

Thomas Estley Community College

Year 9 Spring Term

Knowledge Organiser



What are Knowledge Organisers?

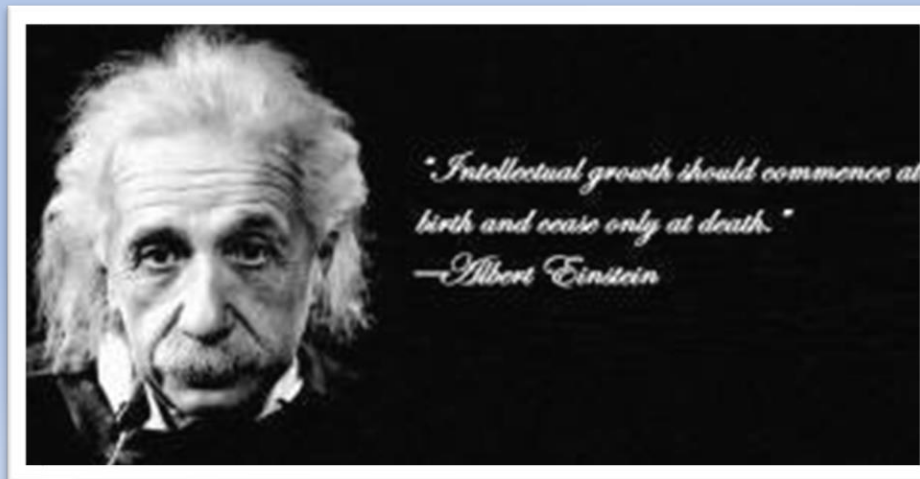
A knowledge organiser is an easy way that each subject can summarise the most important information. Each subject section will include key terms, short explanations, glossary words, diagrams etc making it clear to the student as to what is essential to learn. Each grid has an overall theme and these vary according to the subject being taught.

It will be the students responsibility to keep the knowledge organisers safe and refer to them over the whole academic year.

How will these be used at Thomas Estley?

At Key stage 3, you will be given a knowledge organiser each term. You need to keep these safe in your learning packs that you were provided with at the start of the academic year.

Your subject teachers will use these in a variety of ways, for both class work, remote learning opportunities and homework. They will be used to help with revision for class quizzes and retrieval practice activities. They will also be used for flip learning activities, where subject teachers will ask you to learn some information and then go in to it in more detail in class.



Revision Tips and Tricks!

Record It

Record yourself on your phone or tablet reading out the information. These can be listened to as many times as you want!



Teach it!

Teach someone your key facts and then get them to test you, or even test them!



Flash Cards

Write the key word or date on one side and the explanation on the other. Test your memory by asking someone to quiz you on either side.

Hide and Seek

Read through your knowledge organiser, put it down and try and write out as much as you can remember. Then keep adding to it until it's full!



Back to front

Write down the answers and then write out what the questions the teacher may ask to get those answers.



Post its

Using a pack of post-it notes, write out as many of the keywords or dates as you can remember in only 1 minute!



Practice!

Some find they remember by simply writing the facts over and over again.

Read Aloud

Simply speak the facts and dates out loud as you're reading the Knowledge Organiser. Even try to act out some of the facts – it really helps you remember!



Sketch it

Draw pictures to represent each of the facts or dates. It could be a simple drawing or something that reminds you of the answer.

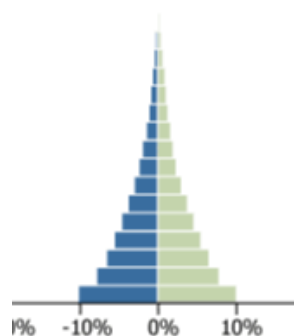
Geography Knowledge Organiser

Year 9: Development

Key Word	Definition
Brandt Line	The dividing line on the world between the 'rich north' and 'poor south', first proposed in 1980.
Development Indicator	A way of comparing development between places.
Inequality	Differences between poverty and wealth, as well as in peoples' wellbeing and access to things like jobs, housing and education.
Trade	The buying and selling of good and services between countries.
Debt	money owed to a person or organization for funds borrowed.
Aid	Assistance provided to other countries in the form of money or food etc.
Population Pyramid	A graphical technique used to display population data about a country.
Economic Structure	Suggests what sectors (primary, secondary and tertiary) people work in.
HDI	Stands for Human Development Index. A number from 0 to 1 and is calculated by combining Life Expectancy, Education and Income.
Sustainable Development	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.



Rapid Growth
Democratic Republic of Congo



Slow Growth
United States



Negative Growth
Germany



Female Male



Useful websites...

<https://www.bbc.co.uk/bitesize/topics/zg7nvcw>

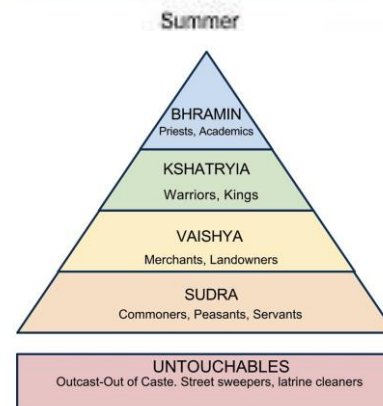
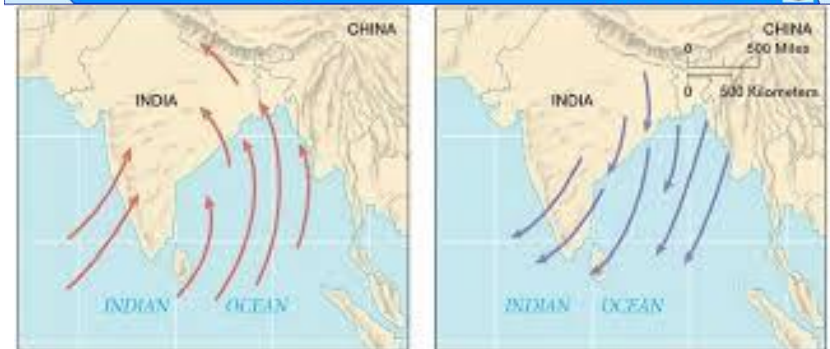
Geography Knowledge Organiser

Year 9: Asia

Key Word	Definition
Asia	One of the seven continents of the world, made up of forty-eight countries.
Himalayas	The name of the tallest mountain range in the world, located to the north of India.
Population Density	The average number of people that live in an are, given as a number per km ² .
Choropleth Map	A map that uses colour to show changes over space.
Monsoon	The name of the wet season in Asia occurring between June and October, when winds blow from the south west.
Caste	The name of a Hindu system where society is divided into categories.
Globalisation	The process by which the world is becoming increasingly interconnected as a result of massively increased trade and cultural exchange across the globe.
Migration	The movement of people from one place to another.
Urbanisation	The process where more people live in urban areas (cities).
Shanty towns	An area of very poor housing, often self-built by residents out of basic materials.

Useful websites...

<https://www.bbc.co.uk/bitesize/topics/z3jhfg8>
<https://www.bbc.co.uk/bitesize/topics/zg7nvcw>



YEAR 9 CYBERSECURITY

Cybersecurity looking at common attacks and methods to protect ourselves and our networks against these attacks.

Data: raw facts and figures

Information: data that has been processed and has context

It is the law



Key words

adware	advertises for products a user may be interested in, based on internet history
authentication	verifying the identity of a user or process
auto update	updating software to remove vulnerabilities automatically
biometrics	'password' created from the user fingerprint, iris, retina, facial, voice
blagging	inventing a scenario to obtaining personal information
CAPTCHA	Completely Automated Public Turing Test To Tell Computers and Humans Apart
DoS/DDoS	Denial of Service attack/Distributed Denial of Service
encryption	mathematically converts data into a form that is unreadable without a key
firewall	checks incoming and outgoing network traffic for threats
hacking	gaining unauthorised access to or control of a computer system'
malware	a variety of forms of hostile or intrusive software
penetration testing	testing a network/program for vulnerabilities
pharming	redirecting web traffic to fake websites designed to gain personal information
phishing	messages designed to steal personal details/money/identity
ransomware	virus which locks a computer and encrypts files until a "ransom" is paid
script kiddies	hackers with no technical hacking knowledge using downloaded software
shouldering	directly observing someone enter personal details e.g. PIN number, password.
social engineering	manipulating people so they give up personal/confidential information
spyware	gathers information about a person or organisation without their knowledge
trojans	masquerades as having a legitimate purpose but actually has malicious intent
viruses	self-replicating software attached to another program/file
worms	Replicate and spread through the network

Data Protection Act 2018:

All organisations and people using and storing personal data must abide by the DPA principles . It states how data should be stored/accessed and what rights a data subject has for the protection of their data.

Computer Misuse Act 1990: It is an offence to

- 1.have unauthorised access to computer material
- 2.have unauthorised access with intent to commit or facilitate the commission of further offences
- 3.commit unauthorised acts with intent to impair, or with recklessness as to impairing, the operation of a computer.

Network and System security measures include:



Anti-malware

passwords

Auto updates

Penetration testing

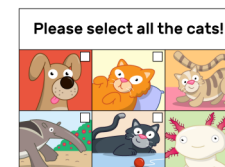
User permissions

firewall

biometrics

User authentication

encryption



Hacking in the context of cyber security is gaining **unauthorised** access to or control of a computer system .

Unethical versus ethical hacking

Penetration testers (pen testers) are people who are paid to legally hack into computer systems with the sole purpose of helping a company identify weaknesses in their system.

Knowledge Organiser (LO1): Graphic files & formats

Thomas Estley Community College

You must know file formats used for audio, video and images and to describe their features

Common bitmap (raster) image file types

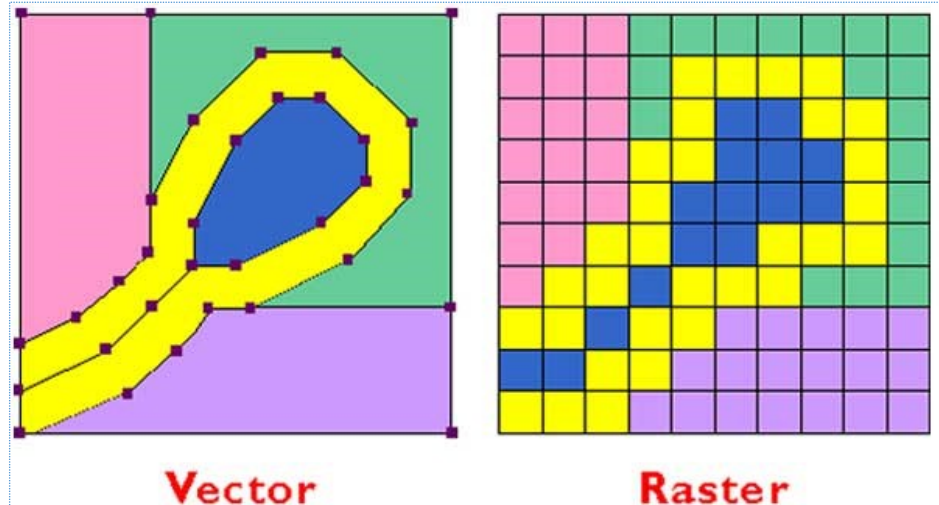
File Type	Advantages	Disadvantages
.JPG (bitmap)	Compresses well, so creates smaller files sizes. Reproduces millions of colours Good for web and printing	Lossy file format; Variable picture quality Cannot be used for animation
.TIFF (bitmap)	Lossless file format Reproduces millions of colours Standard format for print publishing industry	Large files Limited compression Doesn't support transparent background
.GIF (bitmap)	Lossless file format Enables animations (very popular use) Sharp edges to images	Larger file size Only 256 colours can be reproduced
.PNG (bitmap)	Lossless file format Reproduces millions of colours Excellent transparency in images	Compresses well Not suitable for digital photos No animation
.BMP (bitmap)	Works in many devices Millions of colours Lossless file format	Uncompressed Large file formats No compression

Common vector image file types

File Type	Advantages	Disadvantages
.EPS (vector)	Most common vector type Standard for sharing in print publishing industry	Not widely supported in editing software Generally Adobe only software
.SVG (vector)	Scalable without image quality reduction International standard for vector graphics High quality printing possible Good web browser support	Not widely supported in software Files sizes can be large wit many elements
.PDF (vector)	Widely supported by many devices Free to view PDF files Small file size	Not free to edit PDF files Text difficult to edit, text is treated as images
.AI (vector)	Scalable without image quality reduction Industry standard for professional vector graphics	Requires Adobe software to edit Cannot be viewed on websites
.DXF (vector)	Standard format used for Computer Aided Design (CAD) Well supported in many software applications	Large file sizes Data can be lost when shared across different software.

File size compression

- | | |
|-----------------------------|--|
| Lossy compression | <ul style="list-style-type: none"> Data is removed from the file to reduce the size of the file. The process cannot be reversed, data loss is permanent Increased compression introduces a greater reduction of image quality Ideal for communication over the internet and viewing on small screens |
| Lossless compression | <ul style="list-style-type: none"> All original image quality is retained, hence no loss Slight decrease in file size Ideal for archiving images to retain original quality Used for large images, such as posters and billboards |

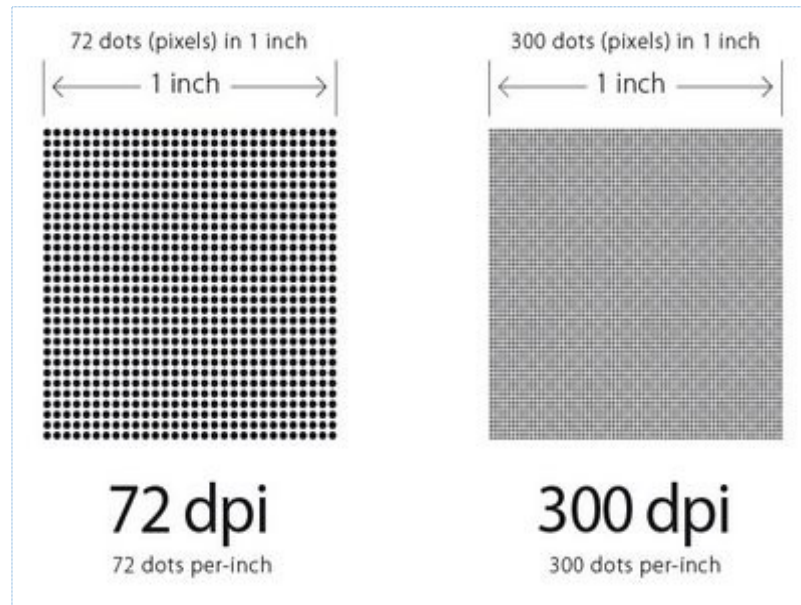


Knowledge Organiser (LO1): Graphic files & formats

Thomas Estley Community College

You must know file formats used for audio, video and images and to describe their features

Image Resolution	
Pixel dimensions	The density of pixels in an image. Normally stated as the number pixels on the horizontal and vertical axis of an image, for example HD TV is 1280 pixels wide and 720 high (1280 x 720 = 921,600 pixels = 0.92 megapixels).
DPI resolution	Dots Per Inch. How many pixels occur across one inch (2.54 cm) DPI usually refers to printed media.
PPI resolution	Pixels Per Inch. How many pixels occur across one inch (2.54 cm) DPI usually refers to screen media.
Typical resolutions	Print media typically uses 300 dpi Web media is typically 72 ppi



Question:

A monitor is 20 inches wide and it has a resolution of 1024 x 720. What is the monitors dpi?

Answer:

DPI = dots per inch = dots/inch

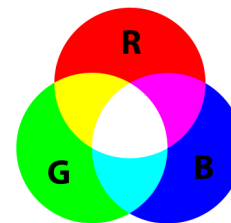
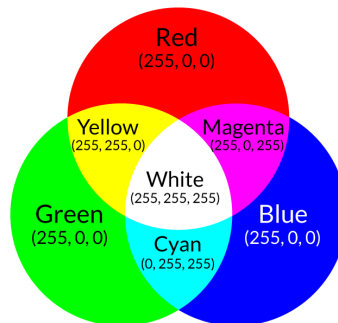
DPI = resolution / width

DPI = 1024/20 = **51.2 dpi**

Each pixel for a computer to TV screen is made from three values for Red, Green and Blue to determine how bright each colour is.

- **R** = 0 to 255 (255 is the maximum intensity)
- **G** = 0 to 255 (255 is the maximum intensity)
- **B** = 0 to 255 (255 is the maximum intensity)

These three **colour channels** are 8-bit values to determine **colour depth**.



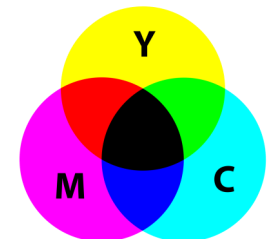
Images are represented **pixels (Picture Elements)**.

TVs and monitors produce pixel colours using Red, Green and Blue light (**RGB**)

All screen colours can be produced just from RGB

Printed media pixel colours are produced from Cyan, Magenta and Yellow ink (**CMY**).

It is very difficult to colour match between CMY and RGB



Y9 Art Weird and Wonderful

The four main areas in this project:



Developing Ideas



Refining Materials



Recording Ideas



Presenting Responses

You will develop skills in:



Artist Research and Response



Developing original ideas



Observational drawing skills

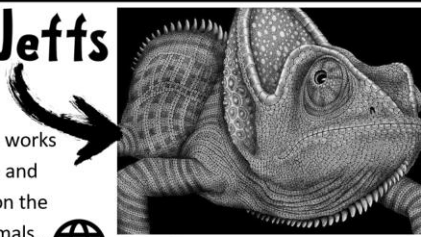


Visual Elements and Composition

Artist Research

Tim Jeffs

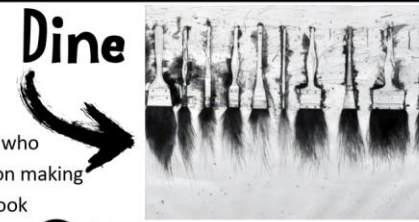
An artist who works mainly in pen and ink focusing on the theme of animals.



<https://timjeffsart.blogspot.com/>

Jim Dine

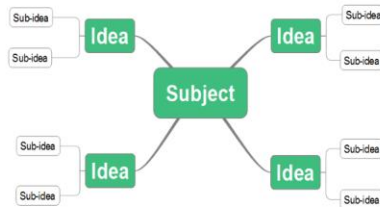
An artist who focuses on making objects look interesting.



<https://www.youtube.com/watch?v=g1UjAyJoml4>

Mind Mapping

Artists and Designers often start with a mind map of ideas when they begin a project as this helps them to plan for where the creative journey will take them.



Montage Page

A group of images based on a theme, carefully presented for idea development and to visualise your ideas of new and original designs.



Media and Materials

Pencil

Watercolour

Collage

Fineliner

Mixed Media

Pen

Oil Pastel

Monoprint

Wax Resist

Polyprint

Ink

Coloured Pencil

Charcoal

Scruffito

Digital

Observational Drawing Tips:



- Draw from life where you can.
- Draw what you see, not what you think you see!
- Begin drawing the form lightly in pencil
- Use a soft sketchy line to get accurate shapes

Primary Sources

Photos that you take yourself to inspire your art work.

Secondary Sources

Photos that you use to inspire your artwork but they are taken by someone else.



Visual Elements

The components that make up a piece of art.

LINE



FORM

SHAPE



TEXTURE



PATTERN



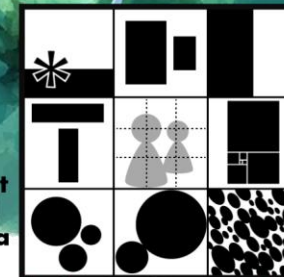
COLOUR



COLOUR

Composition:

The arrangement of the visual elements in a piece of art.

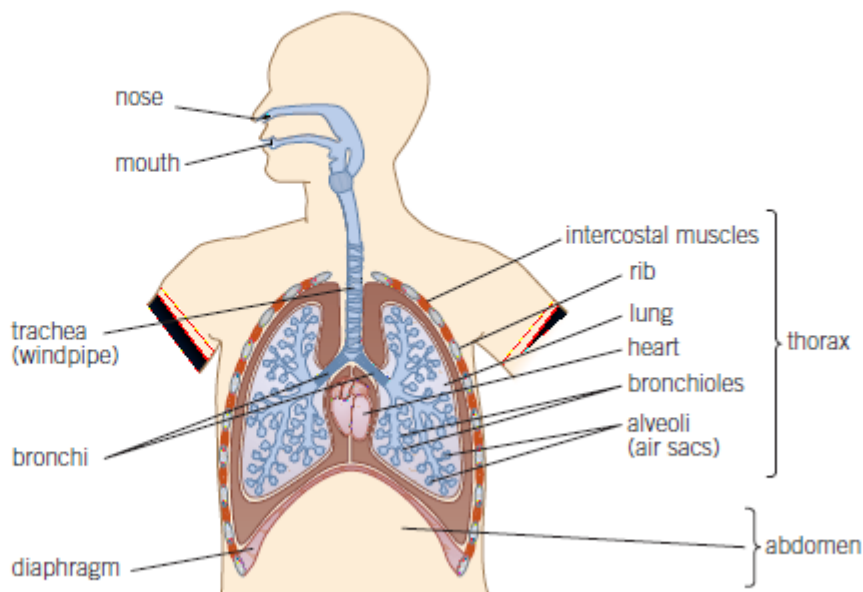


KEY WORDS

Artist
Idea
Develop
Refine
Research
Plan
Create
Background
Foreground
Light
Dark
Detail
Proportion
Outline
Material
Original
Analysis
Evaluate
Express
Response
Inspire
Layout
Technique
Mood
Meaning
Style
Abstract
Realistic
Record
Arrange
Surreal

Gas exchange and breathing

- **Gas exchange** is the process of taking in oxygen and giving out carbon dioxide
- This occurs in the **respiratory system**
- The proportions of gases in the air we **inhale** and **exhale** changes due to using oxygen in **respiration** and producing carbon dioxide

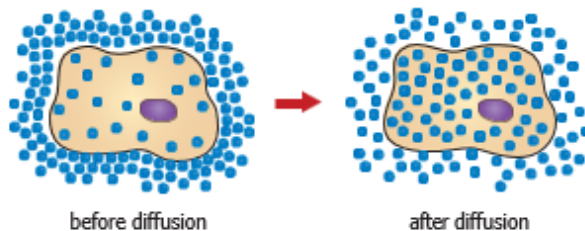


What happens when you breathe in and out

when you breathe in (inhale)	<ul style="list-style-type: none"> • muscles between the ribs contract • ribs are pulled up and out • diaphragm contracts and flattens • volume of the chest increases • pressure inside the chest decreases • air rushes into the lungs
when you breathe out (exhale)	<ul style="list-style-type: none"> • muscles between ribs relax • ribs are pulled in and down • diaphragm relaxes and moves up • volume in the chest decreases • pressure inside the chest increases • air is forced out of the lungs

Movement into and out of cells

- The process in which substances move into and out of cells is known as **diffusion**
- This occurs across the **cell membrane**
- During diffusion particles move from an area of **high concentration**, to an area of low concentration



- Oxygen and nutrients enter the cell by diffusion, carbon dioxide and waste products leave

B5

Animals

Knowledge organiser
Activate
Question Organiser

Drugs

- **Drugs** are chemicals that affect the way that our body works
 - **Medicinal drugs** are used in medicine, they benefit health
 - If medicinal drugs are not taken in the correct way they can harm health
 - Examples include antibiotics and pain killers
-
- **Recreational drugs** are taken by people for enjoyment
 - Recreational drugs normally have no health benefits and can be harmful for health
 - Examples include alcohol and tobacco
-
- Drug **addiction** is when your body gets so used to a drug, it feels it cannot cope without it
 - If someone who has an addiction stops taking the drug, they will experience **withdrawal symptoms**



Key terms

Make sure you can write definitions for these key terms.

Aerobic respiration Anaerobic respiration Antagonistic muscle pairs Bone
Bone marrow Cartilage Diffusion Drug Exhale Fermentation Gas exchange
Haemoglobin Inhale Joints Lactic acid Ligaments Medicinal drug Muscle
Oxygen debt Plasma Recreational drug Red blood cells Respiration
Respiratory system Skeleton Tendons Tissue Withdrawal symptoms

Respiration

- Respiration is the process in which energy is released from the molecules of food which you eat
- Respiration happens in the mitochondria of the cell
- **Aerobic respiration** involves oxygen, it is more efficient as all of the food is broken down to release energy

$$\text{glucose} + \text{oxygen} \rightarrow \text{carbon dioxide} + \text{water}$$
- The glucose is transported to the cells in the blood **plasma**
- The oxygen is transported to the cells in **red blood cells**, by binding with **haemoglobin**
- Carbon dioxide is a waste product and is transported from the cells to the lungs to be exhaled

- **Anaerobic respiration** is a type of respiration which does not use oxygen, it is used when the body cannot supply the cells with enough oxygen for aerobic respiration
- Anaerobic respiration releases less energy than aerobic respiration

$$\text{glucose} \rightarrow \text{lactic acid} + \text{carbon dioxide}$$
- The **lactic acid** produced through anaerobic respiration can cause muscle cramps
- Lactic acid will build up if there is not enough oxygen present in the blood supply to break it down. This is known as an **oxygen debt**

Fermentation

- **Fermentation** is a type of anaerobic respiration which occurs in yeast
- Instead of producing lactic acid, yeast produces ethanol, which is a type of alcohol

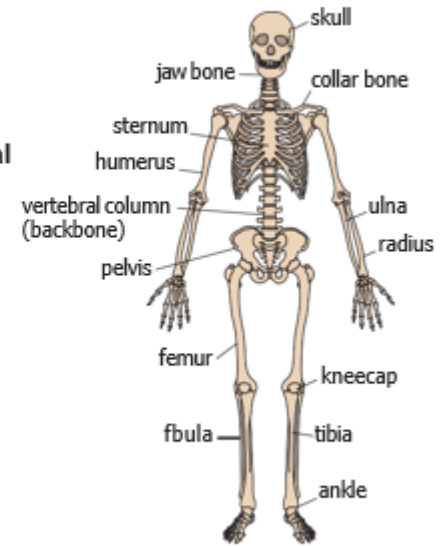
$$\text{glucose} \rightarrow \text{ethanol} + \text{carbon dioxide}$$
- This process can be used to form alcohol to drink or to allow bread and cakes to rise

Muscles

- **Muscles** are a type of tissue which allows movement
- They pull on tendons which in turn pull on bones to allow movement
- Muscles like the triceps and biceps are known as **antagonistic muscle pairs**, they work together –as one contracts, the other will relax

The skeleton

- The **skeleton** is made up of 206 **bones** which are a type of **tissue**
- Bones have a blood supply and are a living tissue
- The skeleton is part of the **muscular-skeletal system**
- The four main functions of the skeleton are:
 - To support the body –to keep you upright and hold **organs** in place
 - Protect organs –such as the skull protecting the brain
 - Movement –by working with muscles to allow you to move
 - Making blood cells –the **bone marrow** produces red and white blood cells



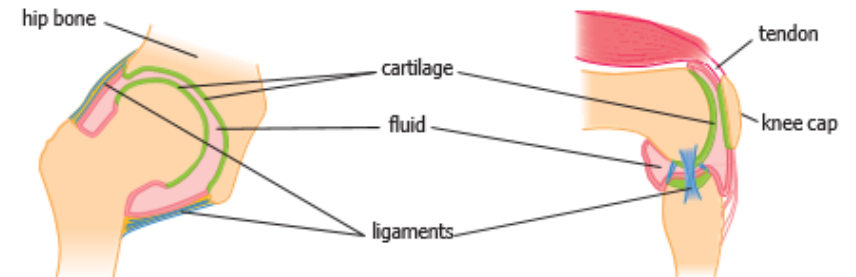
Movement

Joints occur between bones and allow movement, there are three main types of joints

Hinge	Ball and socket	Fixed
For back and forward movement, e.g. knees	For movement in all directions e.g. hips	Do not allow movement, e.g. skull

Joints have three main types of tissue:

Ligaments	Cartilage	Tendons
Connect bone to bone	Coats the end of bones as a protection	Connects bone to muscle

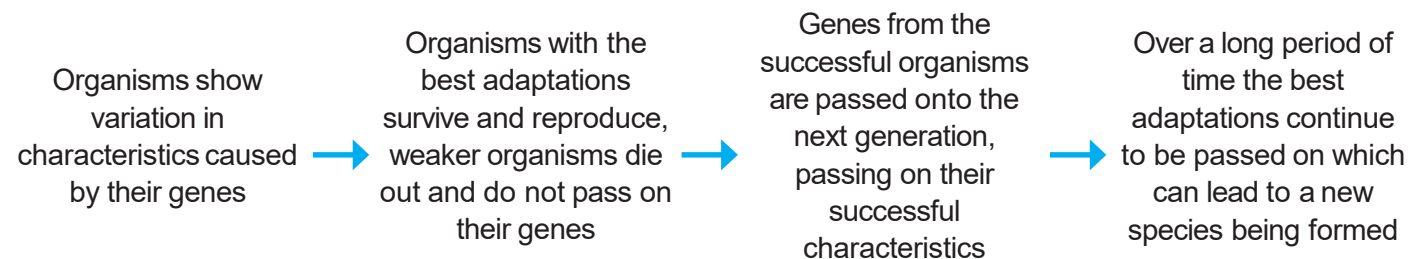


B5

Animals **Activate**
 Question • Progress • Succeed
Knowledge organiser

Natural selection

- Scientists believe that the organisms which we see on Earth today have gradually developed over millions of years, this is known as **evolution**
- Charles Darwin came up with the concept of **natural selection**, he said that only the best adapted animals will survive to pass on their **genes**, weaker animals will die out



- One example of natural selection can be seen in giraffes, only the giraffes with the longest necks would be able to eat from trees, the ones with shorter necks would not be able to eat and die out
- This would mean that only the gene for long necks would be passed on, leading to all giraffes having long necks

Extinction

- A species will become **extinct** when all of a species die out
- The **fossil record** shows us that animals have existed in the past which have now become extinct
- Extinction can be caused by:
 - Changes to the environment
 - Destruction of habitat
 - New diseases
 - Introduction of new predators
 - Increased **competition**
- When a species becomes extinct, the variety of species within an ecosystem is reduced, this is also known as a reduction in **biodiversity**
- The more diverse a **population** is, the more likely they are to survive environmental changes

Punnet squares

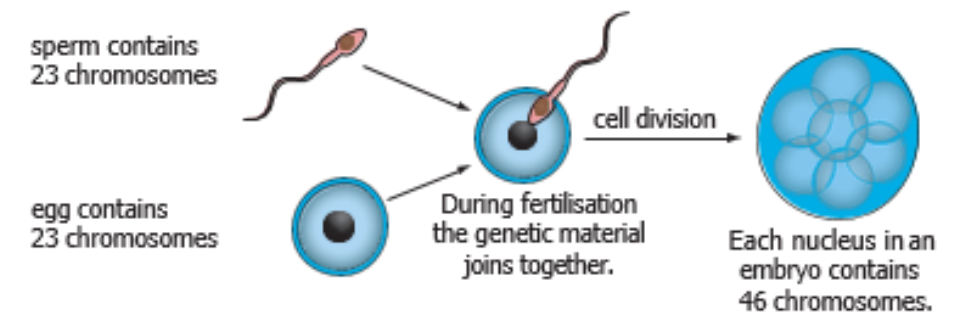
		Possible alleles from father	
		B	b
		(dominant allele for brown eyes)	(recessive allele for blue eyes)
Possible alleles from mother	b	Bb Offspring will have brown eyes as B is dominant	bb Offspring will have blue eyes as both alleles are recessive
	B	Bb Offspring will have brown eyes as B is dominant	bb Offspring will have blue eyes as both alleles are recessive

Genetic modification

- Genetic modification** is the process which scientists can use in order to alter the genes of an organism
- Examples of this include altering cotton to produce higher yields, altering bacteria genes to produce medicines and altering crops to produce their own insecticides

Inheritance

- Characteristics** are passed along from parents to their offspring
- Half of the genetic information comes from each parent, this is passed on through the sex cells in the process of fertilisation

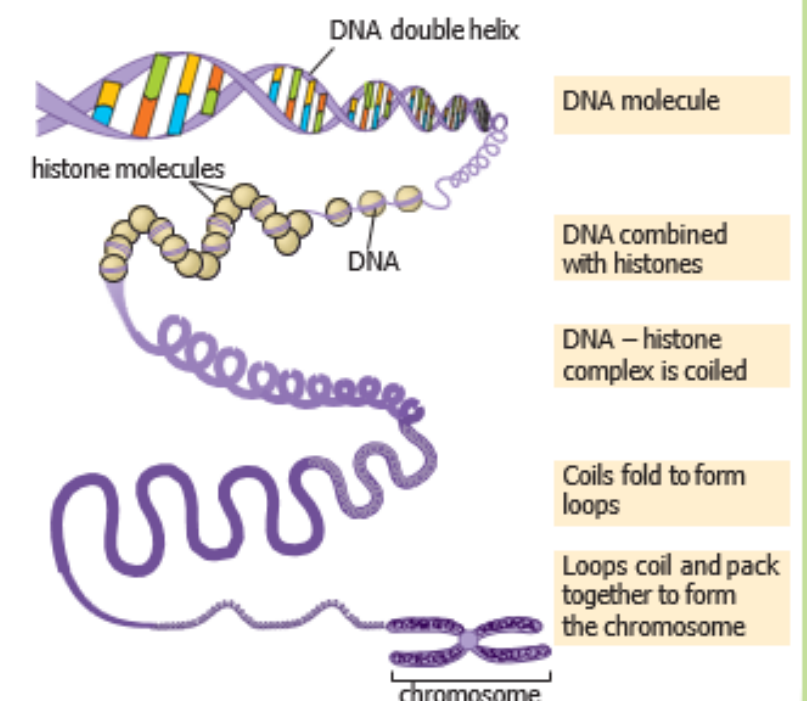


- DNA** is the material which contains all of this genetic information

DNA – in the shape of a double helix

Genes – a section of DNA which hold the information for a particular characteristic

Chromosomes – long strands of DNA which hold many genes, humans have 46 of these in the nucleus of cells



Genetics

- For every characteristic an organism will have two **alleles**, this is two different genes which can code for the same characteristic, one is inherited from each parent
- Dominant** alleles will cause the characteristic to be displayed even if they are with another allele, this is represented by a capital letter
- Recessive** alleles will not be displayed as characteristics unless there are two of the same allele, they are the characteristic least likely to be shown, this is represented by a small letter
- We can predict the inheritance of characteristics using a **Punnet square**

Key terms

Allele Biodiversity Characteristics Chromosome Competition DNA Dominant Evolution Extinct Fossil record Gene Genetic modification Mutation Natural selection Population Punnet square Recessive

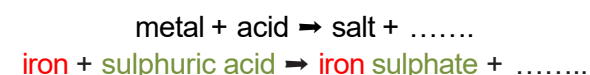
Salts

Salts are substances which are formed when an acid reacts with a metal or metal compound. The name of the salt produced depends on the metal and the acid involved in the reaction.

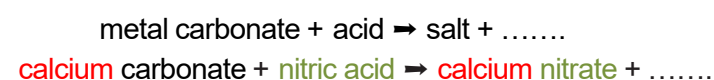
Different acids form different types of salts:

- Hydrochloric acids form chloride
- Sulphuric acids form sulphates
- Nitric acids form nitrates

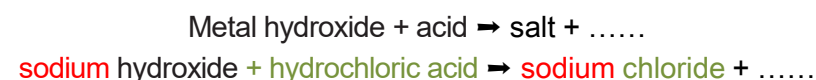
Metal acid reaction:



Metal carbonate reaction:

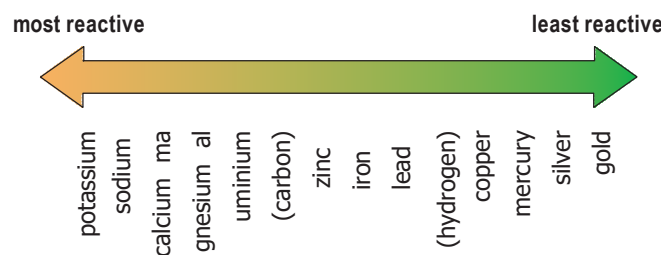


Neutralisation reactions (one from year 7):



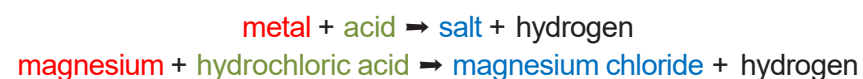
The reactivity series

- The **reactivity series** describes how reactive different metals are compared to one another
- The higher the metal is in the reactivity series the more reactive it will be. This means that it will react much more vigorously.
- Carbon and hydrogen are in the reactivity series so that you can see their relative reactivity. Metals higher than carbon in the series must be extracted using **electrolysis**.



Metal reactions

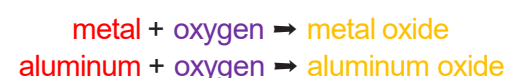
When a metal reacts with an acid it will produce a salt and hydrogen gas, the fizzing that you see is the hydrogen gas being given off.



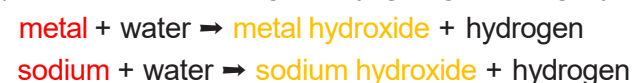
When a metal **carbonate** reacts with an acid, a salt, water and carbon dioxide is given off.



When a metal reacts with oxygen a metal **oxide** is formed, this process is known as **Oxidation**.



When a metal reacts with water it forms a metal **hydroxide** and hydrogen gas. The alkali (group 1) metals react most vigorously, giving off a brightly coloured flame.



A special oxidation reaction happens between iron and oxygen in the presence of water. This is called rusting.



When a more reactive metal reacts with a compound containing a less reactive metal, it can take its place, this is known as a **displacement** reaction



- If the metal on its own is higher in the **reactivity series** than the metal in the compound a reaction will take place
- If the metal on its own is lower in the reactivity series than the metal in the compound, a reaction will not take place

Metal extraction

Unreactive metals such as gold are found in the Earth's crust as elements. However most metals are found combined with other elements to form compounds.

Most metals are extracted from **ore** found in the Earth's crust. An ore is a rock that contains enough of a metal or a metal compound that makes extracting it worthwhile.

If a metal is less reactive than carbon then heating the metal in a fire with carbon will cause the carbon to **displace** the metal from its compound.

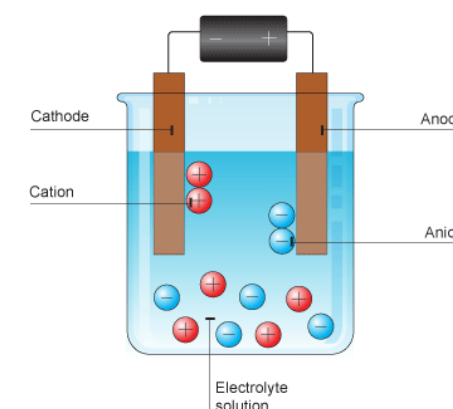
An example of this is the extraction of copper from its ore Malachite.

- copper oxide + carbon \Rightarrow copper + carbon dioxide

Electrolysis

When a metal is more reactive than carbon then extraction by heating with carbon does not work.

Electrolysis can be used instead to extract these metals from their compounds.



The metal compound is melted and electrical current is passed through. The metal ions are attracted to and form a layer on the cathode (the negative electrode).



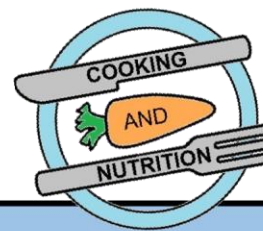
Key terms

Make sure you can write definitions for these key terms.

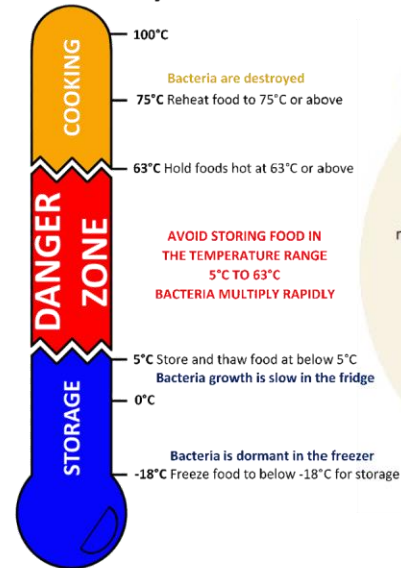
acid acidic neutralisation oxide chemical carbonate reactivity reactivity series salt displacement hydroxide hydrochloric acid

 sulphuric acid nitric acid ore electrolysis

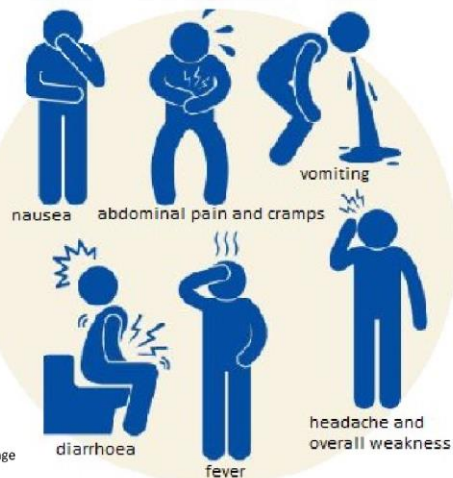
Year 9 - Lifestyle & Choice



Food safety



Food poisoning symptoms



<https://www.youtube.com/watch?v=flxmB8NKMzE>

<https://www.nhs.uk/live-well/eat-well/10-ways-to-prevent-food-poisoning/>

<https://www.food.gov.uk/safety-hygiene/avoiding-cross-contamination>

Food labelling: lots of information is required by law. Storage instructions are particularly important for food safety.



https://www.youtube.com/watch?v=OZOIEYQ0axo&list=PLcvEcrcF_9zlxoGGU59CjuZHciPl9uvGm&index=9&t=2s

Key vocabulary

safety / hygiene / cross-contamination
pathogenic / food poisoning / symptoms
nutrition / hydration / shelf life
perishable / ambient / dormant
ethical / moral / cultural / preferences
allergies / intolerances / life stages

Nutritional needs and health: some

people have special dietary needs based on their age, lifestyle or allergies.



<https://www.youtube.com/watch?v=k5YSJq4iQtI>

Senses: influence our enjoyment of food.



<https://www.youtube.com/watch?v=zNchJla7G0E>

The Eatwell Guide shows the types and proportions of foods people need for a healthy and well-balanced diet.



<https://www.youtube.com/watch?v=7MIE4G8ntss>

<https://www.nhs.uk/live-well/eat-well/the-eatwell-guide/>

<https://www.youtube.com/watch?v=8aWqZd9RScQ>

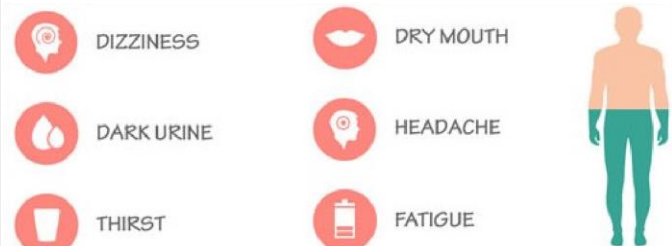
Food choices: a variety of factors influence what we choose to eat.



<https://www.youtube.com/watch?v=D6eor1wkNFY>

<https://www.youtube.com/watch?v=bowUbKANVVY>

Dehydration: the main symptoms.



<https://www.youtube.com/watch?v=b7s2Aqj72Q8>

Year 9 Spring Term – World Conflict 1939- Present Pt.1

Lesson Content

Preparing for War

Early stages + Dunkirk

The Battle of Britain

What was the Blitz?

The invasion of Russia

The Holocaust

America enters the War

Turning the tide

Key dates

3rd September 1939	Britain declares war on Germany
10 May 1940:	Germans launch offensive in the West
27th May – 4th June	Evacuation of British and French troops from Dunkirk
12 August 1940	Battle of Britain begins
22 June 1941	Launching of Operation Barbarossa against the Soviet Union
7 December 1941	Attack on Pearl Harbor in Hawaii
4 June 1942	Battle of Midway
5 July 1943	Germans launch battle of Kursk

Key people

Neville Chamberlain	a British politician of the Conservative Party who served as Prime Minister of the United Kingdom from May 1937 to May 1940
Adolf Hitler	initiated World War II in Europe by invading Poland on 1 September 1939.
Winston Churchill	was Prime Minister of the United Kingdom from 1940 to 1945 during the Second World War
Joseph Stalin	Soviet politician who ruled the Soviet Union from the mid-1920s until his death in 1953
Heinrich Himmler	was one of the most powerful men in Nazi Germany and a main architect of the Holocaust.
Franklin D. Roosevelt	American politician who served as the 32nd president of the United States from 1933 until his death in 1945
William Halsey Jr	a fleet admiral in the United States Navy during World War II.
Bernard Montgomery	commanded the British Eighth Army from August 1942, through the Second Battle of El Alamein and on to the final Allied victory in Tunisia in May 1943.
Alan Turing	played a crucial role in cracking intercepted coded messages that enabled the Allies to defeat the Nazis in many crucial engagements, and in so doing helped win the war

Key Words - Glossary

evacuation	During the Second World War, many children living in big cities and towns were moved temporarily from their homes to places considered safer, usually out in the countryside.	"scorched earth"	a military strategy that aims to destroy anything that might be useful to the enemy.
rationing	the controlled distribution of scarce resources, goods, services, or an artificial restriction of demand.	genocide	the deliberate killing of a large number of people from a particular nation or ethnic group with the aim of destroying that nation or group.
blitzkrieg	a method of offensive warfare designed to strike a swift, focused blow at an enemy using mobile, maneuverable forces, including armored tanks and air support.	eugenics	the practice or advocacy of improving the human species by selectively mating people with specific desirable hereditary traits.
radar	a detection system that uses radio waves to determine the range, angle, or velocity of objects.	crematoria	a venue for the cremation of the dead
The Blitz	German bombing campaign against the United Kingdom in 1940 and 1941, during the Second World War.	Zyklon B	trade name of the hydrogen cyanide (prussic acid), used to murder approximately 1.1 million people in gas chambers installed at Auschwitz-Birkenau, and other extermination camps.
siren	a device that makes a loud prolonged signal or warning sound	Pre-emptive	a surprise attack launched with the stated intention of countering an anticipated enemy offensive
incendiaries	a bomb or device designed to start fires	"The Western Allies"	the countries that together opposed Germany and her allies during the Second World War (1939–1945).

Key resources:
www.tecchistoryks3.blogspot.com

Key Assessment: 50 minute assessment based on skills from Paper 1 GCSE History
Questions 6a – 8 or 9

NARRATIVE WRITING - YEAR 9

CREATIVE WRITING DEVICES

Subversion	Going against the natural order of things. In the context of literature, this means to create something which goes against the readers' expectation e.g. plot twist.
Didactic	Intended to teach an audience and deliver entertainment. In the context of literature, a didactic story would usually provide the character with a moral dilemma.
Symbolism	The use of symbols (names, people, locations, animals, weather) to represent something beyond the literal meaning. The symbol should not be taken literally but be used as a representative of something with a deeper meaning e.g. flying birds = freedom.
Foreshadowing	Occurs when an author drops different hints to the reader about what is to come e.g. "Marley was dead: to begin with".
Show, not tell	When language and structure are used to give clues to the reader about what is happening. This skill is a way of demonstrating creative techniques while avoiding making obvious statements.

HIGH LEVEL PUNCTUATION

Ellipsis ...	Allows a reader to contemplate what you have written and create a sense of anticipation. For example: <i>You could probably imagine what I felt after that... complete embarrassment!</i>
Semi-Colon ;	Used to link two clauses instead of a comma. The sentence after the semi-colon usually does not make sense without the previous sentence. For example: <i>Joan likes eggs; Jennifer does not.</i>
Colon :	Consists of two equally sized dots placed one above the other on the same vertical line. A colon often comes before: an explanation, a list, a quotation, or a block quotation.
Parenthesis ()	Allows a writer to include additional information to a sentence. Whatever is inside the parenthesis must not be integral to the original sentence. For example: <i>He finally answered (after five minutes of thinking) that he did not understand the question.</i>

NARRATIVE WRITING HOOKS

Direct Speech	Opening a story with somebody talking, perhaps saying something that helps the reader to imagine what might happen in the story.
Action	Describing an action or something that has just happened, perhaps to the main character.
Scene Setting	Describing the setting of the story; perhaps where they are or when. It also might use imagery to describe the weather.
Direct Address	Opening a story where the narrator talks directly to the reader, often asking a question.

STORY MOUNTAIN

Exposition	The start of the plot which introduces the characters, setting and outlines any relevant events that have taken place before the time of the story.
Rising Action	A series of relevant events/moments in the story that lead to the climax of the story. It will usually create interest, suspense and tension for the reader.
Climax	The most intense, important or exciting moment of a story.
Falling Tension	Events which happen immediately happen after the climax of the story. Usually address the consequences/after-effects of the climax.
Resolution	Where the story is finalised, and the main problem is usually resolved. Loose ends are often tied up and it is typically when the story ends.

William Shakespeare

Different Types of Plays	
Tragedy	These plays would typically end in death or violence. For example: Othello, Romeo & Juliet, Hamlet, King Lear.
History	These plays were based on historical events. For example: Henry V, Richard III, Henry VI, King John.
Comedy	These plays tended to focus on love, magic, and confusion. For example: A Midsummer Night’s Dream, As You Like It, Much Ado About Nothing, The Tempest.

Shakespearean Form	
Prose	This is ordinary language—no rhyme or rhythm.
Sonnet	A 14 line poem that is usually based on the theme of love. It is written in iambic pentameter.
Blank Verse	A type of poetry, often used in his plays, too. It has meter, but no rhyme.
Dramatic Irony	Where the reader knows more about the events of the play than the characters do.

William Shakespeare’s Life	
	<ul style="list-style-type: none">Born on 23rd April 1564In 1582, he married Anne Hathaway.1589-1593—he wrote Comedy of Errors, and Richard III, and became an established playwright in London1594-1596—He creates an acting company, and writes A Midsummer Night’s Dream and Romeo and Juliet.1597-1599—He buys the second biggest home in Stratford, and writes Julius Caesar and Much Ado About Nothing1600-1608—Hamlet, Macbeth and Twelfth Night are written1603—James I is crowned King—Shakespeare renames his acting group “The King’s Men”.1609-1611—Shakespeare’s Sonnets are published, and he writes The Tempest1612-1616—Henry VIII is writtenHe dies, 23rd April 1615

Shakespearean Structure	
Iambic Pentameter	A form of meter where the lines consist of five pairs of syllables. The first syllable is unstressed, and the second is stressed. (da-DUM)
Rhythm	A strong, regular, repeated pattern of movement or sound.
Caesura	A pause near the middle of the line, that breaks up the rhythm.
Rhyme	Where two or more words share the same vowel sound and ending.

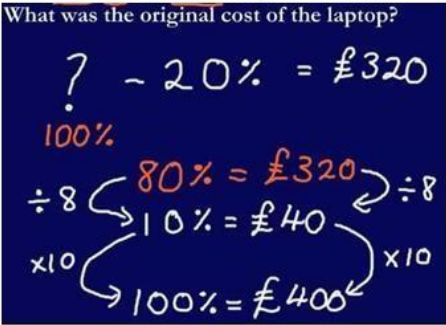
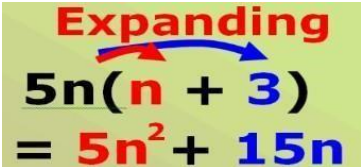
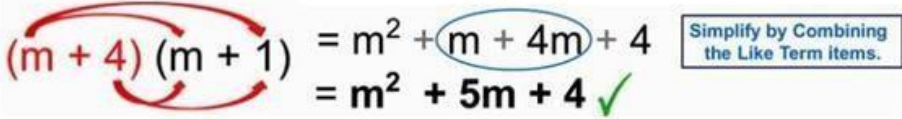
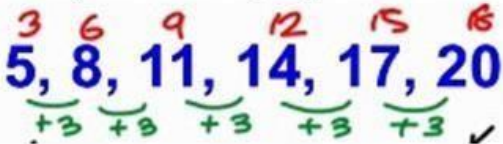
Context of Shakespeare’s Time	
Courtly Love	A medieval tradition of love between a knight and an unattainable woman.
Duelling/Honour	Honour was very important. If you refused a duel, your family’s status would be weakened.
Patriarchal Society	Society was controlled by men, where women were seen as weaker. They needed to obey their fathers and husbands.
The Globe Theatre	Where most of Shakespeare’s plays were performed. Only men were actors, and it had areas for people of all backgrounds.

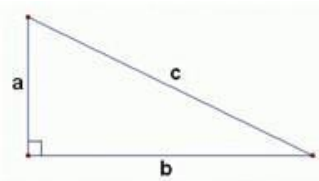
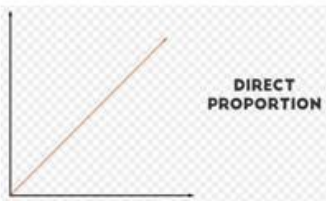
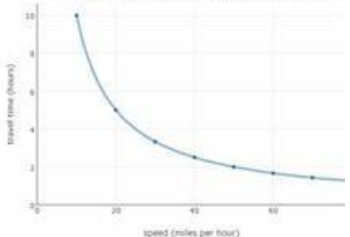
Key Terms	
Regicide	The murder of the king or monarch
Foil	A character who contrasts with another, to highlight their qualities
Renaissance	The period of time when Shakespeare wrote his plays and sonnets.
Soliloquy	The act of speaking one's thoughts aloud when by oneself or regardless of any hearers, especially by a character in a play.

WW1 POETRY- YEAR 9

FORMS OF WAR LITERATURE		KEY POETS		SMILE	
Letters	The main form of communication between soldiers and loved ones, they helped to ease the pain of separation, boost morale to keep soldiers connected to the lives they left behind. Although good for morale, many were censored by Army officials, meaning they may not give us a wholly honest account of soldier's experiences.	Wilfred Owen	Owen enlisted in the War at the age of 22 and died a few days before the end of the War at aged 25. He was exposed to the sheer horror of the War and wanted to expose this horror to civilians.	Structure	The arrangement of a poem (including rhyme, form and rhythm).
Poetry	Not only a way to overcome boredom in the trenches, but it was a way to express extreme emotion and truth on the edge of experience.	Jessie Pope	An English poet and journalist, she was best known for her patriotic stance on the War. As a woman, Pope was prohibited from fighting but encapsulated the civilian view at the beginning of the War.	Meaning	What is meant by the poem/what is the poet trying to get across (including viewpoint and storyline)?
Novels	The primary action usually takes place on a battlefield, or in a civilian setting where they are preoccupied with the preparations, suffering because of or dealing with the War. Often written based on real experiences in order to document the horror experienced.	Siegfried Sassoon	An English poet but a self-confessed conscientious objector. He wrote about the horrors of trench warfare and, using satire, mocked the 'incompetent' leaders of the War.	Imagery	A vibrant form of description which appeals to the readers imagination (including metaphors, similes, personification etc)
Newspapers	Due to no television/internet communications, newspapers were the best and most efficient way of spreading news to civilians about the War.	Philip Larkin	Although not alive during WW1, he experienced WW2 as a young boy. His poetry often comments on the ordinary nature of society and how civilians interact.	Language	The choice of words chosen by the poet and their method of communication (including semantic fields, onomatopoeia etc)
Posters	During WW1, propaganda posters were used to encourage enlistment, boost morale and encourage the war effort at home. They suggested war was glorious and heroic to encourage men to join.			Effect	What emotions are brought about in the reader (including the mood, emotion and tone of the poem)?
KEY POEMS					
Dulce et Decorum Est			Owen's anti-war poem exposes the horrors of War and criticises those who viewed the War as honourable.		
The Call			Pope's patriotic poem, which shames those who have not yet enlisted, depicts the War as a glorious game.		
The General			Depicts and mocks a General in the War who, in Sassoon's opinion, is useless and careless in his plan of attack.		
The Hero			A controversial war poem where an Officer delivers a letter to a mother, concerning the death of her son. She is proud of his sacrifice although upon leaving, the Officer recollects the Soldier's cowardice in battle.		
MCMXIV (1914)			A poem depicting pre-War Britain on the brink of war. It demonstrates how different life was before the war and comments on the changes it brought to society.		

Year 9 Spring Maths Knowledge Organiser

Topic	Key fact	Hegarty maths clip number
Percentage of Amount	Turn the percentage into a decimal and multiply it by the amount. e.g. 45% of 60 is $0.45 \times 60 = 27$ The 0.45 is called the decimal multiplier.	83 to 87
Percentage Increase & Decrease	If it is a percentage increase, the decimal multiplier will be 1.something because you are getting more than 100%. If it is a percentage decrease, the decimal multiplier will be 0.something because you are getting less than 100% e.g increase £200 by 40% would be 200×1.4 decrease £200 by 40% would be 200×0.6	88 to 92
Reverse percentages	<p style="text-align: center;">Sale price is £320</p> <p style="text-align: center;">What was the original cost of the laptop?</p> 	96
Expanding a single bracket		160 – 161
Expanding double brackets	<p>Expanding – multiplying out the brackets.</p> 	162 - 165
Linear sequences (n^{th} term) & Special Sequences	<p>Square: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, ...</p> <p>Cube: 1, 8, 27, 64, 125, ...</p> <p>Triangular: 1, 3, 6, 10, 15, 21, 28, 36, 45, ...</p> <p>n^{th} term: General rule for a sequence.</p> <p>Find the difference between each term, then how do you get from that times table to the sequence: (e.g. $3n + 2$)</p> 	196 – 198

Pythagoras' Theorem	 <p>$c = \text{hypotenuse}$</p> $a^2 + b^2 = c^2$ $c^2 - b^2 = a^2$ $c^2 - a^2 = b^2$ <p>Remember to square root your answer to find the missing side.</p>	497 – 504
Indices	$a^m \times a^n = a^{m+n}$ $a^m \div a^n = a^{m-n}$ $(a^m)^n = a^{m \times n}$ $a^0 = 1$ $a^1 = a$	102 to 106
Calculations with numbers in standard form	<p>Multiplying & dividing: do the 'normal' numbers like usual; then use index laws for the $\times 10^n$</p> <p>Adding & subtracting: make them ordinary numbers first; do column addition or subtraction; change back to standard form</p>	125 to 128
Negative and Fractional Indices	$m^{a/b} = \sqrt[b]{m^a}$ <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px;">$a^{-c} = \frac{1}{a^c}$</div> <div style="border: 1px solid black; padding: 5px;">$\left(\frac{1}{a}\right)^{-c} = a^c$</div> <div style="border: 1px solid black; padding: 5px;">$\left(\frac{x}{y}\right)^{-c} = \frac{y^c}{x^c}$</div> </div>	104 to 108
Direct Proportion	<p>One quantity increases at the same rate as the other quantity increases.</p> 	339
Inverse Proportion	<p>One quantity increases at the same rate as the other quantity decreases.</p> <p>Travel time and speed are inversely proportional</p> 	342

Key Vocabulary

- Integer – A whole number.
- Power/Indices - The index of a number says how many times to use the number in a multiplication. It is written as a small number to the right and above the base number.
- Square number - the answer you get when you multiply a number by itself.
- Cube number - the answer you get when you multiply a number by itself 3 times.
- Root – The inverse operation of a power.
- Expand – to multiply the term before bracket by the terms in the bracket using the
- Factorise – To put into brackets by taking out the highest common factor.
- Hypotenuse – the longest side in a right-angled triangle.
- Direct proportion - one quantity increases at the same rate as the other quantity increases.
- Inverse proportion - one quantity increases at the same rate as the other quantity decreases.
- n^{th} term – the position to term rule for a sequence. Can be used to find any number in a sequence.

Energy

- Energy** is needed to make things happen
- It is measured in **joules** or **kilojoules**
- The **law of conservation of energy** says that energy cannot be created or destroyed, only transferred
- This means that the total energy before a change is always equal to the total energy after a change

Energy can be in different energy **stores**, including:

- Chemical** – to do with food, fuels and batteries
- Thermal** – to do with hot objects
- Kinetic** – to do with moving objects
- Gravitational potential** – to do with the position in a gravitational field
- Elastic potential** – to do with changing shape, squashing and stretching

Speed

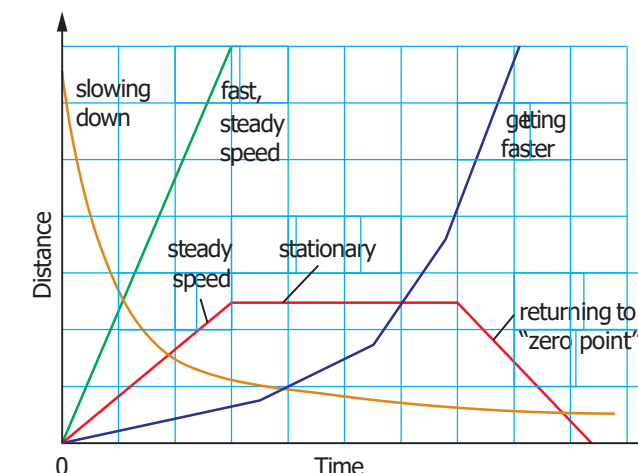
- Speed** is a measure of how quickly or slowly that something is moving
- We measure speed in meters per second (m/s), this means that distance must be in meters and time must be in seconds
- We calculate speed with the following formula:

$$\text{speed (m/s)} = \frac{\text{distance travelled (m)}}{\text{time taken (s)}}$$

- Relative motion** compares how quickly one object is moving compared to another
- If both objects are moving at the same speed, they are not changing position in comparison to one another, meaning that their relative speed is zero

Distance-time graphs

- Distance-time graphs** tell the story of a journey, they show how much distance has been covered in a certain period of time



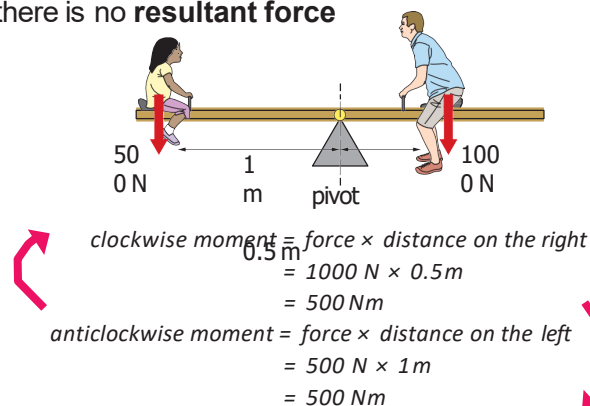
- To find the average speed, the total distance must be divided by the total time

Turning forces

- A **moment** is the turning effect of a force, it is measured in Newton meters
- We can calculate a moment with the equation:

$$\text{moment (Nm)} = \text{force (N)} \times \text{distance from the pivot (m)}$$

- The size of the moment will increase as the distance from the **pivot** or the size of the force increases
- When an object, such as a seesaw is balanced, the clockwise and the anticlockwise moments will be equal and opposite, which is known as **equilibrium**
- When forces are equal and opposite to each other, there is no **resultant force**



Power and energy

- Power** is a measure of how much energy is transferred per second
- Power is measured in **watts (W)**
- Each appliance has its own power rating to tell us how quickly it uses energy
- We can calculate power with the equation:

$$\text{power (W)} = \frac{\text{energy (J)}}{\text{time (s)}}$$

Energy Dissipation

- We say that energy is **dissipated** when it is transferred to a nonuseful store, it cannot be used for what it was intended for
- Energy can be wasted through friction, heating up components or heating the surroundings
- Efficiency** is a measure of how much of the energy has been used in a useful way, we can calculate this with the equation:
- Efficiency (%) = $\frac{\text{useful energy output}}{\text{energy input}} \times 100$

Gas pressure

- Gas pressure** is caused by the particles of a gas colliding with the wall of the container which they are in
- The more often that the particles collide with the wall of the container, the higher the pressure of the gas will be
- Gas pressure can be increased by:
 - Heating the gas so the particles move more quickly and collide with the container with a higher energy
 - Compressing the gas so there are the same amount of particles within a smaller volume meaning that there are more collisions
 - Increasing the amount of particles within the same volume so there are more collisions
- Atmospheric pressure** is the pressure which the air exerts on you all of the time, nearer the ground there are more particles weighing down on you so the pressure is greater
- The higher you go, the smaller the atmospheric pressure, this is because there will be less particles weighing down on you

Pressure in solids

- The pressure which is exerted on a solid is known as **stress**
- The greater the area over which the force is exerted over, the lower the pressure, this is why snowshoes have a large area to prevent you sinking into the snow
- Pressure** can be calculated using the following equation:

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

Pressure in liquids

- Liquids are **incompressible**
- The particles in a liquid are already touching, meaning that there is little space between them to compress
- Liquids will transfer the pressure applied to them, this is seen in hydraulic machines
- As the ocean gets deeper, the pressure will increase, this is because the pressure depends on the weight of the water above
- The greater the number of water molecules above, the higher the pressure will be

Key terms

Make sure you can write definitions for these key terms.

Acceleration, air resistance, atmospheric pressure, balanced, contact force, deceleration, distance-time graph, drag, equilibrium, field force, friction, gas pressure, gravity, gravitational force, interaction pair, kilograms, mass, moment, Newton, non-contact, pivot, pull, push, pressure, relative motion, resultant force, speed, unbalanced, weight

Year 9 Knowledge Organiser Spring Term

How well do you understand Handball?

The Basic Principles of Handball

- Handball is a team sport based on "fair play" principles.
- On court there are two male or female teams playing against each other, both trying to score goals with a handball.
- The team that has scored the most goals when the playing time is over is the winner.
- The winning team is given 2 points. If there is a draw, the two teams are awarded 1 point each.



Teams/Players/Team Officials/Referees

- Each team consists of up to 14 players. On court a team has 6 field players and 1 goalkeeper.
- Within each team the players are interchangeable during the game.
- All field players of a team wear identical, coloured uniforms. Goalkeepers wear uniforms that differ from those of the field players.
- Players are not permitted to wear objects that could be dangerous (watches, rings, earrings, necklaces, etc.).
- Up to 4 team officials are responsible for coaching their team.
- 2 referees officiate the game on court in cooperation with the judges' table (timekeeper, scorekeeper).

Fitness Tests

Cooper Run

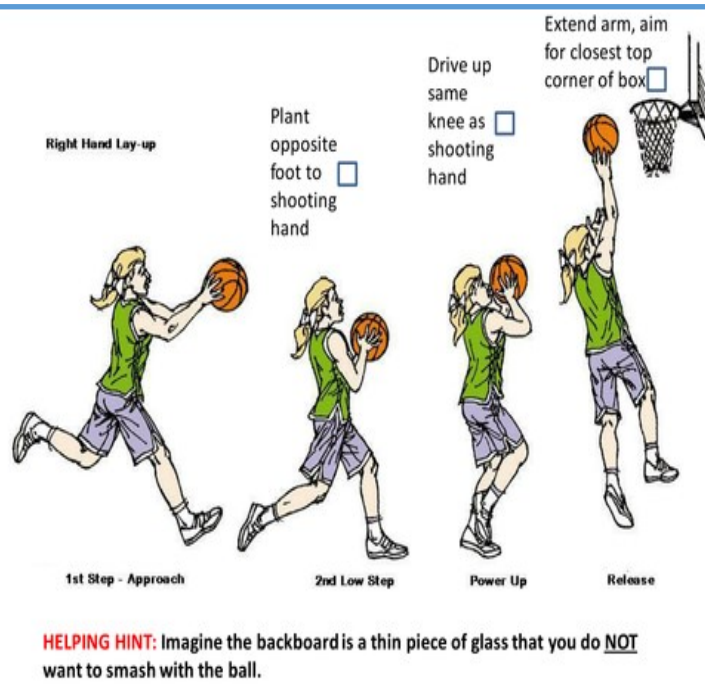
30M Sprint

Sit & Reach

Vertical Jump

Agility Run

Speed Bounce



Improve your
Basketball skills

The Basic Dribbling rules

- The dribble begins when you catch the ball (two hands)
- You are only allowed to run bouncing the ball (one hand only)
- Once you stop and touch the ball with both hands again this is the end of the dribble. You now have two options, PASS or

In a Game

The dribble is used in a game to move the ball up court at speed when there is no option to pass.

Sit Ups

Wall Throw

Stork Stand

Ruler Drop

SLJ

Use finger tips to control the ball (do not slap the ball)

Keep your hand above the ball.

Don't bounce the ball higher than the chest.

Keep the ball to the side of your body.



BASKETBALL

Cones

Begin with the ball above the waist and below the chin.

Focus on a specific target, not whole background and goal. Most players aim just above the front rim.

The shot should be one smooth motion.

As you begin to shoot, straighten your legs.

Raise arms and extend elbow toward the goal.

When arms reach their full extension, create backspin by flicking the wrist and sending the ball into the goal.

Longer shots require more power, and your feet may need to leave the floor. Learn your optimal range from the floor.

Year 9 PSHE - Careers

Key Words

Career
Job
Opportunity
Mindset
Aspiration
Branding CV
Qualities
Positives
Negatives

Career versus job?

What is a job?

A job is work you perform to earn money to support your basic needs. It can be full-time or part-time and may be short-term. You might earn an hourly wage or a set pay check rather than a salary with benefits. You might need to learn certain skills connected with that role, but not all jobs require a specialised degree or advanced training.

Companies expect their employees to perform their individual jobs in exchange for regular payment and to be responsible for the duties laid out for them.

What is a career?

A career is a long-term professional journey you may determine based on your passions. It is the path you embark upon to fulfil your professional goals and ambitions. You may require a certain level of education or training to achieve these goals. Individuals pursuing careers often have set salaries with benefits such as stock options, retirement plans, pensions and bonuses.

Key Questions To Ask Yourself

What are my strengths?

What are my weaknesses?

What do I enjoy learning?

How do I enjoy learning?

What GCSE subjects will I need in the future?

What do I need to get to my next stage?



Les emplois

Qu'est-ce que tu veux faire plus tard?

Je veux être...

avocat(e)

botaniste

chanteur/chanteuse

chauffeur de taxi/camion

comptable

diplomate

directeur/directrice de magasin

footballeur

guide touristique

infirmier/infirmière

ingénieur(e)

interprète

journaliste

juge

médecin généraliste

pilote

professeur

sociologue

vétérinaire

webdesigner

Jobs

What do you want to do later?

I want to be a...

lawyer

botanist

singer

taxi/lorry driver

accountant

diplomat

store manager

footballer

tourist guide

nurse

engineer

interpreter

journalist

judge

doctor (GP)

pilot

teacher

sociologist

vet

webdesigner

Les opinions

C'est mon rêve!

Ce serait bien.

Pas vraiment.

Ce serait ennuyeux.

Pourquoi pas?

Tu rigoles!

Ça ne m'intéresse pas du tout.

Opinions

It's my dream!

It would be good.

Not really.

It would be boring.

Why not?

You're joking!

That doesn't interest me at all.

Le monde du travail

acheter

aimer le contact avec

les gens/les autres

discuter

rencontrer

respecter

rigoler

The world of work

to buy

to like contact with other

people/others

to discuss

to meet

to respect

to have a laugh



vendre
voir
voyager

Le travail

le boulot
l'emploi (m)
le métier
la profession
un stage
un poste
un candidat
créatif/créative
varié(e)

L'importance des langues

c'est un avantage
c'est essentiel
c'est un plus

Quand j'étais plus jeune ...

j'étais
j'avais
j'aimais
je faisais
je jouais
je regardais
je n'aimais pas

À l'avenir

je quitterai le collège
je ferai un apprentissage
je ferai le tour du monde
je voyagerai
je travaillerai
je tomberai amoureux/amoureuse
de quelqu'un
j'habiterai
j'aurai une Ferrari
je serai

*to sell
to see
to travel*

Work

*job (informal)
job (more formal)
job/profession
profession
training course/work placement
post
candidate
creative
varied*

The importance of languages

*it's an advantage
it's essential
it's a plus*

When I was younger ...

*I was
I used to have
I used to like
I used to do
I used to play
I used to watch
I didn't use to like*

In the future

*I will leave school
I will do an apprenticeship
I will go round the world
I will travel
I will work
I will fall in love with someone

I will live
I will have a Ferrari
I will be*



Des questions

Qu'est-ce que tu fais dans la vie?
Est-ce que tu as beaucoup d'expérience?
Quelle est ta journée typique?
Quelles sont tes responsabilités?
Quelles sont les qualités requises pour ce métier?
Quelles langues parles-tu?
Que feras-tu à l'avenir?

Les mots essentiels

car
comme
lorsque
par contre
par exemple
puisque
si
surtout

Être game designer

communiquer
coordonner
créer
fonctionner
inventer
savoir
travailler en équipe
attentif/attentive
frustrant(e)
motivant(e)
poli(e)
rapide
solide
stimulant(e)
côté formation
pour ma part
ma propre boîte

Questions

What do you do for a living?
Do you have a lot of experience?
What is your typical day like?
What are your responsibilities?
What qualities are required for this profession?
Which languages do you speak?
What will you do in the future?

High-frequency words

for
as
when
on the other hand
for example
since/as
if
especially

Being a games designer

to communicate
to coordinate
to create
to work/function
to invent
to know how to
to work in a team
attentive
frustrating
motivating
polite
quick
solid
stimulating
as far as training is concerned
for my part
my own company



Mon avenir

Dans deux/quatre ans, ...

Un jour, ...

Je vais ...

aller au lycée

avoir un emploi bien payé

faire un apprentissage

faire des études à la fac

quitter le collège

travailler

voyager

My future

In two/four years ...

One day, ...

I am going to ...

go to sixth-form college

have a well-paid job

do an apprenticeship

study at university

leave secondary school

work

travel

Parler une autre langue

Avec les langues, on peut ...

comprendre les gens

habiter à l'étranger

travailler dans un autre pays

communiquer avec les jeunes

de son âge

regarder la télévision

écouter de la musique

dans une autre langue

À mon avis, parler une autre

langue, c'est ...

un avantage

important

un plus

parce que ...

Speaking another language

With languages, you can ...

understand people

live abroad

work in another country

communicate with young people

your own age

watch television

listen to music

in another language

In my opinion, speaking another

language is ...

an advantage

important

a bonus

because ...

Travailler

le boulot

l'emploi

le travail

le job

Working

job (informal)

job (more formal)

work

job

Du matin au soir

From morning till night



d'abord
ensuite
l'après-midi
le lendemain
le matin
puis
tous les jours
très tôt

first
next
in the afternoon
the next day
in the morning
then
every day
very early

J'aime mon job parce que c'est ...

créatif
intéressant
motivant
stimulant
varié

I like my job because it's ...

creative
interesting
motivating
stimulating
varied

Mon boulot

Qu'est-ce que tu fais comme travail?
Quelles sont tes responsabilités?
Tu travailles seul(e) ou avec d'autres personnes?
Est-ce que tu aimes ton boulot?
acheter
contacter
créer
inventer
organiser
répondre au téléphone
travailler en équipe
trouver

My job

What kind of work do you do?
What are your responsibilities?

Do you work alone or with other people?
Do you like your job?

to buy
to contact
to create
to invent
to organise
to answer the telephone
to work in a team
to find

Mes ambitions

Qu'est-ce que tu voudrais faire plus tard?
Je voudrais être ...

My ambitions

What would you like to do later on?
I would like to be a(n) ...



acteur/actrice
chanteur/chanteuse
chauffeur de taxi/camion
contrôleur aérien
designer de chaussures
directeur/directrice de magasin
footballeur
guide touristique
ingénieur
journaliste
pâtissier/pâtissière
pilote
professeur
réceptionniste
serveur/serveuse
secrétaire
vétérinaire
webdesigner

actor
singer
taxi/lorry driver
air-traffic controller
shoe designer
store manager
footballer
tourist guide
engineer
journalist
pastry chef
pilot
teacher
receptionist
waiter/waitress
secretary
vet
web designer

Les opinions

Ce serait ...
cool/ennuyeux
génial/intéressant
Ça ne m'intéresse pas.
Non merci!
Jamais de la vie!

Opinions

It would be ...
cool/boring
great/interesting
That doesn't interest me.
No thanks.
No way!

Les mots essentiels

alors
ça dépend
comme
je ne sais pas
même
où
parce que
voyons
je prends
je vais
je fais

High-frequency words

so
it depends
as
I don't know
even
where
because
let's see
I take
I go
I do/make

¿Llevas una dieta sana?	Do you have a healthy diet?
Llevo una dieta (bastante) sana.	I have (quite) a healthy diet.
¿Qué comes?	What do you eat?
Como...	I eat...
caramelos	sweets
fruta	fruit
galletas	biscuits
pan	bread
pescado	fish
pasta	pasta
pasteles	cakes
verduras	vegetables
¿Qué bebes?	What do you drink?
Bebo...	I drink...
agua	water
café	coffee
leche	milk
todos los días	every day
a menudo	often
a veces	sometimes
tres veces al día	three times a day
una vez a la semana	once a week
Nunca como pescado.	I never eat fish.
No bebo nada.	I don't drink anything.



¿Por qué (no) comes...?	Why do you (not) eat...?
Es sano / sana.	It's healthy.
Son sanos / sanas.	They are healthy.
Es rico / rica.	It's delicious.
Es asqueroso / asquerosa.	It's disgusting.
Soy vegetariano / vegetariana.	I am a vegetarian.
Soy alérgico / alérgica.	I am allergic.
Soy musulmán / musulmana.	I am a Muslim.

¿Qué haces para estar en forma?	What do you do to keep fit?
Juego al baloncesto.	I play basketball.
Juego al fútbol.	I play football.
Juego a la pelota vasca.	I play pelota (Basque ball game).
Juego al rugby.	I play rugby.
Juego al tenis.	I play tennis.
Hago artes marciales.	I do martial arts.
Hago atletismo.	I do athletics.
Hago baile.	I do dance.
Hago footing.	I go jogging.
Hago gimnasia.	I do gymnastics.
Hago natación.	I go swimming.
Juego al rugby los martes.	I play rugby on Tuesdays.
Hago gimnasia dos veces a la semana.	I do gymnastics twice a week.



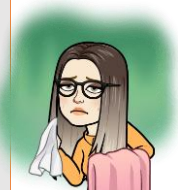
Describe tu rutina diaria	Describe your daily routine
Me despierto.	I wake up.
Me levanto (enseguida).	I get up (straight away).
Me lavo los dientes.	I brush my teeth.
Me ducho.	I shower.
Me visto.	I get dressed.
Me acuesto.	I go to bed.
Desayuno.	I have breakfast.
Ceno.	I have dinner.
Voy a la piscina.	I go to the swimming pool.
Voy al trabajo.	I go to work.
Voy al gimnasio.	I go to the gym.
Entreno.	I exercise / train.
a las seis	at six o'clock
a las siete y cuarto	at quarter past seven
a las nueve y media	at half past nine
a las diez menos cuarto	at quarter to ten

¿Qué te duele?	What hurts (you)?
Me duele el brazo.	My arm hurts.
Me duele el estómago.	My stomach hurts.
Me duele el pie.	My foot hurts.
Me duele la cabeza.	My head hurts.
Me duele la espalda.	My back hurts.
Me duele la garganta.	My throat hurts.
Me duele la pierna.	My leg hurts.
Me duelen los dientes.	My teeth hurt.
Me duelen los oídos.	My ears hurt.
Me duelen los ojos.	My eyes hurt.

Palabras muy frecuentes	High-frequency words
casi	almost/nearly
cada	each/every
todo / toda / todos / todas	all
mucho / mucha / muchos / muchas	a lot (of)
primero	first
luego	then
después	afterwards
finalmente	finally
por lo general	in general
hasta	until
ahora	now
hoy	today
ayer	yesterday
anoche	last night
para	(in order) to
creo que	I think / believe that
por eso	so / therefore
sin embargo	however
donde	where



To
revise
this
topic



Consejos para estar en forma	Advice for keeping fit / in shape
Para estar en forma...	To keep fit / in shape...
Se debe...	You/One must / should...
beber agua frecuentemente	drink water frequently
comer más fruta y verduras	eat more fruit and vegetables
dormir ocho horas al día	sleep for eight hours a day
entrenar una hora al día	exercise for one hour a day
No se debe...	You/One must not / should not...
beber alcohol	drink alcohol
beber muchos refrescos	drink lots of fizzy drinks
comer comida basura	eat junk food
fumar	smoke
Soy adicto / adicta al / a la / a los / las	I am addicted to...
Voy a entrenar tres veces a la semana.	I am going to exercise three times a week.
No voy a beber muchos refrescos.	I am not going to drink lots of fizzy drinks.



Consejos para estar en forma	Advice for keeping fit / in shape
Para estar en forma...	To keep fit / in shape...
Se debe...	You/One must / should...
beber agua frecuentemente	drink water frequently
comer más fruta y verduras	eat more fruit and vegetables
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Soy adicto / adicta al / a la / a los / a las...	I am addicted to...
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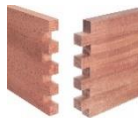


¿Qué deporte prefieres?	Which sport do you prefer?
Prefiero jugar al baloncesto.	I prefer to play basketball.
Prefiero hacer baile.	I prefer to do dance.
Prefiero hacer natación.	I prefer to go swimming.
Prefiero los deportes de equipo.	I prefer team sports.
Prefiero los deportes individuales.	I prefer individual sports.
Es mi deporte favorito.	It is my favourite sport.



¿Qué tal estás?	How are you?
Estoy cansado / cansada.	I am tired.
Estoy enfermo / enferma.	I am ill.
Tengo catarro.	I have a cold.
Tengo tos.	I have a cough.

Year 9 Resistant Materials Knowledge Organiser



Finger joint



Norman Foster is an architect who specialises in glass and metal buildings such as The Gherkin and Millennium Bridge in London.



Sir James Dyson reinvented the vacuum cleaner to no longer need a bag. He famously prototyped thousands of designs before refining his cyclone-suction, bag-free design.



Dowel joint



Lap Joint



Butt joint

Forces and stresses

Forces act on materials all the time - even if a material appears stationary it still has a force acting on it. There are five terms used to describe what type of force can act on a material:

- **tension** - a pulling force
- **compression** - a pushing force
- **bending** - forces at an angle to the material
- **torsion** - a twisting force
- **shear** - forces acting across the material



Machinery and Tools in the workshop



Tenon Saw: used for sawing straight lines in wood.



Chisel: used to shape wood. Can cut out sections



File: Abrade a thin surface area of wood.



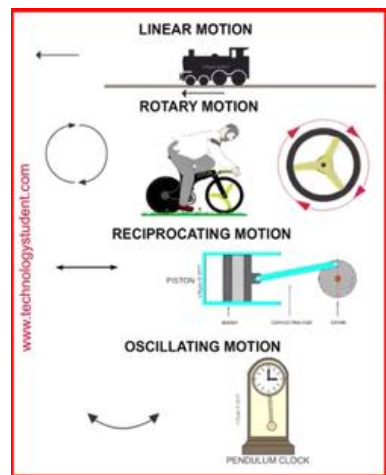
Hand Drill: used to drill holes into materials



Rasp: Abrade a thick surface area of wood.



Coping Saw: used to saw curved lines into wood.



Product analysis - Looking at products that already exist can help improve further designs by pinpointing issues to improve designs and **prototypes**.

Modelling

Modelling ideas in card, paper, clay or other materials can create a cheap and quick way to do initial trials with a product. Using an easy to modify material provides a good way of seeing how a product looks and works, eg checking handles are in the right place or parts fit together well. Taking photographs or video throughout this can show development.

Paper	Properties	Uses
Layout paper	Lightweight, thin, cheap, smooth surface	Graphic drawings, animations
Bleed proof (marker) paper	Contains more chalk, smooth, hard, doesn't absorb ink, doesn't bleed	Creating special effects for designers or artists
Tracing paper	Good transparency, expensive	For seeing an image underneath
Grid paper	Covered with continuous square grid	Used in many maths contexts
Cartridge paper	Heavier weight, good quality, opaque	Writing and sketching

Boards

Board is selected by its thickness, measured in microns. One micron is 1/1,000th of 1 mm. Sometimes the thickness of board is given in **sheets**, referring to the number of pieces of paper that have been glued together to make a sheet of board.

Board	Properties	Uses
Corrugated cardboard	Strong, lightweight	Packaging protection in transportation of products and used to package some hot food such as a pizza due to its insulating properties.
Duplex board	Cheaper than white board, available with different finishes (metallic, holographic etc.)	Food packaging, eg biscuit boxes or containers
Solid white board	Top quality, range of thicknesses, excellent to print on	Hardback books
Foil-lined board	Expensive, good quality, aluminium foil lining, excellent barrier against moisture	Pre-packed food packages, cosmetic cartons
Inkjet board	Expensive, printable, photo quality	Posters, photography, art reproductions
Foam-core board (foam board)	Strong, lightweight, paper face, foam core	Model making, mounting photographs

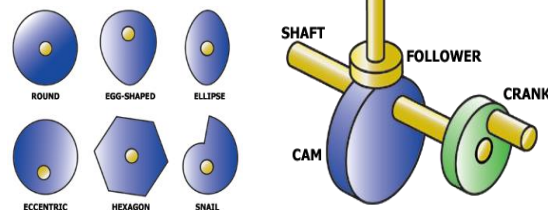
ecological footprint An analytical measurement of the amount of global resources used at each stage in a products lifecycle.

environmental design Designing products by ensuring minimal impact on the environment.

Cams and followers

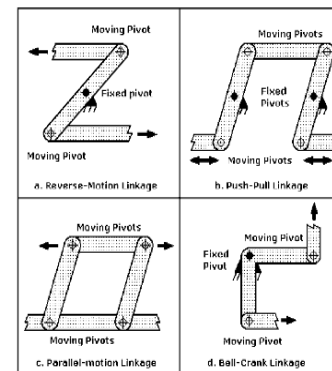
A **cam mechanism** has two main parts:

- a **cam** - attached to a **crankshaft**, which rotates
- a **follower** - touches the cam and follows the shape, moving up and down

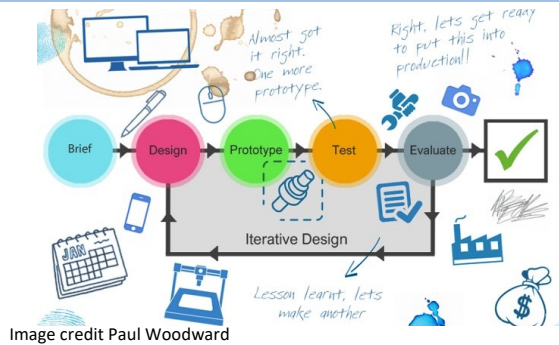


Linkages

Levers can be joined together to form **linkages**. Simple linkages change the direction of motion and the amount of force.



Iterative design is a **design** method based on a process of making prototypes, testing them, improving them, testing again and repeating this cycle until the best solution has been found.



A **design brief** is the information a client gives to a designer explaining what they want their product to be like, eg 'Design a drinks bottle holder for use while riding a bicycle'. The designer could also produce a brief for the client, as the client might have identified a problem but not know how to solve it.

A **design specification** is a list of criteria a product needs to achieve. Using the brief to begin research, a specification can be written after the research has been carried out and when more information is known.

Modelling is a quick, cheap way to test ideas before making the final product.

Key Terms:

Technical Textiles are made to be functional e.g. Nomex is fire—resistant, Kevlar is strong, 3M Scotchlite is reflective.

Planned obsolescence is when products are designed with a short lifespan in mind e.g. a disposable razor. Linked to environmental issues in design.

Designing for Maintenance is when products are designed to be repaired if they break. This is a good design principle.

Stock forms are the standard ways of storing materials and components e.g. a reel of cotton, a roll of fabric.

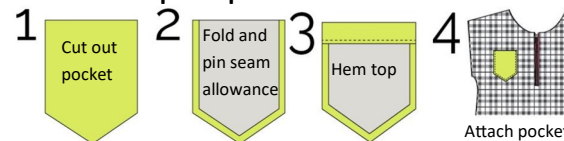
Sustainable Design is when products can continually be made without harm to people of the environment.

Year 9 Textiles Design and Technology

Construction Technique	Diagram/ Example	Characteristics
Open Seam		Quick and easy. Not strong and not bulky.
Closed Seam		Strong, can be bulky.
French Seam		Neat. Time consuming. Used on delicate fabrics.

Decorative Technique	Diagram/ Example	Characteristics
Quilting		Padded, protective. Warm.
Tie Dye		Different patterns, resist dye technique. Can achieve irregular or regular designs
Reverse Applique		Time consuming. Can use various layers and textures.

How to make a patch pocket:



Mary Quant

- Famous in 1960's
- Invented the miniskirt and hot pants
- known for her use of pop art in fashion
- Changed the look of women worldwide
- Bright colours and monochrome

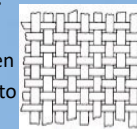
Vivienne Westwood

- Famous in 1970's
- Known for moving punk music movement into fashion
- Controversial and artistic style
- Her collections have been diverse and include inspiration of pirates, royalty, aristocracy and India.
- Now designs Ethical fashion



Weaving:

the yarns are woven together to make a fabric



How Cotton fabric is Made

From source of origin to woven fabric

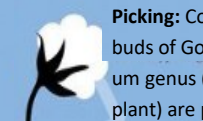
Dyeing: the yarns are dipped into baths of dye



Twisting: the yarns are twisted together to become stronger



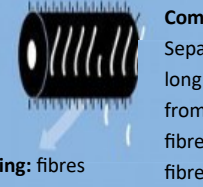
Picking: Cotton buds of Gossypium genus (cotton plant) are picked



Carding: separates the fibres from dirt, insects and twigs.



Combing: Separates long fibres from short fibres. All fibres are placed in same direction

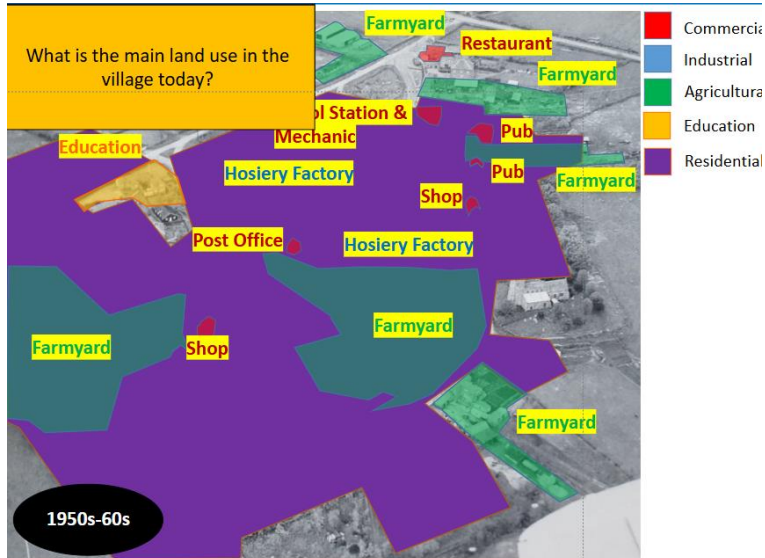


Spinning: fibres are spun into yarns



Year 9 - Urbanisation - How have settlements changed over time?

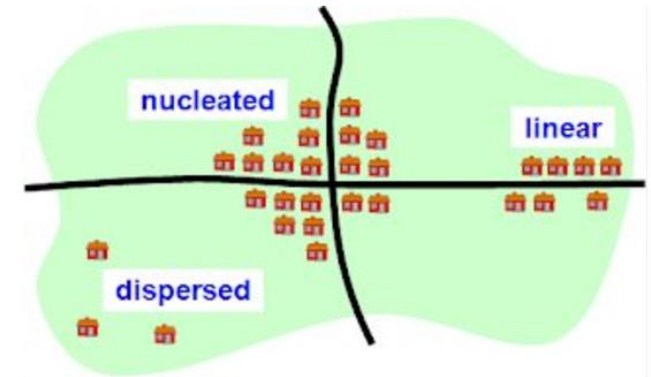
How has Arnesby changed over time?



Urbanisation When people move from rural areas to urban areas	Suburbanisation When people move from city centres to quieter parts on the edge of the city—these are called 'suburbs'
Gentrification When old and run-down areas of a city are improved and redeveloped. Wealthier people then move into these areas	Teleworking When access to high-speed broadband means people can work from home and no longer need to commute into a city
Commuting When people regularly travel from rural or suburban areas to their workplace in a city	Re-urbanisation When city centres are redeveloped and people move back to the city from suburban areas
Counter-urbanisation When people move from urban areas to live in rural areas, A new life in the countryside!	Urban sprawl When urban areas expand and grow over large distances, creating a huge urban area for miles around

What should I already know?
The definition of population
Why people live in different places

Rural settlement patterns



Service	Nearest one
Primary School	In the village
Corner shop/Newsagent	Fleckney, 2.7 miles
Small supermarket (Coop)	Fleckney, 2.7 miles
Large supermarket (Tesco)	South Wigston, 5.3 miles
Café (Shearsby Valley Lakes)	Shearsby, 1.4 miles
Church or Chapel	In the village

What is a Settlement Function?
The functions of a settlement are the activities that take place there. In the past, many smaller settlements had only one or two functions (farming and housing, for example). Today, most larger settlements are multifunctional.



Hitler's Rise to Power

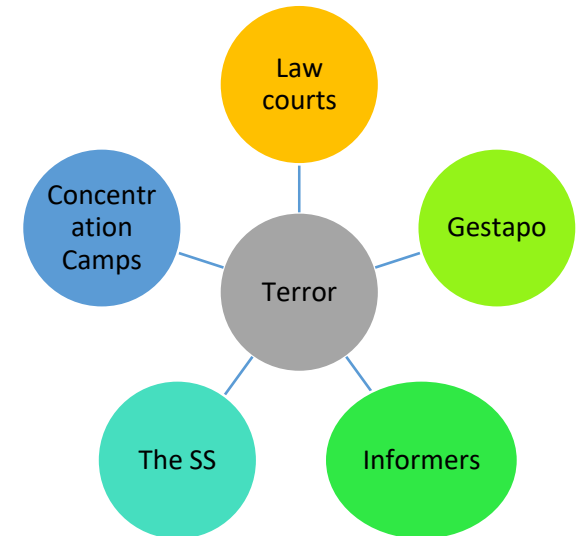
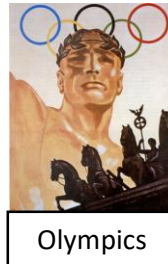
Treaty of Versailles

Land	Land taken away from Germany, such as Alsace-Lorraine and colonies in Africa.
Army	Army restricted to 100,000 men, 6 battleships and no submarines. No air force.
Money	Germany had to pay £6.6 billion in reparations.
Blame	Article 231 makes Germany take responsibility for starting the war. Law courts



Propaganda

- Rallies – banners, speeches, marches and parades
- Public holidays and festivals
- Radio broadcasts
- Books
- Films
- Newspapers
- 1936 Berlin Olympic games



How did Hitler become dictator?

Reichstag Fire
27 Feb 1933

Reichstag (Parliament) building set on fire by a communist. 4000 communists are arrested.

Enabling Act
23 March 1933

Hitler can pass laws without the Reichstag for 4 years. He bans all other political parties. Democracy was over.

Night of the Long Knives
30 June 1934

The Nazi's murdered 400 SA members, along with a number of his opponents. This removed all internal opposition to Hitler.

Hindenburg die
2 August 1934

The President of Germany, Hindenburg, died. Hitler seizes power and becomes Fuhrer (leader).

Other factors









Hitler controls all law courts, all political parties banned and Hitler controls the church.



WORLD WAR II KNOWLEDGE ORGANISER



Main Participating Countries

ALLIED POWERS			AXIS POWERS		
Country	Date Joined	Death Toll	Country	Date Joined	Death Toll
FRANCE 	3 rd Sep, 1939	600,000 1.44% of population in 1939	GERMANY 	1 st Sep, 1939	approx. 7,200,000 8.5% of population in 1939
UK 	3 rd Sep, 1939	450,900 0.94% of population in 1939	ITALY 	11 th Jun, 1940	approx. 500,000 1.14% of population in 1939
SOVIET UNION 	22 nd Jun, 1941	approx. 24,000,000 13.7% of population in 1939	HUNGARY 	27 th Jun, 1941	464,000 5.08% of population in 1939
USA 	8 th Dec, 1941	419,400 0.32% of population in 1939	JAPAN 	7 th Dec, 1941	approx. 3,000,000 4.1% of population in 1939

Key People

Sir Winston Churchill – (1874-1965) was a British politician who served as the Prime Minister between 1940 and 1945 and again from 1951 to 1955. He took over after a disastrous start to the war in which Nazi Germany conquered much of Europe. He did his best to rally the nation in defiance of Adolf Hitler, possessed excellent military knowledge and forged crucial alliances with both the USA and Russia. Churchill is often characterised for his extraordinary leadership throughout World War II – he was bold, brave, and tireless in his resolve to take on the might of Nazi Germany.



Adolf Hitler – (1889-1945) was a German politician who was the leader of the Nazi party, Chancellor of Germany from 1933-1945, and the Führer of Germany from 1934-1945. In 1923, Hitler had attempted to seize power via a failed coup, and was arrested. However, he began to gain a loyal following through his populist ideas, powerful speeches and charisma. Hitler's Germany invaded Poland in Sep 1939 to start the war, and he initiated the Holocaust. He is therefore significantly responsible for millions of deaths. He committed suicide on 30th Apr 1945, when the war was clearly lost.



Franklin Roosevelt – (1882-1945) was the 32nd President of the United States, from 1933-1945. Not only did Roosevelt guide the USA through most of World War II, but also the Great Depression – When he took office, nearly a third of America's workforce were unemployed. Whilst the USA remained officially neutral at the outset of war, Roosevelt offered diplomatic and financial support to the Allies. After the Japanese attacked Pearl Harbor on 7th December 1941, he declared war on the Axis powers. The US greatly helped the Allies to win the war – He died months before it ended.



Benito Mussolini – (1883-1945) the leader of Italy's National Fascist Party. He was Prime Minister from 1922-1945 –from 1925 onwards this was not democratically as he established a dictatorship. Italy entered the war on the side of Germany in 1940, but suffered some disastrous losses. In 1943, Mussolini was dismissed as leader and arrested, but was rescued by Hitler's paratroopers. He was later put in charge of a puppet regime called the Italian Social Republic, by Hitler. He was later caught by Italian Communist partisans and executed by firing squad in 1945.












Joseph Stalin – (1878-1953) was the Communist leader/ dictator of the USSR during WWII. After the death of the Communist Leader Lenin, Stalin won a vicious grapple for power before eventually establishing himself as a totalitarian dictator. His own policies became known as 'Stalinism.' He had signed a non-aggression pact with Germany in August 1939, but in June 1941, Hitler broke it and the Germans invaded. Although initially suffering heavy losses, the USSR's key victories in pushing the Germans back signalled a shift in the war in favour of the Allies.



Anne Frank – (1929-1945) was a German-born diarist. As a young Jewish girl, her family were forced into hiding, fleeing Germany for a secret attic in Amsterdam in the Netherlands. She wrote a diary of her time there. After years in hiding, her family was betrayed and arrested, and taken to concentration camps. Anne died of Typhus in Bergen-Belsen concentration camp. The only survivor from her family was Otto, her father, who published her diaries after her death. It has now become one of the most famous and well-read texts in contemporary history.



Major Events

Event	Image	Description	Date/s	Fact
WWII Begins		On 1 st September 1939, Germany invaded Poland, utilising the 'Blitzkrieg' strategy. Britain and France (Poland's allies) gave a notice period for the Germans to withdraw their troops from Poland. When they did not, Britain and France declared war on 3 rd September. Britain initially responded with bombing raids over Germany. Nearly six years of war in Europe was to follow.	1 st -3 rd September 1939	Hitler claimed to attack Poland to give the German people 'Lebensraum' – living space
Evacuation of Children		People expected cities to be bombed, as enemy planes tried to hit targets, for example warehouses and factories. This put would have put city children (in schools and houses close by) in grave danger, and so thousands were evacuated to the countryside. Many were extremely homesick, but some enjoyed their new lives.	September 1939 onwards	About 800,000 children left their homes throughout the war.
The Holocaust		The Holocaust was a genocide committed by Germany and its allies before and during WWII. It involved the systematic murder of 6 million Jews, and millions of 'undesirable' others (around 9-12 million in total). Many were gassed, starved, or died of disease in concentration camps. Conditions in the camps diabolical.	1933-1945	During the Holocaust, about two thirds of the Jews in Europe were killed.
Evacuation of Dunkirk		Large numbers of British, French, and Belgian troops were surrounded by German soldiers at the French coastal town of Dunkirk, and seemed set to perish. Remarkably, 338,226 were saved by a fleet of 800 small boats. The event is also known as the 'Miracle of Dunkirk.'	26 th May – 4 th June 1940	Mary was the first queen to rule England in her own right.
Battle of Britain		In the Battle of Britain, the Royal Air Force (RAF) successfully defended UK against attacks by Nazi Germany's air force: Luftwaffe. It has been described as the first military campaign fought entirely by air forces.	10 th July – 31 st October 1940	This was seen by many as Germany's first major defeat in the war.
Attack on Pearl Harbor		This was a surprise military attack by Japan on the United States naval base at Pearl Harbor. It led to the US joining the Allies in the war. The attack commenced at 7.48am Hawaiian time, and was carried out by 353 Imperial Japanese aircraft.	7 th December 1941	188 aircraft were destroyed and 2,403 Americans were killed.
D-Day Landings		The Normandy Landings, also known as D-Day, were a series of landing operations by the Allies to claim back Europe. It was the largest seaborne invasion in history. The operation began the liberation of north-western Europe from being under German control.	6 th June 1944	Between 14,000 and 19,000 men died in the D-Day landings
Hitler's Suicide		With the Germans facing defeat, Hitler married his long-time love Eva Braun on 29 th April. The next day, they committed suicide, reportedly by gunshot.	30 th April 1945	There is debate as to how they killed themselves.
Germany Surrenders		The Allies had gradually forced the surrender of Axis troops across Europe in April and early May, 1945. On 7 th May, Germany officially surrendered to the Allies, bringing to an end the European fighting in World War II.	7 th May 1945	VE (Victory in Europe) Day is still celebrated on 8 th May.
America drops the atomic bombs		Japan refused to surrender to the terms of the Potsdam Declaration in July 1945, pledging to fight onto the bitter end. The US considered an invasion, but would have lost around 500,000 men. Instead, they dropped atomic bombs on Hiroshima (6 th Aug) and Nagasaki (9 th Aug).	6 th -9 th August 1945	It is thought that 135,000 people died in Hiroshima and 70,000 in Nagasaki.
WWII Ends		The surrender of Japan was announced on August 15 th 1945. On August 28 th , the Occupation of Japan, led by the Supreme Commander for Allied Powers, began. Japan formally signed for surrender on 2 nd September 1945, aboard the US Navy battleship USS Missouri. Allied civilians and military celebrated the end of war. The use of atomic bombs to force the surrender is still debated.	2 nd September 1945	Some rogue Japanese soldiers and pilots refused to surrender even into the 1970s!

Timeline of Major Events

1 Sep, 1939 – Germany invades Poland - WWII begins

Apr-Jun 1940 – Germany invades Denmark and Norway

May-Jun 1940 – Germany takes over most of Western Europe

Jul-Oct 1941 – The Battle of Britain

22 Jun 1941 – The Axis attack Russia

7-8 Dec 1941 – Japan attack US. US joins Allies

4 Jun 1942 – Battle of Midway. US beats Japan

3 Sep 1943 – Italy surrenders

6 June 1944 – D-Day – allies invade Normandy

25 Aug 1944 – Paris liberated from German control

7 May 1945 – Germany surrenders

Aug 1945 – The US drops atomic bombs on Japan

2 Sep 1945 – Japan surrenders – WWII is over.

Year 9 Knowledge Organiser

Spring Term

How well do you understand Handball?

The Basic Principles of Handball

- Handball is a team sport based on "fair play" principles.
- On court there are two male or female teams playing against each other, both trying to score goals with a handball.
- The team that has scored the most goals when the playing time is over is the winner.
- The winning team is given 2 points. If there is a draw, the two teams are awarded 1 point each.



Teams/Players/Team Officials/Referees

- Each team consists of up to 14 players. On court a team has 6 field players and 1 goalkeeper.
- Within each team the players are interchangeable during the game.
- All field players of a team wear identical, coloured uniforms. Goalkeepers wear uniforms that differ from those of the field players.
- Players are not permitted to wear objects that could be dangerous (watches, rings, earrings, necklaces, etc.).
- Up to 4 team officials are responsible for coaching their team.
- 2 referees officiate the game on court in cooperation with the judges' table (timekeeper, scorekeeper).

Fitness Tests

Cooper Run

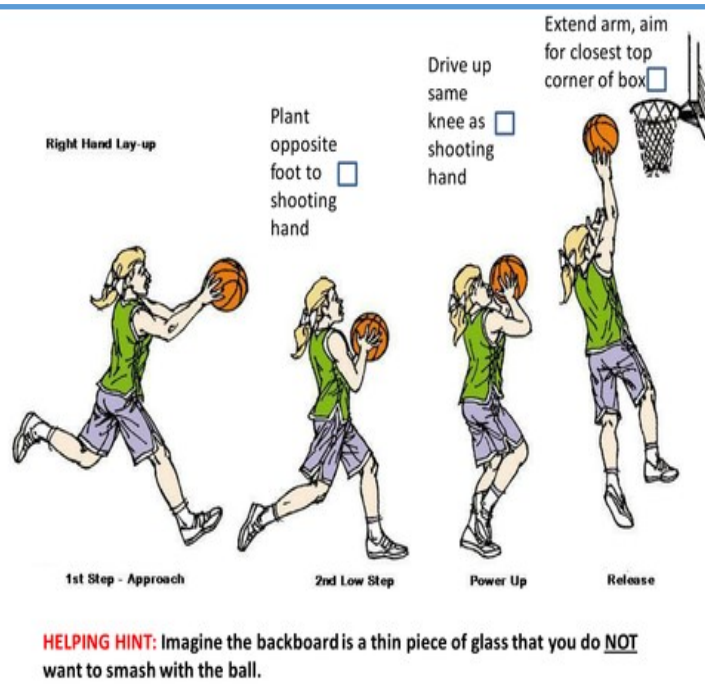
30M Sprint

Sit & Reach

Vertical Jump

Agility Run

Speed Bounce



Technical Facilities

- Different ball sizes are used for different age groups/genders.
- The goal height is 2 metres, the goal width 3 metres.
- The playing time can be varied and is up to 2x30 minutes in official games.

Sit Ups

Wall Throw

Stork Stand

Ruler Drop

SLJ

Improve your
Basketball skills

The Basic Dribbling rules

- The dribble begins when you catch the ball (two hands)
- You are only allowed to run bouncing the ball (one hand only)
- Once you stop and touch the ball with both hands again this is the end of the dribble. You now have two options, PASS or

In a Game

The dribble is used in a game to move the ball up court at speed when there is no option to pass.

Use finger tips to control the ball (do not slap the ball)

Keep your hand above the ball.

Don't bounce the ball higher than the chest.

Keep the ball to the side of your body.



BASKETBALL

Cones

Begin with the ball above the waist and below the chin.

Focus on a specific target, not whole background and goal. Most players aim just above the front rim.

The shot should be one smooth motion.

As you begin to shoot, straighten your legs.

Raise arms and extend elbow toward the goal.

When arms reach their full extension, create backspin by flicking the wrist and sending the ball into the goal.

Longer shots require more power, and your feet may need to leave the floor. Learn your optimal range from the floor.

LAS VACACIONES



Countries
+
transport



Activities



Past
holidays



Disasters

Countries and transport	Voy a - I go to	España - Spain Gales - Wales Japón - Japan Francia - France Escocia - Scotland Egipto - Egypt		viajo en - I travel by	avión - plane autocar - coach		cómodo - comfortable caro - expensive barato - cheap seguro - safe	Cada año voy de vacaciones a <u>Chipre</u> con mis padres	Every year I go on holiday to <u>Cyprus</u> with my parents
	Vamos a - we go to	Italia - Italy Irlanda - Ireland Chipre - Cyprus Grecia - Greece	y - and	viajamos en - we travel by	tren - train coche - car barco - boat moto - motorbike	porque es - because it is	rápido - fast peligroso - dangerous ruidoso - noisy atestado - crowded limpio - clean sucio - dirty	y viajamos en <u>avión</u> <u>ya que</u> es <u>rápido</u> y <u>cómodo</u> .	and we travel by <u>plane</u> <u>because</u> it's <u>fast</u> and <u>comfortable</u> .
Weather	Van a - they go to	Estados Unidos - USA Bélgica - Belgium Portugal - Portugal Alemania - Germany Turquía - Turkey Nueva Zelanda - New Zealand		viajan en - they travel by				Me chifla <u>Chipre</u> ya que siempre <u>hace calor</u>	I love <u>Cyprus</u> because <u>it's</u> always <u>hot</u>
								y <u>solemos ir a la playa</u> y <u>tomar el sol</u>	and <u>we tend to go to the</u> <u>beach</u> and <u>sunbathe</u>
Activities								<u>aunque puede ser</u> un poco <u>aburrido</u> .	<u>although</u> it can be a bit <u>boring</u> .
								<u>Acadbo de ir a Paris</u> con <u>mi</u> <u>clase</u> y	<u>I've just been</u> to <u>Paris</u> with <u>my class</u> and
Past holidays	Hace - it is Hizo - it was	sol - sunny calor - hot	viento - windy frío - cold	buen tiempo - nice weather mal tiempo - bad weather				nos alojamos en un <u>alberque</u> <u>juvenil</u> .	we stayed in a <u>youth hostel</u> .
	Hay - it is Había - it was	tormentas - stormy	nubes - cloudy	niebla - foggy				Lo pasé <u>bien</u> pero el primer día <u>tuve un accidente</u>	I had a <u>good</u> time but on the first day <u>I had an accident</u>
Disasters	Llueve - it's rainy/raining Nieva - it's snowy/snowing							y tuve que <u>ir al hospital</u> .	and I had <u>to go to hospital</u> .
								Además, perdí <u>mi pasaporte</u> .	Moreover, I lost <u>my</u> <u>passport</u> .
Disasters								<u>¡Qué desastre!</u>	<u>What a disaster!</u>
								<u>Siempre he soñado con ir a</u> <u>Egipto</u>	<u>I've always dreamed of</u> going to <u>Egypt</u>
Disasters								dado que me encanta la <u>cultura</u> y la <u>historia</u> .	because I love the <u>culture</u> and the <u>history</u> .
								Me gustaría ir en el futuro con mis amigos y	I'd like to go in the future with my friends and
Disasters								visitaríamos muchos monumentos históricos.	we would visit lots of historical monuments.
								<u>Lo peor es que cuesta un</u> <u>ojo de la cara</u> .	<u>The worst thing is that it</u> <u>costs and arm and a leg</u> .
Disasters								<u>¡Ojalá tuviera</u> más dinero!	<u>If only I had</u> more money!
Disasters	Fui a/en... I went to/by Fuimos a/en... - we went to/by	y - and	visité - I visited descansé - I relaxed tomé el sol - I sunbathed	vi - I saw esquí - I skied	nadé - I swam saqué - I took				
	Me alojé en... - I stayed in.. Nos alojamos en... - we stayed in								
Disasters	Por desgracia tuve/tuvimos - Unfortunately I/we had		un accidente - an accident un pinchazo - a puncture	un retraso - a delay una avería - a breakdown					
	Tuve/ tuvimos que - I/we had to		esperar mucho tiempo - wait a long time ir al hospital/la comisaría - go to the hospital/the police station llamar a un mecánico - call a mechanic						
Disasters	Perdí/perdimos - I/we lost		el equipaje - the luggage la maleta - the suitcase	la cartera - the wallet las llaves - the keys					
	Cuando llegamos... - when we arrived		Era muy tarde - it was very late estaba cansado/a - I was tired La recepción ya estaba cerrada - the reception was already closed						

A model text on holidays

MI CIUDAD



Places in
town



Town
descriptions



Activities



Shops

My city	<p>En mi ciudad/pueblo hay... - In my city/town there is...</p> <p>Mi ciudad/pueblo tiene... - My city/town has...</p>	<p>un ayuntamiento - a town hall un bar/muchos bares - a bar/lots of bars un castillo (en ruinas) - a (ruined) castle un cine - a cinema un mercado - a market una piscina - a swimming pool un supermercado - a supermarket una playa - a beach un museo - a museum una plaza mayor - a town square un parque - a park una plaza de toros - a bull ring un polideportivo - a sports centre</p> <p>una pista de hielo - an ice rink un puerto - a port/harbour una oficina de correos - a post office un restaurante - a restaurant una bolera - a bowling alley un teatro - a theatre una iglesia - a church una biblioteca - a library una comisaría - a police station una estación de trenes/autobuses - a train/bus station un gran almacén - a department store un centro comercial - a shopping centre muchos lugares de interés - lots of sights</p>
	<p>Es una ciudad/un pueblo _____ - It's a _____ city/town</p>	<p>histórico/a - historic tranquilo/a - calm/quiet animado/a - lively turístico - touristy famoso/a - famous</p> <p>moderno/a - modern ruidoso/a - noisy aburrido/a - boring industrial - industrial conocido/a por... - known for...</p>
	<p>Está situado - it's situated...</p>	<p>al lado del río - next to the river está rodeado de... - it's surrounded by</p>
	<p>Tiene unos impresionantes paisajes naturales - it has some amazing natural landscapes Tiene varias influencias culturales - it has various cultural influences Tiene el bullicio de la ciudad - it has the hustle and bustle of the city Es mi ciudad natal - it's my home town Hay mucho que hacer/hay mucha marcha - there's lots to do No hay nada que hacer - there's nothing to do Hay una zona peatonal - there's a pedestrian zone</p>	
Activities	<p>Se puede... - you can</p>	<p>estar mucho tiempo al aire libre - spend a lot of time in the open air subir la torre - go up the tower hacer un recorrido en autobús - do a bus tour disfrutar de las vistas - enjoy the views apreciar la arquitectura variada - appreciate the variety of the architecture aprovechar del buen tiempo - make the most of the good weather probar platos típicos - try local dishes practicar deportes acuáticos - do water sports practicar senderismo - go hiking/trekking ir de compras - go shopping</p>
Shops	<p>Un estanco - a tobacconist's Un banco - a bank Una cafetería - a café Una carnicería - a butcher's Una farmacia - a pharmacy/chemist's Una frutería - a greengrocer's Una joyería - a jeweller's Una librería - a bookshop Una panadería - a bakery</p> <p>Una papelería - a stationery shop Una pastelería - a cake shop Una peluquería - a hairdresser's Una pescadería - a fishmonger's Una tienda de ropa - a clothes shop Una zapatería - a shoe shop Una juguetería - a toy shop Una tienda de comestibles - a grocery store/supermarket</p>	

Vivo en <u>Liverpool</u> , una ciudad <u>grande</u>	I live in <u>Liverpool</u> , a big <u>city</u>
que <u>está situado</u> en el <u>noroeste de Inglaterra</u> ,	which <u>is situated</u> in the <u>Northwest of England</u>
al lado del río <u>Mersey</u> .	next to the river <u>Mersey</u> .
Vivo en <u>las afueras</u> y	I live in <u>the outskirts</u> and
<u>me chifla</u> mi barrio porque hay mucho para los habitantes.	<u>I love</u> my neighbourhood because there is lots for the residents.
Por ejemplo, se puede <u>visitar los museos</u> , <u>hacer un recorrido en autobús</u> o <u>ir de compras</u>	For example, you can <u>visit the museums</u> , <u>go on a bus tour</u> or <u>go shopping</u>
<u>ya que</u> hay un centro comercial enorme.	<u>because</u> there is an enormous shopping centre.
También hay un lago donde se puede hacer esquí acuático.	Also, there is a lake where you can go water skiing.
<u>Desafortunadamente</u> no hay <u>piscina</u> .	<u>Unfortunately</u> there is no <u>swimming pool</u> .
<u>¡Qué pena!</u> Me flipa hacer natación.	<u>What a shame!</u> I'm crazy about swimming.
En mi opinión Liverpool es muy <u>turística</u> <u>dado que</u>	In my opinion Liverpool is very <u>touristy</u> <u>because</u>
hay muchos <u>museos</u> , dos <u>catedrales</u>	there are lots of <u>museums</u> , two <u>cathedrals</u>
y <u>es conocido por los Beatles</u>	and <u>it's known for the Beatles</u>
y <u>el fútbol</u> . ¡Hay dos <u>estadios de fútbol</u> !	and <u>football</u> . There are <u>two football stadiums</u> !
Tiene <u>el bullicio de la ciudad</u> y	It has <u>the hustle and bustle of a city</u> and
varias influencias culturales.	various cultural influences.
Es mi ciudad natal	It's my home town
y me encanta.	and I love it.

↑ ↑ ↑
A model text on my city

MI CASA



Types of
houses



Rooms



Furniture



Descriptions



Prepositions

My house	Vivo en - I live in Vive en - he/she lives in Vivimos en - we live in Viven en - they live in	una casa - a house una casa individual - a detached house una casa adosada - a semi-detached house un chalet/chalé - a bungalow/chalet/villa un piso/un apartamento - a flat/apartment un bloque de pisos - a block of flats una residencia de ancianos - an old people's home una finca/una granja - a farm	que - which	está en... - it's in...	el campo - the countryside la costa - the coast las montañas/la sierra - the mountains las afueras - the suburbs/outskirts un barrio de la ciudad - a district/suburb of the city el primer/segundo/tercer/cuarto piso de un edificio antiguo - it's on the first/second/third/fourth floor of an old building. el norte - the north el este - the east el oeste - the west el sur - the south	Vivo en una casa adosada que está en las afueras de Liverpool en el noroeste de Inglaterra. En la casa hay ocho habitaciones. Abajo hay una cocina, un comedor y un salón enorme y arriba hay cuatro dormitorios y un cuarto de baño.	I live in a semi-detached house which is in the outskirts of Liverpool in the Northwest of England. In the house there are 8 rooms. Downstairs there is a kitchen, a dining room and an enormous living room and upstairs there are four bedrooms and a bathroom.			
	En la casa (no)hay... - in the house there is(n't) Tiene... - it has... Arriba hay - upstairs there is Abajo hay - downstairs there is Afuera hay - outside there is	cinco habitaciones/salas - five rooms tres dormitorios - three bedrooms dos cuartos de baño - two bathrooms una cocina - a kitchen un comedor - a dining room un estudio/un despacho/una oficina - an office un comedor - a dining room un sótano - a basement	un salón - a living room un aseo - a toilet (room) una entrada - an entrance una terraza - a terrace/patio un garaje - a garage jardín - a garden el césped - the lawn				Me encanta mi casa ya que es hermosa y espaciosa aunque es un poco viejo.	I love my house because it's pretty and spacious although it's a bit old.		
	Mi casa/piso es... - My house/flat is...	moderno/a - modern antiguo/a - old fashioned pequeño/a - small enorme - enormous nuevo/a - new viejo/a - old	caro/a - expensive barato/a - cheap hermoso/a - beautiful bonito/a - pretty feo/a - ugly cómodo/a - comfy	acogedor/a - comfy/cosy espacioso/a - spacious lujoso/a - luxurious limpio - clean bien equipada - well equipped recien renovado - recently renovated			sin embargo mi dormitorio puede ser muy desordenado y necesita una reforma aunque cuando era niño vivía en un piso pequeño	however my room can be very messy and it needs redecorating although when I was a child I used to live in a small flat		
		una mesa - a table un ascensor - a lift unas sillas - some chairs una butaca/un sillón - an armchair una alfombra - a rug una cama - a bed un armario - a wardrobe una luz - a light calefacción - heating	una librería - a bookcase una ducha - a shower un espejo - a mirror las cortinas - the curtains una moqueta - a carpet las paredes - the walls la escalera - the stairs un fregadero - a sink un lavabo - a wash basin	una lavadora - a washing machine un lavaplatos - a dishwasher un microondas - a microwave un horno - an oven muebles - furniture la puerta - the door la ventana - the window una nevera/un frigorífico - a fridge el congelador - a freezer			y tenía que compartir mi dormitorio con mi hermano menor. ¡Fue un desastre! Discutíamos todos los días. Cuando sea mayor me gustaría vivir en una casa más grande en la costa	and I had to share a room with my younger brother. It was a disaster! We used to argue every day. When I'm older I would like to live in a bigger house on the coast.		
Prepositions	delante de - in front of detrás de - behind al lado de - next to cerca de - near lejos de - far from debajo de - under encima de - above/on top of en - in/on a la derecha de - to the right of a la izquierda de - to the left of					Tengo mi propio dormitorio - I have my own room (No) tengo que compartir mi dormitorio - I (don't) have to share my room La habitación que más me gusta es... - the room I like the most is... El aseo necesita una reforma - the toilet needs remodelling/redecorating Mi dormitorio puede ser muy desordenado - my room can be very messy A mi hermano no le gusta nuestra casa porque... - my brother doesn't like our house because...				
Prepositions										

A model text on my house

A model text on my house

Year 9 Social Studies – Good Vs Evil

Key Words

Nature

Nurture

Good

Influence

Evil

Belief

Morals

Religion

Identity

Respect

Things to think about:

1. What is good?
2. What is evil?
3. What are our morals?
4. How do I know what is right?
5. What influences me?
6. How do I know what is wrong?
7. What do Christians believe?
8. What do Muslims believe?
9. How does religion impact us?
10. How can I make a difference?
11. Are we born evil?
12. Are we made evil?
13. How does this impact me?

Nature Vs Nurture:

- The expression “nature vs. nurture” describes the question of how much a person's characteristics are formed by either “nature” or “nurture.” “Nature” means innate biological factors (namely genetics), while “nurture” can refer to upbringing or life experience more generally.

Whole Life Order

The Whole Life Order (WLO) is the single most severe punishment in English criminal law. A WLO means that the offender will spend the rest of their life in prison, with no minimum term and no chance of early release.

By 2023, there were believed to be more than 70 prisoners currently serving whole life sentences in England and Wales. These include some of Britain's most notorious criminals, including the serial murderer, Rosemary West and the premature baby serial killer, Lucy Letby.

Energy

- Energy** is needed to make things happen
- It is measured in **joules** or **kilojoules**
- The **law of conservation of energy** says that energy cannot be created or destroyed, only transferred
- This means that the total energy before a change is always equal to the total energy after a change

Energy can be in different energy **stores**, including:

- Chemical** – to do with food, fuels and batteries
- Thermal** – to do with hot objects
- Kinetic** – to do with moving objects
- Gravitational potential** – to do with the position in a gravitational field
- Elastic potential** – to do with changing shape, squashing and stretching

Speed

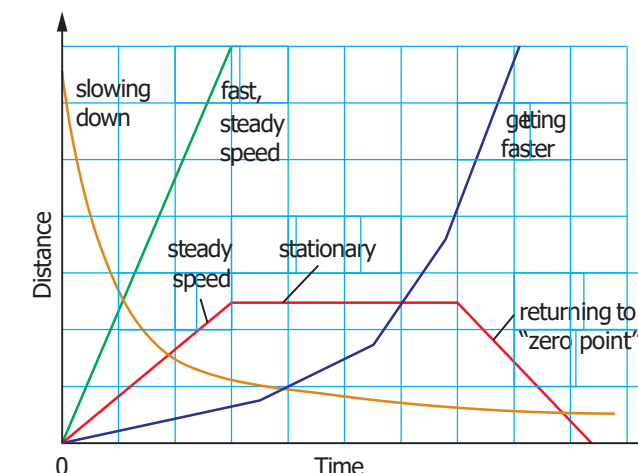
- Speed** is a measure of how quickly or slowly that something is moving
- We measure speed in meters per second (m/s), this means that distance must be in meters and time must be in seconds
- We calculate speed with the following formula:

$$\text{speed (m/s)} = \frac{\text{distance travelled (m)}}{\text{time taken (s)}}$$

- Relative motion** compares how quickly one object is moving compared to another
- If both objects are moving at the same speed, they are not changing position in comparison to one another, meaning that their relative speed is zero

Distance-time graphs

- Distance-time graphs** tell the story of a journey, they show how much distance has been covered in a certain period of time



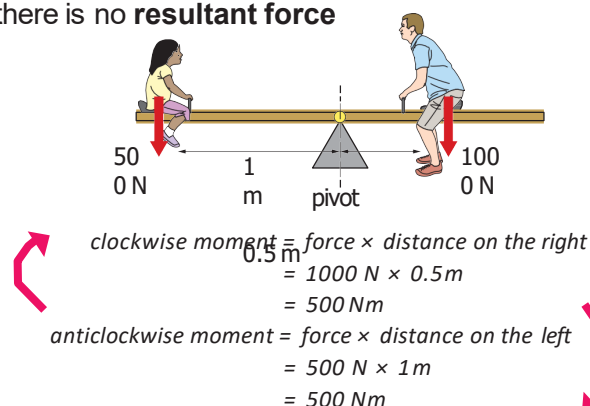
- To find the average speed, the total distance must be divided by the total time

Turning forces

- A **moment** is the turning effect of a force, it is measured in Newton meters
- We can calculate a moment with the equation:

$$\text{moment (Nm)} = \text{force (N)} \times \text{distance from the pivot (m)}$$

- The size of the moment will increase as the distance from the **pivot** or the size of the force increases
- When an object, such as a seesaw is balanced, the clockwise and the anticlockwise moments will be equal and opposite, which is known as **equilibrium**
- When forces are equal and opposite to each other, there is no **resultant force**



Power and energy

- Power** is a measure of how much energy is transferred per second
- Power is measured in **watts (W)**
- Each appliance has its own power rating to tell us how quickly it uses energy
- We can calculate power with the equation:

$$\text{power (W)} = \frac{\text{energy (J)}}{\text{time (s)}}$$

Energy Dissipation

- We say that energy is **dissipated** when it is transferred to a nonuseful store, it cannot be used for what it was intended for
- Energy can be wasted through friction, heating up components or heating the surroundings
- Efficiency** is a measure of how much of the energy has been used in a useful way, we can calculate this with the equation:
- Efficiency (%) = $\frac{\text{useful energy output}}{\text{energy input}} \times 100$

Gas pressure

- Gas pressure** is caused by the particles of a gas colliding with the wall of the container which they are in
- The more often that the particles collide with the wall of the container, the higher the pressure of the gas will be
- Gas pressure can be increased by:
 - Heating the gas so the particles move more quickly and collide with the container with a higher energy
 - Compressing the gas so there are the same amount of particles within a smaller volume meaning that there are more collisions
 - Increasing the amount of particles within the same volume so there are more collisions
- Atmospheric pressure** is the pressure which the air exerts on you all of the time, nearer the ground there are more particles weighing down on you so the pressure is greater
- The higher you go, the smaller the atmospheric pressure, this is because there will be less particles weighing down on you

Pressure in solids

- The pressure which is exerted on a solid is known as **stress**
- The greater the area over which the force is exerted over, the lower the pressure, this is why snowshoes have a large area to prevent you sinking into the snow
- Pressure** can be calculated using the following equation:

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

Pressure in liquids

- Liquids are **incompressible**
- The particles in a liquid are already touching, meaning that there is little space between them to compress
- Liquids will transfer the pressure applied to them, this is seen in hydraulic machines
- As the ocean gets deeper, the pressure will increase, this is because the pressure depends on the weight of the water above
- The greater the number of water molecules above, the higher the pressure will be

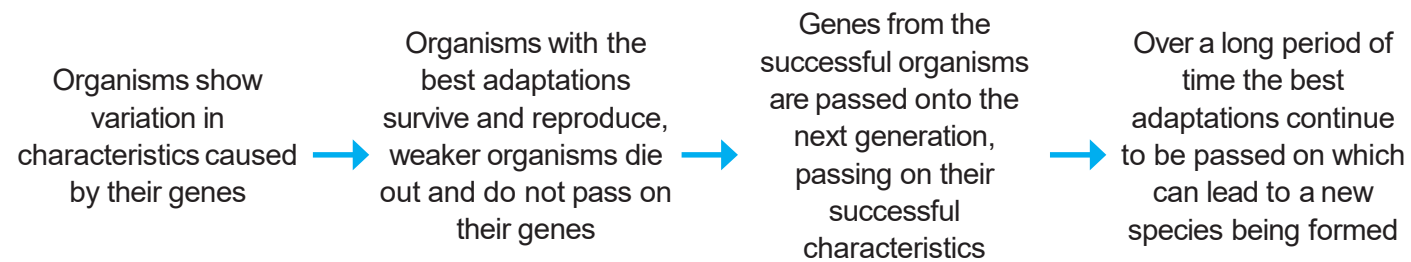
Key terms

Make sure you can write definitions for these key terms.

Acceleration, air resistance, atmospheric pressure, balanced, contact force, deceleration, distance-time graph, drag, equilibrium, field force, friction, gas pressure, gravity, gravitational force, interaction pair, kilograms, mass, moment, Newton, non-contact, pivot, pull, push, pressure, relative motion, resultant force, speed, unbalanced, weight

Natural selection

- Scientists believe that the organisms which we see on Earth today have gradually developed over millions of years, this is known as **evolution**
- Charles Darwin came up with the concept of **natural selection**, he said that only the best adapted animals will survive to pass on their **genes**, weaker animals will die out



- One example of natural selection can be seen in giraffes, only the giraffes with the longest necks would be able to eat from trees, the ones with shorter necks would not be able to eat and die out
- This would mean that only the gene for long necks would be passed on, leading to all giraffes having long necks

Extinction

- A species will become **extinct** when all of a species die out
- The **fossil record** shows us that animals have existed in the past which have now become extinct
- Extinction can be caused by:
 - Changes to the environment
 - Destruction of habitat
 - New diseases
 - Introduction of new predators
 - Increased **competition**
- When a species becomes extinct, the variety of species within an ecosystem is reduced, this is also known as a reduction in **biodiversity**
- The more diverse a **population** is, the more likely they are to survive environmental changes

Punnet squares

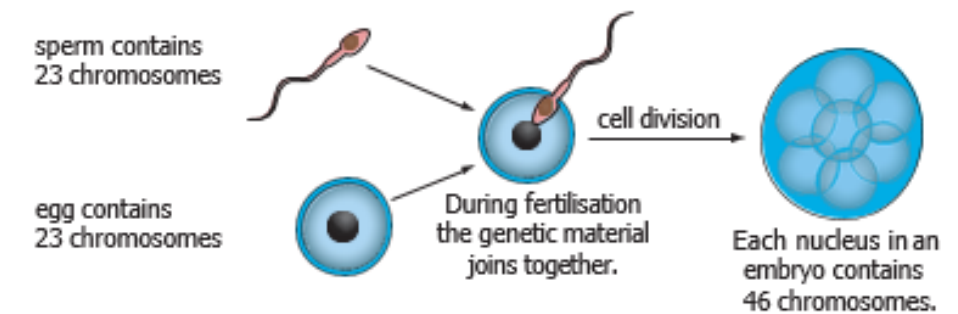
		Possible alleles from father	
		B	b
		(dominant allele for brown eyes)	(recessive allele for blue eyes)
Possible alleles from mother	b	Bb Offspring will have brown eyes as B is dominant	bb Offspring will have blue eyes as both alleles are recessive
	B	Bb Offspring will have brown eyes as B is dominant	bb Offspring will have blue eyes as both alleles are recessive

Genetic modification

- Genetic modification** is the process which scientists can use in order to alter the genes of an organism
- Examples of this include altering cotton to produce higher yields, altering bacteria genes to produce medicines and altering crops to produce their own insecticides

Inheritance

- Characteristics** are passed along from parents to their offspring
- Half of the genetic information comes from each parent, this is passed on through the sex cells in the process of fertilisation

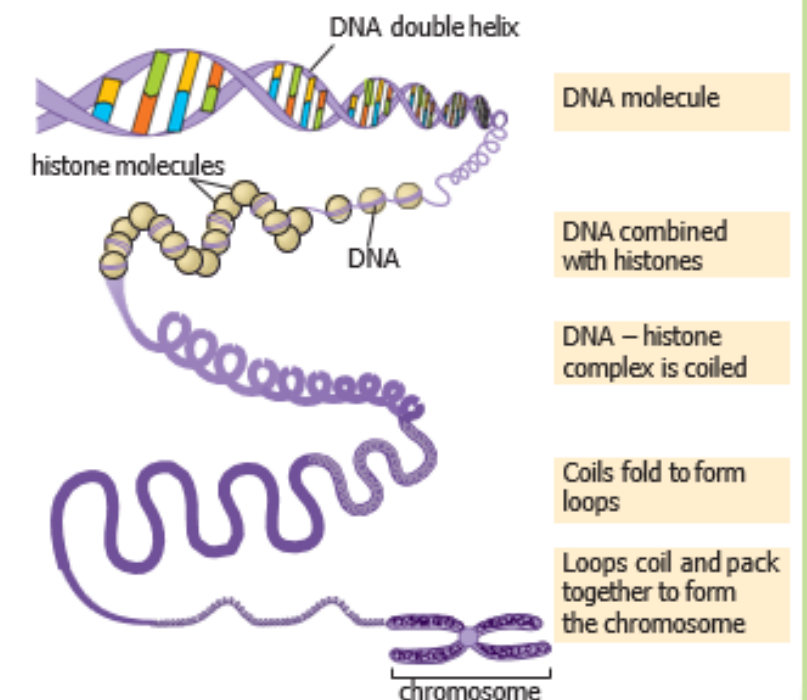


- DNA** is the material which contains all of this genetic information

DNA – in the shape of a double helix

Genes – a section of DNA which hold the information for a particular characteristic

Chromosomes – long strands of DNA which hold many genes, humans have 46 of these in the nucleus of cells



Genetics

- For every characteristic an organism will have two **alleles**, this is two different genes which can code for the same characteristic, one is inherited from each parent
- Dominant** alleles will cause the characteristic to be displayed even if they are with another allele, this is represented by a capital letter
- Recessive** alleles will not be displayed as characteristics unless there are two of the same allele, they are the characteristic least likely to be shown, this is represented by a small letter
- We can predict the inheritance of characteristics using a **Punnet square**



Key terms

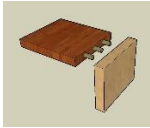
Allele Biodiversity Characteristics Chromosome Competition DNA Dominant Evolution Extinct Fossil record Gene Genetic modification Mutation Natural selection Population Punnet square Recessive

Year 9 Resistant Materials Knowledge Organiser



Finger joint

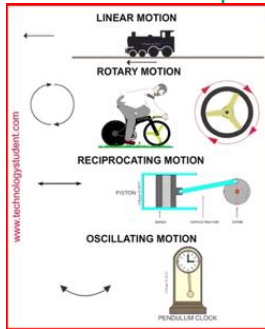
MDF is made from small timber fibres that are mixed with wax and **resin**. They are heated and **compressed** so that a flat, usable sheet is produced.



Dowel joint



Lap Joint



Impact of plastic

Animals can become caught in pieces of plastic or mistakenly see it as food. If they cannot digest it then the animal may become ill and die.

Over time, plastic can be broken into smaller and smaller pieces. These tiny particles of plastic, known as microplastics, are eaten by fish and other sea creatures. The chemicals from the plastic are passed along the food chain and can ultimately end up in the food we eat.



The 6Rs

Whenever environmental impact is to be reduced, 'the 6 Rs' can be addressed to ensure an in-depth analysis has been done. The 6 Rs can be considered by the designer, the and the to reduce that negative impact on the environment.



The term 'the 6 Rs' can be applied to the design of new products or when a product is finished with, used up or no longer wanted. Here are some questions to prompt 6 Rs thinking:

- Think of a package that was bought recently. Could any part of the packaging be reduced?
- Rather than disposing of a package once you have opened it, could it not be reused?
- **Recycle** - Many papers and boards are made from material that is fully or partly recyclable. Can the paper or board be disposed of correctly so that it can be recycled?
- Rethink how actions contribute to damaging the environment. Rather than buying a coffee that is served in a disposable, laminated card cup, why not buy a cup that can be refilled?
- Consumers have a huge amount of power when it comes to the choices they make when buying, including refusing to buy a product if they believe it is bad for the environment. Could a material that is sustainable be used instead?
- Many products are designed to be after a given period. When a product is broken, can it be repaired rather than discarded? If a repair can be carried out on the product, it could remain out of a landfill site for much longer.

Name	Use	Material	Image
Tenon saw	A brass back saw used for precision cuts such as woodwork joints	wood	
Coping Saw	A saw that is used to cut on the back stroke to cut details and curves	Plastic and wood	
Hack saw/ Junior hack saw	A fine blade saw that has replaceable blades	Metal / plastic / wood	
File	An abrasive hand tool the removes and shapes materials	Metal / plastic / wood	
Rasp	Similar to a file but with bigger teeth. They are rough tool that requires more finishing work	wood	
Bevel chisel	Has tapered angles that break away excess material away and give access tight corners	wood	
Surform	Has a surface similar to a food grater. They can quickly shape wood but produce a rough surface	wood	

Product analysis - Looking at products that already exist can help improve further designs by pinpointing issues to improve designs and **prototypes**.

Modelling

Modelling ideas in card, paper, clay or other materials can create a cheap and quick way to do initial trials with a product. Using an easy to modify material provides a good way of seeing how a product looks and works, eg checking handles are in the right place or parts fit together well. Taking photographs or video throughout this can show development.

Personal protective equipment (PPE) must be worn where recommended:

Eye protection must be worn

Ear protection must be worn

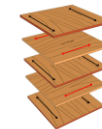
Examples of using PPE:

- protective gloves and aprons for work with heat, eg *brazing* metals
- goggles where there may be splashing or splinters, eg chemical use or using machinery
- ear protection when using or working around noisy equipment
- dust mask when spraypainting or *routing* wood

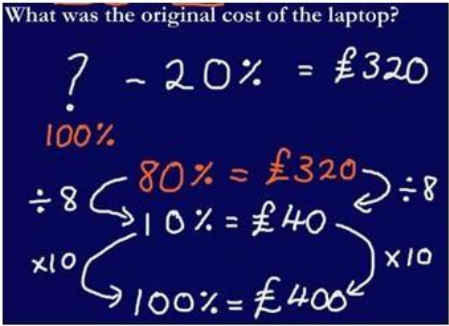
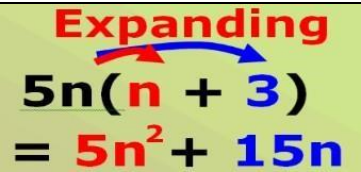
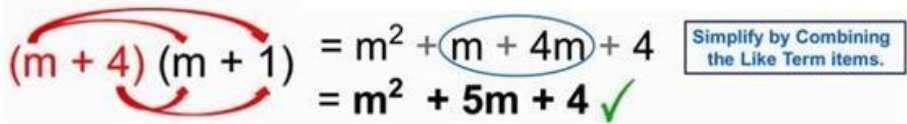
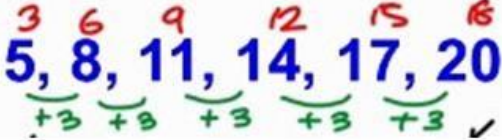
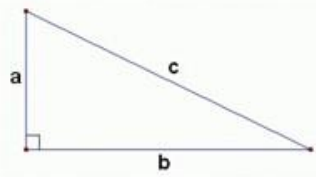



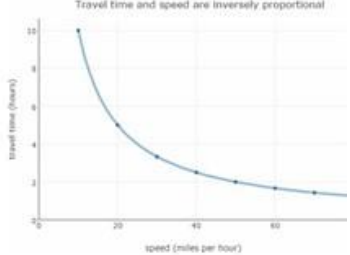
Reinforced materials and methods include

- Corrugated cardboard
- lamination of timber (plywood)
- lamination of paper
- Reinforced concrete



Year 9 Spring Maths Knowledge Organiser

Topic	Key fact	Hegarty maths clip number
Percentage of Amount	Turn the percentage into a decimal and multiply it by the amount. e.g. 45% of 60 is $0.45 \times 60 = 27$ The 0.45 is called the decimal multiplier.	83 to 87
Percentage Increase & Decrease	If it is a percentage increase, the decimal multiplier will be 1.something because you are getting more than 100%. If it is a percentage decrease, the decimal multiplier will be 0.something because you are getting less than 100% e.g increase £200 by 40% would be 200×1.4 decrease £200 by 40% would be 200×0.6	88 to 92
Reverse percentages	<p>Sale price is £320</p> <p>What was the original cost of the laptop?</p> 	96
Expanding a single bracket		160 – 161
Expanding double brackets	<p>Expanding – multiplying out the brackets.</p> 	162 - 165
Linear sequences (n^{th} term) & Special Sequences	<p>Square: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, ...</p> <p>Cube: 1, 8, 27, 64, 125, ...</p> <p>Triangular: 1, 3, 6, 10, 15, 21, 28, 36, 45, ...</p> <p>n^{th} term: General rule for a sequence.</p> <p>Find the difference between each term, then how do you get from that times table to the sequence: (e.g. $3n + 2$)</p> 	196 – 198
Pythagoras' Theorem	 <p>c = hypotenuse</p> $a^2 + b^2 = c^2$ $c^2 - b^2 = a^2$ $c^2 - a^2 = b^2$ <p>Remember to square root your answer to find the missing side.</p>	497 – 504

Indices	$a^m \times a^n = a^{m+n}$ $a^m / a^n = a^{m-n}$ $(a^m)^n = a^{m \times n}$ $a^0 = 1$ $a^1 = a$	102 to 106
Calculations with numbers in standard form	<p>Multiplying & dividing: do the 'normal' numbers like usual; then use index laws for the $\times 10^n$</p> <p>Adding & subtracting: make them ordinary numbers first; do column addition or subtraction; change back to standard form</p>	125 to 128
Negative and Fractional Indices	$m^{a/b} = \sqrt[b]{m^a}$ <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px;">$a^{-c} = \frac{1}{a^c}$</div> <div style="border: 1px solid black; padding: 5px;">$\left(\frac{1}{a}\right)^{-c} = a^c$</div> <div style="border: 1px solid black; padding: 5px;">$\left(\frac{x}{y}\right)^{-c} = \frac{y^c}{x^c}$</div> </div>	104 to 108
Direct Proportion	<p>One quantity increases at the same rate as the other quantity increases.</p> 	339
Inverse Proportion	<p>One quantity increases at the same rate as the other quantity decreases.</p> 	342

Key Vocabulary

- Integer – A whole number.
- Power/Indices - The index of a number says how many times to use the number in a multiplication. It is written as a small number to the right and above the base number.
- Square number - the answer you get when you multiple a number by itself.
- Cube number - the answer you get when you multiply a number by itself 3 times.
- Root – The inverse operation of a power.
- Expand – to multiply the term before bracket by the terms in the bracket using the
- Factorise – To put into brackets by taking out the highest common factor.
- Hypotenuse – the longest side in a right angled triangle.
- Direct proportion - one quantity increases at the same rate as the other quantity increases.
- Inverse proportion - one quantity increases at the same rate as the other quantity decreases.
- n^{th} term – the position to term rule for a sequence. Can be used to find any number in a sequence.

Quels sont tes projets d'avenir? – What are your future plans?

Plus tard (later)	je vais (I'm going to)	me marier (get married)
Un jour (one day)		me pacser (have a civil partnership)
Après mes examens (after my exams)	je voudrais (I'd like to)	avoir des enfants (have children)
Si je réussis mes examens (if I pass my exams)	j'aimerais (I'd like to)	habiter avec mon copain / ma copine (live with my partner)
Si je peux (if I can)	j'espère (I hope to)	habiter à l'étranger (live abroad)
Si mes rêves se réalisent (if my dreams come true)	j'ai l'intention de (I intend to)	être célèbre (be famous)
Quand j'aurai vingt-cinq ans (when I'm 25 years old)	j'ai envie de (I want to)	faire un apprentissage (do an apprenticeship)
	je rêve de (I dream of)	trouver un emploi bien payé (find a well paid job)
	mon but est de (my goal is to)	faire du bénévolat (do voluntary work)
		prendre une année sabbatique (take a gap year)
		voyager autour du monde (travel round the world)
		faire mon permis de conduire (get my driving licence)
		passer mon bac (take my A Levels)
		continuer mes études (continue my studies)
		aller au lycée (go to 6 th form)
		aller à l'université (go to uni)
		faire une licence (do a degree)
		réussir ma carrière (have a successful career)
		devenir (job) (become a...)

UNIT 8: Describing a typical day at school

J'arrive au collège <i>[I arrive at school]</i> Je fais des activités périscolaires <i>[I do after school activities]</i> Je fais mes devoirs dans la bibliothèque <i>[I do my homework in the library]</i> La récréation est <i>[Breaktime is]</i> Le déjeuner est <i>[Lunchtime is]</i> Les cours commencent <i>[Lessons start]</i> Les cours finissent <i>[Lessons end]</i> Je sors du collège <i>[I leave school]</i> Je vais au club d'échecs <i>[I go to chess club]</i>		à [at]	sept huit neuf dix onze	heures	du matin <i>[in the morning]</i>
			midi <i>[midday]</i>		
J'ai <i>[I have]</i>	cours de maths <i>[maths class]</i> mon premier cours <i>[my first class]</i> mon troisième cours <i>[my third class]</i> mon dernier cours <i>[my last class]</i>		deux trois quatre cinq	heures	de l'après-midi <i>[in the afternoon]</i>

Dans mon collège <i>[In my school]</i>	on doit [<i>one must</i>] on ne doit pas [<i>one must not</i>] on peut [<i>one can</i>] on ne peut pas [<i>one cannot</i>]	manger dans les salles de classe [<i>eat in the classrooms</i>] fumer [<i>smoke</i>] faire la queue à la cantine <i>[queue up in the canteen]</i> aller aux toilettes pendant les leçons <i>[go to the toilet during lessons]</i> lever la main avant de parler <i>[raise the hand before speaking]</i> mâcher du chewing gum [<i>chew chewing gum</i>] utiliser le portable [<i>use the mobile phone</i>]	
	je (ne) dois (pas) [<i>I must - not-</i>] je (ne) peux (pas) [<i>I can - not-</i>]	porter <i>[wear]</i>	de(s) jupes courtes [<i>short skirts</i>] de(s) jupes longues [<i>long skirts</i>] du maquillage [<i>make-up</i>] de(s) boucles d'oreilles [<i>earrings</i>] l'uniforme scolaire [<i>uniform</i>]



UNIT 5: Saying what I did & am going to do at the weekend

Le week-end prochain [Next weekend] Samedi prochain [Next Saturday] Dimanche prochain [Next Sunday]	je vais [I am going]	faire [to do]	du cheval [horse-riding] mes devoirs [my homework] du sport [sports] du vélo [cycling]
	ma sœur va [my sister is going]	aller [to go]	à une fête [to a party] au centre commercial [to the shopping centre] faire des courses [shopping]
	mon frère et moi allons [my brother and I are going]	jouer [to play]	au basket [basketball] sur mon ordinateur [on my computer]
	mes parents vont [my parents are going]	voir [to see]	un concert [a film] un match de foot [a football match] un film [a film]

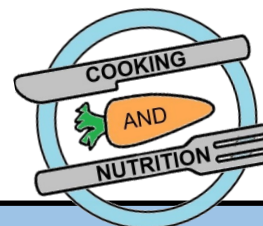
Ce sera [it will be]	assez [quite] un peu [a bit] très [very]	ennuyeux [boring] amusant [fun] intéressant [interesting]
Ce ne sera pas du tout... [it won't beat all]		

Le week-end dernier [Last weekend] Vendredi dernier [Last Friday] Dimanche dernier [Last Sunday]	J'ai fait [I did] Nous avons fait [we did] Mon ami et moi avons fait [my friend and I did]	du cheval [horse-riding] mes devoirs [my homework] du sport [sports] du vélo [cycling]
	J'ai joué [I played] Nous avons joué [we played] Mon amie et moi avons joué [my friend and I played]	aux jeux vidéo [video games] sur mon ordinateur
	Je suis allé(e) [I went] Nous sommes allé(e)s [we went] Mon frère et moi sommes allés [my brother and I went]	chez un(e) ami(e) [to a friend's house] au stade [to the stadium]
	J'ai vu [I saw] Nous avons vu [we saw] Ma sœur et moi avons vu [my sister and I saw]	un concert [a film] un match de foot [a football match] un film [a film]

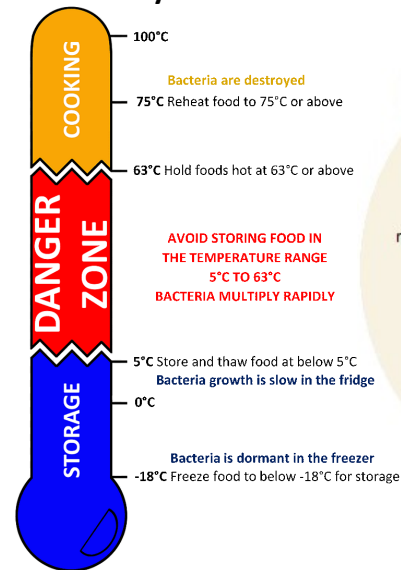
C'était [It was]	assez un peu très	épuisant [exhausting] passionnant [exciting] nul [bad]
Ce n'était pas du tout [It was not ... at all]		



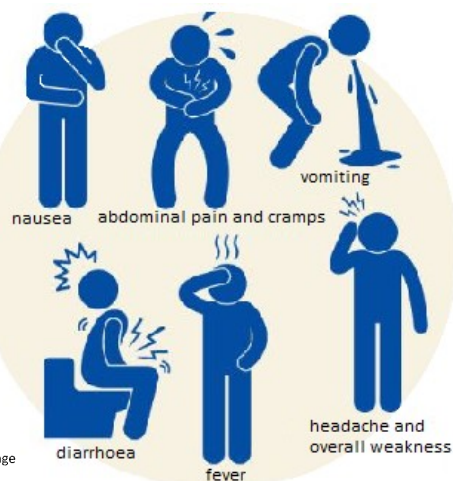
Year 9 - Lifestyle & Choice



Food safety



Food poisoning symptoms



<https://www.youtube.com/watch?v=flxmB8NKMzE>

<https://www.nhs.uk/live-well/eat-well/10-ways-to-prevent-food-poisoning/>

<https://www.food.gov.uk/safety-hygiene/avoiding-cross-contamination>

Food labelling: lots of information is required by law. Storage instructions are particularly important for food safety.



https://www.youtube.com/watch?v=OZOIEYQ0axo&list=PLcvEcrcF_9zlxoGGU59CjuZHciPl9uvGm&index=9&t=2s

Key vocabulary

safety / hygiene / cross-contamination
pathogenic / food poisoning / symptoms
nutrition / hydration / shelf life
perishable / ambient / dormant
ethical / moral / cultural / preferences
allergies / intolerances / life stages

Nutritional needs and health: some people have special dietary needs based on their age, lifestyle or allergies.



<https://www.youtube.com/watch?v=k5YSJq4iQtI>

Senses: influence our enjoyment of food.



<https://www.youtube.com/watch?v=zNchJla7G0E>

The Eatwell Guide shows the types and proportions of foods people need for a healthy and well-balanced diet.



<https://www.youtube.com/watch?v=7MIE4G8ntss>

<https://www.nhs.uk/live-well/eat-well/the-eatwell-guide/>

<https://www.youtube.com/watch?v=8aWqZd9RScQ>

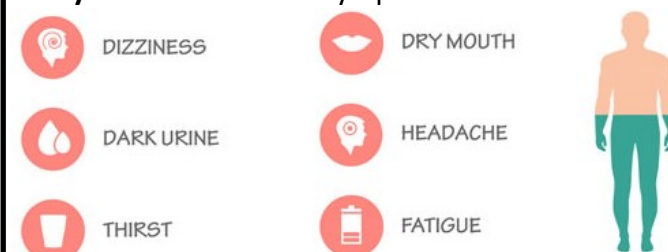
Food choices: a variety of factors influence what we choose to eat.



<https://www.youtube.com/watch?v=D6eor1wkNFY>

<https://www.youtube.com/watch?v=bowUbKANVVY>









Dehydration: the main symptoms.



<https://www.youtube.com/watch?v=b7s2Aqj72Q8>

Year 9 - Cooking skills

Equipment

			
Fish slice	Food thermometer	Food processor	Potato masher
			
Wok	Tongs	Electric whisk	Pastry brush

Skills and Processes

Blind baking



Used in: tomato and basil tarts

Dividing and shaping



Used in: burgers, fish cakes, croquettes, Swedish meatballs

Whisking



Used in: tomato and basil tarts, Swiss roll

Folding and wrapping



Used in: samosas, spring rolls

Key word

Meaning

Denaturation

When protein foods are heated causing them to change size, colour and texture eg. burgers, meatballs, chicken.

Stir-frying

A cooking technique in which ingredients are fried in a small amount of very hot oil while being stirred in a wok

Aeration

The process of incorporating air into a mixture to help provide structure and volume eg. whisking eggs for Swiss roll.

Reduction

Simmering a liquid over heat until it thickens due to evaporation.

Independent skills I need to learn in Year 9

Select the correct colour coded chopping boards to prevent cross contamination.

Use a wide range of preparation and cooking techniques eg. finely dicing, blind baking, whisking, sautéing, shaping, mashing, enrobing, stir-frying etc.

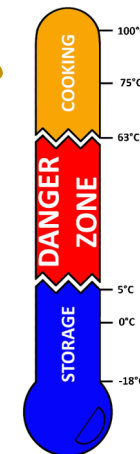
Organise my workspace, remove food waste promptly, clean as I go.

Manage temperature control know when to turn heat up and down accordingly.

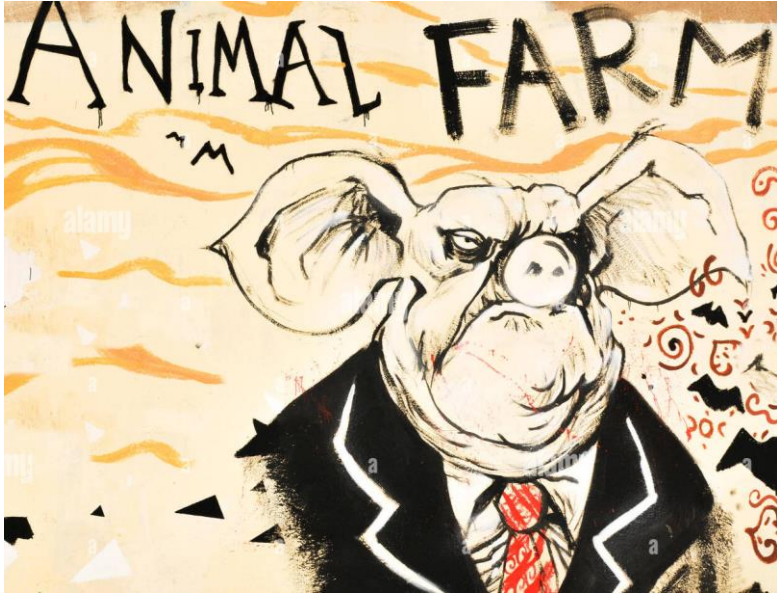
Check for readiness using a food thermometer to check the internal temperature.

Food safety

Know the **critical temperature** for cooking foods, the effect on **bacteria** and how to **check the core temperature** of meat.



Animal Farm by George Orwell



On a farm run by a very inept (drunken) farmer, the anthropomorphic animals rise up and form a rebellion. They don't want to be dictated to by someone and decide to form their own farm, run by the animals themselves, without a leader. However, two of the pigs start to try and become the leaders themselves, making rules and demands regarding how the farm is run and, eventually, it ends up being run worse than it was in the first place by the drunken farmer. Published in 1945, the book is allegorical for the Russian Revolution, Stalin and explores the ideas of communism and totalitarianism.

Keywords and terminology:

Inept - having or showing no skill; clumsy.

Dictatorship – a country run by a dictator. A dictator has complete power over the country they run but they have not been elected into that position.

Totalitarianism - a system of government that is run by one dictatorial leader and requires complete subservience to the state.

Anthropomorphism – when animals are made to seem human.

Communism - a theory or system of social organisation in which all property is owned by the community and each person contributes and receives according to their ability and needs.

Allegorical - a story, poem, or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one.



Animal Farm is an allegorical novel by George Orwell where animals are in charge rather the humans.											
Context				Characters							
Orwell wrote the novel as an allegorical tale that links with the history of the Soviet Union. The book was viewed as incredibly controversial and rejected by several publishers before being published.				Old Major: Wise, old pig. Starts the rebellion with his powerful speech about men.				Mr Whymper: Sly solicitor who helps Napoleon.			
				Mollie: Shallow and childish mare; deserts the farm to continue to lead the life of a horse.				Mr Jones: drunken owner of Animal Farm. Symbolises the control and greed of men.			
Old Major represents Karl Marx, Snowball represents Communism, and Napoleon represents Stalin.				Snowball: Hero of the Battle of the Cowshed, expelled by Napoleon and used as a scapegoat.				Napoleon: Controlling dictator. Leads by fear and propaganda.			
Orwell is most famous for this novel and 1984, a dystopian book that wrote about an extreme version of the future. Several new words came from Orwell’s work, including cold war, Big Brother, Thought Police, Room 101, memory hole, newspeak, doublethink, and <u>thoughtcrime</u>				Clover: Caring and loyal, has very little control but realises what is happening as the pigs take control.				Pilkington and Frederick: Owners of the neighbouring farms and equally manipulative.			
				Boxer: Innocent but hard working, very strong and selfless.				Squealer: Napoleon’s mouthpiece, he uses propaganda to control the animals.			
Plot											
<p>1. Mr Jones, the owner of Manor Farm falls asleep in a drunken stupor. All the animals of Manor Farm meet in the big barn where <i>Old Major</i> delivers a speech arguing for a rebellion against the men. The Animals sing ‘Beasts of England’, a song from Old Major’s dream.</p> <p>2. <i>Old Major dies and the pigs adapt his speech, forming the principles of Animalism. The pigs plan the rebellion even though some animals (like Mollie) are concerned. Napoleon steals milk.</i></p> <p>3. The animals complete the harvest faster than ever. Napoleon teaches the sheep ‘four legs good two legs bad’ and takes the dogs for ‘education’. Cow’s milk and windfall apples are given to pigs, Squealer convinces the animals that this is a good idea.</p> <p>4. News of the rebellion spreads, In October, a group of men try to seize the farm. Led by Snowball’s brilliance, the animals fight off the humans which is named ‘The Battle of the Cowshed’.</p> <p>5. Mollie deserts the farm. The pigs grow in influence, suggesting ideas on which the animals must vote. When the Windmill is put to vote, Snowball is expelled from animal farm. Later, Napoleon announces that the Windmill will be built.</p> <p>6. Napoleon begins trading with humans and hires Mr Whymper. Jones gives up trying to reclaim the farm. The animals begin sleeping with beds, and Muriel and Clover notice a change in the commandments ‘with sheets’. Squealer persuades the animals that this is acceptable. In November, a storm topples the half complete windmill. Napoleon blames this on Snowball.</p>						<p>7. The animals struggle against starvation. After learning that they must sacrifice their eggs, the hens stage a demonstration. Napoleon denies their rations and 9 hens starve as a result. In spring, Napoleon calls a meeting and several ‘traitors’ are executed. <i>Beasts of England</i> is outlawed.</p> <p>8. The next year brings more work and less food, despite Squealer’s figures and statistics to the contrary. More executions occur. Napoleon sells a pile of timber to Frederick, who tricks Napoleon with forged banknotes.. Frederick, with 14 other men, attack the farm and blow up the windmill, which rallies the animals to fight back. Several animals die, Boxer is injured but Squealer convinces the animals of their victory.</p> <p>9. 31 pigs are born, and Napoleon orders for a schoolhouse to be built for their education. Rations are yet again reduced. Boxer is injured working and Napoleon sends for a vet. A van arrives, Boxer is taken away but Benjamin reads the its side and learns that Boxer is being slaughtered.. Boxer is never seen again.</p> <p>10. Years pass. No animal has ever retired. The farm has grown in size and population. Two windmills are complete. Clover notices the pigs walk on two legs. The commandments are replaced with “All animals are equal but some are more equal than others.”. The pigs and humans play cards. A quarrel breaks out. Onlooking animals can not tell the difference between pigs and humans.</p>					
Themes											
• Leadership, Control, Lies and Propoganda, Violence, Pride and Belonging, Dreams and Hopes											
Key vocabulary											
Deceit	Influence	Scapegoat	Dictatorship	Manipulated	Corruption	Equality	Commandment	Tyranny	Allegory	Satire	Comrade

Year 9

Knowledge Organiser for Term 2

Literary terms:

Verbs

Nouns

Adjectives

Adverbs

Alliteration

Simile

Metaphor

Personification

Imagery

Narrative

Hyperbole

Oxymoron

Context

Repetition



CHARLES DICKENS KNOWLEDGE ORGANISER



Overview

Charles Dickens (1812-1870) was a British **writer**, who is often considered to be one of the greatest novelists ever.

He lived during the reign of Queen Victoria, and therefore is known as a **Victorian writer**.

His novels were **very popular** throughout his lifetime, and made him famous. Since his death, his writing has become even more popular.

Some of his most famous novels include **Oliver Twist**, **Great Expectations**, and **A Christmas Carol**.

His works often **criticised some of the social problems** at the time, for example the gap between rich and poor, child labour, and life for orphans.

A photograph of Charles Dickens c. 1867-1867



Answers to Important Questions and Key Vocabulary

What did Dickens write about?



-Dickens wrote about lots of different topics, but social inequality was perhaps the subject that he focused on the most.
-In the Victorian era in which Dickens lived, the rich lived very different lives to the poor. Whilst they lived in huge mansions and had many servants, the poor often couldn't make ends meet. Children were often made to work in appalling conditions. Dickens wrote about these issues, giving society valuable lessons.

Key Vocabulary

Novelist

Critic

Inequality

Popular

Journalist

Clerk

Debtor

Social

Labour

Victorian

Publication

Dickensian

Was Dickens popular during his life?



-Dickens was the most popular author in the western world during his lifetime. He was one of the first people known to be a true celebrity. This allowed him to do book readings and tour America.

What are Dickens' most famous novels?



-Oliver Twist is one of Dickens' best-known novels. It tells the story of a young orphaned boy who is treated exceptionally harshly by others. He has to find his way to happiness through a cruel world.
-Another famous Dickens' novel is A Christmas Carol. It is about a miserable man called Ebenezer Scrooge, who only cares about business and money. He is taught a lesson by three Christmas ghosts!

What else do we know about Dickens?



-Dickens was a very superstitious man, who had a number of odd habits. For example, he often slept with his head facing north, as he believed that this would make him write better!
-He was a critic of the church. He thought that it used to take advantage of people.

Times in His Life

Early Life



-Dickens was born in Landport (Portsmouth) in Hampshire, England, on 7th February 1812.

-He was the 2nd of 8 children to John and Elizabeth Dickens.

-Charles lived an average early life. He was well looked after and had lots of opportunities to play and read books.

Late Childhood



-Things changed for Dickens around the time that he was 11/12.

-His father owed lots of money and was sent to debtors' prison. The young Charles had to work in a boot blacking factory. The conditions were poor and he was badly paid.

Rise to Writing

-Dickens became a clerk in a law office. Although he did not like working there either, he began to write. He was influenced by his experiences in the factory and law office.

-In 1833, Dickens wrote 'A Dinner at Poplar Walk', published monthly. This impressed some critics, and got him a job as a journalist at the House of Commons.

-In 1836, he became a magazine editor. This is the time that he wrote *Oliver Twist*.



Celebrated Author



- From the late 1830s right up until the 1860s, Dickens went on to write a number of hugely popular novels. These included *A Christmas Carol*, *David Copperfield*, and *Great Expectations*.

-His writing is thought to have made him lots of money, and also made him one of the first worldwide celebrities. His writing was so well-known that the style itself became known as 'Dickensian.' Even characters in his stories, e.g. Ebenezer Scrooge, Bob Cratchit, Fagin and the Artful Dodger have become well-known around the world.

Top 10 Facts!

1. Charles and his wife, Catherine, had 10 children before they separated.
2. The young Queen Victoria was a fan of Dickens' novels.
3. He is buried in the Poet's Corner of Westminster Abbey.
4. People now think that he probably had OCD (Obsessive Compulsive Disorder).
5. Dickens was interested in the paranormal and joined a group called The Ghost Club.
6. He wrote 15 novels and hundreds of short stories in total.
7. He helped to create a home for women who had fallen on times of hardship.
8. When he died of a stroke in 1870, he had half-written a mystery novel called *The Mystery of Edwin Drood*. 'It remains a mystery.'
9. He was involved in a terrible train crash in which many people died, but survived.
10. People across the world celebrated his 200th birthday on 7th February 2012.

Charles Dickens Timeline

1812: Dickens is born in Hampshire, in England.

1824: Dickens' father went to debtors' prison. Aged 12, Charles worked in a factory.

1827: Dickens becomes an office clerk, and begins writing.

1833: Dickens' first work is published - *A Dinner at Poplar Walk*.

1836: Dickens is married to Catherine Hogarth.

1837: *Oliver Twist* is published.

1843: *A Christmas Carol* is published.

1853: He begins doing public readings of his works.

1867: He tours America.

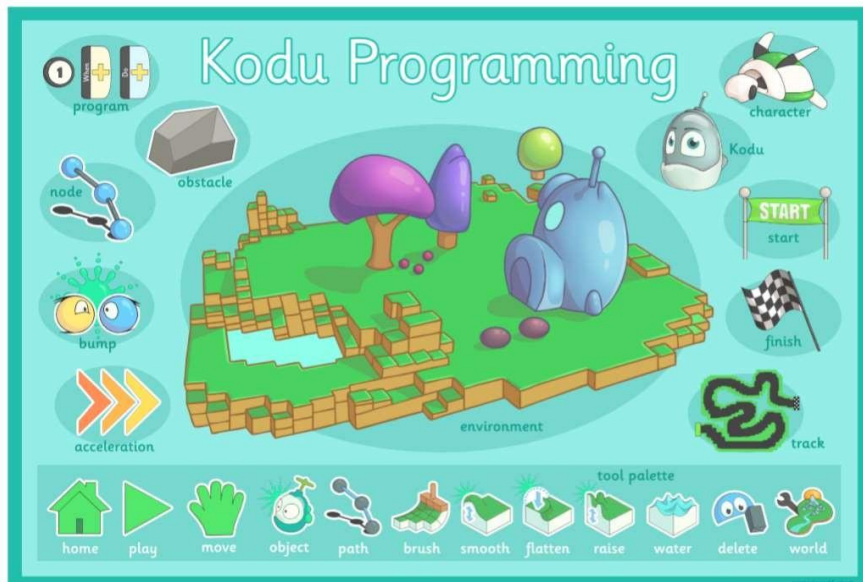
1870: At the age of 58, Dickens dies at his home in Kent.

Social and Historical Context	Key Themes	Key Texts and Characters
<p>Childhood & Education: Many children did not go to school and working class families relied on their children to work to bring in extra money to survive.</p> <p>Social Class: The Victorian society was divided upper, middle and working class. The Upper Class was in a powerful position giving them authority, better living conditions, and other facilities. Middle-class people also owned and managed vast business empires. The working class was the worst affected class in the Victorian times.</p> <p>Health: Infectious diseases such as cholera, smallpox, tuberculosis and influenzas, were the greatest cause of Victorian mortality</p> <p>Industrialisation: The Industrial Revolution brought about drastic changes in the standard of living of the Victorian Middle-Class people. These revolutions opened the doors for more job opportunities and earn a decent living. This, in turn, had a positive impact on the education of children. Women also participated in the paid workforce in increasing numbers. However, working class people suffered during the Industrial Revolution. They were replaced by machines in factories and thousands converged upon the major cities. When they arrived, there were no jobs and they suffered from poverty, starvation and homelessness.</p>	<p>Gender: Rights and privileges of Victorian women were limited, and women had to live with hardships and disadvantages. There were sharp distinctions between men's and women's rights during this era: men were allotted more stability, financial status and power over their homes and women; women did not have the right to vote, sue, or own property.</p> <p>Class: Victorian Britain was a society dominated by class distinction. With an elite dedicated to leisure while many in the working class struggled to eat, the gap between rich and poor seemed insurmountable.</p> <p>Religion: The people of England were very religious. There were many who regularly visited the church. People were not only very religious but also were god-fearing.</p>	<p>William Blake – London: The poem has a bleak, tragic tone and reflects Blake’s frustration and unhappiness with his life in London. Blake describes the disquieting socio-economic and moral decline in London and the increasing sense of hopelessness that can be found in the city.</p> <p>William Wordsworth – Westminster Bridge: This sonnet features a speaker sharing his impressions of the view from Westminster Bridge. The poem takes shape as the speaker describes the sights and feeling of a quiet early morning before the city springs to life.</p> <p>Charles Dickens – Hard Times: Louisa and Tom Gradgrind have been harshly raised by their father, an educator, to know nothing but the most factual, pragmatic information. Their lives are devoid of beauty, culture, or imagination, and the two have little or no empathy for others. Louisa marries Josiah Bounderby, a vulgar banker and mill owner. She eventually leaves her husband and returns to her father’s house. Tom, unscrupulous and vacuous, robs his brother-in-law’s bank. Only after these and other crises does their father realize that the manner in which he raised his children has ruined their lives.</p>
	<p>Literary Terms</p> <p>Imagery – words and phrases that create pictures in the reader’s mind Simile – a comparison of two things using ‘like’ or ‘as’ Metaphor – a comparison of things not using ‘like’ or ‘as’ Motif – a recurring symbol throughout a story Pathetic fallacy – using the weather to reflect a character’s mood or emotions Personification - giving human-like qualities to objects, ideas or animals.</p>	<p>Linguistic Terms</p> <p>Adjective – a word that describes a noun Adverb – a word that describes verbs, adjectives and other adverbs Article – a word that defines a noun as being specific or unspecific Conjunction – a word that connects separate clauses or sentences Noun – a name, object or emotion Preposition – a word that shows time and place Verb – an action</p>

Year 9 Introduction to Computers Knowledge Organiser

	Definition
Acceleration	Increase in speed or rate.
Environment	The surroundings or conditions in which a person, animal, or plant lives or operates.
Object	A material thing that can be seen touched.
Obstacle	A thing that blocks one's way or prevents or hinders progress.
Settings	A set of controls that can be adjusted.

In this unit, we will be...
Investigating and evaluating the features of programming software.
Programming Kodu using When and Do instructions.
Using tools and adding features to create an original landscape in Kodu.
Analysing and deconstructing code to work out its purpose.
Programming a character to be controlled around a custom track to reach a goal.
Programming a character to follow an automatic path.



world



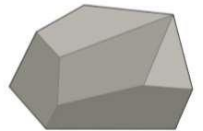
bump



smooth and flatten



obstacle



raise



object



Flowol

Topic summary

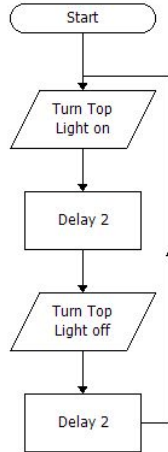
Flowol is a piece of software that allows you to use flow charts to control outputs in mimics, such as, lights and a fog horn in a lighthouse. You can also use inputs to create greater control and options.

Learning objectives:

Understand what the term algorithm means
Understand what the term decomposition means
Understand what the term iteration means
Understand what an output and an input are
Understand what variables are

Vocab

Input
Output
Algorithm
Decomposition
Iteration
Variable



Key tools on Flowol

ERASE

The **Erase Tool** will highlight and become active when part of the flowchart has been selected for editing.

Start/Stop/Sub



Use the **Start** symbol at the beginning of the flowchart program.

Use the **Stop** symbol at the end of a sub-routine, and at the end of a program that is not recursive (repeating).

Use the **Sub** symbol to head a sub-routine. (Note: sub-routines should be defined before the main program).

Use the prompts to make your selection.

Output



Use the **Output** symbol to turn on or turn off an output or a motor.

Use the prompts to make the selection. (Note: up to four outputs can be turned on or off at a time within one symbol or two motors).

Process



Use the **Process** symbol to put in a delay. (How long does the output need to be switched on for?).

This is also used to call a sub-routine, or to set up a variable. Use the prompts to make your selection.

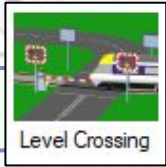
Decision



Use the **Decision** symbol to decide if 'Yes do this' or 'No do that'.

It is used to check for feedback from an input signal such as: is the switch on, or is the temperature value more than, less than or equal to x etc.

This symbol can also be used to check the values of a variable. Use the prompts to make your selection.



Weblinks: Flowol guide <http://www.flowol.com/Flowol4.aspx>

Algorithm:

A set of step-by-step instructions which, when followed, solve a problem.

Output:

Information that comes out of a computer.

Input:

Information that is put into a computer.

Decomposition:

The process of breaking down into smaller parts.

Variable:

A value that can be changed.

Iteration:

To repeat an instruction or set of instructions. (A loop in flowchart)

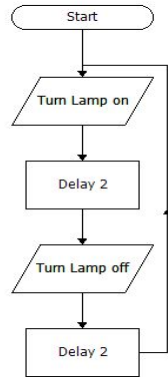
Sequence:

An order that instructions should be given in

Selection:

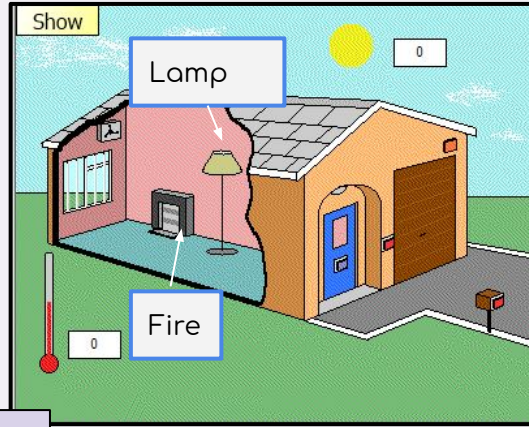
An action taken dependent on the answer to a question

A simple algorithm with iteration

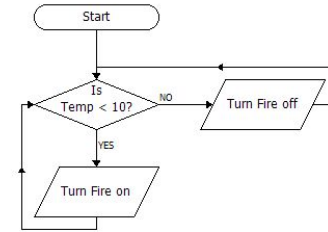


Example of sequence

Autohome mimic

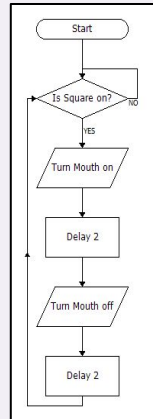
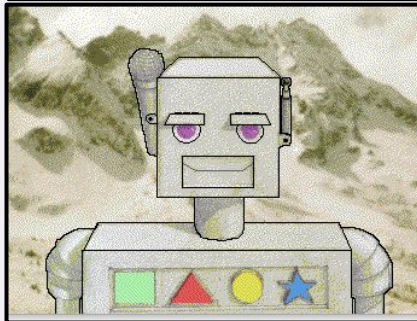


An algorithm using a variable input and iteration



Example of selection

Robot mimic



An algorithm using an output to control the mouth of the robot:

- The algorithm asks if the red button is on
- If it is not on nothing will happen
- If it is on the robot's mouth will open for 2 seconds and then close for 2 seconds
- Because a loop (iteration) has been used the robot's mouth will keep opening and closing until the red button has been turned off.

The four main areas in this project are:



Developing Ideas



Refining Materials



Recording Ideas



Presenting Responses

You will develop skills in:

Artist Research and Response

Developing original ideas

Observational drawing skills

Visual Elements and Composition

JIM DINE

An artist who focuses on making objects look interesting.



Artist Research

<https://www.steeven-salvat.com/>

Steeven Salvat

An artist who combines animals and mechanical forms.

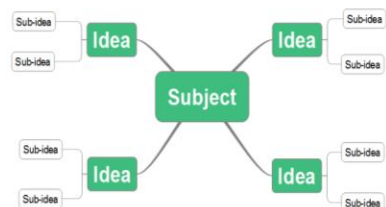


<https://wornandwound.com/mechanical-biological-steeven-salvat/>



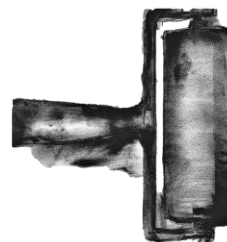
Mind Mapping

Artists and Designers often start with a mind map of ideas when they begin a project as this helps them to plan for where the creative journey will take them.



STEAMPUNK

"A retro-futuristic subgenre of science fiction or science fantasy that incorporates technology and aesthetic designs inspired by 19th-century industrial steam-powered machinery."



Media and Materials

Pencil

Watercolour

Collage

Fineliner

Pen

Oil Pastel

Monoprint

Polyprint

Mixed media

Coloured Pencil

Graphite

Digital

Primary Sources

Photos that you take yourself to inspire your art work.

Secondary Sources

Photos that you use to inspire your artwork but they are taken by someone else. E.g. internet / magazines / newspapers



Observational Drawing Tips:

- ✓ Draw from life where you can.
- ✓ Draw what you see, not what you think you see!
- ✓ Begin drawing the form lightly in pencil
- ✓ Use a soft sketchy line to get accurate shapes



The components that make up a piece of art.

Visual Elements

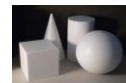
LINE



SHAPE



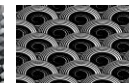
TOPE



FORM



TEXTURE



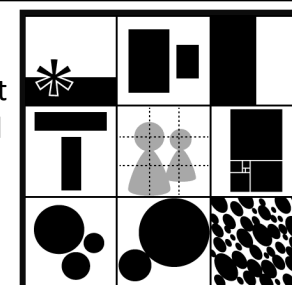
PATTERN



COLOUR

Composition:

The arrangement of the visual elements in a piece of art.



KEYWORDS

Idea
Develop
Refine
Research
Create
Background
Foreground
Light
Dark
Detail
Proportion
Outline
Material
Original
Analysis
Evaluate
Express
Response
Inspire
Composition
Technique
Meaning
Style
Abstract
Realistic
Record

