



Haggerston  
School



Year 8 Knowledge Organiser Term 1

2024

Aspiration Creativity Character

# Knowledge Organiser - Contents

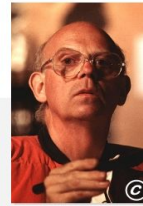
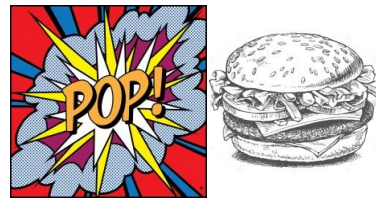
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# Term 1

**Pop Art**

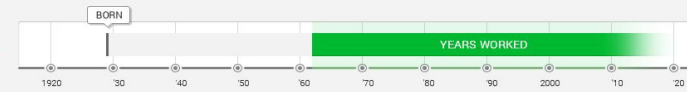
Pop art started with the New York artists Andy Warhol, Roy Lichtenstein, James Rosenquist, and Claes Oldenburg, all of whom were inspired by popular imagery. After the popularity of the Abstract Expressionists, Pop reintroduced recognisable imagery (taken from mass media and popular culture), which was a major shift for the direction of modernism. The subject matter moved away from the traditional "high art" themes of morality, mythology, and classic history; instead, Pop artists celebrated commonplace objects and people of everyday life, in this way seeking to bring popular culture to the level of fine art. Perhaps due to the incorporation of commercial images, Pop art has become one of the most recognizable styles of modern art.



**Claes Oldenburg**

American Sculptor  
Movement: Pop Art

Born: January 28, 1929 - Stockholm, Sweden



**Key Ideas**

- Whereas Pop artists had imitated the flat language of billboards, magazines, television, etc., working in two-dimensional mediums, Oldenburg's three-dimensional papier-machés, plaster models, and soft fabric forms brought Pop art into the realm of sculpture, a key innovation at the time.
- Oldenburg's objects, no matter how apparently insignificant in themselves, become expressive and loud, almost like characters in a stage play. This is partly due to their dramatically outsized scale and partly due to the soft materials he chooses, like fabric or latex. His sculptures highlight the absurdity of American culture with a gentler cynicism than his Pop art peers.
- The idea of enlarging an everyday (normal) object and placing it in a landscape is inspired by a group of artists called the Surrealists. They tried to create artwork that was strange and dreamlike – Oldenburg's giant Hamburger in the middle of a park is certainly a weird, wonderful and surreal sight! In this respect, Oldenburg is the most Surreal of the Pop artists and his sculptures are like Surrealist dreams made real.
- Oldenburg was working at a time when a group of artists called the Abstract Expressionists were making very serious artwork often with deep meaning and theory behind it. Oldenburg's squishy, rearrangeable sculpture provided a humorous contrast to this. His was a true breakthrough in the history of sculpture.
- No matter how ordinary his subjects may seem to be, for Oldenburg, a clothespin is never just a clothespin. He always refines detail and is continuously fascinated with the things we see in everyday life – he brings our attention to the things we might otherwise have overlooked, and makes us smile.



**Self Quiz:**

1. What was different about the Pop Art movement from the art that was being made beforehand?
2. What was Oldenburg's work influenced by?
3. What were the key ideas behind Oldenburg's work?
4. What is surrealism?

**Practical application of art history:**

1. Can you draw the photo of a burger, with a pencil, including detail and tone?
2. Can you draw the cake in pencil including all of the detail and tone?
3. Can you draw one of Oldenburg's sculptures using a biro pen, making different types of marks (hatching/cross-hatching) to show tone?
4. Can you draw a Pop Art-inspired background behind the cake or burger (like in the 'Pop' image)?
5. Write in full sentences WWW and EBI.

ART

Data representation

DENARY

Denary is the decimal number system that we are used to. It uses the numbers 0-9 and the column headings go up in powers of 10.

100 (Hundreds)	10 (Tens)	1 (Units)
2	3	8
2 lots of 100	3 lots of 10	8 lots of 1

BINARY

Binary uses the numbers 0 and 2. The column headings go up in power of 2:

128	64	32	16	8	4	2	1
0	1	0	0	0	1	1	1

$64 + 4 + 2 + 1 = 71$

HEXADECIMAL

Hexadecimal uses 0- F (A=10, B=11, C=12, D=13, E=14, F=15). The headings go up in powers of 16.

16	1
3	D
3 lots of 16	D (13) lots of 1

$3 * 16 = 48$   
 $D (13) * 1 = 13$   
 $48+13=61$

To convert a binary number to Hexadecimal, split into 2:

8	4	2	1
0	0	1	1

= 3

8	4	2	1
1	1	0	1

= D

BINARY ADDITION

$$\begin{array}{r} 10010101 \\ + 11011011 \\ \hline 11111000 \\ 1 \quad 11111 \end{array}$$

This binary addition gives an overflow error as the total does not fit in 8 bits (a byte).

BINARY SHIFT

A binary shift to the left multiplies the number by 2. A binary shift to the right divides it by 2. Below is an 8 bit binary number which has been shifted 2 places to the right.

Original number	1	1	0	0	1	1	0	1
Shifted number	0	0	1	1	0	0	1	1

CHARACTERS

**Character sets** = the characters that are recognised or represented by a computer system

**ASCII** = Each character is represented by a 7 bit number with a 0 in front to make it up to a byte.

**Extended ASCII** = Each character is represented by an 8 bit binary number. This gives 256 different possibilities.

**Unicode** = Each letter is represented by a 16-bit or 32-bit binary number. This gives at least twice as many character options as ASCII and allows the character set to represent characters and symbols from all languages.

# Beginner's Python Cheat Sheet

## Variables and Strings

Variables are used to store values. A string is a series of characters, surrounded by single or double quotes.

### Hello world

```
print("Hello world!")
```

### Hello world with a variable

```
msg = "Hello world!"
print(msg)
```

### Concatenation (combining strings)

```
first_name = 'albert'
last_name = 'einstein'
full_name = first_name + ' ' + last_name
print(full_name)
```

## Lists

A list stores a series of items in a particular order. You access items using an index, or within a loop.

### Make a list

```
bikes = ['trek', 'redline', 'giant']
```

### Get the first item in a list

```
first_bike = bikes[0]
```

### Get the last item in a list

```
last_bike = bikes[-1]
```

### Looping through a list

```
for bike in bikes:
    print(bike)
```

### Adding items to a list

```
bikes = []
bikes.append('trek')
bikes.append('redline')
bikes.append('giant')
```

### Making numerical lists

```
squares = []
for x in range(1, 11):
    squares.append(x**2)
```

## Lists (cont.)

### List comprehensions

```
squares = [x**2 for x in range(1, 11)]
```

### Slicing a list

```
finishers = ['sam', 'bob', 'ada', 'bea']
first_two = finishers[:2]
```

### Copying a list

```
copy_of_bikes = bikes[:]
```

## Tuples

Tuples are similar to lists, but the items in a tuple can't be modified.

### Making a tuple

```
dimensions = (1920, 1080)
```

## If statements

If statements are used to test for particular conditions and respond appropriately.

### Conditional tests

equals	x == 42
not equal	x != 42
greater than	x > 42
or equal to	x >= 42
less than	x < 42
or equal to	x <= 42

### Conditional test with lists

```
'trek' in bikes
'surly' not in bikes
```

### Assigning boolean values

```
game_active = True
can_edit = False
```

### A simple if test

```
if age >= 18:
    print("You can vote!")
```

### If-elif-else statements

```
if age < 4:
    ticket_price = 0
elif age < 18:
    ticket_price = 10
else:
    ticket_price = 15
```

## Dictionaries

Dictionaries store connections between pieces of information. Each item in a dictionary is a key-value pair.

### A simple dictionary

```
alien = {'color': 'green', 'points': 5}
```

### Accessing a value

```
print("The alien's color is " + alien['color'])
```

### Adding a new key-value pair

```
alien['x_position'] = 0
```

### Looping through all key-value pairs

```
fav_numbers = {'eric': 17, 'ever': 4}
for name, number in fav_numbers.items():
    print(name + ' loves ' + str(number))
```

### Looping through all keys

```
fav_numbers = {'eric': 17, 'ever': 4}
for name in fav_numbers.keys():
    print(name + ' loves a number')
```

### Looping through all the values

```
fav_numbers = {'eric': 17, 'ever': 4}
for number in fav_numbers.values():
    print(str(number) + ' is a favorite')
```

## User input

Your programs can prompt the user for input. All input is stored as a string.

### Prompting for a value

```
name = input("What's your name? ")
print("Hello, " + name + "!")
```

### Prompting for numerical input

```
age = input("How old are you? ")
age = int(age)
```

```
pi = input("What's the value of pi? ")
pi = float(pi)
```

## Python Crash Course

Covers Python 3 and Python 2

[nostarchpress.com/pythoncrashcourse](http://nostarchpress.com/pythoncrashcourse)



Knowledge Organiser: Networks

What is a Network?

Networking computers brings many benefits to users. Without networking, many computing applications would not be possible. A network is two or more computers (or other electronic devices) that are connected together for the purpose of communication. They are connected by a wired medium such as cables, or by a wireless medium such as Wi-Fi. A computer or device that is not connected to a network is called a stand-alone.

LAN—Local Area Network



A LAN is a network that is geographically confined to one building or site. Examples include networks employed by small businesses, small organisations, schools, colleges, universities and in homes.

WAN—Wide Area Network

A wide area network (WAN) is a network that is spread over a wide geographical area. It can cover more than one site, or be spread across a country, or even the world.

Organisations that have more than one office or branch, such as banks, tend to use a WAN. The WAN allows the head office to communicate and share data with the sub-offices and branches. Communication is done through national telephone infrastructures or via wireless transmission. The internet is essentially a huge, international WAN

Networks



Client Sever & Peer to Peer Networks

This type of network separates computers into one of two classifications - servers and clients. A server is a computer that manages and stores files, or one that provides services to other computers on the network. They control the network and allow other computers to share and communicate. In effect, they serve other computers. Typical servers include: Client-server networks are best suited to organisations with many computers, or to situations where many computers need access to the same information. Many schools use this type of model. A server is a computer that manages and stores files, whereas a client is a computer that relies on other computers to provide and manage data

Peer to Peer Networks

In a peer-to-peer (P2P) network, all computers have equal status - no computer has control over the network. There are no servers or clients. Instead, each computer is known as a peer. P2P networks are best suited to smaller organisations that have fewer computers, or where fewer computers need

Glossary

Key Vocabulary	
Client	The computer on a network that request data from a server.
Client-server	A form of computer networking where the data or web application is hosted on a server and accessed by client computers.
Collision	The result of two devices on a network trying to communicate with each other simultaneously.
Domain	An area of control or management, eg bbc.co.uk is controlled by the BBC.
Fibre-optic cable	Cable that carries data transmitted as light.
File server	A networked computer that provides large amounts of shared storage, it can be accessed by workstations on the same network.
File sharing	The act of sharing files over the internet.
Host	A server that stores files for other computers to access.
Hub	A piece of hardware used in computer networks used to connect multiple devices.
Internet	A global network connecting millions of computers.
LAN	Local area network. A network of computers that covers a small area, eg a school or college.
Server	A computer that holds data to be shared with other computers. Servers require server software.
WAN	Wide area network. A network that spans across a building, buildings or even countries, eg the internet.

# Cooking & Nutrition

MACRONUTRIENTS  
Needed by the body in large amounts

MICRONUTRIENTS  
Needed by the body in small amounts

Nutrient	Function	Source
<b>Carbohydrates</b>	<ul style="list-style-type: none"> <li>-Broken into Starch and Sugar</li> <li>-Starch foods are called complex carbohydrates and release energy over a long period of time.</li> <li>-Sugar are called simple carbohydrate. They release energy quickly. Lactose, Fructose and Sucrose are all Sugars.</li> </ul>	 <div style="background-color: #90EE90; padding: 5px; text-align: center; margin-top: 10px;"><b>Nutrients</b></div>
<b>Fibre</b>	<ul style="list-style-type: none"> <li>-Prevents constipation</li> <li>-Absorbs poisonous waste from digestive food</li> <li>-Stays undigested but helps move digested food through our system</li> </ul>	
<b>Protein</b>	<ul style="list-style-type: none"> <li>-Helps repair and grow new cells (muscles and body tissue)</li> <li>-Provides some energy</li> </ul>	
<b>Fat</b>	<ul style="list-style-type: none"> <li>-Insulates the body from the cold</li> <li>-Cushions your bones and organs from any damage caused by knocks.</li> <li>-Stores energy</li> </ul>	 <div style="background-color: #90EE90; padding: 5px; text-align: center; margin-top: 10px;"><b>Nutrients</b></div>
<b>Vitamins</b>	<p>Unlike the other nutrients, they are only needed in small amounts. They are generally used to:</p> <ul style="list-style-type: none"> <li>-Controls chemical reactions</li> <li>-Keeping the body healthy and preventing some diseases linked to a poor diet</li> <li>-Regulate the function and repair of cells</li> </ul>	
<b>Minerals</b>	<p>Unlike the other nutrients, they are only needed in small amounts. They are generally used to:</p> <ul style="list-style-type: none"> <li>-Turn the food we eat into energy</li> <li>-Build strong bones and teeth</li> <li>-Control body fluids</li> </ul>	
<b>Water</b>	<ul style="list-style-type: none"> <li>-Our bodies are 65% water. It is vital for our body to stay hydrated.</li> <li>-Chemical reactions in our cells take place in water.</li> <li>-Waste products are passed out of our bodies in water.</li> <li>-Our blood transports substances that are dissolved in water.</li> <li>-Water is in sweat that cools us down</li> </ul>	

**Factors affecting food choice:** When, how, who and what we eat can all be affected by a number of factors; health, **medical issues**, **stage of life**, personal preference, family, religion, social media, cost, availability, cultural celebrations, lifestyle, ethical and environmental implications etc.

### Medical Issues

**Lactose Intolerance:** The inability to digest the sugar **Lactose** found in Dairy based foods

**Gluten Intolerance:** The inability to digest the protein **Gluten** found in **Wheat** based foods

**Celiac Disease:** Adverse reaction to **gluten** causing the small intestine to become inflamed.

**Obesity:** The state of being overweight, having too much body **fat** as a result of over eating and not enough exercise. Being obese can result in **High**

**Cholesterol**, this refers to the amount of fat in the veins. As the fat builds up it makes it more difficult for the blood to flow, this is described as **Blood Pressure**. Having high blood pressure or cholesterol increases the risk of an **heart attack**.

**The older you get it is more difficult to manage obesity.**

**Anaemia:** Condition where the body does not have enough **iron** and therefore does not produce enough **red blood cells**. More common in females (teenage girls and pregnant women)

**Osteoporosis:** Condition that causes the **bones** to weaken and become fragile. More common in older people.

**Type 2 Diabetes:** Issues producing **Insulin** which controls the **blood sugar levels**



### Stages of Life

**Babies:** Initially fed Milk from either their mother or formula milk which contains the essential nutrients - particularly fat and calcium. After 6 months approx., Babies are given soft pureed food to help swallowing and digestion.

**Children 1-4:** Meals should be small and regular to sustain energy use; high in protein, fat, complex carbohydrates but low in fibre.

**Children 5- 12:** Should have a healthy balanced diet (following the EWG) and be active. It is at this stage that children can become obese.

**Teenagers:** During the change from child to adult muscles begin to grow more rapidly, therefore plenty of protein is needed. Girls may need more Iron as they lose blood during menstruation.

**Adults:** Need to follow a healthy lifestyle; keeping to 2000 Cals F/2500 Cals M, avoid drinking alcohol, smoking or taking drugs. Exercise should be regular and varied.

**Old People:** Protein to maintain muscles, calcium to maintain bones and teeth, Vitamin D to maintain skin and absorb calcium, Iron to avoid anaemia, fibre & water to maintain a healthy digestive system.



**Food Spoilage**

When a food deteriorates in quality or becomes unsafe to eat it is called **spoiled**. This can happen through natural **decay**, **bacterial growth** or **contamination**. If the conditions are correct the rate of spoilage will increase.

**Bacteria** is harmful **micro-organism** make food **dangerous** to eat. To multiply (and become dangerous) bacteria needs enough food and moisture, the right temperature and enough time. To stop the multiplying of bacteria, you must limit these conditions.

You can use the **4 CS** to do this:

**Cross Contamination:** preventing bacteria from spreading across different surfaces eg. bacteria from raw meat spreading to ready to eat food.

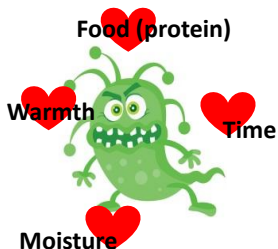
preventing raw foods (meat) from contacting ready to

**Cooking:** Kills the bacteria

**Chilling:** Keeps it dormant (not active)

**Cleaning:** Kills bacteria, but also prevents food and moisture from being available.

As well as drying hands and surfaces effectively as this takes away the moisture.



**Contamination:** The transfer and subsequent presence of harmful bacteria or chemicals in food or preparation area. There are 4 types of contamination:



**Biological Contamination:** Any transfer of bacteria from human, animal or food to food or preparation area. Including sneezing, coughing, blood, pus/transfer of bacteria from animal to their food product -meat, eggs, milk/transfer of bacteria from unclean hands



**Cross contamination:** is an example of biological contamination, it refers to the transfer of bacteria from raw meat to ready to eat foods

**Physical Contamination:** when a tangible object (you can see or feel) falls into food eg. hair, finger nails, plasters, plastic, dirt. Physical contaminants can act as vehicles to transfer of bacteria

**Chemical Contamination:** any transfer of chemicals eg, bleach, pesticides, cleaning product and perfume.

**Food & The Wider World: Seasonal Foods**

**Seasonal Foods** are foods that are ready to harvest and eat at certain times of the year eg. Strawberries in the UK in Summer. Seasonal foods are better in nutritional quality, taste and texture and cheaper. Buying seasonal foods reducing **food miles** and **carbon footprint** as you are using food that is naturally available within your country, rather than importing it from other countries. In the UK many foods are imported as they cannot grow in the UK climate and soil conditions.



**Food Miles** refers to the distance food has travelled from farm to fork. Food that has travelled further has a higher **carbon footprint**



**Farmer Markets** are markets that sell local goods from **local** farmers and suppliers. Produce is most likely to be organic, **seasonal**, sold/stored in less packaging but also fresher and better in quality and nutritional value. Shopping locally will reduce food miles/carbon footprint as it is using local suppliers.

**Carbon Footprint** refers to the amount Carbon dioxide created and released into the atmosphere at each stage of processing a food.

Every time a light is turned on or a machine is used or car travels or a fridge is used, energy is used. The production of this energy creates pollution, causing CO2 to be released.



**Food Science: Function of Ingredients - FATS**

**Rubbing in technique:**

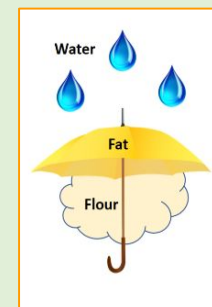


Jamaican Patties, Shortbread Biscuits, the toppings of an apple crumble and Mini Quiches are all **crumbly in texture** and buttery in flavour. This is because they all contain high amounts of fat - butter.

When **flour is mixed with water, gluten is formed**. Gluten is needed in bread making to give a stretchy dough and an overall chewy texture.

HOWEVER, when **butter is rubbed into flour** (in the rubbing in technique) the fat from the butter coats the flour and acts like a waterproof coating. This means that **less gluten is formed or shorter strands of gluten are formed**.

**Butter (or FAT) is used as a shortener** when making pastry and other baked goods to create a short crumbly texture. That is why shortcrust pastry and shortbread biscuits have 'short' in their name



## The Party

### The Party – Plot Summary

The protagonist is on school holidays and would like to go out to play. The protagonist's mother has gone to work and has locked the door. "When it's holidays, she makes me stay in. I have to stay in all day. If I get out – she beats me. When she goes to work, she locks the doors." Janet Smith is having a party. Janet is a friend from school but the protagonist has not been invited to the party. The protagonist sits by the window and watches the rain.

"This afternoon I sat by the window. I am staring out. There weren't even any cats about. Too wet for cats. The rain poured down."

The protagonist opens the bedroom window and despite being told to stay in, climbs out into the rain and down from the roof to go to the party.

"I landed in the puddle in the yard. The water splashed up my socks. My legs stung. My feet burned like bonfires. I tried to wipe my hands on my trousers, but my trousers were soggy like a sponge."

The protagonist arrives at the party completely soaked from the rain. As the protagonist enters Janet's house all the laughter stops and the other children stare.

"The chatter and laughter stopped. All the kids stared. No-one liked me."

The protagonist is given cake and jelly to eat but they decide to leave. "The cake clogged up my mouth. The jelly tasted sour. The kids played together. No-one spoke to me. I got down from the chair. "I've got to go," I said."

The protagonist goes home in the pouring rain to wait for their mother to return from work.

"I came into the cold rain and spits and stings and slaps. The day's gloom will soon deepen into night. I can't get in our house. The door is locked."

### Key Words

#### Drama techniques

**Protagonist** - The main character

**Symbolism** - Using something to represent something else. We use symbolism to communicate ideas to the audience in a different more creative way.

#### Writing techniques

##### Personification

Assigning human qualities to something that isn't living.

##### Pathetic fallacy

Using the weather or nature to emphasise human emotion.

##### Imagery

Descriptions of things that appeal to our senses. They intend to deepen the reader's understanding of the text.

### Self Quiz – LOOK, COVER, WRITE, CHECK & CORRECT

Make sure you understand the events in the story and remember the definitions of vocabulary and writing techniques.

### Task 1

Chose two moments in the story and think of a way to symbolise them using drama. Use the sentence stem to describe how you would dramatise your ideas and explain what is being communicated to the audience.

*When we/ I/ they \_\_\_ (describe the drama).*

*This effectively communicates (explain how it links to the intentions) to the audience.*

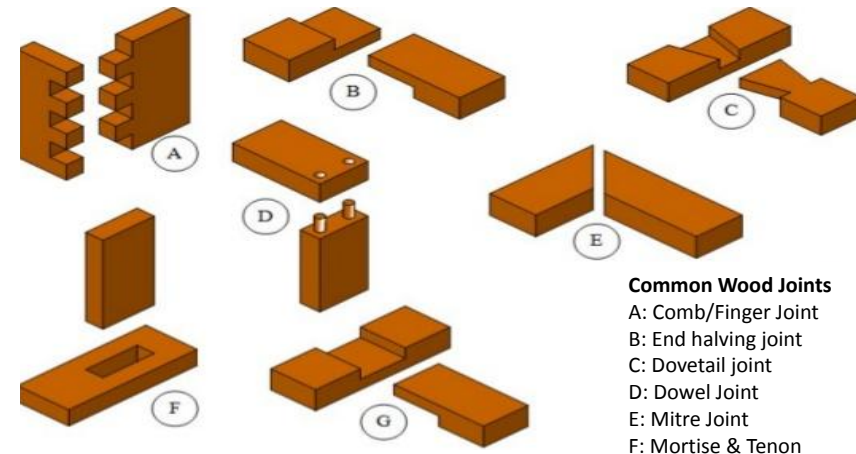
Example:

I would position the protagonist in the centre surrounded by the other performers who would clap their hands together powerfully in unison to symbolise the force of the rain. As they clap, they would shout repeatedly, "spits, stings, slaps" in an aggressive tone. This effectively communicates the personification in the language and the emotional pain the protagonist feels.

Materials and Metals



Tools & Equipment



**Common Wood Joints**  
 A: Comb/Finger Joint  
 B: End halving joint  
 C: Dovetail joint  
 D: Dowel Joint  
 E: Mitre Joint  
 F: Mortise & Tenon  
 G: Tee halving

Material Characteristics	
<b>Hardness</b>	resist cutting and indentations to its surface
<b>Toughness</b>	Ability to withstand shock
<b>Strength</b>	The ability to withstand being pulled or stretched, crushed or compressed or twisted.
<b>Elasticity</b>	Ability to be stretched and return to its original size
<b>Flexibility</b>	The ability to bend without breaking and then spring back to its original shape.
<b>Impact Resistant</b>	Ability to resist sudden shocks
<b>Strength to Weight Ratio</b>	Measure of strength to weight, for instance Aluminium is a light weight material but is strong. Therefore having a high strength-to-weight ratio
<b>Ductility</b>	Ability to be stretched like the length of wire without breaking
<b>Malleability</b>	The ability to be hammered, rolled or pressed into shape without breaking
<b>Durability</b>	Able to last a long time

Hardwoods

Type of wood	Description	Usage
American White Oak	A very strong wood Light brown in colour. Open grained Difficult to work with	High quality furniture. Beams used in buildings Veneers
Mahogany	An easy to work with materials, Reddish brown in colour	Indoor furniture Shop fittings Bars Veneers
Beech	A straight-grained wood with a fine texture. Light in colour Very hard but easy to work with Can be steam bent	Furniture Toys Tool handles
	A very durable oily wood Golden brown in colour. Highly resistant to moisture	Outdoor furniture. Boat building Laboratory furniture and equipment

Softwoods

Type of wood	Description	Usage
Spruce	Creamy-white colour Has small hard knots Not very durable	General indoor work Used mainly for kitchens and bedrooms
Scots Pine	A straight-grained wood, but knotty. Light cream/pale brown in colour Fairly strong but easy to work with. Inexpensive	Readily available for DIY Constructional work and simple joinery work
Parana Pine	Hard and straight grained. Almost knot free. Fairly strong and durable. Expensive Pale yellow in colour with red/brown streaks	Better quality pine furniture and fittings such as doors and staircases
Yellow cedar	A pale yellow colour with fine even texture. Light in weight but stiff and stable	Furniture, amateur aeroplane building, boat building, veneers

Manufactured boards (man made woods)

Type of wood	Description	Usage
MDF medium density fibre board	Smooth even surface. Easily machined and painted or stained. Also available in water and fire-resistant forms	Used mainly for furniture and interior panelling due to its machining qualities. Often veneered or painted
Plywood	A very strong board which is constructed of layers of veneer or plies which are glued at 90degrees to each other. Interior and exterior grades available	Structural panelling in building construction. Furniture making. Some grades used for boat building and exterior work
Hardboard	A very inexpensive particle board which sometimes has a laminated plastic surface	Furniture backs, covering curved structures. Door panels
Chipboard	Made from chips of wood glued together. Usually veneered or covered in plastic laminate	Kitchen and bedroom furniture when veneered or plastic laminated. Shelving and general DIY work

Computer Aided Design

Advantages of CAD	Disadvantages of CAD
Ideas can be drawn and developed quickly	Expensive to set up
Designs can be viewed from all angles and with a range of materials	Needs a skilled workforce
Some testing and consumer feedback can be done before costly production takes place	Difficult to keep up with constantly changing and improving technology
More accurate drawings can be achieved	Files can be corrupted or lost
Changes can be made to the drawings easily	
Easier to store drawings as digital files that can be sent all around the world in an instant	

DT

# Liberal Worlds

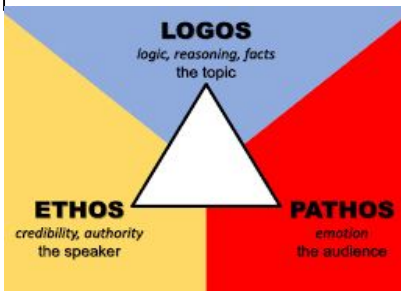






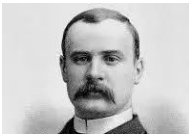
## What Is Liberal Worlds?

In this unit of work, we will explore and discuss a range of non-fiction texts relating to the idea of tolerance and diversity. We will also learn about Aristotle's 'Rhetorical Triangle' and practise writing to argue and persuade.

## Aristotle's' Rhetorical Triangle

Aristotle was an ancient Greek philosopher. He was particularly interested in the subject of 'rhetoric': the art of persuasive speaking or writing. According to him, the three main tools for persuasive language are *Ethos*, *Logos* and *Pathos*.



Texts		Context
John Ruskin 'Sesames and Lilies', 1865		John Ruskin's "Sesame and Lilies", first published in 1865, stands as a classic 19th-century statement on the natures and duties of men and women and provides insight into the strict gender stereotypes of the time.
Lynsey Addario, 'On today's battlefields, more women than ever are in the fight.' 2019		Lynsey Addario is an American photojournalist. Her work focuses on conflicts and human rights issues. In this article, she celebrates how more women than ever are taking more active roles in militaries.
Jamil Smith, 'The Revolutionary power of Black Panther.' Article published in Time magazine in 2018		Jamil Smith is an American print and television journalist. In this article, he writes about the important role that Black Panther has had in providing positive representation for black people.
Alan Turing, 'Yours in Distress.' Extract from a letter to a friend, written from prison, just before Turing's suicide in 1954.		Alan Mathison Turing OBE FRS was an English mathematician, computer scientist, logician, cryptanalyst, philosopher and theoretical biologist. He was also criminally prosecuted for the supposed crime of being gay and later killed himself due to the persecution he faced.
Excerpt taken from The Elephant Man and Other Reminiscences by Sir Frederick Treves (Originally published 1923)		Frederick Treves was a prominent British surgeon. In account, he describes seeing John Merrick (cruelly known in popular culture as 'The Elephant Man' for the first time. Merrick was used as a freakshow attraction and Treves's account provides shocking insight into the prejudice and discrimination experienced by those with physical deformities in Victorian England.



ENGLISH

Descriptive techniques (DPRO1)		Persuasive techniques: AFOREST (DPRO1)	
Technique:	Example:	Technique:	Example:
<b>Personification</b> - a metaphor attributing human feelings to an object.	<i>As Othello's rage grew, <b>thunder roared</b> in the dark Venetian skies.</i>	<b>Alliteration</b> – when more than one word in a row starts with the same letter.	<i>Perilous people persecuted.</i>
<b>Metaphor</b> - a descriptive technique that names a person, thing or action as something else.	<i>Jealousy is a green-eyed monster.</i>	<b>Facts</b>	<i>Alan Turing died in 1954 having been prosecuted.</i>
<b>Simile</b> - a descriptive technique that compares one thing with another, usually using 'as' or 'like'.	<i>Manipulation is a force as powerful as an earthquake.</i>	<b>Opinion</b> (expert)	<i>Professor Clark, of Oxford University, says "..."</i>
		<b>Repetition</b> – repeating a word or phrase.	<i>Tolerance of different sexualities, tolerance of different religions, tolerance of different ethnicities.</i>
		<b>Emotive Language</b> – appealing to your audience's emotions.	<i>War hero Alan Turing, who, arguably, won the war for Britain. Persecuted by the country he did so much for.</i>
		<b>Statistics</b> – using numbers and percentages (invent them).	<i>85% of students bullied due to disability or deformity struggle with their mental health.</i>
		<b>Three (rule of)</b> – using three descriptive words/techniques	<i>Diversity is inspiring, essential and necessary.</i>

Sentences (DPRO3,4)	
Technique:	Example:
<b>Subject</b> - noun the sentence is about.	<i>The <u>waves</u> danced.</i>
<b>Verb</b> - word expressing action/ doing.	<i>The waves <u>danced</u>.</i>
<b>Main clause</b> - Part of a sentence containing one subject and one main verb (makes sense by itself).	<i><u>The car stopped</u> because the lights were at red.</i>
<b>Subordinate clause</b> - Part of a sentence which does not make sense by itself.	<i>The car stopped because <u>the lights were at red</u>.</i>

Vocabulary
<b>derogatory</b> : showing a critical attitude
<b>masculinity</b> - seen to be characteristic of males
<b>representation</b> - portraying someone in a certain way
<b>tolerant</b> - accepting of different opinions/ behaviours of others
<b>intolerant</b> - unaccepting of others opinions/ behaviours
<b>diversity</b> - people from a range of backgrounds
<b>empower</b> - give someone power
<b>deformity</b> - a malformation/ something being bent out of shape
<b>sexuality</b> - sexual orientation
<b>gender</b> - socially constructed characteristics of men/ women
<b>stereotype</b> - a widely held but oversimplified view of a particular type of person/ thing
<b>prejudice</b> - preconceived idea that is not based on actual experience. Leads to discrimination.
<b>subvert</b> - twist/ change/ distort
<b>norm</b> - something that is usual or standard

Sentences (DPRO3,4)	
<b>Coordinating Conjunctions</b> - join two main clauses to create a <b>compound sentence</b>	<b>FANBOYS</b> For/And/Nor/But/Or/Yet/So  <i>The majestic bird soared through the clear blue sky <u>and</u> the wind whistled melodically.</i>

How to Structure your Writing: The Body Plan (DPRO2)		
Section	Techniques	Starter
<b>The handshake: A powerful introduction</b>	Direct address Refer to the purpose of the piece: <i>(readers / audience / name of the person if it's a letter')</i>	<i>Imagine a world where...</i>
<b>The brains of the matter: Sound knowledgeable</b>	Facts and statistics The opinion of an expert	<i>Let me share a piece of evidence to convince you: ...</i>
<b>Appeal to the heart: An emotive argument</b>	Emotive language Anecdote (personal or about a real/made up other person)	<i>Take (me / name of person) ...</i>
<b>Kick the opposing argument off the pitch</b>	Acknowledge the other side of the argument but state why your case is stronger	<i>While some people may say...</i>
<b>Look to the future: Finish with a call to action</b>	Imperative language Refer to the purpose of the piece: <i>Readers, as you put down this magazine I want you to...</i> <i>Audience members. As you leave this assembly hall today I want you to...</i>	

Sentences (DPRO3,4)	
<b>Subordinating Conjunctions</b> - start subordinate clauses which help create <b>complex</b> sentences	If/ Since/ As/ <u>When</u> / <u>Although</u> / <u>While</u> / <u>After</u> / <u>Before</u> / <u>Until</u> / <u>Because</u> (ISAWAWABUB) <i><u>Although</u> it had been raining, the ground was dry.</i> <i>It had been raining <u>although</u> the ground was dry.</i>








# Othello



Themes
Heroism
Love
Order vs. disorder
Reputation
Discrimination
Trust

Plot	
1	Othello and Desdemona get married in secret. Iago uses Roderigo to cause problems with Desdemona's father Brabantio.
2	Iago tricks Cassio into losing his position and reputation.
3	Iago is given a handkerchief by Emilia. This is used to manipulate Othello and Cassio.
4	Iago starts making Othello think that Desdemona and Cassio are lovers.
5	Iago manipulates Othello into believing Cassio and Desdemona are having an affair.
6	Othello kills Desdemona.
7	Roderigo tries but fails to kill Cassio.
8	The truth is revealed by Emilia who is killed by her husband.
9	Othello kills himself to regain his reputation.
10	Iago is punished by being sent to be tortured and killed.

Character		Vocabulary	Context
Othello	Known as the "Moor" he is a general in the army. He is Black and older than Desdemona.	isolation	<b>Written</b> The play was written in 1603 or 1604 by William Shakespeare. The Jacobean era.
Desdemona	The young, white daughter of a Venetian Senator.	manipulation	
Iago	A soldier. Iago is a jealous, manipulative character.	reputation	<b>Hamartia</b> Othello's hamartia (his fatal flaw) is his jealousy. He trusts Iago over his wife and then becomes jealous and obsessed when Iago manipulates him.
Emilia	Iago's wife. She develops a close friendship with Desdemona.	deception	
Cassio	Othello's friend. He is made lieutenant despite having little military experience.	temptation	<b>Tragic hero</b> A hero who starts with high, noble status and then falls low, losing everything, caused by fate and hamartia. Othello is a tragic hero.
Bianca	Used by Iago to trick Cassio and therefore also Othello.	secrecy	
Roderigo	Loves Desdemona and is manipulated by Iago.	jealousy	<b>Race and discrimination</b> The word 'Moor' now refers to the Islamic Arabic inhabitants of North Africa, but the term was used then for Africans from other regions too. Shakespeare was unusual for his time in writing a play with a central, heroic character who is black. Only Iago explicitly stereotypes Othello.
Brabantio	Desdemona's father. A Venetian Senator (powerful politician).	tragedy	
<b>Settings</b>		betrayal	<b>Roles in the military</b> The military hierarchy consists of Othello as the top-ranking officer, or general, Cassio as the second in rank, or lieutenant, and Iago as the third-ranking officer, the ancient.
Othello is set in the time of wars between <b>Venice</b> and <b>Turkey</b> that happened in the latter part of the sixteenth century.		guilt / guilty	
Cyprus, which is the setting for most of the action, was a Venetian outpost (a place where they had military buildings) attacked by the Turks in 1570 and conquered the following year.		trust	<b>Women - Society was 'patriarchal' (led by men). Women were said to be lower than men in The Great Chain of Being. A woman's role in Shakespeare's times was clearly defined. They were expected to marry, to bear children and be subservient to men.</b>
Venetian = a way to describe someone who is from Venice, Italy Turk = a way to describe someone who is Turkish, from Turkey		suspicion	
		loyalty	
		Machiavellian	
		revenge	
		punishment	
		foreshadowing	
		nobility	
		compatible / incompatible	
		(love) affair	
		witchcraft	
		elope	
		discrimination	
		prejudice	
		patriarchal	
		motif	

Quotations	Meaning	Analysis
<p>Act 1 Scene 1  <b>“An old black ram is tupping your white ewe”</b>                      (Iago to Brabantio)</p> 	<p>Iago says this to warn Brabantio (Desdemona’s father) that Othello is having a love affair with his daughter.</p>	<ul style="list-style-type: none"> <li>• The words “black” and “white” introduce race as a theme</li> <li>• “Your” highlights the power men had over women, as though Desdemona belongs to her father</li> <li>• Animal imagery</li> </ul>
<p>Act 1 Scene 3  <b>“She is abused, stol’n from me, and corrupted By spells and medicines”</b>                      (Brabantio to his Senators)</p> 	<p>Brabantio says his daughter Desdemona is dead to him. He thinks she has been tricked by Othello who has used black magic spells to steal her away from him.</p>	<ul style="list-style-type: none"> <li>• Shows Brabantio does not believe Desdemona chose to marry Othello</li> <li>• Suggests Othello has used witchcraft</li> <li>• Violent verbs “abused” “stol’n” (stolen) and “corrupted” convey Brabantio’s hurt</li> </ul>
<p>Act 2 Scene 3  <b>“Reputation, reputation, reputation! I have lost the immortal part of myself”</b> (Cassio to Iago)</p> 	<p>Cassio says this after he has lost his important job in the army. He says that without his reputation he is nothing.</p>	<ul style="list-style-type: none"> <li>• Repetition and exclamation mark show Cassio’s strong feelings of anger and hurt</li> <li>• “immortal” suggests that a reputation lasts forever</li> <li>• Both Cassio and Othello value reputation and care what other people think</li> </ul>
<p>Act 3 Scene 3  <b>“O, beware, my lord, of jealousy! It is the green-eyed monster”</b> (Iago to Othello)</p> 	<p>Iago tries to sound like he is helping Othello but he is actually manipulating him by making Othello believe that Desdemona has been unfaithful.</p>	<ul style="list-style-type: none"> <li>• “Green-eyed monster” metaphor suggests that jealousy is such a strong emotion that it consumes the person</li> <li>• “My lord” shows the military hierarchy, with Othello at the top</li> </ul>
<p>Act 5 Scene 2  <b>“Put out the light, and then put out the light”</b>                      (Othello to himself)</p>	<p>Othello says this as he convinces himself to kill Desdemona in the final tragic act.</p>	<ul style="list-style-type: none"> <li>• Wants to kill Desdemona to save his reputation but he still loves her</li> <li>• The “light” symbolises Desdemona’s life which he is about to “put out”</li> </ul>
Moments to mention		Analysis
<p><b>Characters calling Othello “the Moor”</b>                      “Moor” is a historical term relating to being from Africa or non-white. It refers to Othello’s ethnicity and has racist connotations. The play’s subtitle is ‘The Moor of Venice’.</p> 	<ul style="list-style-type: none"> <li>• Although he is respected due to his high rank in the army, this suggests Othello is an outsider</li> <li>• One interpretation is that his ethnicity (he is black) is seen as foreign by the Venetian characters</li> <li>• In the Elizabethan era there were <b>prejudiced</b> views held against people who were foreign.</li> <li>• Shakespeare may have been <b>criticising</b> these racist attitudes.</li> <li>• Shakespeare may want the audience to question their views by portraying Othello as a <b>noble hero</b> before he is <b>corrupted</b> by Iago.</li> </ul>	
<p><b>Desdemona’s handkerchief</b>                      This was a gift to Desdemona from Othello. It is taken by Emilia to give to her husband Iago, who uses it to manipulate Othello by suggesting that Desdemona is having an affair and being unfaithful.</p> 	<ul style="list-style-type: none"> <li>• Handkerchief is symbolic of Othello’s love for Desdemona as it was the first present he bought her</li> <li>• It also symbolises Desdemona herself: her faith and trust in Othello</li> <li>• This prop would have entertained theatre audiences, who see it being used to manipulate Othello (dramatic irony)</li> </ul>	
<p><b>Act 3 Scene 3: Iago’s manipulation succeeds</b>                      This scene is a turning point: Iago finally convinces Othello that Desdemona has been unfaithful and had a love affair.</p> 	<ul style="list-style-type: none"> <li>• In the beginning of the play Othello trusted Desdemona completely</li> <li>• Iago successfully manipulates Othello as he has ‘proof’ that Desdemona has been unfaithful: the handkerchief (this was actually stolen)</li> </ul>	

## Population & Migration

### Population Distribution:

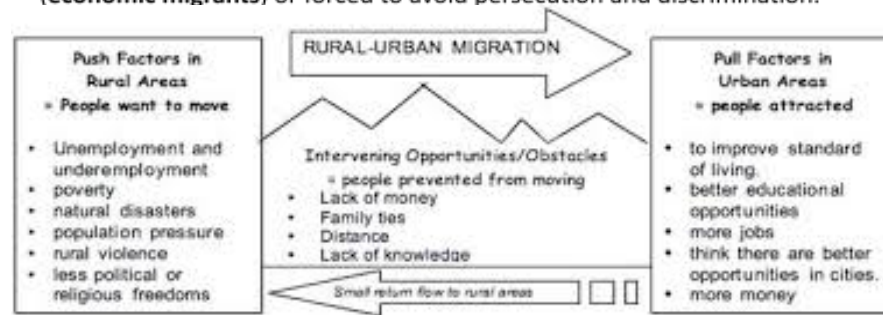
The world's population is not evenly distributed. Some places are more densely populated than others. In the UK over 82% of the population live in urban areas making it one of the most urbanised countries in the world however, the South East of England is more densely populated than areas such as Northern Scotland. The world's population is growing and some countries are experiencing rapid growth whilst others are declining. The world's population is currently over 8 billion. There are increasing rates of **urbanisation** across the world, especially in Asia where over half the world's population lives. Many of the world's fastest growing cities are in Africa, where population growth and rural - urban migration rates are high. Most cities with low growth rates are in Europe, North America and Japan.

[Link to map showing world population distribution.](#)

Factors that affect population distribution:	
Physical	Climate
	Relief
	Natural Resources
Human	Employment
	Infrastructure

### Migration:

People migrate for a number of reasons. This could be voluntary to get a job (**economic migrants**) or forced to avoid persecution and discrimination.



### DTM (link to [BBC bitesize](#))

Changes in birth rate and death rate vary over time and can be linked to development. The demographic transition model is used to show these changes using historical data from countries. It is divided into 5 stages with similar characteristics.

Links: [BBC Bitesize](#) , Oak academy Lessons [Population](#); [Internet Geography](#) topic pages

### Key words

**Birth rate:** the number of births per 1000 people of the population

**Death rate:** the number of deaths per 1000 people of the population

**Densely populated:** a large number of people in an area. This usually occurs in towns and cities.

**Fertile:** Soil that is full of nutrients and easy to grow crops

**Intervening obstacles:** factors that might affect a person's ability to migrate or their choice of destination.

**Migration:** the movement of people from one place to another.

**Natural increase:** the difference between the birth rate and death rate.

**Population Density:** The number of people living in an area. Measured in people per km<sup>2</sup>

**Push factor:** A reason for leaving a place such as lack of job opportunities.

**Pull factor:** A reason that attracts people to a new place for example more entertainment & services.

**Relief:** The height of the land.

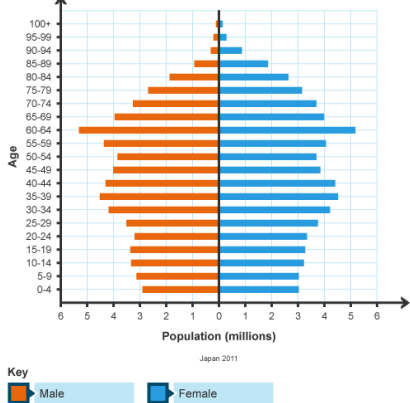
**Rural -urban migration:** when people move from the countryside to the city for work

**Sparsely populated:** when there are few people in an area, they are spread out. This usually describes the population in rural areas.

**Urbanisation:** the increase in the proportion of people living in towns and cities.

### Population Pyramids

These are graphs that show the population structure of a country. They show how many males and females are in each age category





## Employment & TNCs

TNC's: A transnational corporation is a large company that operates globally for example Nike, Ford or Apple.

### Employment changes over time

	Pattern	Why
<b>Primary</b>	High Pre industrial (pre 1800) Lowers during Industrial and post industrial	Agriculture done by hand, Less jobs in farming as machine do work Machines and cheaper to import goods
<b>Secondary</b>	Increases during Industrial (post 1800) Lower during post industrial (post 1840)	Machines do more work again <b>De-industrialisation</b> and the decline of the UK industrial base - fewer jobs in primary and secondary industries such as mining and steel making. And manufacturing. These industries were once a primary source of employment and income for the UK – now they have moved abroad. Government Policy to privatise trains, steel, post <u>Globalisation</u> – world more connected cheaper to manufacture abroad – think cost of making t-shirt in UK compared to India
<b>Tertiary</b>	Increases during Industrial and <u>post industrial</u> .	People have more disposable income, so demand banks, sales, retail> this creates jobs. 80% now work in services: retail, hairdressing, IT, Finance, Research
<b>Quaternary</b>	Increases post industrial	Demand for advances in medical and technology

#### Advantages of TNCs

- Provide more stable jobs, pay is often higher than in the primary industry as a result.
- The **multiplier effect** occurs where other businesses are attracted to the area for example new businesses set up to supply parts to a TNCs factory and the wages of factory workers support local business such as shops.
- Increasing connections and trade between countries
- More profit is made for the TNC
- Taxes paid by the TNC can be reinvested into the country to improve healthcare or education for example.
- TNC's often invest in improving infrastructure such as roads and communication which benefits the host country.

#### Disadvantages of TNCs

- TNCs have been accused of exploiting workers in the LIC/NEE countries by paying them low wages and enforcing long hours.
- Outsourcing jobs can lead to job losses in the home country in a processes known as **deindustrialisation**.
- Local cultures and traditions can be eroded by TNC brands and western ideas. -- Where there are weaker environmental laws or protection TNC's can cause damage to the local area through the pollution of water, land and air.
- Overuse of resources in LIC's/NEEs such as water and wood at the expense of the local population. Rainforest deforestation has increased dramatically over the last 50 years. In both Nigeria and Togo 50% of their rainforest has been lost when cut down for timber supplied to manufacturing industries.
- There are no guarantees that the wealth from inward investment will benefit the local community. Often, **profits** are sent back to the country where the TNC is based. If it becomes cheaper to operate in another country, the TNC might close down the factory and make local people redundant.

#### TNCs Overview

Globalisation has resulted in many businesses setting up or buying operations in other countries. When a TNC invests in a country, perhaps by building a factory or a shop, this is called **inward investment**. The US fast-food chain **McDonald's** is a large TNC - it has over 34,000 restaurants in 119 countries.

In many cases TNC's often generate larger profits than the annual GDP (Gross domestic profit) of some of the poorest countries. The largest TNC is Walmart, with a revenue of more than \$485 billion - larger than the GDP of Belgium!The number of TNC's has grown rapidly with more TNC's from Asia in the top 10.

New overseas operations may be part of a production process in a lower cost location, or a retail outlet to access new markets and increase revenue. Firms can do this either through offshoring when they move part of their operations such as manufacturing to another country or outsourcing when a TNC contracts another firm to produce goods or provide a service.

Much of China's rapid economic growth has been fuelled by western TNCs locating manufacturing plants in its SEZs, creating jobs and boosting exports, taking advantage of China's economic liberalisation since 1978.

#### Key words:

**Deindustrialisation:**the decline of a country's traditional manufacturing industry due to exhaustion of raw materials or competition from NEE's.

**HIC:** High income country. A way of classifying countries according to their income. A high income country according to the world bank will have a gross national **income** per capita of US\$12,536.

**LIC:** A low income country classified by the world bank as a country with an income of less than US\$1026 per capita.

**Multiplier effect:** the positive spin-off effects that follow on from an initial investment such as a new factory.

**NEE:** A newly emerging economy is a country whose income is rapidly increasing as there is an increase in secondary, tertiary or quaternary industry.

**Per capita:** per person

History of Enslaved Peoples

**Summary: The Transatlantic Slave Trade** involved the enforced enslavement of millions of Africans and their transport to the Americas. Enslaved people were often made to work in **inhumane conditions with no wages**. Many were beaten or killed by brutal owners, and had no rights in their new countries. Many didn't survive **the journey**. Countless **African communities were destroyed**, whilst many European nations became extremely wealthy from the profits of the slave trade. We will focus in this module on the experiences of enslaved people throughout this horrific period of history

Key concepts		
1	The Triangular Trade	The trade in slaves was called the triangular trade, because it made a rough triangle between Europe, Africa and the Americas: 1. Manufactured goods from Europe, e.g. textiles and weapons, were taken to Africa where they were exchanged for slaves; 2. The transport of slaves from Africa to the Americas was known as the 'Middle Passage.' 3. Materials produced as a result of slave labour in the Americas, e.g. sugar, cotton were brought back to Europe
2	Middle Passage	Enslaved people were captured in many different ways, including in battles, raids and kidnappings. Others were sold into slavery in order to pay debts. Slave ships were deliberately designed to fit as many slaves on board as possible. Conditions were truly inhuman. Men, women and children were crammed on board with very little food or hygiene facilities. During the long journey to the Americas many died of illness, disease, hunger or injury. Of 12.5 million sent by slave ships between 1526 and 1867, only about 10.7 million arrived.
3	Auctions	Before auctions, slaves were kept in pens where they were washed, covered in grease to make them look healthy and branded to show they were slaves. At auction, enslaved people were sold to the highest bidder. The atmosphere in the auctions was one of a market. Humans being traded as if they were objects. At auction, families were often split up. Buyers would spend most on young, healthy people. For those older people and young children who were not sold, there was then a scramble auction, where prices would be lowered to make sure they were sold.
4	Plantations	After being sold many went to work in plantations, where conditions were exceptionally harsh. Slaves worked from dawn until dusk, with very little food, and were whipped for lack of effort. Slaves who disobeyed even in small ways were severely punished. In some countries slaves could be killed legally. Runaways could be hanged, tortured or beaten.

Key words	
<b>Atlantic</b>	The sea that connects Europe, the Caribbean and the Americas
<b>Slave trade</b>	People would exchange goods or money for slaves who were forced to work with no pay.
<b>Africa</b>	A continent containing many different countries, ethnic groups and cultures, where black people were taken from to be enslaved from the 16th-19th Centuries.
<b>Native Americans</b>	These people lived in the Americas before Europeans travelled there. They were the first people to be enslaved by Europeans in the Americas.
<b>Caribbean</b>	A place in the Americas where African slaves worked on plantations, making sugar, rum and tobacco.
<b>Americas</b>	The place where slaves were
<b>Rebellion</b>	An uprising against the state or authority.
<b>Abolition</b>	The end of an event.
<b>Plantations</b>	Slaves were forced to work here, farming and processing crops.
<b>Revolution</b>	A rebellion that overthrows a government or authority.
<b>Enslaved</b>	When an individual is forced to work against their will for no pay, often in bad conditions.
<b>Source</b>	An object or written document that tells a historian more about what happened the past.
<b>Auction</b>	A type of sale where people bid for a product, which goes to the highest price offered.
<b>Scramble Auction</b>	Where a slave trader would set a fixed price for his slaves and buyers rush to grab the best slave.
<b>Branded</b>	Slaves were marked with the owner's initials on their face, chest or back

Key concepts			Key developments	Skills focus:
5	Passive resistance and active resistance	<p>Passive resistance: Working very slowly or purposely making mistakes and keeping up African tradition.</p> <p>Active resistance: Resistance through visible forms of protest</p> <p>Active resistance networks: The <b>Underground Railroad</b> was a network of secret routes and safe houses in the United States during the early to mid-19th century. Enslaved people would use the network to reach states where slavery was illegal. The network was made up of people who supported abolishing (ending) slavery. It is believed that around 100,000 slaves between 1810 and 1860 escaped using the network, this was incredibly risky for everyone involved.</p>	<p><b>1560s</b> - John Hawkins sold the first African slaves.</p> <p><b>1750 - 1807</b> - between a third and a half of Liverpool's trade was with Africa and the Caribbean.</p> <p><b>1619</b> -The first shipload of Africans arrives in Virginia USA</p> <p><b>1662</b> - Virginia passes a law making children of black people slaves in America,</p> <p><b>1789</b> - Olaudah Equiano writes about his life as a slave.</p> <p><b>1791</b> - Haitian Revolution</p>	<p>Sources</p> <p><i>How can we use sources to tell us about the past?</i></p> <p><i>What can we infer from sources about the past?</i></p> <p><i>What makes a source useful?</i></p> <p><i>Building an argument around how a sources content affects its utility</i></p> <p><i>Building an argument around how a sources origin affects its utility</i></p>
6	Rebellion and resistance	<p><b>Nat Turner's Rebellion 1831</b> This was a rebellion of enslaved people that took place in America, in August 1831. It was led by preacher Nat Turner. The rebels killed between 55 and 65 people, at least 51 of whom were white. The rebellion only lasted days,, but Turner and 120 other black people were killed as a result.</p> <p><b>Haitian Rebellion 1791</b> This was a rebellion in the French colony of Saint-Domingue. Enslaved people turned on their white enslavers and thousands were killed. <b>Toussaint Louverture</b> a freed slave, gained control of areas of Saint-Domingue. Eventually the island was declared independent under the name Haiti. While it was a success, the freed people had to pay <b>150 million</b> to France for damages, which ruined Haiti's economy, with effects still seen today.</p>	<p><b>1807</b> - End of the slave trade in the British Empire</p> <p><b>1831</b> - Nat Turner's Rebellion</p> <p><b>1833</b> - Abolition of enslavement. (Enslaved people working on plantations for free)</p>	<p><i>Using contextual information to support or challenge a source</i></p> <p><i>Building an argument around how useful a source is to an enquiry</i></p>
7	Abolition	<p>Throughout the 18<sup>th</sup> Century, opposition began to gather against the slave trade in Britain, America and parts of Europe.</p> <p>Key abolitionists include: William Wilberforce, Granville Sharp and Thomas Clarkson.</p> <p>Former enslaved people Olaudah Equiano and Ignatius Sancho brought awareness to the horrors of the slave trade through their writing. In 1806, Britain's new Prime Minister Lord Grenville, strongly <b>supported abolition</b>. Whilst Britain became a leading force in abolishing slave trade, it cannot be forgotten that Britain had been one of the most active slave-trading nations of all. Britain banned the slave trade in 1807 throughout its empire.</p>		

### Memory Maths Booklet

Pathway X and A	Pathway B, C and D
KO1 I know the times tables up to 12 x 12 and their factor families	
KO2 I know the laws of indices and I know what powers of 0, $\frac{1}{2}$ and $\frac{1}{3}$ represent	KO2 I know the definitions of multiples, factors, HCF and LCM
KO3 I know how to identify a quadratic expression	KO3 I know the definition of a term, expression and equation and I know their inverse operations
KO4 I know the four circle theorems involving angles within a circle	KO4 I know the properties of angles on a straight line and in regular shapes
KO5 I know how to identify algebraic graphs	
KO6 I know the percentage change formula	
KO7 I know the unitary method	
KO8 I know the rules of transforming shapes	
KO9 I know the quadratic formula	KO9 I know the formulae for SDT and FPA
KO10 I know what each part of a distance time graph and rate of change graph represents	

MATHS

Pathway X and A

KO9  
Quadratic formula

$$ax^2 + bx + c = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Pathway B, C and D

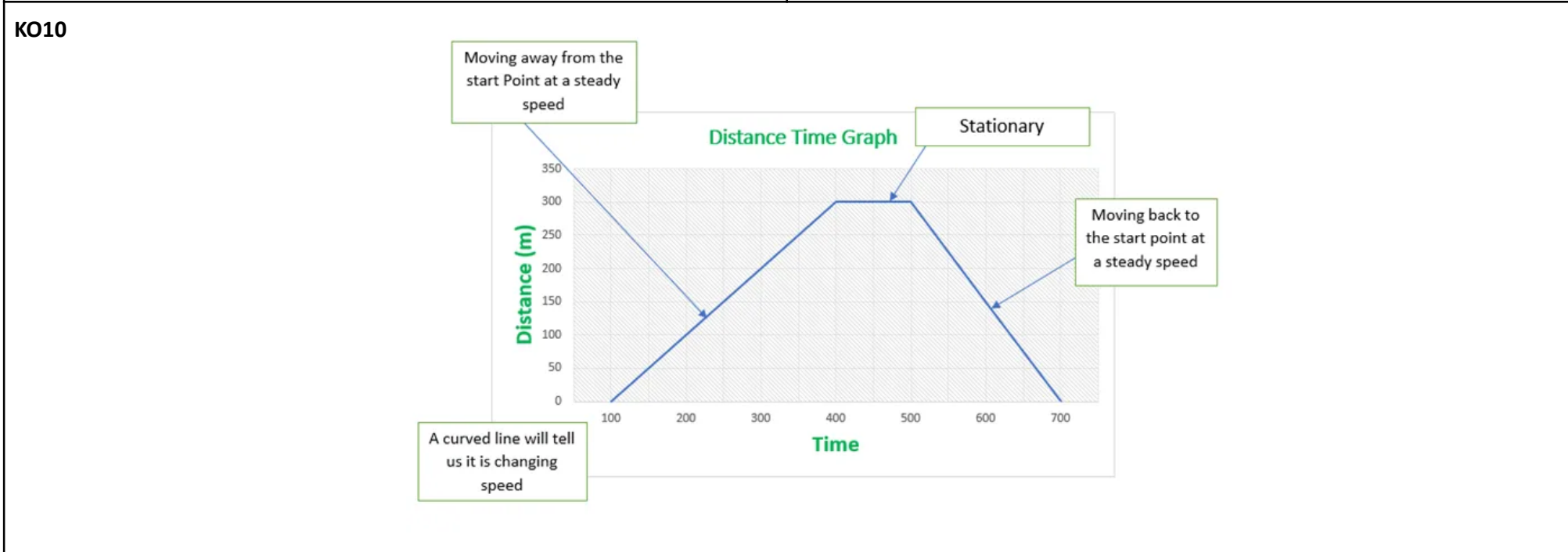
KO9

Speed

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

Density

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$



Pathway X and A	Pathway B, C and D
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$1 \times 1 = 1$ $1 \times 2 = 2$ $1 \times 3 = 3$ $1 \times 4 = 4$ $1 \times 5 = 5$ $1 \times 6 = 6$ $1 \times 7 = 7$ $1 \times 8 = 8$ $1 \times 9 = 9$ $1 \times 10 = 10$ $1 \times 11 = 11$ $1 \times 12 = 12$	$2 \times 1 = 2$ $2 \times 2 = 4$ $2 \times 3 = 6$ $2 \times 4 = 8$ $2 \times 5 = 10$ $2 \times 6 = 12$ $2 \times 7 = 14$ $2 \times 8 = 16$ $2 \times 9 = 18$ $2 \times 10 = 20$ $2 \times 11 = 22$ $2 \times 12 = 24$	$3 \times 1 = 3$ $3 \times 2 = 6$ $3 \times 3 = 9$ $3 \times 4 = 12$ $3 \times 5 = 15$ $3 \times 6 = 18$ $3 \times 7 = 21$ $3 \times 8 = 24$ $3 \times 9 = 27$ $3 \times 10 = 30$ $3 \times 11 = 33$ $3 \times 12 = 36$	$4 \times 1 = 4$ $4 \times 2 = 8$ $4 \times 3 = 12$ $4 \times 4 = 16$ $4 \times 5 = 20$ $4 \times 6 = 24$ $4 \times 7 = 28$ $4 \times 8 = 32$ $4 \times 9 = 36$ $4 \times 10 = 40$ $4 \times 11 = 44$ $4 \times 12 = 48$	$5 \times 1 = 5$ $5 \times 2 = 10$ $5 \times 3 = 15$ $5 \times 4 = 20$ $5 \times 5 = 25$ $5 \times 6 = 30$ $5 \times 7 = 35$ $5 \times 8 = 40$ $5 \times 9 = 45$ $5 \times 10 = 50$ $5 \times 11 = 55$ $5 \times 12 = 60$	$6 \times 1 = 6$ $6 \times 2 = 12$ $6 \times 3 = 18$ $6 \times 4 = 24$ $6 \times 5 = 30$ $6 \times 6 = 36$ $6 \times 7 = 42$ $6 \times 8 = 48$ $6 \times 9 = 54$ $6 \times 10 = 60$ $6 \times 11 = 66$ $6 \times 12 = 72$
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$7 \times 1 = 7$ $7 \times 2 = 14$ $7 \times 3 = 21$ $7 \times 4 = 28$ $7 \times 5 = 35$ $7 \times 6 = 42$ $7 \times 7 = 49$ $7 \times 8 = 56$ $7 \times 9 = 63$ $7 \times 10 = 70$ $7 \times 11 = 77$ $7 \times 12 = 84$	$8 \times 1 = 8$ $8 \times 2 = 16$ $8 \times 3 = 24$ $8 \times 4 = 32$ $8 \times 5 = 40$ $8 \times 6 = 48$ $8 \times 7 = 56$ $8 \times 8 = 64$ $8 \times 9 = 72$ $8 \times 10 = 80$ $8 \times 11 = 88$ $8 \times 12 = 96$	$9 \times 1 = 9$ $9 \times 2 = 18$ $9 \times 3 = 27$ $9 \times 4 = 36$ $9 \times 5 = 45$ $9 \times 6 = 54$ $9 \times 7 = 63$ $9 \times 8 = 72$ $9 \times 9 = 81$ $9 \times 10 = 90$ $9 \times 11 = 99$ $9 \times 12 = 108$	$10 \times 1 = 10$ $10 \times 2 = 20$ $10 \times 3 = 30$ $10 \times 4 = 40$ $10 \times 5 = 50$ $10 \times 6 = 60$ $10 \times 7 = 70$ $10 \times 8 = 80$ $10 \times 9 = 90$ $10 \times 10 = 100$ $10 \times 11 = 110$ $10 \times 12 = 120$	$11 \times 1 = 11$ $11 \times 2 = 22$ $11 \times 3 = 33$ $11 \times 4 = 44$ $11 \times 5 = 55$ $11 \times 6 = 66$ $11 \times 7 = 77$ $11 \times 8 = 88$ $11 \times 9 = 99$ $11 \times 10 = 110$ $11 \times 11 = 121$ $11 \times 12 = 132$	$12 \times 1 = 12$ $12 \times 2 = 24$ $12 \times 3 = 36$ $12 \times 4 = 48$ $12 \times 5 = 60$ $12 \times 6 = 72$ $12 \times 7 = 84$ $12 \times 8 = 96$ $12 \times 9 = 108$ $12 \times 10 = 120$ $12 \times 11 = 132$ $12 \times 12 = 144$
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Any number to the power of 0 is always 1  
 Any number to the power of  $\frac{1}{2}$  is the square root of the number  
 Any number to the power of  $\frac{1}{3}$  is the cube root of the number

The **multiples** of a number are the values in that number's times table  
 A **factor** is a whole number that will divide exactly into another number  
 The **highest common factor (HCF)** is the largest factor in two numbers  
 The **lowest common multiple (LCM)** is found by listing the multiples of each number and circling the lowest multiples in both list

**KO3**  
**Quadratic** expression: The highest exponent is a function of 2 and can be put in the form  $ax^2 + bx + c$

A **term** is a number or letter on its own, or numbers and letters multiplied together, such as  $3x$  or  $5a^2$   
 An **expression** is a set of terms combined using the operations  $+$ ,  $-$ ,  $\times$  or  $\div$ , for example  $4x - 3$  or  $5x^2 - 3xy + 17$ . It does not have an equal sign  
 An **equation** is a statement with an equals sign, which states that two expressions are equal in value, for example  $4x - 3 = 5$

**KO4**

Angle at the centre is twice the angle at the circumference

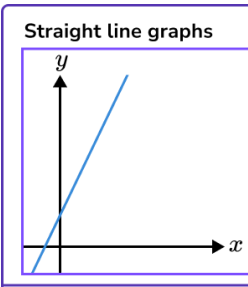
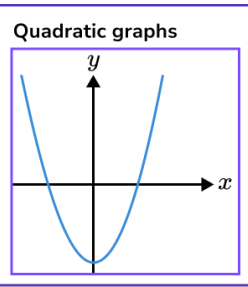
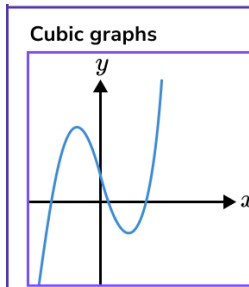
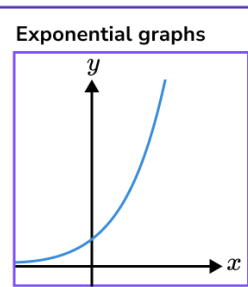
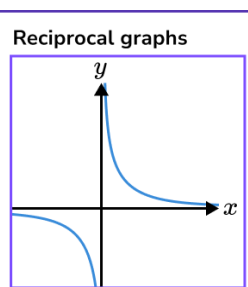
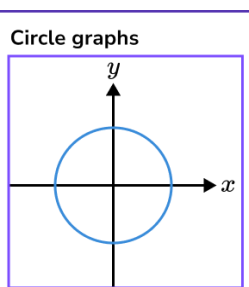
Angle subtended at circumference by a semicircle is  $90^\circ$

Look for the 'Arrow' Shape!  
Angles in the same segment are equal

Opposite angle to the diameter!  
Opposite angles in a cyclic quadrilateral sum to  $180^\circ$

Look for the 'Bow' Shape!  
 $A + C = 180^\circ$     $B + D = 180^\circ$

**KO4**  
 Sum of total angle inside a polygon =  $(n - 2) \times 180$   
 Interior angle of a polygon = sum of interior angles  $\div$  number of sides  
 Exterior angle of a polygon =  $360 \div$  number of sides


Pathway X and A				Pathway B, C and D	
<p><b>KO5</b></p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid purple; padding: 5px; width: 15%;"> <p style="text-align: center; font-size: small;">Straight line graphs</p>  </div> <div style="border: 1px solid purple; padding: 5px; width: 15%;"> <p style="text-align: center; font-size: small;">Quadratic graphs</p>  </div> <div style="border: 1px solid purple; padding: 5px; width: 15%;"> <p style="text-align: center; font-size: small;">Cubic graphs</p>  </div> <div style="border: 1px solid purple; padding: 5px; width: 15%;"> <p style="text-align: center; font-size: small;">Exponential graphs</p>  </div> <div style="border: 1px solid purple; padding: 5px; width: 15%;"> <p style="text-align: center; font-size: small;">Reciprocal graphs</p>  </div> <div style="border: 1px solid purple; padding: 5px; width: 15%;"> <p style="text-align: center; font-size: small;">Circle graphs</p>  </div> </div>					
<p><b>KO6</b></p> <p>Percentage formula:</p> $\frac{\text{Final value} - \text{Initial value}}{\text{Initial value}} \times 100$					
<p><b>KO7</b></p> <p>The method involves scaling down one of the variables to a single unit. Once we know the value of 1 unit, the value of multiple units can be found by multiplying. This will make more sense when it is explained using an example. If 12 tins of paint weigh 30kg, how much will 5 tins weigh? The first step in solving this is to find what ONE tin weighs. This will be 30/12 so 2.5kg. Scaling this back up for 5 tins gives 5 x 2.5 = 12.5kg.</p>					
<p><b>KO8</b></p> <p><b>Reflection</b> - every point is equidistant from this line of symmetry. In a reflection, the Image is the same size as the original Image</p> <p><b>Rotation</b> - "Rotation" means turning around a centre. The distance from the centre to any point on the shape stays the same</p> <p><b>Translation</b> - very point of the shape must move the same distance and in the same direction</p> <p><b>Enlargement</b> - when you enlarge a shape it gets bigger or smaller. All angles stay the same and the sides are in proportion</p>					

# MUSIC OF THE CARIBBEAN


Year 8 - DPR 1

### MUSICAL ELEMENTS


- M**elody - formal word for 'tune'
- A**rticulation - how you play / sing a note
- D**ynamics - how loud or soft a note is played
- T**exture - how the layers of a musical piece fit together
- S**tructure - the different sections of a piece and how they are ordered
- H**armony - how notes work together to make an effect
- I**nstrumentation - which instruments or voices are used
- R**hythm - pattern of notes over time
- T**empo - the overall speed of the music
- T**ime Signature - how the beats are arranged in music (metre)



C CHORD ON UKULELE



F CHORD ON UKULELE



G7 CHORD ON UKULELE

### REGGAE

**Reggae** is a style of music that originated in **Jamaica** in the **1970s**. Reggae gave a voice to oppressed populations. Famous artists include **Bob Marley**.




### DUB

A style of music from **Jamaica** that started in the **1970s**. It became the dominant music of Jamaica in the **80's and 90's**. This music has a DJ who raps over a rhythm track. The rhythm track is called a **dub**.





### CALYPSO


**Calypso** originated in **Trinidad and Tobago**. Calypso lyrics are usually witty and satirical. Famous artists include **Harry Belafonte**.




### OTHER KEY WORDS


**Melody**  
**Chord tones:** using the notes of a chord to make a tune  
**Arpeggio:** going through the notes of a chord in order

**Articulation**  
**Legato:** smooth, connected notes   
**Staccato:** spikey, detached notes 

**Texture**  
**Melody and Accompaniment:** one main tune, supported by chords and rhythm 

**Harmony**  
**Primary chords:** common chords of a key

**Instrumentation**  
**Bass guitar:** low string instrument, important in reggae 

**Rhythm**  
**Off-beat:** the 'and' between beats  
**Syncopation:** important notes on off-beats 

### RECOMMENDED LISTENING

**Bob Marley**

- Legend
- Three Little Birds

**Harry Belafonte**

- Jump in the Line
- Day - O
- Banana Boat



# MUSICALS

Year 8 - DPR 1

## MEGA MUSICAL

A large scale musical that is very profitable



## SOCIAL THEME

When a musical tackles concepts to inspire societal change



## LITERARY MUSICAL

A type of musical that is built around pre-existing literature



## GOLDEN AGE MUSICAL

A type of musical that premiered in the 1940s and 1950s



## JUKEBOX MUSICAL

A type of musical that is built around pre-existing songs



## SINGING STYLES

There are two types of singing in musicals:

- 1) Solo  
Males solos can sometimes be sung in **falsetto** (very high singing)
- 2) **Backing vocals**  
Vocal accompaniment of solo singer



## PIANO CHORDS

C Major



F Major



G Major



Eb Major



Ab Major



Bb Major



## RHYTHM EXERCISE

COMPOUND TIME

ES-PRES-SO ES-PRES-SO 1. 2. 3.

## TIME SIGNATURE

Top Number  
How many beats in each bar

Bottom Number  
What type of beats they are

**Simple Time**  
Each beat is divided by 2 into equal groups  
It is counted in quavers (coffee)

**Compound time**  
Each beat is divided into groups of 3  
It is counted using triplets (espresso)

## SONG STRUCTURE TERMS

- Verse:** Gives us the detail of the song. The music will be similar for each verse, but the lyrics will change.
- Chorus:** The catchiest part of the song. The lyrics are usually the same for each chorus.

## OTHER KEY WORDS

- Stepwise:** a melody that moves in steps
- 
- Accent:** a note that is played louder than the notes around it
- 

## TYPICAL SONG STRUCTURE



## RECOMMENDED LISTENING

- Hamilton: Burn
- Guys and Dolls: The Oldest Established
- Mamma Mia: Super Trouper
- West Side Story: America
- Annie: It's a Hard Knock Life

**Health, Fitness and Well-Being**

**Lifestyle choices** – the decisions we make about how we live and behave that impact on health.

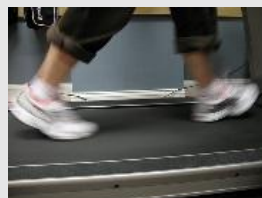
Diet		Activity levels		Work/rest/sleep balance	
Eating healthy	Eating unhealthy	Active lifestyle	Inactive lifestyle	Good balance	Poor balance
<ol style="list-style-type: none"> <li>Boosts energy levels</li> <li>Reduces the risk of developing serious health conditions</li> <li>Help lose weight</li> </ol>	<ol style="list-style-type: none"> <li>Leads to deficiencies</li> <li>Increases weight and % body fat</li> <li>Causes depression with poor body shape</li> </ol>	<ol style="list-style-type: none"> <li>Boosts self esteem</li> <li>Reduces stress and anxiety</li> <li>Improves fitness levels</li> </ol>	<ol style="list-style-type: none"> <li>Increases risk of disease</li> <li>Decreases muscle mass, strength and energy levels</li> </ol>	<ol style="list-style-type: none"> <li>Improves mood</li> <li>Increases productivity at work</li> <li>Contributes to quality of sleep</li> </ol>	<ol style="list-style-type: none"> <li>Increases the risk of depression</li> <li>Leads to weight gain</li> <li>Increased blood pressure</li> </ol>

**Well being** – a combination of physical, emotional and social health.

Positives effects of training/exercise on:

**Physical health**

- Stronger bones (increased bone density)
- Lower cholesterol / reduced obesity
- Increase/development of components of fitness
- Increase life expectancy



**Emotional health**

- To increase self esteem/confidence – increased endorphins released
- Reduced risk of age-related diseases - dementia
- Relieve stress and tension
- Fun/enjoyment / reduced boredom



**Social health**

- To develop teamwork skill
- To meet new people/friends
- Develop communication skills
- Develop leadership skills

**Negative effects** of training on:

- Physical health – overexertion leading to heart failure / overuse injuries
- Emotional health – training can lead to injury and cause depression
- Social health – training long hours means less time spent with family.

**Recreational drugs** – these are taken for pleasure and are legal to those over a certain age.

**Smoking**

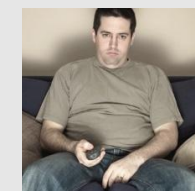
Causes breathlessness and reduces the oxygen-carrying capacity. This affect aerobic ability for endurance events. Smoking (nicotine) increases the risk of lung cancer, bronchitis, pneumonia & emphysema.

**Alcohol** - contains chemicals which act on the brain affect judgement.

**Sedentary lifestyle** – a lifestyle with no or irregular physical activity. This includes sitting, reading, watching television & playing video games.

Health risks associated are:

- Heart disease
- Type 2 diabetes
- Obesity
- Osteoporosis
- Depression



- Explain what measures you can take to try to keep yourself healthy and fit - consider your current lifestyle (4 marks)
- Evaluate which of the negative impacts of health and well being is the most dangerous (6 marks)

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# United in Faith

Key Terms		Key Concepts
Transcendent	Existing outside of our world	<p><u>The Holy Trinity</u>: The Christian belief that God can be known in three different forms. The Father, The Son and the Holy Spirit. The Father Is the creator of all things, The Son was the incarnation of God as Human who died to save all humankind from sin and the Holy spirit is the omnipresent force around us.                      KQ Can you explain the Christian belief in the Trinity, one God in three parts?</p>
immanent	Existing within our world	
Monotheism	Belief in one all powerful God	
Polytheism	Belief in multiple Gods	<p><u>The Trimurti</u>: The Three Hindu Gods who govern our universe. Brahma the creator who brought all life into being, Vishnu the preserver who maintains all life on Earth and Shiva the destroyer who ensures that all things are finite and that new beginnings may occur.                      KQ Is Hinduism a monotheistic religion?</p>
Tanakh	Collection of Jewish Holy Books consisting of the Torah (Law) Nebi'im (prophets) and Ketuvim (writings)	<p><u>The 5 Ks</u>: 5 Items that Sikh's must wear to represent their faith and to be a member of the Khalsa (Sikhs who have been through the Amrit ceremony) they include the Kanga (Comb), Kirpan (Dagger), Kesh (Turban/long hair), Kara (Bangle) and Kercha (undergarment)                      KQ Can you explain how a Sikh's belief in God may affect their daily life?</p>
Shema	The most important Jewish prayer that states belief in God.	<p>The 99 Names of Allah: In Islam God is known by more than one name. Each of Allah's 99 names is a representation of one of his qualities that humans should aspire to.                      KQ Which of the 99 names Allah would you aspire to?</p> <p>Humanism: Humanism is a system of belief that rejects the supernatural and accepts scientific truth for our existence on earth. They are governed by compassion and reason in their decision making processes and reject the concept of an afterlife. While they are Atheists they still congregate together and still try to model morally good behaviour much the same way a religious believer would.</p>
Sewa	Serving the community is a way to please God for Sikhs	
Ik Onkar	A Sikh Symbol that represents the oneness of god	
Amrit	A ceremony to initiate young Sikh men into the Khalsa, an order of Sikhs who have a responsibility to defend the faith.	<h2 style="margin: 0;">Useful Quotations</h2>
Omnipotence	All powerful	<p>"He is Allah, The one and only; Allah the eternal, absolute, he begot none, nor was he begotten, and there is none like him."                      Surah 112 (Relating to Tawhid)</p>
Tawhid	The oneness of Allah	<p>"Hear O Israel, the Lord is our God, the Lord is One. Blessed is His name, whose glorious kingdom is forever and ever" The Shema Prayer of Judaism</p>
benevolent	Good, the absence of evil	<p>"May the grace of the Lord Jesus Christ, and the love of God, and the fellowship of the Holy Spirit be with you all." 2 Corinthians 13:14</p>
Omniscient	All-knowing	

A Selection Of Allah's 99 Names						The Last	The Avenger	The Truth	The first	The just	The Peace	The firm	The one	The guide
The gentle	The mighty	The living	The patient	The humbler	The watcher	The powerful	The hidden	The knower	The creator	The light	The judge	The king	The friend	The wise

## United in Faith

Key Terms		Key Concepts
Five pillar of Islam	The five most important duties of a Muslim.	<u>What experience of God did the prophet of Islam have ?</u> One night, Muhammad was meditating in a cave when he had a vision. In his vision, an angel came to him. The angel said 'recite!' Muhammad said that he could not read, but then found himself able to understand the words and read them aloud. He walked out of the cave, and heard the angel saying, 'Muhammad! You are God's messenger!'
Muhammad (pbuh)	Considered God's final prophet ' the seal of the prophet'	<u>Belief in Angels: There are three primary angels in Islam and each of them has a specific role to play in the life of Muslims.</u> Djibril is the messenger of God who speaks to prophets such as Muhammad (pbuh), Izra'il is the Angel of death who collects souls and takes them to Barzakh and eventually Allah ,Mika'il is in charge of the provision of life , this means he is in charge of nature and the weather.
Haram	Behaviour which is forbidden	<u>Prophets in Islam?</u> Muslims believe prophets are human beings chosen by God to carry a message and guidance from God. Muslims believe that God sent many prophets such as Adam, Nuh (Noah) and Musa (Moses)
Halal	Behaviour that is permitted	<u>Why did the Sunni and Shia split occur?</u> Following the death of the prophet of Islam, the Muslim community disagreed over who should lead the Muslim community. Some Muslims favoured the Prophets closest friend and companion to be the next leader whist other Muslims wanted his son in law to be the ruler.
Allah	Arabic name for God	
Quran	Muslim holy book revealed to Prophet Muhammad	<b>The Five Pillars of Islam</b>
Hadith	Collections of sayings of Prophet Muhammad	Shahadah – A declaration of faith translated as “there is only one God and Muhammad is his messenger” these are the first and last words a Muslim should hear on this earth.
Ummah	The worldwide community of Muslims.	Salah – Prayer, this is a form of communication with God that should occur five times a day for Muslims as well as an extra prayer (Jummah) on Fridays
As-salamu alaykum	This is a Muslim greeting that roughly translates to wishing people peace.	Zakat – an annual act of charity whereby every Muslim who can afford it should donate 2.5% of their annual profit. Sawm – Fasting which occurs primarily during the holy month of Ramadan, Muslims must fast whilst the sun is up. Hajj – a pilgrimage to the holy city of Makkah, this can happen at anytime of year but to qualify as Hajj rather than Umrah it must be during a designated season of pilgrimage. All Muslims should complete Hajj once in their lifetime.

Six Articles of Sunni Islamic faith	Five Roots of Usul-Ad-Din (Shi'a Islam)
<b>Tawhid</b> = belief in the Oneness of God, <b>Akhirah</b> = Belief in the afterlife , <b>Malaikah</b> = Belief in the angels, Risalah =Belief in the prophets, Kutub = belief in the holy books, Al- Qadr = Belief in predestination	Al Tawhid = Belief in the oneness of Allah, Al Nabuwwah= Belief in prophethood and a chain of messengers, Al-Adl = Belief that Allah is fair and just, Al-Immamah = a belief that the leaders within Islam have been chosen by God so therefore hold special significance, Al Mi'ad = Belief in the day of judgement and resurrection.

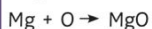
RE

**Conservation of Mass**

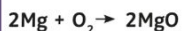
No atoms can be created or made during a chemical reaction, so the mass of the reactants will equal the mass of the product.

Reactions can be shown as a word or symbol equation.

magnesium + oxygen → magnesium oxide



Symbol equations should also be balanced; they should have the same number of atoms on each side.



During a reaction the mass can change. If one of the reactants is a gas, the mass can go up.

E.g.



Oxygen from the air is added to the magnesium (making the product) which will be heavier in mass.



If one of the products is a gas, the mass can go down.

E.g.



When sodium carbonate is thermally decomposed, carbon dioxide gas is produced and released into the atmosphere.



**Combustion**

**Complete combustion**

occurs when there is enough oxygen for a fuel to burn. A hydrocarbon will react with oxygen to produce carbon dioxide and water.



**Incomplete combustion**

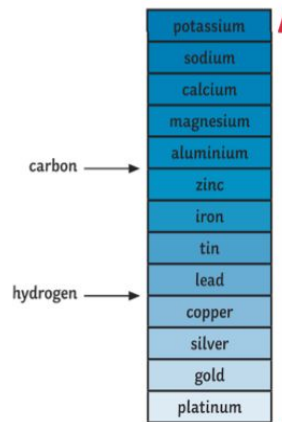
occurs when there isn't enough oxygen for a fuel to burn. The products in this reaction are water and poisonous carbon monoxide.



**The Reactivity Series**

Here's a mnemonic to help you learn the order:

- purple (potassium)
- slime (sodium)
- can (calcium)
- make (magnesium)
- a (aluminium)
- careless (carbon)
- zebra (zinc)
- insane (iron)
- try (tin)
- learning (lead)
- how (hydrogen)
- camels (copper)
- surprise (silver)
- gorillas (gold)



The reactivity series is a league table for metals. The more reactive metals are near the top of the table with the least reactive near the bottom. In chemical reactions, a more reactive metal will displace a less reactive metal.

**Reactions of Metals with Water**

Metals, when reacted with water, produce a metal hydroxide and hydrogen.



The more reactive a metal is, the faster the reaction.

**Reactions of Metals with Dilute Acid**

Metals, when reacted with acids, produce a salt and hydrogen.



Metals that are below hydrogen in the reactivity series do not react with dilute acids.

**Reactions with Carbonates**

The general formula for the reaction between an acid and a carbonate is: acid + carbonate → salt + water + carbon dioxide



**pH Scale**



In aqueous solutions, acids produce H<sup>+</sup> ions and alkalis produce OH<sup>-</sup> ions. Neutral solutions are pH7 and are neither acids or alkalis.

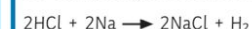
For example, in neutralisation reactions, hydrogen ions from an acid react with hydroxide ions from an alkali to produce water:



**Reactions of Acids**

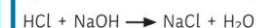
The general formula for the reaction between an acid and a metal is: acid + metal → salt + hydrogen

For example: hydrochloric acid + sodium → sodium chloride + hydrogen



When an acid reacts with an alkali, a neutralisation reaction takes place and a salt and water are produced.

The general formula for this kind of reaction is as follows:



**Naming Salts**

The first part comes from the metal in the metal carbonate, oxide or hydroxide. The second part of the name comes from the acid that was used to make it.

Acid Used	Salt Produced
hydrochloric	chloride
nitric	nitrate
sulfuric	sulfate

For example, sodium chloride.

### Reactions in Closed and Non-Enclosed Systems

If a reaction occurs in a **closed system**, the **mass** in a chemical reaction will remain **constant**.

In an **non-enclosed system**, **changes in mass can occur**, such as when a gas is released. It is important to remember that **no atoms are created or destroyed**, they are just **rearranged**. If a gas escapes a non-enclosed system, the total mass will look as if it has decreased. Similarly, if a gas is gained, the total mass will look as if it has increased. However, the **total mass will remain the same** if the mass of the gas is included in the reaction calculation.

Reactions happen at **varying rates**. For example, a firework exploding is a fast reaction whereas a piece of iron rusting would take place over a longer period of time.

The **rate of a chemical reaction** tells us how quickly a **product is formed** or how quickly a **reactant is used up**.

For a chemical reaction to occur, the reactant particles must collide with enough energy. Those collisions that produce a chemical reaction are called **successful collisions**.

### Factors Affecting the Rate of a Chemical Reaction

- concentration and pressure
- catalyst
- surface area
- temperature

The rate of a chemical reaction will be increased if there are more frequent successful collisions between reactant particles.

#### Catalyst

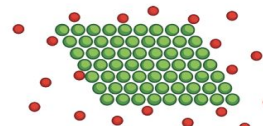
A catalyst is a **substance** that speeds up a chemical reaction without getting used up itself. Catalysts are able to offer an **alternative pathway** at a **lower activation energy**.

Biological catalysts are called **enzymes**.

When a catalyst is used in a chemical reaction (not all reactions have a catalyst that is suitable to use), the **frequency of collisions** is **unchanged**. More **particles** are able to react. The particles have **energy greater** than that of the **activation energy**. Consequently, there is in an **increase in the rate successful of collisions**.

#### Surface Area

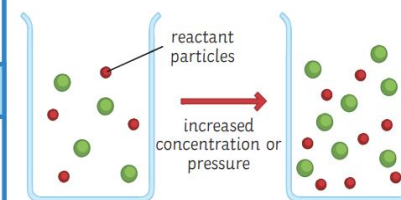
**Large lumps** of a solid have a **small surface area to volume ratio**. If the solid is broken up into smaller lumps or crushed into a powder, this will increase the surface area to volume ratio.



A larger area of the solid is now exposed to other reactant particles. This increases the frequency of successful collisions thus increasing the rate of reaction.

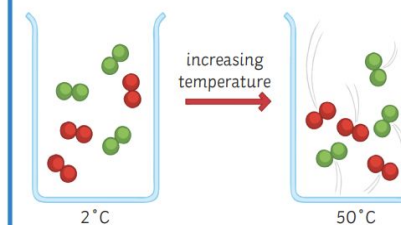
### Concentration and Pressure

If the **number of reactant particles** in a given space is **doubled**, there will be **more frequent successful collisions** between reactant particles, therefore, **increasing the rate of reaction**.



### Temperature

When the temperature of the reaction mixture is increased, the reactant particles **gain kinetic energy** and move much more quickly. This results in **more frequent successful collisions** between the reactant particles, therefore, **increasing the rate of the reaction**.



### Exothermic and Endothermic Reactions

When a chemical reaction takes place, **energy** is involved. Energy is transferred when **chemical bonds are broken** and when **new bonds are made**.

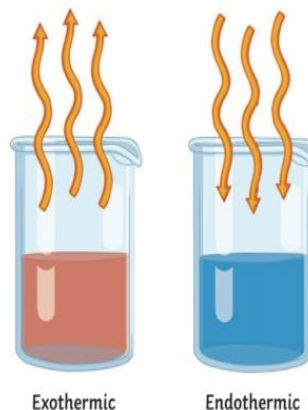
**Exothermic reactions** are those which involve the transfer of energy **from the reacting chemicals to the surroundings**. During a practical investigation, an exothermic reaction would show an **increase in temperature** as the reaction takes place.

Examples of exothermic reactions include **combustion, respiration and neutralisation** reactions. Hand-warmers and self-heating cans are examples of everyday exothermic reactions.

**Endothermic reactions** are those which involve the transfer of energy **from the surroundings to the reacting chemicals**. During a practical investigation, an endothermic reaction would show a **decrease in temperature** as the reaction takes place.

Examples of endothermic reactions include the **thermal decomposition** of calcium carbonate.

Eating **sherbet** is an everyday example of an endothermic reaction. When the sherbet dissolves in the saliva in your mouth, it produces a cooling effect. Another example is **instant ice packs** that are used to treat sporting injuries.



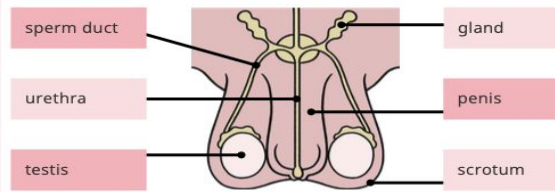


KS3 Human Reproduction Knowledge Organiser

Key Words

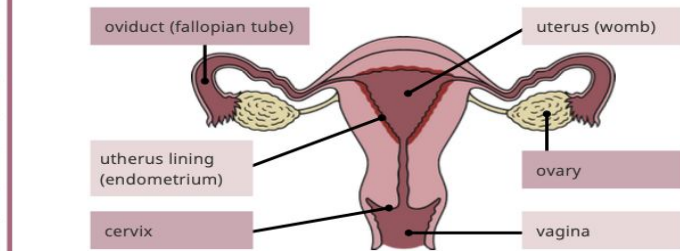
adaptation	A specific feature that allows a specialised cell to carry out a particular function.
biological sex	Determined by the reproductive organs a person has, the sex chromosomes in their body and the hormone levels they produce.
conception	The process of becoming pregnant.
egg cell	The female sex cell, produced by the ovaries.
embryo	An unborn or unhatched offspring in the early stages of development. In humans, this is up to the end of the eighth week after conception.
female (biological sex)	The sex typically given to an individual who produces egg cells, has XX chromosomes and produces higher levels of the hormone oestrogen.
hormone	A chemical that is produced naturally within the body and released into the bloodstream to send messages to other parts of the body.
male (biological sex)	The sex typically given to an individual who produces sperm cells, has XY chromosomes and produces higher levels of the hormone testosterone.
oestrogen	The main female reproductive hormone, produced by the ovaries. It is involved in thickening the uterus lining.
puberty	The period of time when a person becomes sexually mature. It causes physical changes that affect males and females differently.
sperm cell	The male sex cell, produced by the testes.
testosterone	The main male reproductive hormone produced by the testes. It stimulates sperm production.
vulva	The external female genitals.

Male Reproductive System



Part	Function
penis	Allows urine and semen to pass out of the male's body.
testis	Produces sperm cells and releases the male sex hormone testosterone.
urethra	A tube that carries urine and semen. It has a ring of muscle to keep these fluids separate.
scrotum	A bag of skin that contains the testes.
gland	Produces fluids that mix with sperm cells to make semen.
sperm duct	Carries sperm cells from the testes to the urethra.

Female Reproductive System



Part	Function
vagina	A muscular tube that leads from the cervix to the outside of the body.
cervix	A ring of muscle at the lower end of the uterus. This keeps the baby in place during pregnancy.
ovary	Contains hundreds of undeveloped egg cells. Every month, an egg cell matures and is released.
uterus	Where the baby develops during pregnancy.
oviduct	Carries egg cells from the ovaries to the uterus.
uterus lining	A blood-rich layer of tissue in which an embryo implants. This tissue is lost each month during menstruation.

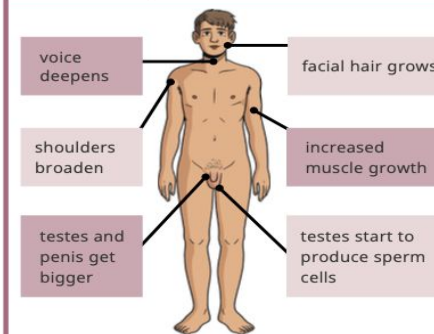
Puberty

Puberty is a period of time in a person's life when they become sexually mature. Puberty causes physical and emotional changes that affect males and females differently. These changes happen because of hormones.

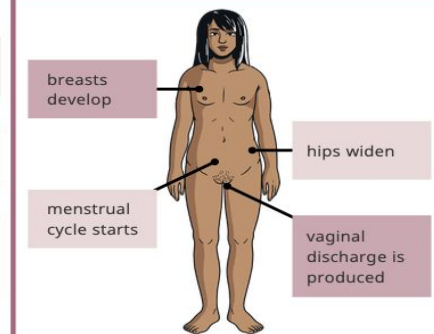
Changes that affect both males and females:

- growth of pubic hair
- growth of underarm hair
- growth spurts
- acne or occasional pimples
- body odour becomes stronger
- mood changes
- sexual thoughts and feelings

Puberty Changes in Males



Puberty Changes in Females





KS3 Human Reproduction Knowledge Organiser

Key Words	
ejaculation	The release of semen from the penis.
fertilisation	The fusion of male and female gametes.
foetus	An unborn offspring after the embryo stage of development. In humans this is from the eighth week after conception.
gamete	A sex cell.
gestation	The time between conception and birth, during which the baby is developing in the uterus.
implantation	The attachment of the embryo to the lining of the uterus at the start of pregnancy.
menstrual cycle	The monthly cycle of changes in the ovaries and the lining of the uterus to prepare for fertilisation.
menstruation	The process of releasing blood and tissue from the lining of the uterus as part of the menstrual cycle. Also known as a period.
miscarriage	The death of a foetus before 24 weeks of pregnancy.
offspring	The children or young of an organism.
ovulation	The release of a mature egg cell from an ovary.
placenta	An organ that develops in the uterus during pregnancy. It is responsible for transferring oxygen and glucose from the mother to the developing foetus, as well as removing waste products.
semen	The mixture of sperm cells and fluid released during ejaculation in males.
sexual intercourse	Sexual contact involving penetration, e.g. the insertion of the penis into the vagina.
stillbirth	The birth of a baby that has died in the uterus after 24 weeks of pregnancy.
umbilical cord	The cord which connects the placenta to the foetus.
zygote	A fertilised egg cell.

**Sperm Cell Adaptations**

The head is covered with an acrosome, which releases enzymes to digest the egg cell membrane.

The midpiece contains many mitochondria to release energy for movement.

The nucleus contains genetic information from the father. The sperm cell carries half the genetic information that will be received by the offspring.

The sperm cell has a tail (flagellum) to allow it to move towards the egg cell to fertilise it.

**Egg Cell Adaptations**

The cell membrane changes after fertilisation so no more sperm cells can enter the egg.

The cytoplasm contains nutrients to support the developing embryo after fertilisation.

The nucleus contains genetic information from the mother. The egg cell carries half the genetic information that will be received by the offspring.

The large size of the egg cell increases the chance of it being fertilised and allows more space for nutrients to be stored.

**The Menstrual Cycle**

The menstrual cycle is a process that occurs in the female reproductive system. The average length of the menstrual cycle is 28 days.

Day	Description
1 - 5	The uterus lining breaks down and passes out of the vagina. This is known as menstruation or 'having a period'.
5 - 14	The uterus lining starts to build up again. An egg cell starts to mature in the ovary.
14	An egg cell is released from the ovary. This is called ovulation.
14 - 28	The uterus lining remains thick. During this time, the egg may be fertilised by a sperm cell.
28	If the egg cell is not fertilised by a sperm cell, the uterus lining begins to break down again and the cycle repeats.

**Human Reproduction**

During sexual intercourse, semen containing sperm cells is ejaculated from the penis into the vagina.

Sperm cells travel through the female reproductive system to meet an egg cell in the oviduct.

One sperm cell penetrates the egg cell membrane. The nucleus of the sperm cell fuses with the nucleus of the egg cell. This is called fertilisation.

The resultant zygote divides several times to form a ball of cells called an embryo, which implants in the uterus lining.

**Development of a Baby**

The average length of gestation in humans is 40 weeks.

Week	Description
4 - 6	The embryo is about 6mm long. The heart and other organs start to form, and the heart begins to beat.
8 - 9	Arms begin to grow and toes and eyelids begin to form. The embryo is now called a foetus.
12	The foetus is now fully formed and all the organs, muscles and bones are in place. It is now around 60mm long and starts to move around.
20 - 24	The foetus is around 250mm long. It has begun to kick and can hear sounds outside the uterus. It swallows amniotic fluid and produces urine. Fingerprints have now formed.
28	The baby has hair and can open its eyes. There is a high chance that the baby would survive if it was born now.
37 - 40	The baby is fully developed and ready to be born. It is now around 520mm long. It rotates so its head is pointing downwards.

**Effect of Maternal Lifestyle**

Oxygen and nutrients, such as glucose, can pass from the mother's blood into the blood of the foetus across the placenta. The placenta is attached to the foetus by the umbilical cord.

Other substances, such as alcohol, can pass across the placenta during pregnancy. Some substances may increase the risk of developmental problems in a baby.

Smoking cigarettes during pregnancy can increase the risk of miscarriage, stillbirth or sudden infant death syndrome (SIDS). Babies born to mothers who smoke are more likely to be born prematurely and/or have a low birthweight. A lack of oxygen passing from the mother to the baby may lead to problems with brain development.

Drinking alcohol during pregnancy can increase the chance of miscarriage, stillbirth, premature birth or low birthweight. If a mother drinks heavily during pregnancy, it may lead to foetal alcohol syndrome, which can result in learning difficulties and behavioural problems.

SCIENCE





### KS3 Plant Reproduction Knowledge Organiser

Key Words		Parts of a Flower	Roles																						
asexual reproduction	Reproduction involving only one parent that produces genetically identical offspring (clones).		<table border="1"> <thead> <tr> <th>Part of the Flower</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>anther</td> <td>Produces male sex cells (pollen grains).</td> </tr> <tr> <td>carpel</td> <td>The female reproductive part of the flower, consisting of the ovary, ovule, style and stigma.</td> </tr> <tr> <td>filament</td> <td>A stalk-like structure that supports the anther.</td> </tr> <tr> <td>ovary</td> <td>Produces female sex cells (eggs).</td> </tr> <tr> <td>ovule</td> <td>Develops into a seed after fertilisation.</td> </tr> <tr> <td>petal</td> <td>May be brightly coloured to attract insects.</td> </tr> <tr> <td>sepal</td> <td>These protect the flower before it is opened when it is still a bud. They are often green.</td> </tr> <tr> <td>stamen</td> <td>The male part of a flower consisting of an anther held up on a filament</td> </tr> <tr> <td>stigma</td> <td>The top of the female part of the flower, which is sticky, so pollen grains stick to it.</td> </tr> <tr> <td>style</td> <td>The tube connecting the stigma to the ovary which pollen travels down.</td> </tr> </tbody> </table>	Part of the Flower	Function	anther	Produces male sex cells (pollen grains).	carpel	The female reproductive part of the flower, consisting of the ovary, ovule, style and stigma.	filament	A stalk-like structure that supports the anther.	ovary	Produces female sex cells (eggs).	ovule	Develops into a seed after fertilisation.	petal	May be brightly coloured to attract insects.	sepal	These protect the flower before it is opened when it is still a bud. They are often green.	stamen	The male part of a flower consisting of an anther held up on a filament	stigma	The top of the female part of the flower, which is sticky, so pollen grains stick to it.	style	The tube connecting the stigma to the ovary which pollen travels down.
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cutting	A piece of plant that is cut from a parent plant and then made to form roots and shoots by putting it in favourable conditions.																								
fertilisation	The fusion of male and female gametes.																								
gamete	A male or female sex cell.																								
germination	In plants, the growth from a seed after a period of dormancy.																								
nectar	A sugary liquid which attracts pollinating animals to a flower.																								
pollen	The male plant sex cell.																								
runners	Side branches of a plant that have plantlets on them that can grow into a new plant. Some plants reproduce asexually by producing these.																								
sexual reproduction	Reproduction in which male and female gametes fuse at fertilisation to produce offspring that are genetically different to the parents.																								
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KS3 Plant Reproduction Knowledge Organiser

Seed Dispersal

Method of Seed Dispersal	Description	Adaptations
animal dispersal (external) 	Seeds stick to the animals' fur when they brush past them. This means they are transported with the animal and eventually fall, or are rubbed off, in a different location. Examples include burrs or goose grass. Animals such as squirrels store hard nuts and seeds to be eaten during winter. If the seeds are not retrieved by the squirrel they can germinate. Examples include acorns.	Seeds have hooks or spikes to hook onto the fur of passing animals. Seeds are coated in a sticky substance to stick to animals as they pass. Seeds or nuts provide a food source which animals want to bury for future use.
animal dispersal (internal) 	Some seeds are found in fruits that are eaten by animals. The seeds pass through the digestive systems of the animals and are deposited on the ground in a different place in the animals' faeces. Examples include plums and strawberries.	The fruit is brightly coloured and edible to attract animals to eat it. The seed is usually small and can be in a hard case for protection.
drop and roll 	Some plants produce nuts or fruits. When these are ripe, they fall from the tree and roll away when they hit the ground, allowing them to grow new plants away from the parent. Examples include apples and acorns.	Heavy nuts and fruits drop from branches due to gravity and break open when they hit the ground. Some fruits are round in shape to allow them to roll as far away as possible when they hit the ground. Some trees grow very tall before producing fruits, so when the fruit hits the ground it does so with a large force.
explosion 	Some plants, such as peas, produce pods which can explode, dispersing the seeds.	These seeds are dispersed in summer when one side of the pod dries more quickly than the other causing it to buckle and split open and ejecting the seeds.
water dispersal 	In certain environments, some plants will grow near a water source such as a river or ocean. The seeds or fruits from these plants will fall into the water and be carried away to another area. Examples include coconuts.	The seeds have a low density and will float. The seeds can often be transported by wind as well as water.
wind dispersal 	Some plants such as dandelions or sycamore seeds use the wind to help them disperse their seeds. The force exerted on these seeds by the wind is enough to dislodge them from the plant and carry them long distances.	Dandelions seeds have feathers or fluff which act as parachutes and are carried on the wind. The seeds are very light and can be carried a long way by the wind. The feathery parts also create a large surface area to allow the seeds to catch as much of the wind as possible. Sycamore seeds have 'wings' which provide a large surface area to be caught in the wind. They twist and turn in the wind to carry the seeds away from the parent plant. The seeds are relatively heavy and therefore to be most effective, need to be released from a high up in windy conditions.

KS3 Electricity and Magnetism Knowledge Organiser

Key Words

<b>potential difference</b>	The amount of push (energy) provided by the battery to a moving charge.
<b>current</b>	The flow of electric charge.
<b>resistance</b>	The measure of how difficult it is for a flow of charge to pass through a component.
<b>independent variable</b>	The variable you change in an investigation to see how it affects the dependent variable.
<b>dependent variable</b>	The variable you measure or observe.
<b>control variable</b>	A variable that could affect the dependent variable so must be kept the same.

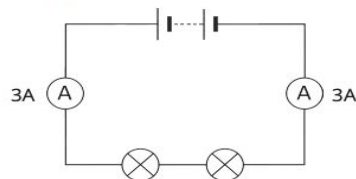
Circuit Diagrams

Electrical circuits are often represented by **circuit diagrams**. They are simple and easy to interpret. **Circuit symbols** are used to represent the **components** used in a circuit.

switch (open)	
switch (closed)	
bulb	
cell	
battery	
ammeter	
voltmeter	
resistor	
motor	

Series Circuits

In a series circuit, the components are connected end to end in a loop as shown in the diagram below. If one bulb breaks, none of the bulbs will be lit as the circuit is no longer complete.



The **current is the same** everywhere in a series circuit. It doesn't matter where you put the ammeter, it will always show the same reading. The more cells or batteries you add, the greater the current. Current is **not** used up.

Batteries

Batteries store **chemical energy** and transfer it as electric current in a circuit.

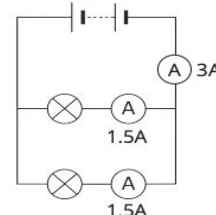
The potential difference of a battery tells us how much **energy** it provides to the components in the circuit.

Batteries contain an **electrolyte** and **two electrodes**. One of the electrodes is **positively charged** and the other is **negatively charged**. A chemical reaction between the two electrodes creates a flow of electrical energy to the circuit.



Parallel Circuits

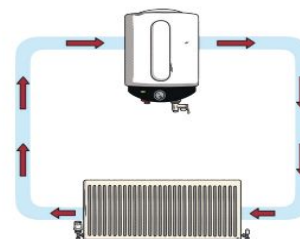
In a parallel circuit, the components are connected on separate branches as shown in the diagram below. This gives the current several different paths to flow down. If one bulb stops working, the other bulbs will remain lit as the circuit is still complete.



The **current is split** between the branches in a parallel circuit.

Modelling Circuits

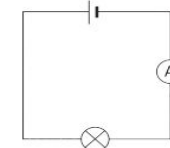
Scientists often use models to help them to explain difficult concepts. Some models are better than others.



In the boiler and radiator model, the pump pushes the water around the system. It does a similar job to a **battery** pushing the **charges** around a circuit. The pipes carry the flow of water around the system, like the **charge** flowing through wires in a circuit. The radiator is similar to a bulb because it transfers **energy** supplied by the system to the surroundings.

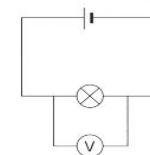
Current

Current is the flow of electrical charge around a circuit. The faster the flow of charge, the higher the current. Current is measured in **amps (A)** using an **ammeter**. An ammeter is connected in **series** with the component.



Potential Difference

Potential difference tells us how hard the battery 'pushes' the electrons around the circuit: the larger the potential difference, the bigger the 'push'. Potential difference is measured in **volts (V)** using a **voltmeter**. A voltmeter is connected in **parallel** with the component.



Resistance

Resistance is a measure of how difficult it is for the current to flow around a circuit.

The **higher the resistance**, the less current will flow around the circuit. The **lower the resistance**, the more current will flow around the circuit.

Resistance is measured in **ohms (Ω)**.

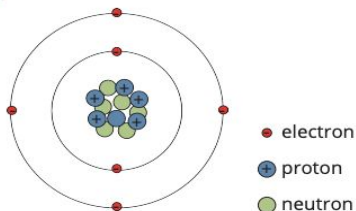
Resistance can be calculated using the equation:

$$\text{resistance } (\Omega) = \text{potential difference (V)} \div \text{current (A)}$$

**Atomic Structure**

There are two types of charge: positive (+) and negative (-).

All objects are made up of atoms. Atoms are made up of three different types of particle: a positive particle (**proton**), a negative particle (**electron**) and a particle with no charge (**neutron**). Atoms contain an equal number of protons and electrons. The number of positive and negative charges are balanced so an atom has **no overall charge**.



**Static Electricity**

Static electricity occurs when a material either loses or gains **electrons**. Electrons are negatively charged, so objects that **lose** electrons become **positively charged** overall, while objects that **gain** electrons become **negatively charged** overall.

When a polythene strip is rubbed with a cloth, electrons move from the cloth to the strip. The strip becomes negatively charged and the cloth becomes positively charged.



When you rub a balloon against your hair, electrons are transferred from your hair to the balloon. The balloon and your hair have opposite charges so your hair is attracted to the balloon, making it stand on end.

**Resistance**

Factors that can affect the resistance through a wire include:

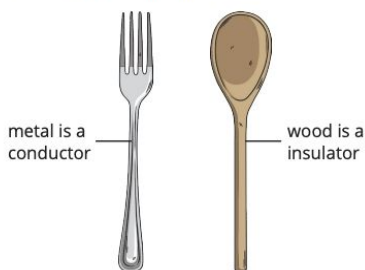
- temperature
- width of wire
- length of wire
- type of material

- As **temperature increases, resistance increases**. This is because the metal ions have more kinetic energy so they vibrate more, making it more difficult for electrons to flow.
- As the **width of the wire increases, resistance decreases** because there is more space for the electrons to flow.
- As the **length of the wire increases, resistance increases** because the electrons collide with more metal ions as they flow through the wire.
- Some materials are better **conductors** of electricity than others; they have **lower resistance** so they allow electrons to flow more easily.

**Resistance**

**Conductors** have **low resistance** so they allow current to pass through them easily.

**Insulators** have **high resistance** so it is difficult for current to flow through them.



**Equations and Maths**

**Equations**

- Charge:  $Q = It$
- Potential difference:  $V = IR$
- Energy transferred:  $E = Pt$
- Energy transferred:  $E = QV$
- Power:  $P = VI$
- Power:  $P = I^2R$

**Maths**

- 1kW = 1000W
- 0.5kW = 500W

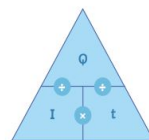
**Charge**

Electric current is the flow of electric charge. It only flows when the circuit is complete.

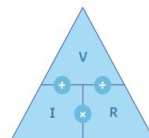
The **charge** is the current flowing past a point in a given time. Charge is measured in **coulombs (C)**.

**Calculating Charge**

charge flow (C) = current (A) × time (s)  
 $Q = It$



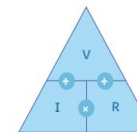
potential difference = current × resistance  
 $V (V) = I (A) \times R (\Omega)$



**Resistance**

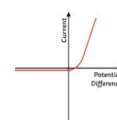
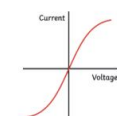
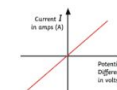
**voltage (V) = current (A) × resistance (Ω)**

$V = IR$



**Graphs of I-V Characteristics for Components in a Circuit**

1. **Ohmic conductor:** the current is directly proportional to the potential difference - it is a straight line (at a constant temperature).
2. **Filament lamp:** as the current increases, so does the temperature. This makes it harder for the current to flow. The graph becomes less steep.
3. **Diode:** current only flows in one direction. The resistance is very high in the other direction which means no current can flow.



**Current and Circuit Symbols**

**Current:** the flow of electrical charge.

**Potential difference (voltage):** the push of electrical charge.

**Resistance:** slows down the flow of electricity.

cell		closed switch		fuse	
resistor		ammeter		LDR	
battery		voltmeter		LED	
variable resistor		bulb		thermistor	
open switch		diode			

1. ¿Qué comes? What do you eat? <a href="#">Quizlet list</a>			2. ¿Cuál es tu comida favorita? What's your favourite food? <a href="#">Quizlet list</a>				3. ¿Qué se debe hacer para llevar una dieta sana? (What must you do to have a healthy diet?) <a href="#">Quizlet list</a>			
Normalmente (Normally)	<b>desayuno</b> (I have for breakfast)	<b>cereales</b> cereals <b>yogurt</b> yoghurt <b>tostadas con mantequilla</b> (toast with butter) <b>huevos</b> eggs <b>salchichas</b> sausages <b>una manzana</b> (an apple)	<b>Me encanta</b> (I love)	<b>el pescado</b> (fish) <b>el arroz</b> (rice) <b>el queso</b> (cheese) <b>el pollo frito</b> (fried chicken) <b>el marisco</b> (seafood)	<b>porque es</b> (because it is)  <b>ya que es</b> (because it is)	<b>delicioso</b> delicious <b>asqueroso</b> disgusting <b>sabroso</b> tasty <b>salado</b> salty <b>sano</b> healthy <b>malsano</b> unhealthy	<b>Para llevar una dieta sana</b> (To have a healthy diet)	<b>se debe</b> (you must)	<b>comer mucha verdura</b> (to eat lots of vegetables) <b>beber mucha agua</b> (to drink lots of water) <b>dormir ocho horas</b> (to sleep for eight hours) <b>evitar el estrés</b> (to avoid stress) <b>hacer ejercicio físico</b> (to do physical exercise)	<b>porque contiene vitaminas</b> (because it contains vitamins)  <b>porque es sano/a</b> (because it's healthy)
Siempre (Always)	<b>mi hermana desayuna</b> (my sister has for breakfast) <b>desayuné / had</b> for breakfast		<b>Me gusta bastante</b> (I quite like)					<b>es importante</b> (it's important)		
Cada día (Every day)			<b>Mi comida favorita es</b> (my favourite food is)					<b>es recomendable</b> (it's recommended)		
A veces (Sometimes)	<b>como</b> (I eat) <b>mi madre come</b> (my mum eats)	<b>tortilla española</b> (Spanish omelette) <b>sopa</b> (soup) <b>ensalada</b> (salad) <b>patatas fritas</b> (chips) <b>carne con patatas</b> (meat with potatoes)	<b>No me gusta nada</b> (I don't like at all)	<b>la comida mexicana/ española</b> Mexican/Spanish food <b>la carne</b> (meat) <b>la ensalada</b> salad <b>la fruta</b> (fruit)	<b>puesto que es</b> (because it is)	<b>amarga</b> bitter <b>sosa</b> (bland) <b>dulce</b> (sweet) <b>refrescante</b> (refreshing) <b>picante</b> spicy		<b>es esencial</b> (it's essential)		
De vez en cuando (From time to time)	<b>ceno</b> (I have for dinner)	<b>pescado</b> (fish) <b>verduras</b> (vegetables) <b>arroz</b> (rice) <b>un bocadillo</b> (a sandwich) <b>gambas al ajillo</b> (garlic prawns) <b>calamares</b> (squid) <b>pulpo</b> (octopus)	<b>Odio</b> (I hate)		<b>dado que es</b> (because it is)					
Ayer (Yesterday)	<b>comí / cené</b> (I ate/ I had for dinner)		<b>Me encantan</b> (I love)	<b>los champiñones</b> (mushrooms) <b>los bocadillos</b> (sandwiches) <b>los calamares</b> (squid) <b>los huevos</b> (eggs) <b>los refrescos</b> (fizzy drinks) <b>los cereales</b> (cereals)	<b>porque son</b> (because they are)	<b>deliciosos</b> (delicious) <b>asquerosos</b> (disgusting) <b>sabrosos</b> (tasty) <b>salados</b> (salty) <b>sanos</b> (healthy) <b>malsanos</b> (unhealthy)		<b>Para llevar una vida saludable</b> (To lead a healthy lifestyle)	<b>no se debe</b> (you mustn't)	<b>comer mucha comida basura</b> (eat a lot of junk food) <b>beber mucho alcohol</b> (drink a lot of alcohol) <b>tomar mucho azúcar</b> (have a lot of sugar) <b>fumar</b> (smoke) <b>tomar drogas</b> (take drugs)
Hace dos días (two days ago)			<b>Me gustan bastante</b> (I quite like)				<b>no es aconsejable</b> (it's not advisable)			
	<b>bebo</b> (I drink) <b>mi padre bebe</b> (my dad drinks)	<b>té</b> (tea) <b>café con leche</b> (coffee with milk) <b>zumos de naranja/ refrescos</b> (fizzy drinks) <b>agua</b> (water) <b>cerveza</b> (beer) <b>vino wine</b>	<b>No me gustan nada</b> (I don't like at all)	<b>las verduras</b> (vegetables) <b>las patatas fritas</b> (chips) <b>las gambas al ajillo</b> (garlic prawns) <b>las galletas</b> (biscuits)		<b>amargas</b> (bitter) <b>sosas</b> (bland) <b>dulces</b> (sweet) <b>refrescantes</b> (refreshing) <b>picantes</b> (spicy)				
	<b>bebí</b> (I drank)		<b>Odio</b> (I hate)							
<b>Top band language</b> -Si fuera posible, me gustaría comer ( <i>patatas fritas</i> ) todos los días - If it were possible, I would like to eat ( <i>chips</i> ) every day			<b>Top band language</b> - <b>A mi (madre) le gusta(n)...</b> My (mum) likes... -... <b>porque soy (alérgico/a / vegetariano/a)</b> - because I'm ( <i>allergic/ vegetarian</i> )				<b>Top band language</b> -En el futuro, ( <b>no</b> ) debería... In the future, I should( <b>n't</b> )... -En el pasado, me habría gustado... In the past, I would have liked to...			

PRESENT TENSE		PRESENT TENSE	PRESENT TENSE	FREQUENCY EXPRESSIONS
<b>REGULAR VERBS</b>		<b>TENER ( TO HAVE)</b>	<b>SER ( TO BE)</b>	<b>Hoy en día – Nowadays</b>
Yo→ -AR: -o	Yo→ -ER/IR: -o	Yo tengo – I have	Yo soy – I am	<b>De momento – At the moment</b>
tú→ -AR: -as	tú→ -ER/IR: -es	Tú tienes – You(sg.) have	Tú eres – You(sg.) are	<b>Normalmente – Normally</b>
Él /ella→ -AR: -a	él/ella→ -ER/IR: -e	Él / Ella tiene – He / She has	Él / Ella es – He/She is	<b>Generalmente – Generally</b>
nosotros/as→ -AR: -amos	nosotros/as→ -ER: -emos IR: -imos	Nosotros(as) tenemos – We have	Nosotros(as) somos – We are	<b>Todos los días – Every day</b>
vosotros/as→ -AR: -ais	vosotros/as→ -ER: -eis IR: -ís	Vosotros(as) tenéis – You(pl.) have	Vosotros(as) sois – You(pl.) are	<b>Hoy – Today</b>
ellos/as→ -AR: -an	ellos/as→ -ER/IR: -en	Ellos / Ellas tienen – They have	Ellos / Ellas son – They are	
PRETERITE TENSE		PRETERITE TENSE	PRETERITE TENSE	FREQUENCY EXPRESSIONS
<b>REGULAR VERBS</b>		<b>TENER ( TO HAVE)</b>	<b>SER ( TO BE)</b>	<b>Ayer – Yesterday</b>
Yo→ -AR: -é	Yo→ -ER/IR: -í	Yo tuve – I had	Yo fui – I was	<b>Anoche – Last night</b>
tú→ -AR: -aste	tú→ -ER/IR: -iste	Tú tuviste – You(sg.) had	Tú fuiste – You(sg.) were	<b>La semana pasada – Last week</b>
Él /ella→ -AR: -ó	él/ella→ -ER/IR: -ió	Él / Ella tuvo – He/ She had	Él / Ella fue – He/ She was	<b>El fin de semana pasado – Last weekend</b>
nosotros/as→ -AR: -amos	nosotros/as→ -ER/IR: -imos	Nosotros(as) tuvimos – We had	Nosotros(as) fuimos – We were	<b>El mes pasado – Last month</b>
vosotros/as→ -AR: -asteis	vosotros/as→ -ER/IR: -isteis	Vosotros(as) tuvisteis – You(pl.) had	Vosotros(as) fuisteis – You(pl.) were	<b>Hace tres semanas – Three weeks ago</b>
ellos/as→ -AR: -aron	ellos/as→ -ER/IR: -ieron	Ellos / Ellas tuvieron – They had	Ellos / Ellas fueron – They were	<b>El año pasado – Last year</b>
NEAR FUTURE TENSE		NEAR FUTURE TENSE	NEAR FUTURE TENSE	FREQUENCY EXPRESSIONS
<b>REGULAR VERBS</b>		<b>TENER ( TO HAVE)</b>	<b>SER ( TO BE)</b>	<b>La próxima semana – Next week</b>
Yo→ voy a + infinitive verb (-ar/-er/-ir)		Yo voy a tener– I am going to have	Yo voy a ser– I am going to be	<b>El fin de semana que viene – Next weekend</b>
tú→ vas a + infinitive verb (-ar/-er/-ir)		Tú vas a tener – You(sg.) are going to have	Tú vas a ser – You(sg.) are going to be	<b>En cuatro días – In four days</b>
Él /ella→ va a + infinitive verb (-ar/-er/-ir)		Él / Ella va a tener – He/She is going to have	Él / Ella va a ser – He/She is going to be	<b>El próximo año – Next year</b>
nosotros/as→ vamos a + infinitive verb (-ar/-er/-ir)		Nosotros(as) vamos a tener– We are going to have	Nosotros(as) vamos a ser – We are going to be	<b>El próximo mes – Next month</b>
vosotros/as→ vais a + infinitive verb (-ar/-er/-ir)		Vosotros(as) vais a tener– You(pl.)are going to have	Vosotros(as) vais a ser – You(pl.)are going to be	
ellos/as→ van a + infinitive verb (-ar/-er/-ir)		Ellos / Ellas van a tener – They are going to have	Ellos / Ellas van a ser – They are going to be	

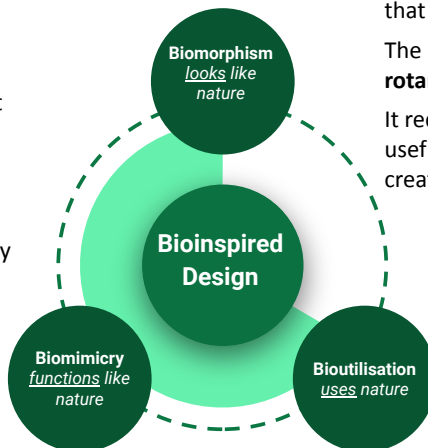
Year 8

Textiles

Bioinspired Design

Bioinspired Design is a branch of design that is concerned with the study of all things living. Within the family of bioinspired design, there are 3 sub-categories:

- **Biomorphism** which refers to designs that **visually** resemble elements from life i.e. they "look like" nature.
- **Biomimicry or Biomimetics** whereby designs focus on **function** i.e. they "work like" nature.
- **BioUtilisation** which refers to the **use** of biological material or living organisms in a design or technology.



Biomorphism

Stuttgart pavilion inspired by sand dollar

The humble little sand dollar served as the inspiration for this pavilion in Stuttgart, Germany. Thin sheets of plywood were laser cut and pieced together into the polygonal plywood structure.



BioUtilisation

Perez Art Museum in Florida brings the outside, in

An example of bio utilisation is using a living wall of plants to help clean the air in an office building. The columns are meant to create a hanging forest effect that cleans the air and brightens the space.



Biomimicry

Beetle inspires Dew Bank Bottle

The Dew Bank Bottle is inspired by the onymacris unguicularis beetle. It is made in such a way that the steel body helps to assimilate the morning dew and channel it into the bottle immediately. Ideal for the nomads in the desert!



Mechanisms

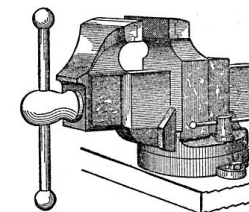
A **mechanism** is a system of moving parts or **components** that work together to create a **mechanical advantage**.

The different types of **mechanical movement** are **linear**, **rotary**, **oscillating** and **reciprocating**.

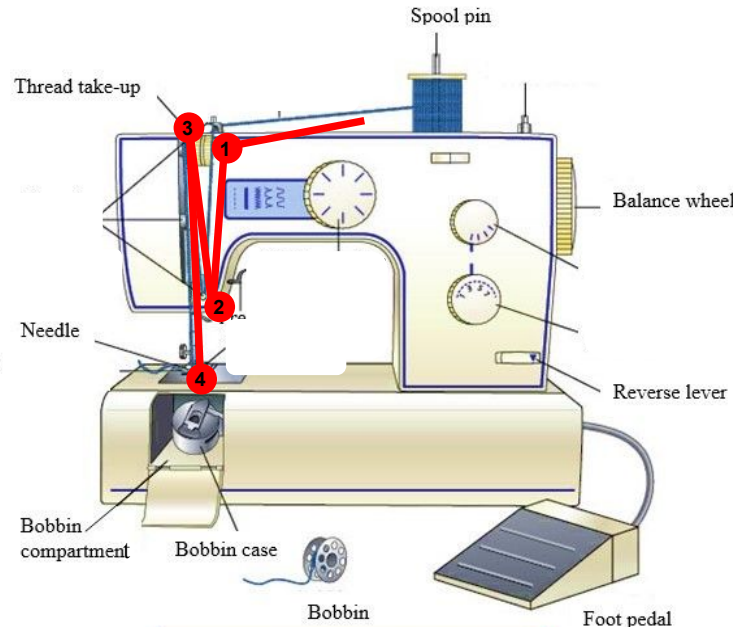
It requires an **input force** to create an **output** result which is useful e.g A bicycle requires the input force of pedalling to create useful speed.



Weaver's Loom.



How to thread up a Sewing Machine



TEXTILES

Year 8

Textiles

In Textiles Design we use a range of **specialist techniques** and **materials** in order to decorate textiles to make them more aesthetically pleasing and interesting. The information below explains some of the techniques you will explore this year.

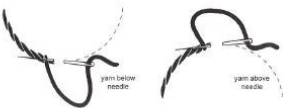
Embroidery Stitches

Embroidery is the act of decorating fabric or other materials using a needle to apply thread or yarn. Typically embroidery is done by hand using embroidery needles, embroidery thread and an embroidery hoop, however it is becoming more popular to use sewing machines to create designs using a technique called 'free machining'. The use of CAD further enhances the possibilities with specialist sewing machines able to sew designs which have been designed on computers.

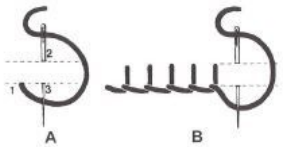
Back Stitch



Curved Lines



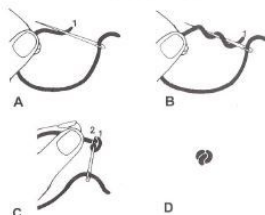
Blanket Stitch



Uneven Variation



French Knot



Using the Heat Press

A **heat press** can be used to **transfer** an image or a design onto a **substrate** (the underlying layer). The substrate fabric e.g a t-shirt is placed on to the electronically heated "**platen**." A **transfer sheet** with the design is then positioned on the fabric. By closing the cover, the ink, adhesive, or vinyl melts **into** the fabric.



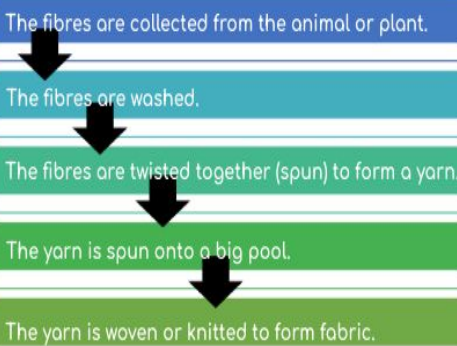
Applique

**Appliqué** is **decorative needlework** in which pieces or patches of fabric in different shapes and patterns are sewn or stuck onto a larger piece to form a picture or pattern. Appliqué with Bondaweb involves using a double-sided adhesive web to attach fabric shapes onto a base fabric.

A **template** is created first which enables multiple identical patterns to be cut out. The fabric is then **pinned** or attached using **bondaweb** (use the heat press to melt the fabrics together). Then using hand embroidery techniques stitch around the attached design.



From Fibre to Fabric



Fabric Properties

	Natural			Synthetic	
	Cotton	Linen	Wool	Polyester	Nylon
Poor Insulators	Poor insulators	Good insulator	Strong, hardwearing	Absorbs little water	
Stronger when wet than dry	Highly absorbent	Good elasticity	Crease resistant	Very strong and resistant to wear	
Able to hold moisture well	Hard wearing	Highly absorbent	Easy to wash and care for	Very crease resistant	
Hardwearing	Crease easily	Does not crease easily	Resistant to staining	Affected by static electricity - which effects the drape	
Poor elasticity	Poor elasticity				

TEXTILES



SPaG

Grammar: Write in sentences

A sentence is a group of words that make sense. Sentences start with a capital letter and end with a full stop, question mark or exclamation mark. All sentences contain **clauses**. You should try to use a range of sentences when writing. There are three main types of sentences.

**Simple sentence:** A sentence containing one main clause with a **subject** and a **verb**.  
 He **reads**.  
 Literacy **is** important.

**Compound sentence:** Two simple sentences joined with a **conjunction**. Both of these simple sentences would make sense on their own. Varying conjunctions makes your writing more interesting.  
 He **read** his book **because** it **was written** by his favourite author.  
 Literacy **is** important **so** students **had** an assembly about reading.

**Complex sentence:** A longer sentence containing a main clause and one or more **subordinate clause (s)** used to add more detail. The main clause makes sense on its own. However, a subordinate clause would not make sense on its own, it needs the main clause to make sense. The subordinate clause is separated by a comma (s) and/or conjunction. The clause can go at the beginning, middle or end of the sentence.  
 He **read** his book **even though** it was late.  
**Even though** it was late, he **read** his book.  
 He **read** his book, **even though** it was late, **because** it was written by his favourite author.

**How can you develop your sentences?**

- Start sentences in different ways. For example, you can start sentences with adjectives, adverbs or verbs.  
**Adjective:** **Funny** books are my favourite!  
**Adverb:** **Regularly** reading helps me develop a reading habit.  
**Verb:** **Looking** at the front cover is a good way to choose a reading book.
- Use a range of **punctuation**.
- Nominalisation**  
 Nominalisation is the noun form of verbs; verbs become concepts rather than actions. Nominalisation is often used in academic writing. For example:  
 It is important to **read** because it helps you in lots of ways.  
 Becomes: **Reading** is beneficial in many ways.

Germany **invaded** Poland in 1939. This was the immediate cause of the Second World War breaking out.  
 Becomes: Germany's **invasion** of Poland in 1939 was the immediate cause of the outbreak of the Second World War.

Connectives and Conjunctions	
<b>Cause And Effect</b>	Because So Consequently Therefore Thus
<b>Addition</b>	And Also In addition Further (more)
<b>Comparing</b>	Whereas However Similarly Yet As with/ equally/ Likewise
<b>Sequencing</b>	Firstly Initially Then Subsequently Finally After
<b>Emphasis</b>	Importantly Significantly In particular Indeed
<b>Subordinate</b>	Who, despite, until, if, while, as, although, even though, that, which



# Year 8 Knowledge Organiser



**Haggerston  
School**

Aspiration Creativity Character