

Thomas Estley Community College

Year 9 Spring Term

Knowledge Organiser



What are Knowledge Organisers?

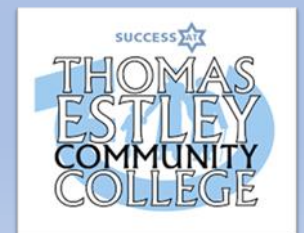
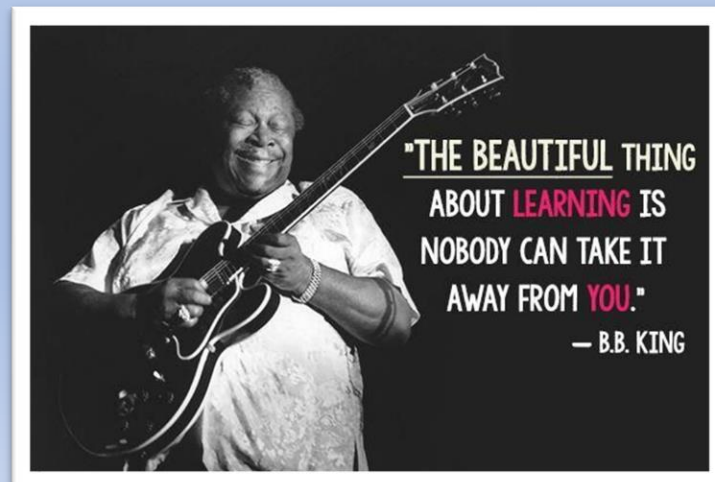
A knowledge organiser is an easy way that each subject can summarise the most important information. Each subject section will include key terms, short explanations, glossary words, diagrams etc making it clear to the student as to what is essential to learn. Each grid has an overall theme and these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

Flowol Knowledge Organiser

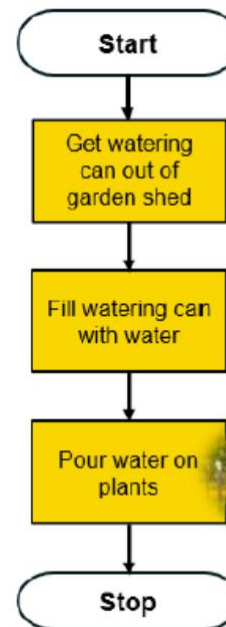
<u>Control System</u>	A control system is a system where we want to control the output of devices. We can do this in a variety of different ways including the use of sensors. Your fridge is an example of a control system. The thermostat (sensor) in the fridge ensures that it stays cold according to the desired temperature.
<u>Flowol</u>	Flowol is a software app that allows students to learn how to control devices by creating flowcharts.
<u>Sequence</u>	A sequence is a set of instructions or tasks provided in the correct order. This can be very important, especially for instructions telling someone how to cross the road!
<u>Process</u>	A process is another name for a set of tasks or steps to be carried out in the correct sequence. A process will normally have some impact or effect on something else, like switching off a device or switching it on again.
<u>Decision</u>	When you ask a question and the answer is either YES or NO, then you are making a decision about which path to follow in a flowchart.
<u>Input and Output</u>	Control systems may require information to come into the system (a reading from a sensor for example) or to go out (to start a machine for example).
<u>Subroutine</u>	A subroutine is a smaller process used by a larger process. When the smaller process has finished, the larger process that used it continues from where it left off.
<u>Sensor</u>	A sensor is a device that records changes in data. For example, a thermometer detects changes in temperature. A light diode detects changes in how bright the light is outdoors. Data from sensors is used elsewhere in the systems
<u>Actuator</u>	An actuator is a part of a machine that controls another device. An actuator and a sensor may be part of the same machine. For example, a sensor that detects changes in temperature might trigger an actuator to open a window if the temperature becomes too hot, and to close the window if the sensor detects that the temperature is too cold.
<u>Variable</u>	A variable is a name given to data in your flowchart that you may want to change. You can use maths operators on variables: add (+), subtract (-), multiply (x), divide (/) to change data.

Useful Links:

<http://www.flowol.com/flowol4/Flowol4Tutorial.pdf>
https://www.youtube.com/channel/UC_S7OSFhPSYKWV7hOMB

Key Learning to take place:

- To understand and be able to use flowchart symbols, and to use them to describe control systems.
- To be able to create flowchart solutions for simple control systems.
- To understand and apply sequence (instructions in the correct order).
- To understand and be able to use flowchart symbols: start, stop, process, input/output and decision.
- To understand how a control system might fail & the impact on safety.
- To be able create flowcharts that operate in sequence.
- To understand the role of a sensor and an actuator in control systems, and to create flowcharts that use these.
- To be able to create flowcharts with more than one sensor.
- To understand and be able to use subroutines (subprograms) in control system flowcharts.
- To understand the use of variables in control systems.
- To combine your learning to automate an imaginary house with control systems and flowcharts.



Using variables in Flowol

- A variable can be initialised with a starting value
- The value of a variable can be increased or decreased in a computer program
- The value of a variable can be checked in a computer program and used to make decisions



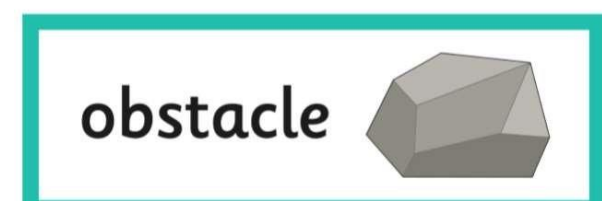
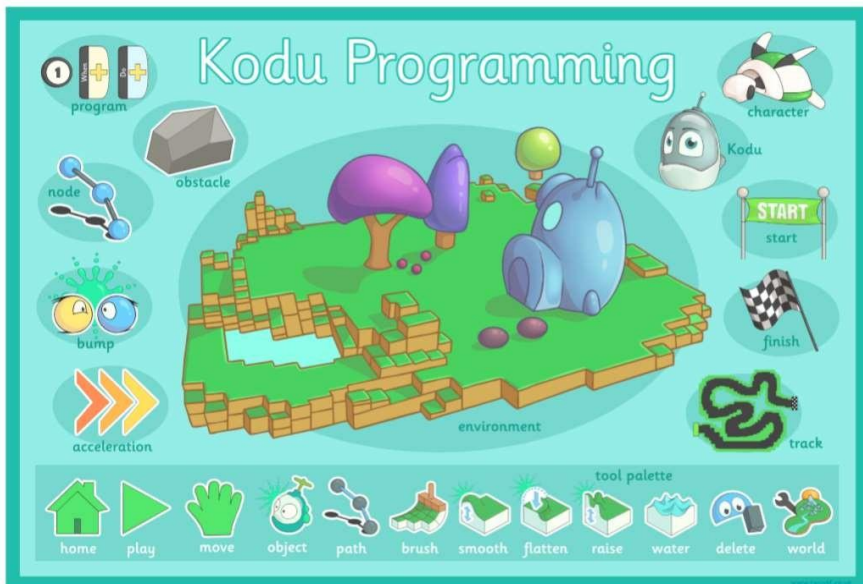
A variable is a name given to data that you can change while your flow chart is processing. They allow us to change data.

E,g, To count or make numbers smaller or larger

Year 9 Introduction to Computers Knowledge Organiser

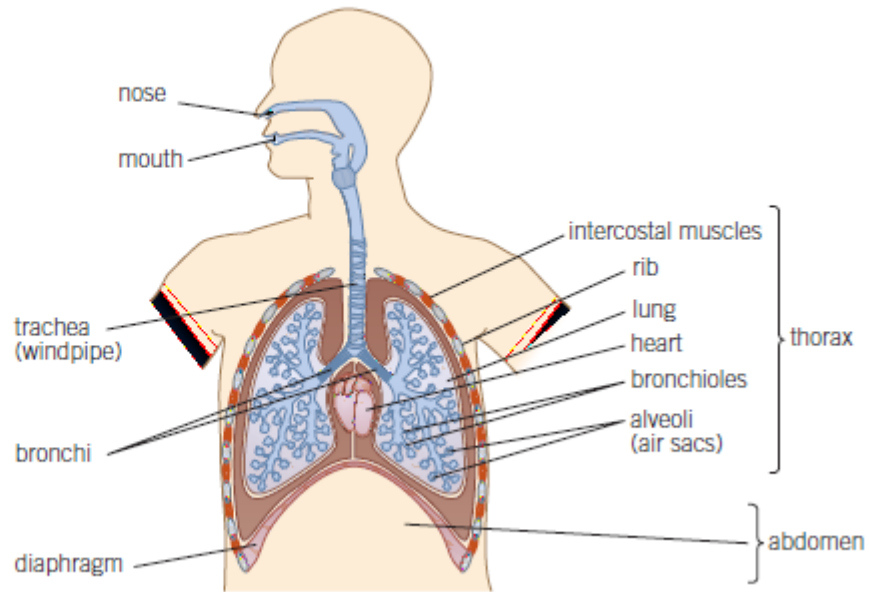
	Definition
Acceleration	Increase in speed or rate.
Environment	The surroundings or conditions in which a person, animal, or plant lives or operates.
Object	A material thing that can be seen touched.
Obstacle	A thing that blocks one's way or prevents or hinders progress.
Settings	A set of controls that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



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

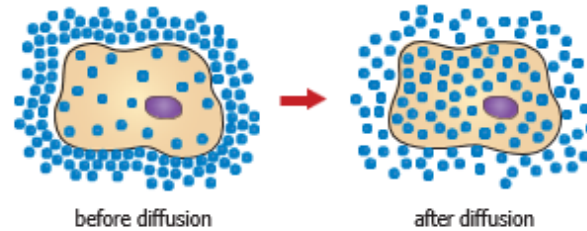


What happens when you breathe in and out

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 decrease • 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 • Progress • Success

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

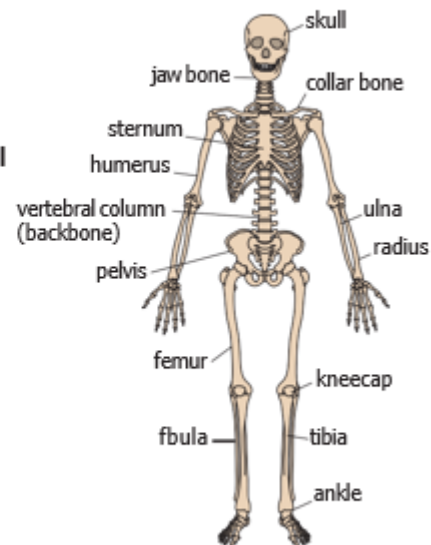
$$\text{glucose} \rightarrow \text{ethanol} + \text{carbon dioxide}$$
- This process can be used to form alcohol to drink or to allow bread and cakes to rise

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



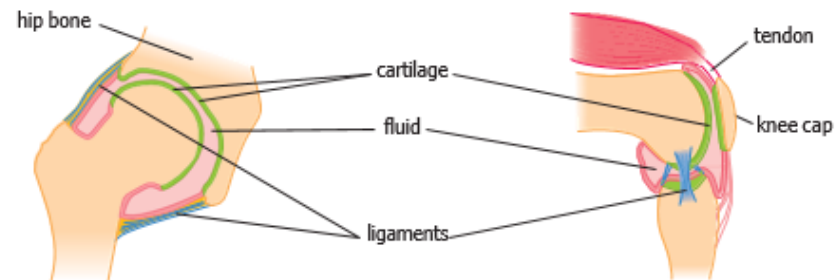
Movement

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

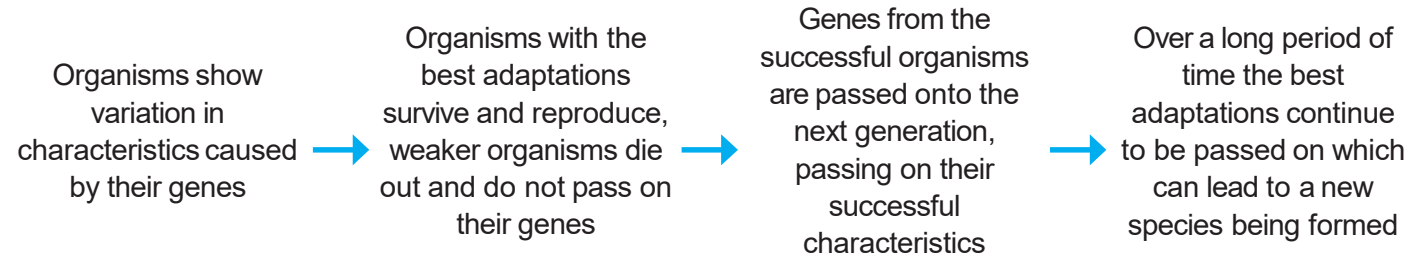


B5

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

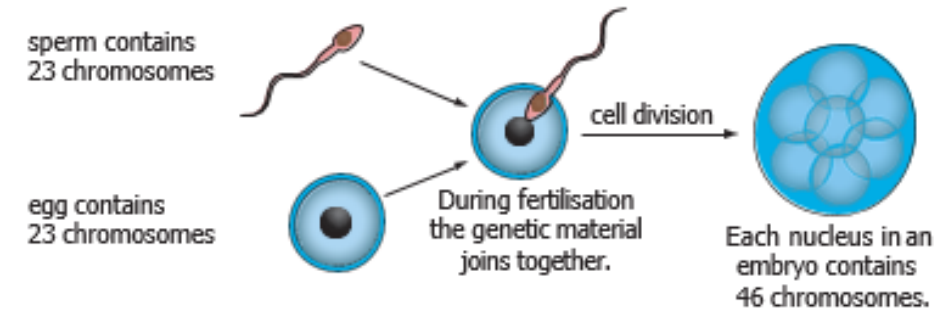
		Possible alleles from father	
		B (dominant allele for brown eyes)	b (recessive allele for blue eyes)
Possible alleles from mother	b (recessive allele for blue eyes)	Bb Offspring will have brown eyes as B is dominant	bb Offspring will have blue eyes as both alleles are recessive
	b (recessive allele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

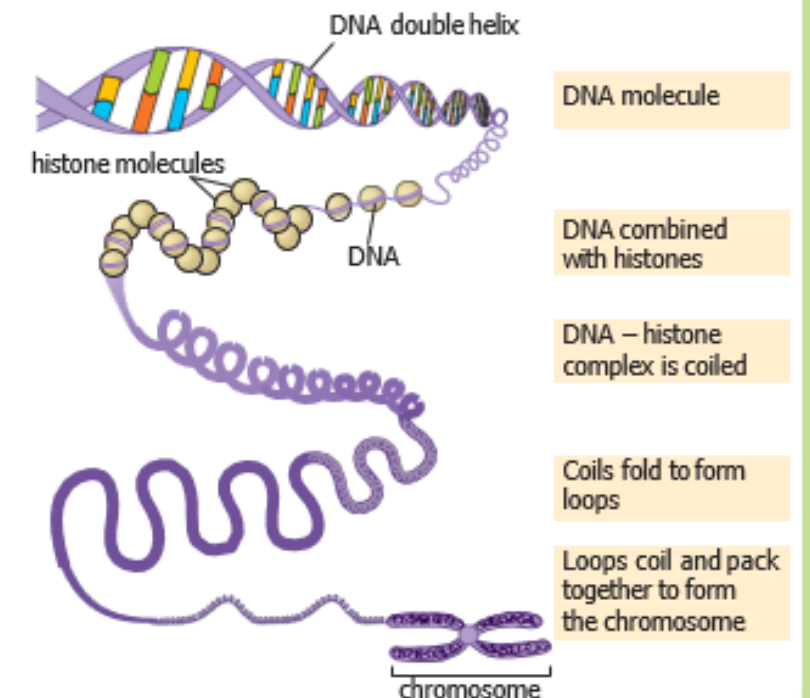


- DNA** is the material which contains all of this genetic information

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

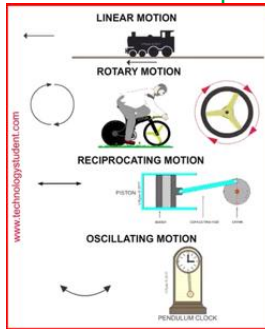
MDF is made from small timber fibres that are mixed with wax and **resin**. They are heated and **compressed** so that a flat, usable sheet is produced.



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

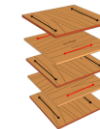
Examples of using PPE:

- 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 spray painting or *routing* wood



Reinforced materials and methods include

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



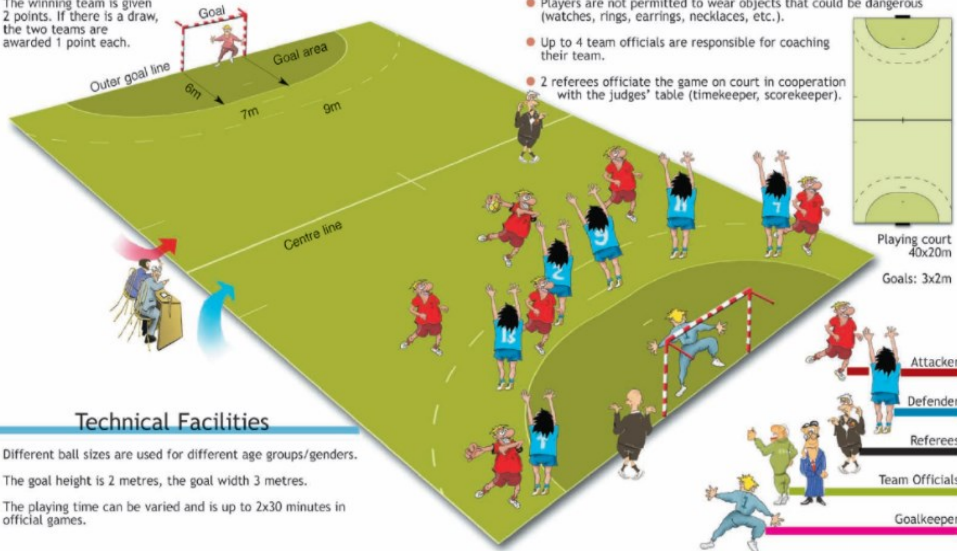
Year 9 Knowledge Organiser

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

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.



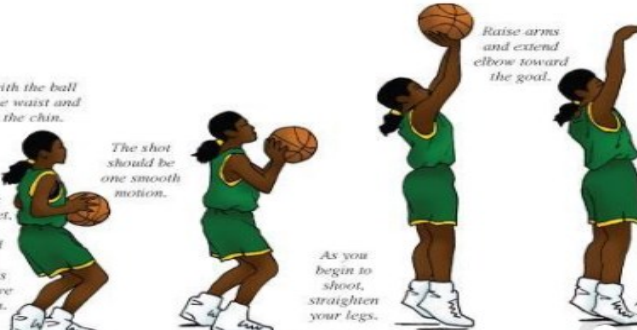
BASKETBALL

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.



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.

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

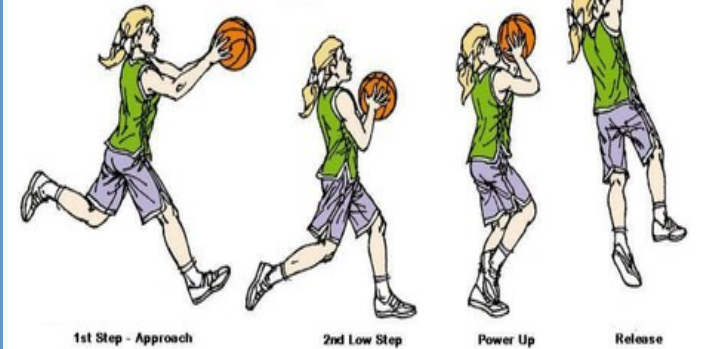
The dribble is used in a game to move the ball up court at speed when there is no option to pass.

Right Hand Lay-up

Plant opposite foot to shooting hand

Drive up same knee as shooting hand

Extend arm, aim for closest top corner of box



HELPING HINT: Imagine the backboard is a thin piece of glass that you do NOT want to smash with the ball.

Darts

A dart, or sewing dart, is a pleated portion of fabric that lends a natural, three-dimensional shape to a flat design when sewn into fitted garments.



ANTHROPOMETRICS VERSUS ERGONOMICS

ANTHROPOMETRICS

Anthropometrics is the study of the human body and its movement, especially in terms of its measurements

Involves the systematic measurement of the physical properties of the human body (height, weight, shape, arm length, etc.)

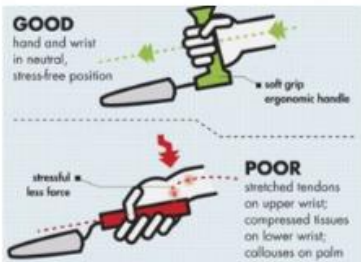
For example, this may involve measuring the circumference of heads of a target population and obtaining an average value

ERGONOMICS

Ergonomics is the scientific discipline that involves designing products and environments to match the individuals who use them

Involves incorporating anthropometric data in designing products and environments

Ergonomics may use this average head circumference value to design safety helmets



Year 9 Knowledge Organiser Design and Technology Textiles

Cotton vs Polyester

THE PROS & CONS

COTTON	POLYESTER	POLY-COTTON
<ul style="list-style-type: none"> Soft & Strong Easy To Dye Breathable Great For Sensitive Skin 	<ul style="list-style-type: none"> Durable Dries Quickly Less Wrinkles Less Fading 	<ul style="list-style-type: none"> No Shrinkage Affordable Keeps Shape & Color

NATURAL vs SYNTHETIC FABRICS

<p>Cotton, wool, silk, and linen.</p> <p>Made from natural elements such as plants and animals.</p> <p>Perform better than their synthetic counterparts.</p>	<p>Nylon, spandex, rayon, and polyester.</p> <p>Do not breathe as well as their natural fabrics.</p> <p>Often blended with cotton.</p>
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SEWING MACHINE SAFETY

TEN PRINCIPLES OF FAIR TRADE

- OPPORTUNITIES FOR DISADVANTAGED PRODUCERS
- TRANSPARENCY & ACCOUNTABILITY
- FAIR TRADE PRACTICES
- FAIR PAYMENT
- NO CHILD LABOUR, NO FORCED LABOUR
- NO DISCRIMINATION, GENDER EQUALITY, FREEDOM OF ASSOCIATION
- GOOD WORKING CONDITIONS
- CAPACITY BUILDING
- PROMOTE FAIR TRADE
- RESPECT FOR THE ENVIRONMENT

WORLD FAIR TRADE ORGANIZATION

Textile & Clothing Industry

By the number

- 2nd Largest polluting industry
- 17-20% Global water polluter
- 20,000 litres of water for 1 kg cotton
- 21 Billion tons of garbage per year
- 10% Global carbon emission

Gore-Tex fabric

Properties:

- Waterproof
- Breathable (allows moisture out)
- Holes on fabric allow sweat out, but not rain in
- Can be combined well with insulation fabric (to keep you warm)

Kevlar fabric

Properties:

- Eight times stronger than steel wire
- Does not melt and can withstand up to 450c
- Can withstand very low temperatures > 96c
- Resistant to many chemicals
- Very lightweight

Nomex fabric

Properties:

- Thickens when heated, offering more protection
- Flexible fabric
- Lightweight
- Flame resistant
- Breathable (allows moisture)
- Durable (hard wearing)
- Abrasion resistant (does not get worn out easily)

Shape memory alloys

Properties:

- If the material is bent or deformed, it returns to its set shape when heated up
- Can come in a variety of thicknesses
- Possibility to blend into fabrics

Thermochromic dyes

Properties:

- Can dye a fabric any colour
- The colour changes when heat or UV light reacts with the fabric
- The colour can change on a scale, depending on temperature or light (for example the colour may go more vibrant as the material is heated up more)

Microfibre fabric

Properties:

- Breathable (let sweat out)
- Durable (does not get worn out easily)
- Crease resistant
- Some variations can hold chemicals such as deodorants, insecticides and perfumes that are released when worn



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

El fin de semana próximo [Next weekend]	voy a [I am going] mi hermana va a [my sister is going]	hacer [to do]	deporte los deberes [sports]
		ir [to go]	a una fiesta [to a party] al centro comercial de compras [to the mall] [shopping]
El sábado próximo [Next Saturday]	mi hermano y yo vamos a [my brother and I are going]	jugar [to play]	al baloncesto [basketball] en mi ordenador [on my computer]
		montar [to ride]	a caballo [a horse] en bici [a bike]
El domingo próximo [Next Sunday]	mis padres van a [my parents are going]	ver [to see]	un concierto un partido de fútbol [a football match] una película [a film]

Será [It will be]	bastante [quite] un poco [a bit] muy	aburrido [boring] divertido [fun] interesante
	No será nada [It won't be ... at all]	

El fin de semana pasado [Last weekend]	yo mi amigo/a y yo [my friend and I]	fui [I went] fuimos [we went]	a la casa de mi amigo al estadio
		hice [I did] hicimos [we did]	deporte mis deberes
El viernes pasado [Last Friday]	*nosotros [we – masc /mixed]	jugué [I played] jugamos [we played]	a los videojuegos en mi ordenador
		monté [I rode] montamos [we rode]	a caballo en bici
El domingo pasado [Last Sunday]	nosotras [we – fem]	vi [I saw] vimos [we saw]	un partido de fútbol una película

Fue [It was]	bastante un poco muy	agotador [exhausting] apasionante [exciting] guay [cool]
	No fue nada [It was not ... at all]	

*Author's note: *nosotros* is the personal pronoun for "we". You use it when talking about a male or mixed gender group (regardless of the ratio of girls and boys). *Nosotras* is "we" for an all girl group.

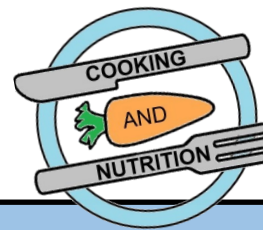


¿Qué te gusta estudiar?

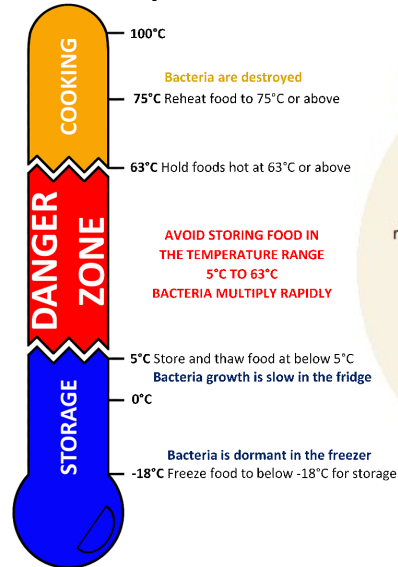
(what do you like to study?)

<p>Me encanta I love</p> <p>Me gusta I like</p> <p>No me gusta I don't like</p> <p>Odio I hate</p> <p>Prefiero I prefer</p>	el dibujo	art	<p>porque es because <i>it's</i></p> <p>dado que es because <i>it's</i></p>		
	el español	Spanish		aburrido/a	boring
	el inglés	English		divertido/a	fun
	el teatro	drama		práctico/a	practical
	la educación física	pe		fácil	easy
	la geografía	geography		difícil	difficult
	la historia	history		útil	useful
	la informática	IT		interesante	interesting
	la música	music		importante	important
	la tecnología	technology			
<p>Me encantan Me gustan</p> <p>No me gustan</p> <p>Odio</p> <p>Prefiero</p>	las ciencias	sciences	porque son because <i>they are</i>	aburridas/divertidas	boring / fun
	las matemáticas	maths	dado que son because <i>they are</i>	faciles/dificiles	easy / difficult
				interesantes	interesting

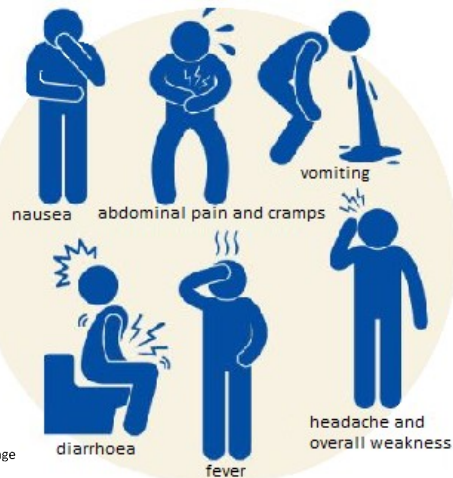
Year 9 - Lifestyle & Choice



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=PLcvEcrsF_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=7MIE4G8ntts>
<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.

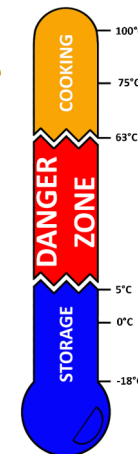
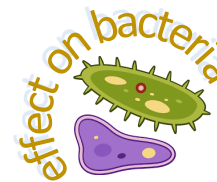
Organise my workspace, remove food waste promptly, clean as I go.

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

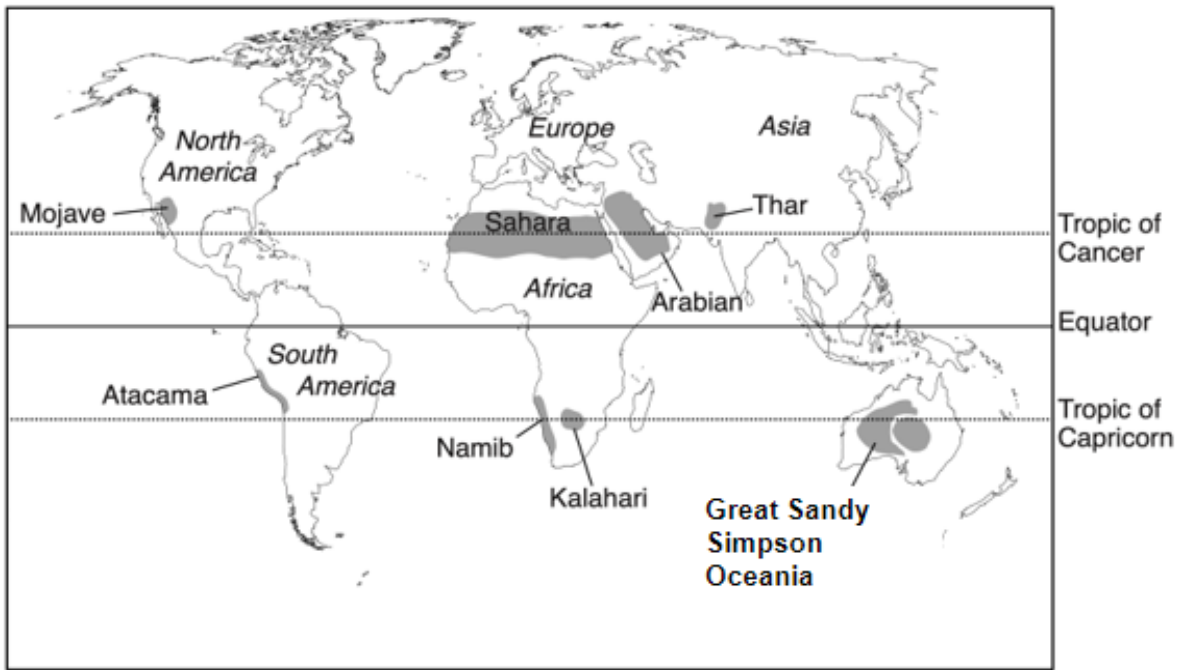
Check for readiness using a food thermometer to check the internal temperature.

Food safety

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



Hot Deserts



Hot deserts are found between 20-30° N and S of the equator, where the air is dry.

What is the soil like in a desert?

It is usually shallow with a coarse, gravelly texture. There's hardly any leaf fall so the soil isn't very fertile. Lack of rainfall and plant material mean the soil is often dry

Hot deserts cover about 1/3 of the Earth's land area. They have extreme temperatures, daytimes reach 45-50° C and as low as 0° C at night. There is less than 250mm precipitation a year and deserts are described as 'arid' meaning dry. Some deserts, like The Atacama have gone years without any rain.

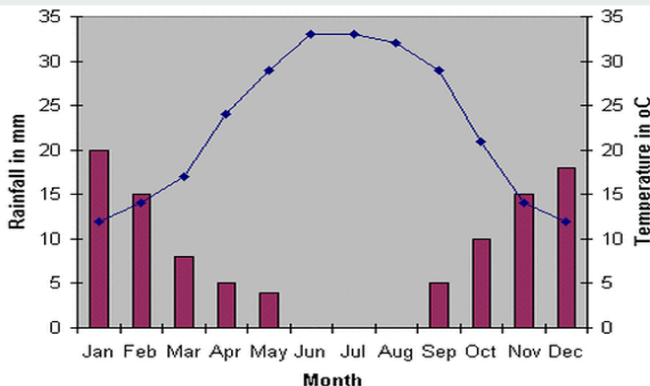
Key revision:

<https://bitly.ws/35F85>

How have camels adapted?

- long eye lashes, hairy ears and closing nostrils help to keep out sand
- thick eyebrows which stand out and shade eyes from the sun
- wide feet so they don't sink in the sand
- they can go without water for over a week because they can drink gallons in one go
- they can go months without food - they store fat in their humps
- body temperature can change to avoid losing water through sweating
- they are well camouflaged
- thick fur helps to keep them warm at night

This climate graph shows the climate of the Sahara. Note that rainfall does occur in the desert during some months of the year. Temperatures may seem low due to the fact they get very low at night time. This is due to a lack of cloud cover to trap any heat that has built up during the day.



Desertification is when land turns into desert due to climate change and human activities. This is a huge problem in Africa as lots of farmers rely upon the land to make living. It is a particular problem in the Sahel region (sub Saharan).



Causes of Desertification

Deforestation:

1. Trees are chopped down for fire wood.
2. The soil is looser as there are no roots and is dried out by the sun
3. The land turns into desert.

Over Grazing:

1. More cattle are allowed to graze on the land
 2. This leaves the ground bare.
 3. The sun and wind dry out the land and it turns to sand.
- Climate Change has led to hotter, drier climates in areas of Africa. This means a reduced amount of vegetation can establish, stabilise soil and trap moisture.

Year 9 CRE – 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.

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

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

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

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

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



UNIT 6: Talking about my daily routine & activities

<p>Pendant la semaine <i>[During the week]</i></p> <p>Avant le collège <i>[Before school]</i></p> <p>Le matin <i>[In the morning]</i></p> <p>L'après-midi <i>[In the afternoon]</i></p> <p>Le soir <i>[in the evening]</i></p>		<p>je me couche <i>[I go to bed]</i></p> <p>je me douche <i>[I shower]</i></p> <p>je me brosse les dents <i>[I brush my teeth]</i></p> <p>je me lève <i>[I get up]</i></p> <p>je me peigne <i>[I do my hair]</i></p> <p>je me repose <i>[I relax]</i></p> <p>je m'habille <i>[I get dressed]</i></p>	<p>à</p>	<p>une heure</p>		
		<p>je prends le petit-déjeuner <i>[I have breakfast]</i></p> <p>je déjeune <i>[I have lunch]</i></p> <p>je dîne <i>[I have dinner]</i></p> <p>je fais mes devoirs <i>[I do my homework]</i></p> <p>je mange des céréales</p> <p>je joue aux jeux vidéo <i>[I play video games]</i></p> <p>je lis un livre <i>[I read a book]</i></p> <p>je prépare mon sac <i>[I prepare my bag]</i></p> <p>je sors de chez moi <i>[I leave my house]</i></p> <p>je mets mon uniforme <i>[I put on my uniform]</i></p> <p>je vais au collège <i>[I go to school]</i></p> <p>je regarde la télé <i>[I watch the TV]</i></p> <p>je vais sur internet <i>[I go on the internet]</i></p> <p>je rentre à la maison <i>[I return home]</i></p>		<p>deux</p> <p>trois</p> <p>quatre</p> <p>cinq</p> <p>six</p> <p>sept</p> <p>huit</p> <p>neuf</p> <p>dix</p> <p>onze</p>	<p>heures</p>	<p>et quart <i>[quarter past]</i></p> <p>et demie <i>[half past]</i></p> <p>moins le quart <i>[quarter to]</i></p>
			<p>à</p>	<p>midi <i>[midday]</i></p> <p>minuit <i>[midnight]</i></p>		
<p>mais <i>[but]</i></p> <p>cependant <i>[however]</i></p>	<p>aujourd'hui <i>[today]</i></p>	<p>je (ne) peux (pas) <i>[I can -not-]</i></p> <p>je (ne) veux (pas) <i>[I -don't- want to]</i></p> <p>je (ne) dois (pas) <i>[I -don't- have to]</i></p> <p>je (ne) vais (pas) <i>[I am -not- going to]</i></p>		<p>aider à la maison <i>[help at home]</i></p> <p>aller au collège <i>[go to school]</i></p> <p>faire les tâches ménagères <i>[do the chores]</i></p> <p>faire mes devoirs <i>[do my homework]</i></p> <p>faire mon lit <i>[make my bed]</i></p> <p>me lever tôt <i>[get up early]</i></p> <p>sortir avec mes amis</p>		



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>]		
			deux trois quatre cinq	heures	de l'après-midi [<i>in the afternoon</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>]				

Dans mon collègue [<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>]



History Year 9 Spring Term 1 'Knowledge Organiser: The Holocaust.



Nazi beliefs about race:

The Nazis believed in a hierarchy of races. Hitler and the Nazi's believed that the Aryan Race was superior and destined to control. They believed that other ethnicities were inferior, in particular Jews. Nazis believed that inferior races were meant to either be ruled or destroyed by the "master race". Nazi persecution of Jews started when Hitler took power in January 1933. As the Second World War started, the Nazis became more aggressive with their policies, with forced deportations to ghettos. As they expanded eastwards, the Nazis started to encounter more Jews and started to murder thousands. After the Wannsee conference, the Final Solution began, which ended in 1945 after over 6 million Jews and other minorities were murdered.

Key terms

Anti-Semitism	The persecution of the Jewish people, dating to before the Middle Ages for religious reasons.
Final Solution	The industrial style plan initiated by the Nazis in early 1942 to end the Jewish presence in Europe.
Holocaust	The term used to describe the murder of over 6 million Jews during WW2 – 'death by fire'.

Key people.

Adolf Eichmann	SS officer who organised the transportation of Jew to the death camps.
Reinhard Heydrich	2 nd in command in the SS. Key figure in the Final Solution.
Rudolf Hoess	SS Commandant of Auschwitz Death Camp (1942 – 5)
Oskar Schindler	German industrialist and Nazi Party member who went on to save the lives of 1,200 Jews.

Timeline:

1933 - 1939	Within Germany the steady process of identifying and discriminating against Jews to isolate them within German society.
1939	Germany invade Poland, Britain declares war.
1940	First Ghettos are built in Polish cities – Krakow, Lodz, Warsaw.
1941	Operation Barbarossa – with the use of 4 Einsatzgruppen Forces.
1942	Wannsee Conference. Auschwitz-Birkenau is developed into the largest death camp.
1943	Warsaw Ghetto Uprising
1944	Treblinka was dismantled as the Soviet's advance.
1945	Liberation of camps begins with Auschwitz 27 th January.

Key Words.

Aryan Race	Stereotypical German with blonde hair and blue eyes, seen as racially superior.
Auschwitz	Largest death camp used by Nazis, based in Southern Poland. Over 1 million Jews and other minorities were murdered there.
Death camps	Built in Poland during WW2 to murder European Jews.
Einsatzgruppen	Mobile death squad of the SS that followed the German army rounding up and murdering Jews and communists.
Genocide	When one ethnic group are indiscriminately persecuted and killed.
Ghetto	Walled off part of a city where Jews were forced to live, separated from the rest of the city and in appalling living conditions.
Kapo's	Other prisoners (crimes of murder and theft) in the camps who were given special privileges by the SS guards, usually to oversee/persecute Jews.
Operation Barbarossa.	German invasion of the Soviet Union which began in June.
Persecute	To taunt, discriminate against or attack another group.
Selection	Jews were selected for work or death on arrival and periodically within the camp.
Sonderkommando	Units of Jewish prisoners forced to dispose of the bodies from the gas chambers and to use the crematoria
SS	Hitler's personal protectors and the administrators of the camps.
Wannsee Conference	Meeting of senior Nazi officials who agreed the terms of the Final Solution of the so called 'Jewish problem'.
Zyklon-B gas	Industrial pesticide used to suffocate the Jews at Auschwitz.



Map of Nazi Death Camps.

Concept: Cause and Effect.

History Year 9 Autumn term 2 'Knowledge Organiser': Hitler – the Party and the State 1918 - 1939.



Summary:

Hitler set up the Nazi Party in 1920 and set about trying to take power firstly by force and then through the elections. From 1933 he began to create a legal dictatorship by using propaganda, censorship and the German political system. For the German people, some were ok whilst others suffered.

Key terms

Gleichschaltung	Control of all art and culture so that it fitted with Nazi ideals.
The Wall Street Crash	Major international economic depression which began in Wall Street. Led to the near collapse of Germany and encouraged a lot of people to support Hitler.
Fuhrer	Hitler's title after he became President as well as Chancellor.
volkgemeinschaft	The 'People's Community.' Nazi view of society.

Timeline:

1920	Hitler sets up the Nazi party
1923	Munich Beerhall Putsch – Hitler's attempt to seize power.
1925	Mein Kampf is published
1929	Wall Street Crash.
1933 (Jan)	Hitler appointed Chancellor
1933 (Feb)	Reichstag Fire – Communists blamed by the Nazi Party
1933 (Mar)	Enabling Act passed.
1933 (April)	Boycott of Jewish Shops.
1933 (May)	Trade Unions banned
1933 (July)	Nazi Party the only legal Party in Germany
1934 (June)	Night of the Long Knives
1934 (Aug)	Hindenburg dies. Hitler becomes President.
1935	Nuremburg Laws passed
1936	Hitler Youth membership compulsory
1936	Olympic games in Berlin.
1938	German children not allowed in German schools Krystallnacht.
1939	Euthanasia begins. Designated Jewish camps built.

Key words

Anti-Semitism	Hatred of the Jewish people.
Aryan	Pure German Blood
Autobahn	Motorway
Autarky	Self-sufficiency
DAF	German Labour Front – a state trade union.
Edelweiss Pirates	Youth groups opposed to the Hitler Youth.
Enabling Act	Gave the Nazi Party full power for 4 years – rule without the Reichstag.
Euthanasia	In Nazi Germany, the killing of the physically and mentally handicapped.
Fuhrerprinzip	Belief in one person's rule of the Party and State
Gestapo	Secret police, headed by Himmler.
Kinder, Kirche and Kirche	Children, Kitchen, Church. The Nazi idea of the role of women.
KPD	German Communist Party
Krystallnacht	The night of broken glass.
Mein Kampf	'My Struggle', Hitler's autobiography.
Motherhood Cross	Award given to mothers on the birth of children.
NSDAP	National Socialist German Workers Party
Night of the Long Knives	Carried out at Hitler's orders to control opposition within the Party and outside with the SA.
Nuremburg Laws	Gave a legal definition for a Jew for the first time. Denied all Jews of the right to be a German citizen.
Putsch	Attempt to seize power illegally.
Rearmament	Building up of weapons to prepare for war.
Reich Labour Service	RAD. Scheme to provide manual labour for unemployed men under 25.
Reichstag	German Parliament
SA (Sturmabteilung)	Nazi Party unofficial private army. Also known as the brown shirts.
SS (Schutzstaffel)	Hitler's bodyguards, headed by Himmler.
Strength through Joy	Nazi Government attempt to provide leisure opportunities for workers'.
Swastika	Emblem of the Nazi Party
Volk	German People

Key people

Goebbels	Minister of Propaganda
Goering	Minister of the Economy.
Himmler	In control of the SS and Gestapo
Hindenburg	President of the Republic 1925 – 1934. Appointed Hitler as Chancellor in 1933.

Lesson title	Key idea
The world's issues	Global inequality exists, which influences life chances.
Industry impact on climate	When a country develops economically, this compromises the environment.
Bangladesh factory collapse	Exploitation of garment workers leads to tragedy, but could the government be responsible?
Impact of TNCs	How transnational companies exploit developing countries.
Nike	Case study examining Nike's unfair treatment of staff and how the company kept profits in USA.
Problem with plastic	Global plastic pollution, causes and impacts. How some countries are tackling the problem.
Protecting wildlife	Identifying vulnerable species and human impact of wildlife.
Water insecurity	Water as a resource and the issues caused by restricted access.
What causes inequality	Case study of South Africa, the world's biggest equality gap.
Conflict	How global and local conflicts influence life chances.
Fair trade	Paying farmers a fair price for their goods and the positive impact this can have on rural communities, worldwide.



17 Sustainable Development Goals are in place to improve equality, lower poverty and give people better life chances, globally. They were decided in 2015. The main objective is a sustainable future, this is achieved when social progress, economic development and environmental protection.

Sustainable development = the way that we make the world a better place now, without destroying the possibilities for the future generations.

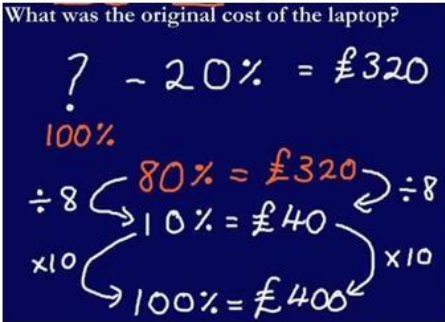
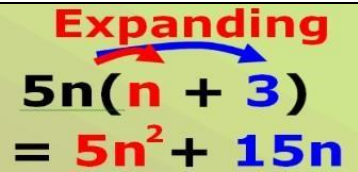
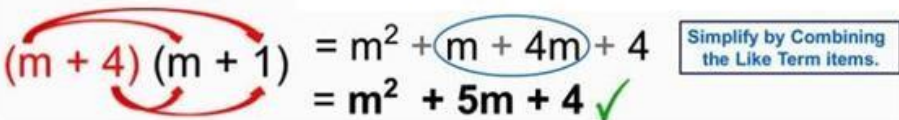
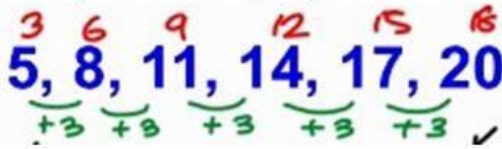
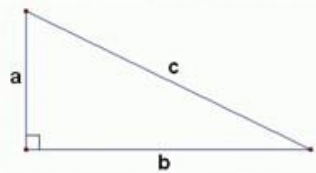
Key revision:
<https://bitly.ws/35EVy>


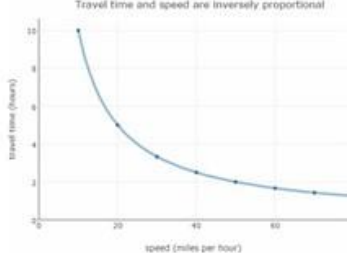
How do each of the SDGs have social, economic, environmental impacts?

Stretch yourself to consider political impacts.

Remember HIC, NEE & LIC classifications.

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	Sale price is £320 What was the original cost of the laptop? 	96
Expanding a single bracket		160 – 161
Expanding double brackets	Expanding – multiplying out the brackets. 	162 - 165
Linear sequences (n th term) & Special Sequences	Square: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, ... Cube: 1, 8, 27, 64, 125, ... Triangular: 1, 3, 6, 10, 15, 21, 28, 36, 45, ... n th term: General rule for a sequence. Find the difference between each term, then how do you get from that times table to the sequence: (e.g. $3n + 2$) 	196 – 198
Pythagoras' Theorem	 <p style="text-align: right;">c = hypotenuse</p> $a^2 + b^2 = c^2$ $c^2 - b^2 = a^2$ $c^2 - a^2 = b^2$ <p style="text-align: center;">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; margin: 5px;">$a^{-c} = \frac{1}{a^c}$</div> <div style="border: 1px solid black; padding: 5px; margin: 5px;">$\left(\frac{1}{a}\right)^{-c} = a^c$</div> <div style="border: 1px solid black; padding: 5px; margin: 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.

Y9 Art Weird and Wonderful

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.

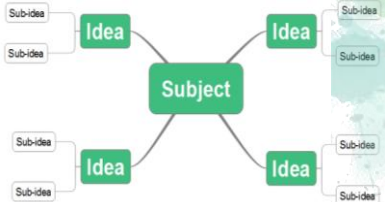




<https://wornandwound.com/mechanical-biological-steeven-salvat/>

- 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

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.






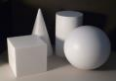



Secondary Sources
 Photos that you use to inspire your artwork but they are taken by someone else. E.g. internet / magazines / newspapers



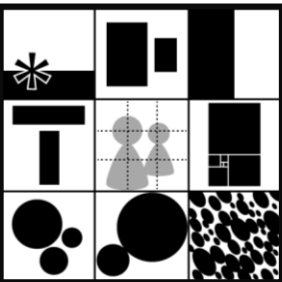
Observational Drawing Tips: 

- ✓ 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

Visual Elements The components that make up a piece of art.

LINE 	SHAPE 	TEXTURE 	PATTERN 	COLOUR 
FORM 	TEXTURE 	PATTERN 	COLOUR 	

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




URBAN

Year 9 Graphics

Brooklyn
Harlem
New York

SHEPARD FAIREY

Activist, Political,
propaganda, posters,
blue and red, graphic
design, mixed media



BANKSY

Stencil, controversial,
anonymous, Flower
Thrower, Girl with Balloon,
spray paint, street art



DASHONE

Mixed media,
monochromatic, bright
colours, neon, celebrities,
hip hop



Artist research
Artist analysis
Artist copy
Artist response

Primary
Secondary
Harmonious
Contrasting
Monochromatic

Cutting mat



Make sure it is always
under your laminate
when cutting

Metal safety rule

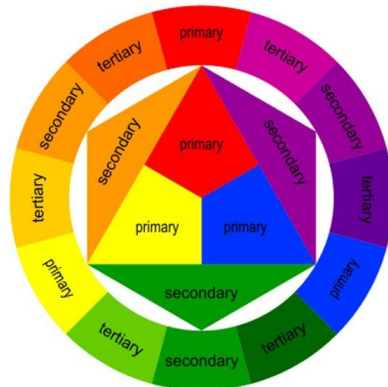


Keep hands away from
the side when cutting.

Craft knife



Keep hands away
from blade. Do not
have open on furthest
setting. Close when
not in use.



TAG:

A tag is the most **basic writing** of an artist's name or nickname.



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

Artist Research:

Title
Images
Information
Artist
copy/response

Stencilling Process:

1. Print and laminate your image
2. Place your laminated image on a cutting mat
3. Carefully cut away the black sections of your stencil
4. Masking tape your stencil onto paper making sure it is flat
5. Use a sponge and poster paint and dab it carefully over your stencil to create your print

Key Words:

Mixed Media
Stencil
TAG
Materials
Sources
Craft knife
Taki 183
Banksy
Shepard Fairey
Dashone
Keith Haring
Grid method
Graphite transfer
Research
Analysis
Composition
Proportion
Printing
Style
Technique
Digital
Manipulation