key Vocabulary

**importance:** the value something has

**economic:** relating to money or jobs

**development:** grow and become more mature

- Humans use rivers for irrigation in agriculture, for drinking water, and to produce electricity through hydroelectric dams.

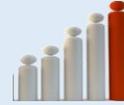
### Negatives

- Humans deposit their waste in rivers.
- When a river floods it can damage buildings, roads, parks, wildlife, and cost a lot of money to repair.

## 1 – d/dd

**d:****idea:** when you think of something new**done:** when you have finished**dd:****address:** where you live

## 2 – g, gg, gh, gue

**g:****gone:** when something disappears**gg:****bigger:** when something grows**gh:****ghast:** when you are scared**gue:**catalog**ue:** a group of papers

## 3 – h

**h:****how:** the way you do something**have:** when you own something**hop:** jumping on one leg**half:** two equal parts

## 4 – j, g, ge, dge, gg

**i:****just:** nearly**g:****gentle:** when you are soft**ge:****charge:** when you move forward**dge:****judge:** making a decision

## 5 – p/pp

**p:****pencil:** what you use to draw diagrams**map:** you use this to find out where to go**pp:****appear:** when something is there**disapp**ointed: when you are annoyed at someone

## 6 – qu

**qu:****question:** a sentence that needs an answer**qu**ick: when you do something fast and with speed**qu**een: the woman in charge of the country

1 – 9 Times Table

$9 \times 1 = 9$	$9 \times 7 = 63$
$9 \times 2 = 18$	$9 \times 8 = 72$
$9 \times 3 = 27$	$9 \times 9 = 81$
$9 \times 4 = 36$	$9 \times 10 = 90$
$9 \times 5 = 45$	$9 \times 11 = 99$
$9 \times 6 = 54$	$9 \times 12 = 108$

2 – Data

**Key Vocabulary**

**frequency:** the number of times an event occurs

**correlation:** a measure of the strength of association between two variables

**continuous data:** data which can take any value (i.e. data that can be measured E.G. height)

**discrete data:** data which takes certain values i.e. data that can be counted E.G. frequency of people

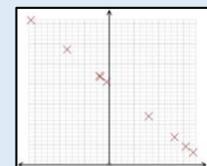
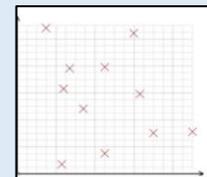
3 – Scatter Graphs

**Key Vocabulary**

**no correlation:** no link between variables

**positive correlation:** a link showing that as one variable increases, the other also increases

**negative correlation:** a link showing that as one variable increases the other decreases



4 – Probability

**trial:** an experiment that is continually repeated

*Example: Flipping a coin*

**event:** a set of possible outcomes from a trial

*Example: Heads or tails on a coin*

**outcome(s):** the result(s) of a statistical trial

*Example: Heads when the coin is flipped*

**probability:** the likelihood (chance) of an event happening

*Example: 1/2 chance of getting a heads on a coin*

5 – Indices

**Key Vocabulary**

**index:** a number that tells you how many times to multiply the number by itself

$$4^3 = 4 \times 4 \times 4$$

**base:** the number that is being powered

**indices:** the plural of index

6 – Sequences

**Key Vocabulary**

**sequence:** a succession of terms formed according to a rule

$$9, 18, 27, 36, 45 \dots$$

$\begin{matrix} \curvearrowright & \curvearrowright & \curvearrowright & \curvearrowright \\ +9 & +9 & +9 & +9 \end{matrix}$

**term to term rule:** lets you find the next term in a sequence. *Example: add 9*

**linear sequence:** a number pattern which increases (or decreases) by the same amount each time

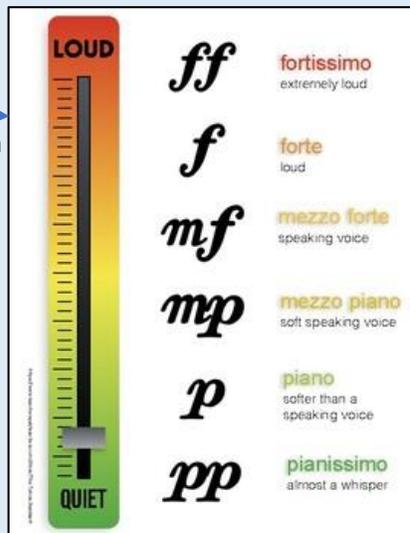
**ascending:** to go up

**descending:** to go down

# 1 – The Elements

## Key Vocabulary

- dynamics:** the term used for the volume
- rhythm:** different note lengths played in a chain
- texture:** the different layers of sound
- structure:** how music is put together
- melody:** the main tune
- instrumentation:** the instruments used
- tempo:** the speed
- harmony:** several notes played together



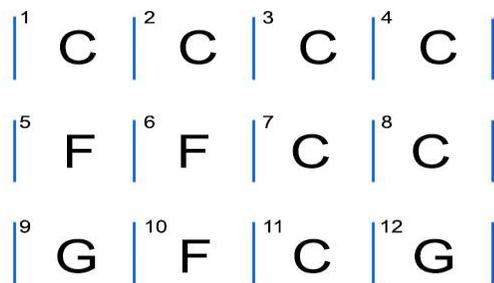
# 2 – The Blues

## Key Vocabulary

- improvisation:** when music is made up on the spot with no rehearsal
- chord progression:** a series of chords played in a particular order
- call and response:** a conversation between the lead performer and the ensemble
- sharp:** when a note is raised by a semitone
- flat:** when a note is lowered by a semitone
- major:** when a piece of music has a bright, happy sound
- minor:** when a piece of music has a dark, sad sound

# 3 – 12 Bar Blues

## 12 Bar Blues Chord Progression in C



## J.S Bach

- Baroque was a composer.
- Bach used the figured bass.
- Bach was called the Father of the Baroque period.
- Composer of Toccata and Fugue in D minor.

# 4 – Blues Techniques

- walking bass:** the bass line used in blues music
- blues scale:** six -note scale used in blues and jazz music
- Syncopation:** off beat rhythms
- Swing rhythms:** when simple rhythms sound uneven – to give a swing feel

**A blues scale**

A C D Eb E G A

## 1 – Fitness Testing

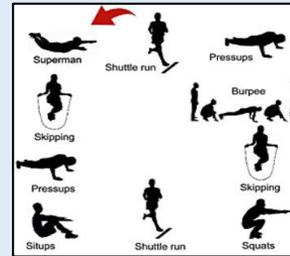
**normative data:** this tells us whether we are excellent/average/poor at each test.

<b>multistage fitness test:</b> running between 2 lines 20m apart in time to recorded beeps. The time between the beeps gradually becomes shorter.	<b>Aerobic Endurance</b>
<b>hand grip dynamometer:</b> hold above your head with straight arms, bring down to your waist squeezing dynamometer	<b>Muscular Strength</b>
<b>vertical jump test:</b> stand side on to a wall and reach up with the hand closest to the wall. Jump vertically as high as possible and record. The difference between the standing reach height and jump height is recorded.	<b>Power</b>
<b>1 min sit up test:</b> lie on the floor with knees bent and feet flat on the ground. Hand on your thighs. Count how many sit-ups you can do in 1 minute.	<b>Muscular Endurance</b>

## 2 – Circuit Training

**components:** the parts of something

**circuit training:** a combination of six or more exercises with short rest periods between them for a certain amount of time.



### Exercises and links to fitness components

- **planks** – muscular endurance
- **squats** – power, strength
- **shuttle runs** – aerobic endurance, speed
- **bicep curls** – muscular endurance, strength

## 3 – Boxercise/Exercise to Music

**exercise to music:** high-energy exercises performed as a routine set to music, using moves such as side steps, jumping jacks, grapevines

**boxercise:** an exercise class based on the training that boxers use to keep fit, using moves such as jabs, upper cuts, hooks

*Both methods of training will improve the following components of fitness:*

**muscular endurance:** our muscles' ability to keep working for a long period of time without tiring

**aerobic endurance:** our cardiovascular system's ability to keep going for a long period of time without tiring

## 4 – HIIT

**HIIT:** High Intensity Interval Training

- HIIT involves alternating short periods of intense exercise with less intense recovery periods.
- The intensity of the work needs to be high and the body needs the rest period to recover.

**tabata:** a type of high intensity interval training, with shorter recovery periods

**Exercises can include:**

- squats
- mountain climbers
- press ups
- burpees
- running
- lunges

**This method of training will improve the following**

**components of fitness:**

- strength
- muscular endurance
- power
- aerobic endurance

## 5 – Weight Training

### Key Vocabulary

**weight training:** when you lift or pull against resistance such as weights or body weight

**sets:** the number of cycles of reps that you complete

**reps:** the number of times you perform a specific exercise.

**sets and reps:** E.G. If you complete 15 reps of a bench press, you would say you've completed "one set of 15 reps."

**To work on:**

- muscular endurance lift low weights and high reps
- muscular strength lift high weights and low reps

## 6 – Orienteering

- Orienteering is an outdoor adventure sport which involves walking or running whilst navigating around a course using a map.
- Orienteering would benefit from fartlek and continuous training as it needs aerobic endurance to perform well.

**star course:** involves visiting a marker and returning to base

**sprint course:** involves racing against others to finish the course in the fastest time

**fartlek:** involves varying the intensity or speed of your run and the ground you run on

**continuous:** a form of exercise that is performed at a the same intensity throughout and doesn't involve any rest periods

## 1 – Origins of Hinduism

### Key Vocabulary

**origins:** the start of something

- Hinduism is the religion of the majority of people in India and Nepal.
- It has over 900 million followers worldwide.
- The religion started around 3,500 years ago around the River Indus.
- There were two groups of people living there: the Dravidians and the Aryans.
- It is a combination of the traditions of these two groups of people from which Hinduism grew.

## 2 – Belief in God

**polytheism:** belief in more than one god

**deity:** a god or goddess

- Hindus believe in one God, who is called Brahman.
- They believe Brahman has lots of different ways of showing himself to the world.
- Some people think Hinduism is polytheistic, but it is not.
- Hindus believe that Brahman shows himself to the world in many forms so that Hindus can understand him better.
- These different forms all have different names and different roles. They are known as deities.

## 3 – The Trimurti

**Trimurti:** three faces

- The 3 main forms of Brahman are known as the Trimurti.
  - 1 - Brahma is the creator. Images of Brahma have four heads, so that he can see in all directions at once. He also has four arms, which is a symbol of power.
  - 2 - Vishnu is the preserver. Images of Vishnu show him with four arms carrying a discus, a lotus flower, a conch shell and a mace. This is to represent power.
  - 3 - Shiva is the destroyer. Images of Shiva often change. He is sometimes shown dancing and with four arms.

## 4 – The Story of Rama and Sita

**festival:** a religious celebration

- The story of Rama and Sita is remembered through the festival of Diwali.
- Rama was a prince and he married Sita.
- Sita was kidnapped by the evil demon, Ravana.
- Rama rescued her, with the help of the monkey god Hanuman.
- Rama and Sita made their way back to the kingdom with the help of small lamps which had been placed on the ground by the people of the kingdom. The lights guided them home.
- The festival of Diwali uses light to remember the small lamps used to guide Rama and Sita home, but also to show that good can overcome evil.

## B1 – Plant Structure

## C1 – Mixtures

## P1 – States of Matter

**Key Vocabulary**

**root:** part of the plant that absorbs water and minerals

**leaf:** part of the plant specialised for photosynthesis

**photosynthesis:** a series of chemical reactions in a plant to produce glucose

**stomata:** small openings on the surface of a leaf where gas exchange occurs

**chloroplasts:** the site of photosynthesis

**peer review:** the evaluation of scientific, academic or professional work by others working in the same field

**Key Vocabulary**

**element:** a substance made from one type of atom

**compound:** two or more substances chemically bonded together

**mixture:** two or more substances not chemically combined

**pure:** only contains one type of substance

**solute:** the substance that will dissolve

**solvent:** the substance that does the dissolving

**solution:** a mixture of a solvent and a solute

**Key Vocabulary**

**particle:** the smallest piece of matter

**chemical change:** a change in which a new substance is formed and is usually irreversible

**physical change:** a change where no new substance is formed and is usually reversible

**change of state:** a physical process where matter changes state

**property:** a characteristic or a trait

## B2 – Adaptations

## C2 – Separation Techniques

## P2 – Conservation of Mass and Density

**Key Vocabulary**

**cuticle:** thin and waxy to protect the plant and prevent water loss but allowing sunlight through

**air space:** the space within the leaf to allow carbon dioxide to diffuse to the cells

**guard cells:** control the opening and closing of the stomata

**root hair cell:** increases the surface area of the root to increase water uptake

**surface area:** the amount of exposed area there is

**Key Vocabulary**

**dissolve:** when a soluble solid and a solvent form a solution

**soluble:** a method to separate soluble substances

**chromatography:** the addition of oxygen to an element

**filtration:** a method to separate an insoluble solid from a solution

**crystallisation:** a method to separate a soluble solid from a solution

**distillation:** a method to separate solutions of different boiling points

**Key Vocabulary**

**conservation of mass:** matter cannot be created or destroyed, just transferred from one form to another

**mass:** the amount of matter in a given volume

**volume:** the quantity of three-dimensional space taken up by a substance

**density:** the mass per unit volume of a substance

**compare:** looking at the similarities and differences between things

**anomaly:** a result that doesn't fit a pattern

## 1 – Specification and Design Briefs

## Key Vocabulary

**design brief:** a short statement given to the designer that outlines what the product should be like

**design specification:** a list of criteria that the product needs to address

**client:** a person or organisation that wants a product manufactured

**consumer:** a person who uses a product and may also buy it

**target market:** the group of people a product is made for

## 2 – Designing and Biomimicry

## Key Vocabulary

**biomimicry:** using nature to inspire design and to solve design problems



- The Kingfisher bird inspiring a Japanese 'bullet' train and Percy Shaw's 'cats eyes' are examples of biomimicry.

**isometric drawing:** a way of presenting designs in 3D

**dimensions:** the measurement of the length, width, or height

## 3 – Tools/Equipment

## Key Vocabulary

**tenon saw:** a hand saw for cutting straight lines in wood

**coping saw:** a hand saw for cutting detailed 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



## 4 – Tools/Equipment

## Key Vocabulary

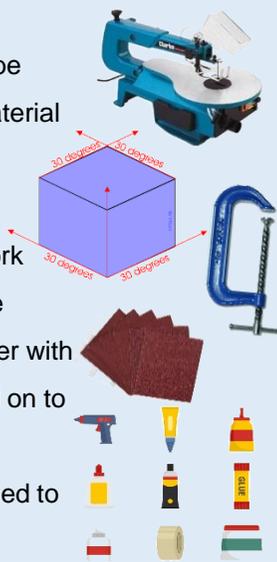
**scroll saw:** a machine that can be used to cut intricate lines into material

**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



## 5 – Materials

## Key Vocabulary

**manufactured board:** sheet material formed by gluing together wood particles or layers. E.G. 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 man-made board that is made by gluing together wood fibres. It is often used in flatpack furniture (IKEA).



## 6 – 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

## 1- Research and Designing

- A designer must be able to follow the design process to produce successful products.

### Key Vocabulary

**design brief:** a short statement given to the designer that outlines what the product should be like

**task analysis:** a breakdown of the design brief to help you understand what you are going to design and make

**target market:** the group of people a product is made for. This includes: age groups, gender, hobbies and interests.

**specification** – a list of points that the product must meet in order to fit the end users needs. This could include: function, materials, colours, sizes and cost.

## 2 – Techniques and Processes

- In the textiles industry there are many different types of techniques and processes.
- Some of them are traditional and have been done for hundreds or years.
- Others are much more modern.

### Traditional Methods

**batik:** a process using hot wax to resist touching the fabric



- A tool called a tjanting is used to apply the wax to fabric.
- Dye is painted onto the fabric and left to dry.
- Once dried the wax is removed and intricate patterns are left behind.

**tie dye:** a resist technique where rubber bands are wrapped around folded fabric

- The rubber bands prevent the dye from touching the fabric, leaving vibrant patterns.

**block printing:** this technique originated from East Asia.

- Blocks of wood are carved with a detailed pattern and are then used to print patterns onto fabrics.

## 3 – Computer Aided Design

### Key Vocabulary

**CAD (Computer Aided Design):** something designed using a computer

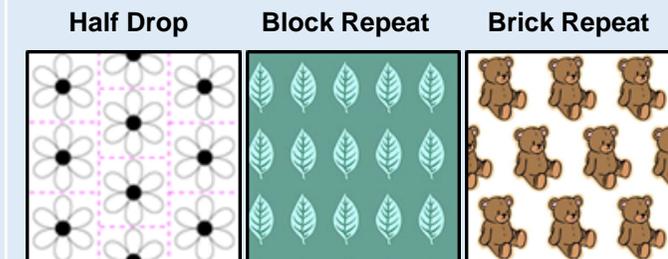
- Computer Aided Design is extremely common in the textiles industry.
- It is a much more efficient way of working and many designers choose to use this way of working.

**motif:** a decorative image or design, often used when making a repeated pattern.

**pattern repeat:** a pattern repeat on a textiles product is where an identical motif is repeated multiple times

**manipulate:** if you manipulate something you change the way it looks. When using CAD you can manipulate motifs to change their colour, shape and size.

There are three main types of pattern repeats which are:



## 1 – Good Dental Health

### Key Vocabulary

**teeth:** enamel coated structures in the jaw, used for biting and chewing

**dental health:** the practice of keeping your mouth clean and free of disease

In order to keep your mouth and teeth clean and healthy, follow the following pieces of advice:

- Brush your teeth with a good toothbrush and toothpaste.
- You should brush your teeth last thing before you go to bed, and at least one other time in the day.
- You should brush your teeth for at least two minutes each time.
- Spit out your toothpaste after brushing but do not rinse your mouth with water. Leave the protective layer of toothpaste on your teeth.

## 3 – Dental Health and Diet

### Key Vocabulary

**diet:** the foods that a person regularly eats

**sugar:** a sweet substance found in nature, which can have a negative impact on physical and dental health

- It is the way you eat/drink sugar which has a big impact on your teeth.
- It takes up to an hour for your mouth to cancel out the acid caused by eating or drinking sugar. During this time, your teeth are under attack from the acid.
- Drinking water after a meal can help cancel out the acid more quickly.
- Sugary fizzy drinks, fruit juices, and sport juices can also lead to dental erosion. This is when the enamel (coating) on your teeth gradually wears away.

## 2 – Tooth Decay and Gum Disease

**decay:** rotting because of bacteria

**disease:** a disorder of some part of the human body

**gums:** the tissue of the upper and lower jaws that surround the base of the teeth

- Tooth decay can be painful and lead to fillings, crowns or inlays. If tooth decay is not treated, the nerve of the tooth can become infected, causing an abscess.
- This may then need root canal treatment or even for the tooth to be removed.
- Gum disease is common and, if left untreated, may lead to bone loss around the teeth. In some cases, it may lead to loose teeth and teeth being lost.
- Gum disease is preventable. It can be treated and kept under control with regular cleaning sessions and check-ups.

## 4 – Accessing Dental Care

### Key Vocabulary

**responsible:** having a duty to do something

- It is important that you take care of your dental health.
- The NHS in the UK can provide dental care.
- To find an NHS dentist, go to this website: <https://www.nhs.uk/nhs-services/dentists/how-to-find-an-nhs-dentist/>
- There is lots of good dental health advice on this website: <https://www.dentalhealth.org>

