

Year 9

Booklet 1  
Knowledge  
Organiser  
2022/2023

Independent  
Study

Name & LF:



Cabot  
Learning  
Federation

# How to do your independent study

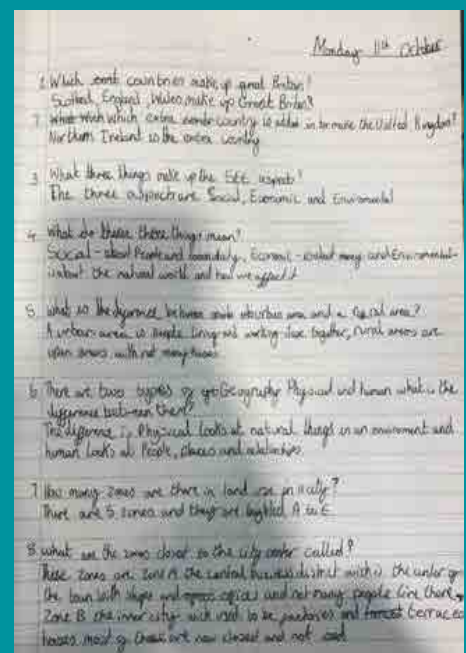
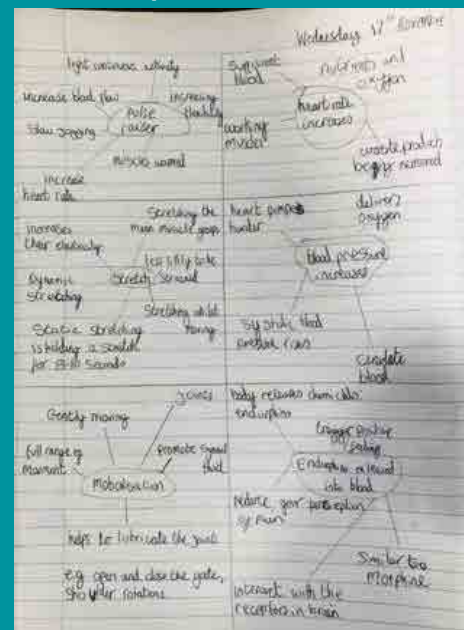
For all subjects except Maths, Knowledge Organisers are used for IS tasks. You will have five pieces of I.S due every week, which will be checked by your teacher of the subject due. You can attend IS club at 3pm in the Art Barn to get your IS done or complete it at home.

1. Check the IS schedule for the week so that you can see which Knowledge Organisers you need to be learning and what the deadline date is.
2. Carefully study the sections of the Knowledge Organiser that you are learning.
3. Write between 10 and 20 self-quizzing questions, a detailed mind-map or flash card style notes using the whole page.
4. Write your IS in your IS book. Put the deadline date at the top of the page, so that you can clearly see when the work will be checked.
5. On the next page there's some guidance on how to revise using your Knowledge Organisers.

## Contents:

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## Examples of Good IS:





# How else can I use my Knowledge Organiser?



The Knowledge Organisers in this booklet will help you learn a wide range of knowledge to prepare you for your lessons as well as the multiple-choice tests at the end of this block of learning.

To get the most out of your Knowledge Organisers, you should be learning sections and then testing yourself. There will be set tasks each week based on the Knowledge Organisers, and there are some optional ideas below that you could try in addition to this if you wish.

## Key vocabulary:

- Highlight key terms for a subject and look up the definitions
- Write a sentence using the key terms you have highlighted
- Practice spellings – cover, write and check to learn the correct spellings of key terms

## Quizzes/questions:

- Write some self-quizzing questions based on the information read
- Test your friends and family on their knowledge of a subject
- Get your parents/carers to ask you some questions
- Create exam style questions and then swap with a friend

## Reflection:

- Before a topic – rank order your confidence and then revisit at the end of the topic, rank again and consider where you have improved
- Add more detail to the Knowledge Organiser after you have been taught that topic
- Traffic light (red, amber, green) each box based on how confident you are

## Revision:

- Create 2-3 flashcards each week based on each box
- Create a mind map showing the key information from the Knowledge Organiser
- Read ahead to develop skills, knowledge and understanding so you feel more confident before lessons

## General use:

- 50 words, 30 words, 10 words – summarise the information on the Knowledge Organiser from 50 words to 30 words to 10 words
- Pictionary – learn the definitions then draw it for your friends/family to guess
- Elevator pitch – summarise the information in a box/whole Knowledge Organiser for a 30 second presentation
- Generation game – like the famous conveyor belt – look at the Knowledge Organiser and then try to remember as many items as possible
- Key term stories – write a short story using 6 key words that are found on the Knowledge Organiser
- Scavenger hunt – read through the Knowledge Organiser with a friend/family member and see who can find specific information/facts first
- Read, cover, check – read the box, write out what you can remember, check what you have missed (then add in purple pen)

“Education is the passport to the future, for tomorrow belongs to those who prepare for it today.”

Malcolm X

“Success is no accident. It is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing or learning to do.”

Pele

“Sticking to good habits can be hard work, and mistakes are part of the process. Don't declare failure simply because you messed up or because you're having trouble reaching your goals. Instead, use your mistakes as opportunities to grow stronger and become better.”

Amy Morin



# Hans Price Maths Department

All Independent Study in the Maths department is set using the following online platforms

The logo for SPARX MATHS, with 'SPARX' in white on a black background and 'MATHS' in blue on a white background.

You need to log in to your SPARX account, where there are 3 types of homework:

- **Compulsory**
  - **XP Boost**
  - **Target**

Every student needs to get **100%** of their compulsory homework completed every week. Students need to write out the bookwork codes of each of the questions in their homework book and complete the bookwork checks online.

XP boost and Target sections are additional resources that the students can complete if they wish. They will support the students to make greater progress in Maths, but do not form part of the compulsory Independent Study.

**If students get stuck on any question, they should watch the associated video to help them complete the task.**

We also subscribe to Times Tables Rock Stars. We encourage students to engage with this program to ensure their foundation of knowledge is solid. We will run College competitions and award prizes to those students with the most coins.



**These homework platforms are designed to consolidate your knowledge, and students at KS3 can expect this to take up to 1 hour per week.**



# KS3 English I.S

Your task each week is to prove you understand the meaning of the 5 words. It is important that when you read a text in front of you, you are able to pick up the language when reading through the text.

Each week you can complete your I.S in two different ways:

## Option 1:

Create two different sentences showing your understanding of the word. E.G.: hierarchy:

1. Hierarchy is shown in A View From the Bridge through the character of Eddie.
2. In Romeo and Juliet, women were lower than men in hierarchy.

N.B.: You can change the tense of your word to suit your sentences - you just need to make sure you are spelling it correctly and using the correct context. For example: absolve - absolving - absolved.

## Option 2:

Create flashcards which display the words and their definitions written in your own words.



<b>Due Date</b>	<b>Word</b>	<b>Definition</b>
Week 1	Determination	A firm intent to complete something.
	Casket	A small ornamental box or chest holding objects or jewels.
	Vulnerable	A state of feeling emotional or possibility of being attacked or harmed.
	Discrimination	An unjust treatment of different categories of people, especially on the grounds of race, age, sex or disability.
	Prejudice	An unfair or unreasonable opinion or feeling formed without enough thought or knowledge.
Week 2	Characteristics	A feature or quality belonging to a person, place or thing.
	Victim	A person harmed, injured or killed as a result of a crime or accident.
	Villain	A character whose evil actions or motives are important in a story.
	Imperialism	Extending power and influence over another country/territory.
	Wealth	A quantity of valuable possessions or money.
Week 3	Symbolism	When a thing or image represents an idea or concept.
	Motif	A literary technique that consists of a repeated element that recurs throughout the text.
	Antisemitism	Hate or hostility towards Jewish people.
	Feminism	The advocacy of women's rights on the ground of equality of gender.
	Verb	A word or phrase that describes an action, condition or experience.

Week 4	Dramatic Irony	When the audience knows something before the characters do.
	Antagonist	A person who opposes or is hostile to someone.
	Soliloquy	Speaking one's thoughts aloud when by oneself.
	Monologue	A speech by one person.
	Abandon	To leave a place, thing or person.
Week 5	Advocate	To publicly support or suggest an idea, development or way of doing something.
	Anticipate	To imagine or expect that something will happen.
	Stereotype	A widely held but fixed image or idea of a particular type of person or thing.
	Mercy	Compassion or forgiveness shown towards someone.
	Forgiveness	The action of forgiving or being forgiven.
Week 6	Usury	Interest above 10% you pay on a loan.
	Femininity	Qualities or characteristics of women.
	Materialism	Considering material possessions are the most important thing in life.
	Judaism	The religion of Jewish people.
	Christianity	A religion based on the teachings of Jesus Christ.



<b>Due Date</b>	<b>Word</b>	<b>Definition</b>
Week 7	<p>Attain</p> <p>Clarify</p> <p>Compatible</p> <p>Contradict</p> <p>Jacobean</p>	<p>To reach or succeed in getting something.</p> <p>To make something clear or easier to understand by giving details.</p> <p>To exist, live or work successfully with something or someone else.</p> <p>To say the opposite of what someone else has said.</p> <p>Relating to the period from 1603-1625 when James I was king of England.</p>
Week 8	<p>Empathy</p> <p>Resolution</p> <p>Deviate</p> <p>Duration</p> <p>Accent</p>	<p>The ability to share someone else's feelings.</p> <p>The act of solving or ending a problem by coming to a decision.</p> <p>To go in a different direction.</p> <p>The length of time that something lasts.</p> <p>The way in which people in a particular area, country or social group pronounce words.</p>
Week 9	<p>Eliminate</p> <p>Immigration</p> <p>Belonging</p> <p>Climax</p> <p>Omerta</p>	<p>To remove or take away someone or something.</p> <p>The act of someone coming to live in a different country.</p> <p>A feeling of being happy or comfortable as part of a group.</p> <p>The highest or most intense point in a narrative.</p> <p>The mafia code of silence.</p>

Week 10	<p>Tragedy</p> <p>Masculinity</p> <p>Homosexuality</p> <p>Xenophobia</p> <p>Dominance</p>	<p>A very sad event or situation, especially one involving death or suffering.</p> <p>The characteristics that are traditionally thought to be typical of or suitable for men.</p> <p>The act of being sexually attracted to people of the same sex.</p> <p>Extreme dislike or fear of foreigners, their customs, as well as their religions.</p> <p>The action of taking control of other people in a forceful way.</p>
Week 11	<p>Patriarchy</p> <p>Betrayal</p> <p>Obsession</p> <p>Submissive</p> <p>Society</p>	<p>The control by men, rather than women for power and authority in society.</p> <p>An act of not being loyal to other people.</p> <p>Something or someone that you think about all the time.</p> <p>Allowing yourself to be controlled by another.</p> <p>An organised group of people that share the same values and interests.</p>
Week 12	<p>Inevitable</p> <p>Integral</p> <p>Nurture</p> <p>Intervene</p> <p>Interpretation</p>	<p>Something certain to happen and unable to be avoided.</p> <p>An important part of something.</p> <p>To take care of, feed and protect someone as they grow.</p> <p>To intentionally become involved in a difficult situation in order to improve it or prevent it from getting worse.</p> <p>An explanation or opinion of what something means.</p>

<p>Week 13</p>	<p>Deliberate Isolate Context Perspective Manipulate</p>	<p>Something intentional or planned.  To separate something from other things.  The situation within which something exists or happens.  A point of view.  To influence or control someone to your advantage, often without that person knowing it.</p>
<p>Week 14</p>	<p>Mature Represent Adequacy Cousin Revenge</p>	<p>To behave in a responsible way.  To serve, show, stand for, or to speak and act.  The fact of being enough or satisfactory for a particular purpose.  A child of a person's aunt or uncle.  To harm someone as a punishment for harm that they have done to you.</p>





### 1. Growth in Animals

Growth is an increase in the number or size of cells. It can be measured by an increase in mass and an increase in length.

At first, cells divide before differentiating to become specialised. Specific structures help specialised (differentiated) cells carry out a particular function.



### 2. Growth in Plants

Groups of cells at the end of each shoot and root allow a plant to continue to grow. These groups of cells are called meristems.

These cells divide by mitosis before increasing in length (elongating) and finally differentiating into specialised plant cells.



Palisade cells are located in the leaf of a plant. They contain a lot of chloroplasts for photosynthesis.

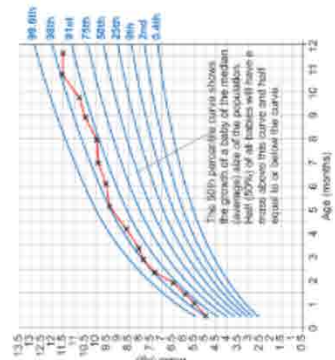
Root hair cells do not contain any chloroplasts. Instead, they have a large surface area to increase the uptake of water and nutrients from the soil.

### 3. Percentile Charts

Percentile charts can be used to monitor growth.

The 50<sup>th</sup> percentile is the average growth of the population at that age.

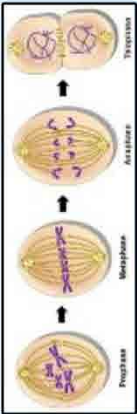
The red line shows how the mass of one baby changes with age (in months old).



## CB2 Cells and Control

### 4. Mitosis

Mitosis is part of the cell cycle and has 5 stages: prophase, metaphase, anaphase, telophase and cytokinesis. Interphase occurs before mitosis as part of the cell cycle.



**Interphase** – DNA replication makes copies of chromosomes  
**Prophase** – nucleus breaks down and spindle fibres form  
**Metaphase** – chromosomes line up at the equator (middle) of the spindle fibres

**Anaphase** – chromosome copies are pulled apart to opposite poles (ends) of the cell  
**Telophase** – a new nuclear membrane forms around each set of chromosomes  
**Cytokinesis** – cell membrane forms to separate the cells

Some organisms can reproduce using one parent. This is known as asexual reproduction where the offspring are clones (genetically identical) of the parent. Asexual reproduction is faster but does not result in variation.

Uncontrolled cell division and growth results in the formation of tumours. This is how cancer develops.

### 5. Stem Cells

Stem cells divide repeatedly before differentiating.

**Embryonic stem cells** – differentiate into any specialised cell

**Adult stem cells** – produce cells similar to those around them

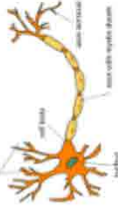
Stem cells are being used to treat a wide range of disease. However, when injected they are often 'rejected' or divide and cause cancer.

### 6. Asexual Reproduction

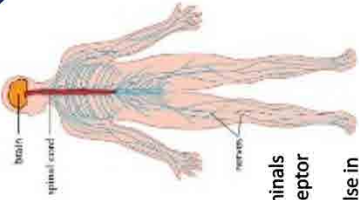
Some organisms can reproduce using one parent. This is known as asexual reproduction where the offspring are clones (genetically identical) of the parent. Asexual reproduction is faster but does not result in variation.

### 7. Nerves and Nervous System

The Central Nervous System (CNS) is made up of the brain and spinal cord.

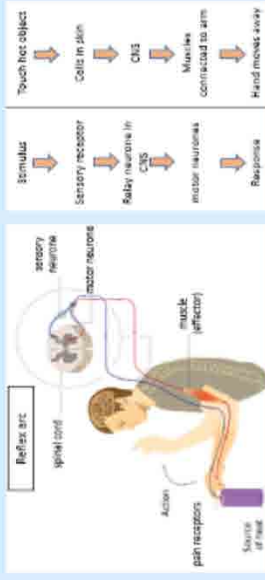


**Axon** – carries electrical impulse to axon terminals  
**Dendron** – carries electrical impulse from receptor cells in sensory neurones  
**Myelin sheath** – insulates the electrical impulse in the neurones



### 8. Reflex Arc

Reflexes are automatic and rapid. They do not involve the conscious part of the brain and can protect humans from harm.



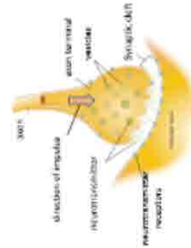
### 9. Synapses

The gap between two neurones (nerve cells) is called a synapse.

When an impulse (electrical signal) reaches the end of a neurone, a chemical neurotransmitter is released.

It diffuses across the gap (synapse) and is detected by the next neurone which then triggers another impulse.

Synapses slow down neurotransmission but do ensure impulses only flow in one direction.

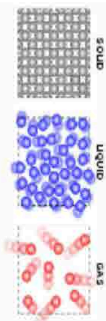




# CC1/2 States of Matter & Separation Techniques

## 1. States of Matter

All substances are made up of particles. Solids (S), liquids (L) and gases (G) are made up of particles. Particle arrangement, movement and energy levels determine the state of matter.



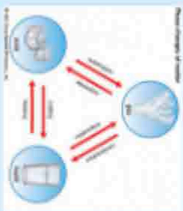
State	Arrangement	Movement	Energy levels
Solid	Fixed, regular pattern, tightly packed	Vibrate about fixed positions	Least
Liquid	Irregular pattern, most touching	Slide over one another	-
Gas	Randomly	Freely, in all directions	Most

## 2. Changes of State

When particles gain energy, their movement and arrangement changes.

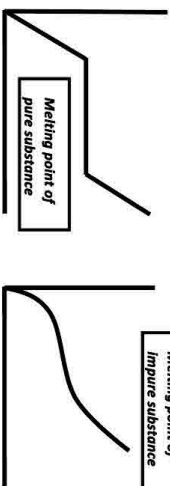
More energy causes more forces of attraction between particles to break. The amount of energy needed for a state change depends on the strength of the forces between particles.

Melting and freezing happen at melting point. Boiling and condensing happen at boiling point.



## 3. Pure vs Impure

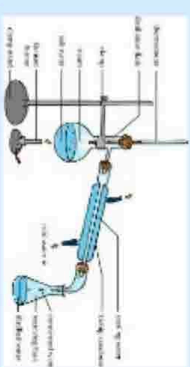
A pure substance is a single element or compound, not mixed with any other substance.



Pure substances melt and boil at specific temperatures. Heating graphs can be used to distinguish pure substance from impure substances.

## 4. Simple Distillation

This technique is used to separate a mixture of liquids. During distillation, the mixture gets heated causing one liquid at a time to evaporate and then condense.

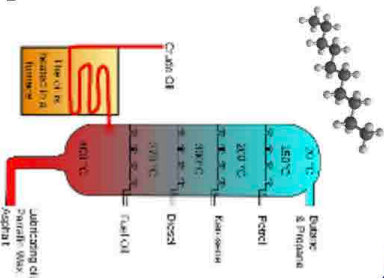


Each liquid has a different boiling point. This enables the liquids to be separated.

## 5. Fractional Distillation

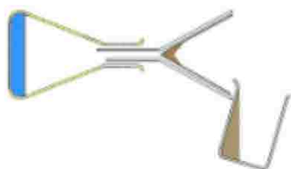
Crude oil is a mixture of hydrocarbons. These hydrocarbons have different boiling points. Each fraction contains molecules with a similar number of carbon atoms in them. The process used to do this is called fractional distillation.

Crude oil is heated and hydrocarbons boil and condense at certain temperatures. Small hydrocarbon chains boil at low temperatures and long hydrocarbon chains boil at high temperatures.



## 7. Filtration

Filtration can be used to separate substances that are insoluble in a solvent from those that are soluble. An example is sand and water. Large sand particles collect in the filter paper (residue) and the water will pass through the filter paper (filtrate).

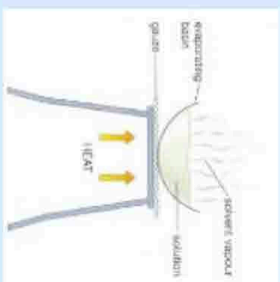


## 8. Crystallisation

Crystallisation can be used to separate a soluble substance from a solvent by evaporation.

The heat energy causes liquid particles to move further apart and become randomly arranged, moving freely in all directions.

An example of crystallisation is producing sodium chloride from a salt solution.



## 9. Potable Water

Human drinking water containing low levels of dissolved salts and microbes is safe to drink, clean and cook with. This water is known as potable water.

Most of the UK's water collects in lakes and rivers. Sterilising agents such as chlorine, ozone and UV can be used to treat water.

4 steps to produce potable water:

1. Select water source
2. Sedimentation
3. Filtration
4. Sterilisation/chlorination

In countries where fresh water is limited, desalination of sea water provides potable water. Distillation or reverse osmosis are used BUT require large amounts of energy!





# CC3/4 Atomic structure and periodic table

## 1. Atoms

**The smallest part of an element that can exist**

Have a radius of around 0.1 nanometres and have no charge (0). The nucleus is very small compared to the overall size of the atom.

Name of Particle	Relative Charge	Relative Mass
Proton	+1	1
Neutron	0	1
Electron	-1	Very small

**Atoms contain equal numbers of protons and electrons in order to have an overall neutral charge.**



## 2. Reading the periodic table

For each element on the periodic table there are two numbers. The top number is the mass number, the bottom number is the atomic or proton number

7	Mass number	<i>The sum of the protons and neutrons in the nucleus</i>
Li	Atomic number	<i>The number of protons in the atom</i>
3	Elements	<i>All atoms of a certain element had the same number of protons</i>

This number of protons is unique to that element.

## 3. Isotopes

**Atoms of the same element with the same number of protons and different numbers of neutrons are called isotopes**



${}^6_3\text{Li}$   
3 Li

All isotopes of the same element are chemically identical because they have the same number of protons and electrons.

## 5. Calculating the average relative atomic mass of all isotopes

All elements exist as mixtures of isotopes. We use this idea to calculate an element's relative atomic mass (RAM or  $A_r$ ). A relative atomic mass is the mean mass of an atom of an element compared with carbon-12.

RAMs are not whole numbers e.g. Chlorine RAM is 35.5 we can calculate this using the abundances of each isotope.

See below  ${}^{35}\text{Cl}$  (75%) and  ${}^{37}\text{Cl}$  (25%)

Relative abundance =

$$(\% \text{ isotope 1} \times \text{mass isotope 1}) + (\% \text{ isotope 2} \times \text{mass isotope 2}) \div 100$$

e.g.  $(25 \times 37) + (75 \times 35) \div 100 = 35.5$

## 4. History of the atom

### Pre 1900

**Tiny solid spheres that could not be divided**

Before the discovery of the electron, John Dalton said the solid sphere made up the different elements.



### 1897 'plum pudding'

**A ball of positive charge with negative electrons embedded in it**

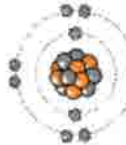
JJ Thompson's experiments showed that showed that an atom must contain small negative charges (discovery of electrons).



### 1909 nuclear model

**Positively charged nucleus at the centre surrounded by negative electrons**

Ernest Rutherford's alpha particle scattering experiment showed that the mass was concentrated at the centre of the atom.



### 1913 Bohr model

**Electrons orbit the nucleus at specific distances**

Niels Bohr proposed that electrons orbited in fixed shells; this was supported by experimental observations

## 6. Mendeleev's periodic table 1869

By 1869 there was 63 elements discovered.

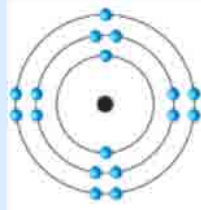
Mendeleev a Russian chemistry arranged these elements into order. This was the first periodic table. His table:

- Arranged elements in rows according to their chemical properties (i.e. lithium, sodium, potassium)
- The columns he arranged in mass number.
- Mendeleev used gaps in his table to make predictions about the properties of undiscovered elements.

**One main difference to our modern periodic table is Mendeleev ordered by mass number where we now order by atomic number. The reason for this is in 1869 the proton had not been discovered yet. Therefore no atomic number**

## 7. Electron configuration

In an atom electrons occupy electron shells arranged around the nucleus.



☞ The electronic configuration of chlorine shows three occupied shells.

The way in which an atom's electrons are arranged is called its electron configuration

- The first shell can fit 2 electrons
- The second and third shells can contain up to eight electrons.
- You fill a shell before moving to the final shell.

Chlorine has 17 electrons (1<sup>st</sup> shell 2, second shell 8, third shell 7)

Or 2,8,7

## 8. Today's periodic table structure

- Elements in a row or periodic are in order of increasing atomic number.
- Each row has the same number of electron shells
- Elements with similar properties are in the same column or group
- Each group has the same number of electrons on their outer shell
- Non metals are on the right of the table
- Metals on the left.



### 1. Scalars and Vectors

Scalars are quantities that only have magnitude (size).  
Examples include mass, time, speed, temperature, energy and distance.



Vectors are quantities that have both magnitude (size) and direction.  
Examples include force, velocity, momentum, displacement, acceleration and weight.



### 2. Speed and Velocity

Speed (scalar) in a given direction is known as velocity (vector).  
Both speed and velocity are measured in metres per second (m/s).

Speed	<b>How fast an object moves</b>	The speed of a car is 30m/s. A car moves forward with a velocity of 30m/s.
Velocity	<b>Speed + direction</b>	

### 3. Distance and Displacement

Distance is how far an object has travelled and is a scalar.  
This can be measured in metres (m) or kilometres (km).



Displacement is the distance travelled in a straight line and is a vector.

An athlete runs once around an athletics track.  
This athlete has travelled a distance of 400m but the displacement of the athlete is 0m.

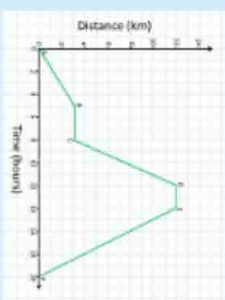
### 4. Distance Time Graphs

A distance time graph shows how far an object moves along a straight line.

The speed of an object can be calculated from the gradient of a line.

When the line goes flat or has no gradient, the object is stationary.

A steeper line means the object is travelling at a faster speed.



## CPI1 MOTION



### 5. Velocity Time Graphs

A velocity time graph shows the velocity of an object over a period of time. It simply shows how fast an object is moving.

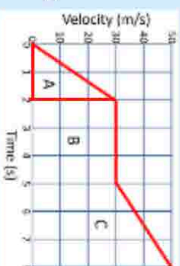
A flat line on the graph shows an object moving at constant (same) speed.

A steeper line shows the an object with greater acceleration.

A diagonal line going up shows constant acceleration (speeding up).

A diagonal line going down shows constant deceleration (slowing down).

The area under a line is the distance travelled. This can either be a triangle or a rectangle.



### 6. Calculating Speed

Measure the distance between 2 points using a tape measure.

Measure the time taken for an object to move between the 2 points.

Use speed = distance / time

Usain Bolt runs the 100m in 9.58 seconds.

Calculate his average speed.

$$\frac{100 \text{ metres}}{9.58 \text{ seconds}} = 10.44 \text{ m/s}$$



### 7. Acceleration

Acceleration is how quickly an object speeds up. It is also the change in velocity in a certain amount of time. It is measured in m/s/s which can be written as m/s<sup>2</sup>.

Acceleration can be calculated by dividing the change in velocity (final velocity – initial velocity) by the time taken.

$$a = \frac{(v - u)}{t}$$

A car accelerates from 13m/s to 31m/s in 12 seconds.

Calculate the acceleration of the car.



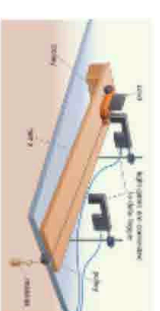
$$\frac{31\text{m/s} - 13\text{m/s}}{12\text{s}} = 1.5\text{m/s}^2$$

### 8. Investigating acceleration

Acceleration is affected force and mass.

This can be investigated using light gates and a ramp.

Light gates are used to calculate the speed at point A and the speed at point B. They also measure the time taken between point A and point B. The ramp is used to reduce the effect of friction.



Weights are added to the pulley to increase the force.

Masses are added to the trolley to increase the mass.

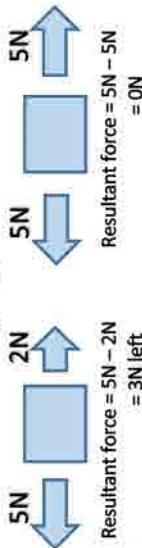


### 1. Resultant Forces

Free body diagrams are drawn to represent the forces acting on an object. The length of the arrow represents the size of the force. The resultant force is the overall effect of all the forces acting on an object.

To calculate resultant force:

- Add forces acting in the same direction
- Subtract forces acting in opposite directions



### 2. Newton's first law

"A moving object will continue to move at the same speed and direction unless an external force acts on it."  
 "A stationary object will remain at rest unless an external force acts on it."

If the resultant force is 0N = balanced forces

If the resultant force is not 0N = unbalanced forces

Unbalanced forces change the speed and/or direction of an object.



### 3. Mass and Weight

Mass is the quantity of matter there is in an object. Mass is measured in kilograms (kg).

Weight is a measure of the pull of gravity on an object. This depends on the size of gravity.

Weight is a force so is measured in Newtons.

Weight can be calculated by multiplying the mass by the gravitational field strength.

Weight (N) = mass (kg) x gravitational field strength (N/kg)

What is the weight of a 90kg astronaut on the surface of Earth. Earth has a gravitational field strength of 10N/kg.  
 $90\text{kg} \times 10\text{N/kg} = 900\text{N}$

### 4. Newton's second law

"Acceleration depends on the size of the force and the mass of an object."

The force needed to accelerate a particular object can be calculated using the equation:

$$\text{Force} = \text{mass} \times \text{acceleration}$$

$$(N) \quad (\text{kg}) \quad (\text{m/s}^2)$$

A motorcycle has a mass of 200kg.

What force is needed to give it an acceleration of  $7\text{m/s}^2$ ?

$$200\text{ kg} \times 7\text{m/s}^2 = 1400\text{N}$$



## CP2 FORCES & MOTION



### 6. Momentum (H)

Momentum is a measure of the tendency of an object to keep moving – or how hard it is to stop it moving.

The momentum of an object depends on its mass and its velocity.

Momentum is calculated using the following equation:

$$\text{Momentum} = \text{mass} \times \text{velocity}$$

$$(\text{kg m/s}) \quad (\text{kg}) \quad (\text{m/s})$$

When moving objects collide, the total momentum of both objects is the same before the collision as it is after the collision.

This is called **conservation of momentum**.

### 7. Stopping Distances

In order to stop a moving vehicle, the driver has to think about stopping before they press the brakes to actually stop the vehicle.

$$\text{Stopping distance} = \text{thinking distance} + \text{braking distance}$$

$$(m) \quad (m) \quad (m)$$

A driver's reaction time will affect the distance travelled whilst thinking. Some factors that affect that reaction time include:

- Tiredness
- Drugs
- Alcohol
- Distractions
- Mass
- Road conditions
- Tyre conditions
- Brake conditions



### 8. Crash Hazards

In a car crash, the vehicles come to a stop very quickly in a short amount of time.

Slowing down is deceleration (negative acceleration).

Large decelerations can cause injury and unfortunately in some instances, death!

Modern cars have several safety features to reduce the size of the force on the driver and passengers.

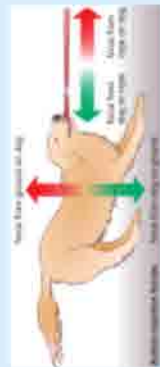
1. Crumple zones
2. Seat belts
3. Air bags



### 5. Newton's third law

"Balanced forces act on the same object. Action-reaction forces act on 2 different objects."

Action reaction forces are always the same size and in opposite directions. They are also the same type of force (push or pull).



The rope pulls the dog to the right and the dog pulls the rope to the left.

# KS3 Computing

## 9.1 Algorithms and Programming Techniques



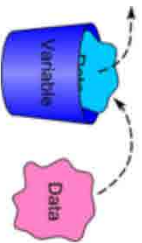
### Computational Thinking

- 1. Abstraction:** Removes unnecessary detail to make problems less complex
- 2. Decomposition:** Break down problems to make them easier to solve
- 3. Algorithmic thinking:** Logical steps to solve a complex problem.



### Syntax/Logic errors

- 1. Syntax error:** Error in the rules of the language (spelling of a command word)
- 2. Logic error:** Code runs, just not as you expect it to.

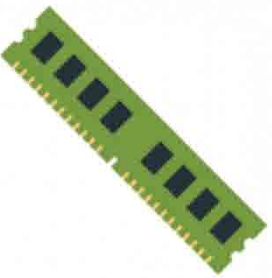


### Data Structures

Data structures are used to **store data in the computer's memory**. Each data structure is given a name, which we can use to identify where the data is located.

### 3 examples of a data structure

- 1. Variable:** The data **can change** when the program is running
- 1. Constant:** The data **cannot change** when the program is running.
- 1. Array:** Is able to store **more than 1 value** at a time.

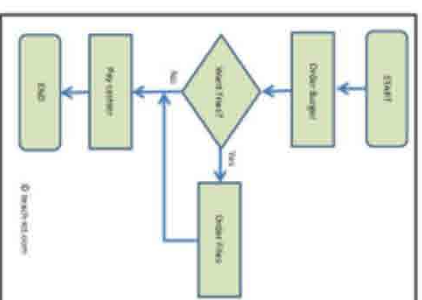


### Algorithms

An algorithm is a **step by step plan** to help solve a problem.

We use 2 different types of algorithm when designing computing programs:

**Flowcharts:** A **graphical representation** of planning how a computer program might work, and show others your thinking. It uses different shapes to represent **inputs, outputs, decisions and processes**.

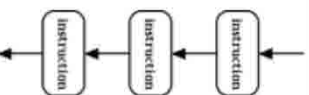


```

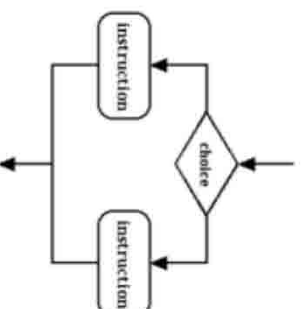
1. password= "giraffe"
2. INPUT "please enter your password"
3. Store input as userPass
4. IF userpass==password
5. PRINT "Login successful!"
6. ELSE
7. PRINT "Incorrect password"
8. ENDIF
  
```

### The 3 Main Programming Constructs

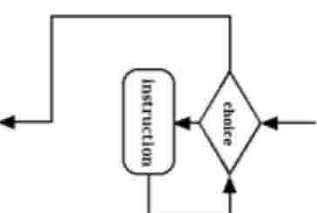
**Sequence**  
A set of instructions in order.



**Selection**  
Instructions which will run depending on a condition being true or false.



**Iteration**  
Instructions which can repeat a set number of times or until a condition is met.







## Year 9 Drama –Block 9–Exploring Practitioners

Developing your knowledge, skills and understanding of a variety of theatrical conventions as used by key practitioner e.g. Brecht, Artaud, Stanislavski & Frantic Assembly

Styles & Theatrical Conventions	
1	Bertolt Brecht A German practitioner concerned with Epic and Political theatre
2	Konastatin Stanislavski Russian practitioner who created naturalism from realism. Stanislavski believed that theatre should be 'a slice of life.'
3	Antonin Artaud A French practitioner who developed the Theatre of Cruelty. His performances were mainly abstract and used lots of physicality.
4	Frantic Assembly A British physical theatre company. Focusing on paired or grouped choreographed performances.
5	Epic An over exaggerated performance using set conventions which break the fourth wall.
6	Naturalism A form of realism where acting and actions are presented as they would be in real life.
7	Theatre of Cruelty A genre of theatre used by Artaud. This theatrical form uses animalistic and sensory overloading techniques to shock the audience.
8	Physical Theatre A combination of dance and drama to create a choreographed performance.
9	Subtext The deeper meaning behind a character's action or dialogue.
10	Emotion Memory This is a technique which requires performances to recall past experiences to extract emotions and use them in performances to make their characters as realistic as possible.
11	Placards Signs display key information, narration, facts and questions for the audience.
12	Narration A storytelling technique to help inform the audience.
13	Body Tension How relaxed or tense an actor's muscles are.
14	Verfrumdungseffekt Also known as the V effect. This is a combination of techniques used to alienate/distance the audience from the action.
15	Direct Address Characters speaking directly to the audience in role, as performers or narrators.
16	Spass This translates into 'fun'. This techniques is used to add comedy to a performance in order to break up the seriousness of the issues explored in the play. This is often very over the top and allows the audience to reflect more deeply on the content of the performance.
17	Sense Memory This is when an actor recalls their senses to allow their actions to be more realistic.
18	Choreography This is a structure dance or movement sequence.
19	Canon This is where performers start and different points and repeat the actions of the previous person.
20	Unison When performers use choreography at the same time in the same way.



# Year 9 Art: Knowledge Organiser

## Artist Knowledge

### The Suffragettes

The Suffragettes were a Political Movement in the early 20th century. They mainly campaigned for the promotion of the right to vote for women.

The Suffragettes heckled politicians, tried to storm parliament, were attacked and sexually assaulted during battles with the police, chained themselves to railings, smashed windows, set fire to postboxes and empty buildings, set bombs in order to damage churches and property, and faced anger and ridicule in the media. When imprisoned they went on hunger strike, to which the government responded by force-feeding them.



### Christopher R. Nevinson

Christopher Richard Wynne Nevinson (13 August 1889 – 7 October 1946) was an English figure and landscape painter, etcher and lithographer, who was one of the most famous war artists of World War I.

At the outbreak of World War I, Nevinson joined the Friends' Ambulance Unit and was deeply disturbed by his work tending wounded French and British soldiers. He used his experiences as the subject matter for a series of powerful paintings which used the machine aesthetic of Futurism and the influence of Cubism to great effect.



### Käthe Kollwitz

Käthe Kollwitz (8 July 1867 – 22 April 1945), was a German artist who worked with paintings, printmaking (including etching, lithography and woodcuts) and sculpture. Her most famous art cycles, including *The Weavers* and *The Peasant War*, depict the effects of poverty, hunger and war on the working class.

Despite the realism of her early works, her art is now more closely associated with Expressionism. Kollwitz was the first woman to not only be elected to the Prussian Academy of Arts but to also receive honorary professor status.

In July 1936, she and her husband were visited by the Gestapo, who threatened her with arrest and deportation to a Nazi concentration camp; they resolved to commit suicide if such a prospect became inevitable. However, Kollwitz was by now a figure of international note, and no further action was taken.

On her 70th birthday, she "received over 150 telegrams from leading personalities of the art world," as well as offers to house her in the United States, which she declined for fear of provoking reprisals against her family.

She outlived her husband (who died from an illness in 1940) and her grandson Peter, who died in action in World War II two years later.



### Muirhead Bone

Sir Muirhead Bone (23 March 1876 – 21 October 1953) was a Scottish etcher and watercolourist who became known for his depiction of industrial and architectural subjects and his work as a war artist in both the First and Second World Wars.

Bone was an active member of both the British War Memorials Committee in the First World War and the War Artists' Advisory Committee in the Second World War.

Bone's small, black and white drawings, and their realistic intensity, reproduced well in the government-funded publications of the day. Where some artists might have demurred at the challenge of drawing ocean liners in a drydock or tens of thousands of shells in a munitions factory, Bone delighted in them; he was rarely intimidated by complex subjects and whatever the challenge those who commissioned his work could always be sure that out of superficial chaos there emerged a beautiful and ordered design.

## Skills Knowledge

### Fineliners and Micropens

Fineliners and Micropens are excellent precision tools that can be used in Art. They can be used on their own to create wonderfully detailed artworks, or they can be layered on top of other works to create precise black outlines and details.

The Ink inside these Pens can be combined with Water to produce Ink Wash effects to enhance the feel of an artwork and experiment with different Textures and Tones.

Can you think of 3 benefits of using a Fineliner/Micropen?  
(1 Question for you I.S.)



### Ink

Ink is a widely used resource in Art. It can be used to create many different Colours and Tones.

Ink's are combined to make different Colours. When adding Water to Ink these Colours begin to separate with some interesting effects!

Ink is often associated with being a loose material for often very fluid artworks that are more expressive than precise.

Can you think of 3 benefits of using Inks?  
(1 Question for you I.S.)

### Lino

Lino is rubber-like material we use in for producing prints. You will be using this in the current project to produce a Käthe Kollwitz styled print.

To use Lino you could cut away the material you do not want to print out with a Lino-cutter. This will leave behind the area and image that you want to print.

To print with Lino you would roll Ink onto the surface of the Lino. The lino would then be placed on top of paper, or vice-versa, with the paper on top of the Lino. Pressure would then be put onto the Lino with a clean roller. This process will produce a well made print. This process can be repeated again and again to get duplicate prints.

This process is incredibly useful for mass producing artworks.



### Graphite

This is your bread and butter in Art. Graphite is the material inside of Pencils, it can also be used as a stick of Graphite itself.

Graphite lends itself well to Shading and creating complex Tones.

Can you think of 3 benefits of using a Graphite?  
(1 Question for you I.S.)

# Project 1



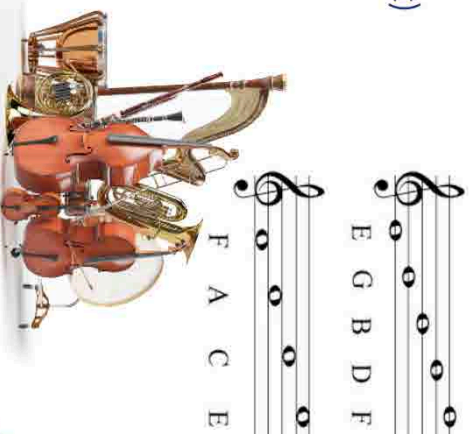
## 'Music of the Oppressed' [Hip-hop and Reggae]

### Keywords

- **MC (Master of Ceremonies)** - another name for a rapper
- **Ostinato** - a repeating pattern.
- **Chromaticism** - moving up or down in semitones (every note).
- **Chord** - two or more notes played together.
- **Rhyme** - correspondence of sound between words or endings of words.
- **Rap** - pop music where words are recited rapidly and rhythmically over an instrumental backing.
- **Rhythm** - a mixture of different length notes.
- **Slang** - informal words / phrases.

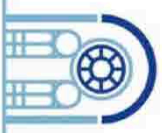
### The Elements of Music

- **Tempo** (Speed)
- **Timbre** (Sound of the Instrument)
- **Pitch** (High or Low Notes)
- **Dynamics** (Loud or Soft)
- **Texture** (Layers of Music)
- **Duration** (Length of Notes)
- **Silence** (No Sound)
- **Structure** (Order of Sections)
- **Rhythm** (Long and Short Notes)



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### Reggae



- **Reggae** originates from Jamaica.
- This is part of the **Rastafarian** religion, which is famously known for smoking cannabis and having dreadlocks.
- The music has a relaxed feel and contains **off-beat** chords on the '&' of each beat. This is sometimes referred to as 'skanking'.



### Hip-hop

- **Hip-hop** is often referred to as 'rap', as it will have backing tracking which will have someone rapping over the top.
- Hip-hop music will often use samples from other tracks, which are looped, to create backing tracks. It originally came from 'breaks' in songs, which were referred to as the "best part of the song".
- This genre has several techniques used with records to create unique sounds, such as scratching.



## CAD

stands for **Computer Aided Design**  
It is the use of computer software to produce designs for products. The designs can be 2D drawings or 3D models.



At HPA we use Creo Parametric (3D) and Corel Draw (2D).

## Advantages of CAD

- CAD is extremely accurate, more accurate than drawing by hand.
- It is easy to modify or revise a design.
- Storage space is reduced.
- Files can be shared around the world very quickly, or imported into presentations.
- 3D models can be rotated and viewed from different angles.
- Designs can be simulated to see how well they will function. This allows potential problems to be spotted early.
- Designs can be exported to CAM equipment for manufacture.

## Disadvantages of CAD

- Some CAD packages are expensive to buy.
- There needs to be access to appropriate ICT hardware to run the software. This usually needs to be a high powered computer which adds to the cost.
- Some designers may not be familiar with how to use CAD software, so time and money must be spent training them. They must regularly update their skills.
- Files can be corrupted or hacked.

**CNC** stands for **Computer Numeric Control**

## CAM

stands for **Computer Aided Manufacture**

It is the use of computer software to control machine tools or manufacture products.

Examples of CAM equipment include laser cutters, vinyl cutters, CNC Routers and 3D printers.

At HPA we use:



Versalaser Laser Cutter

3D Cube 3D printer



Roland Camm1 vinyl cutter



Denford Compact 1000 CNC Router



## Advantages of CAM

- Complex shapes can be produced much more easily than when manufacturing by hand.
- There is consistency of manufacture as every product produced is exactly the same.
- It enables very high levels of manufacturing precision and accuracy.
- There is greater efficiency as machines can run 24 hours a day, 7 days a week.
- It can increase the speed of manufacture, especially when producing large numbers.

## Disadvantages of CAM

- CAM machines are usually very expensive, although their cost is reducing with time.
- Operators must be trained to use the equipment, which adds time and cost.
- For one-off products, CAM can actually be slower than if the product was produced by hand.



# CAD/CAM







# Materials: Food

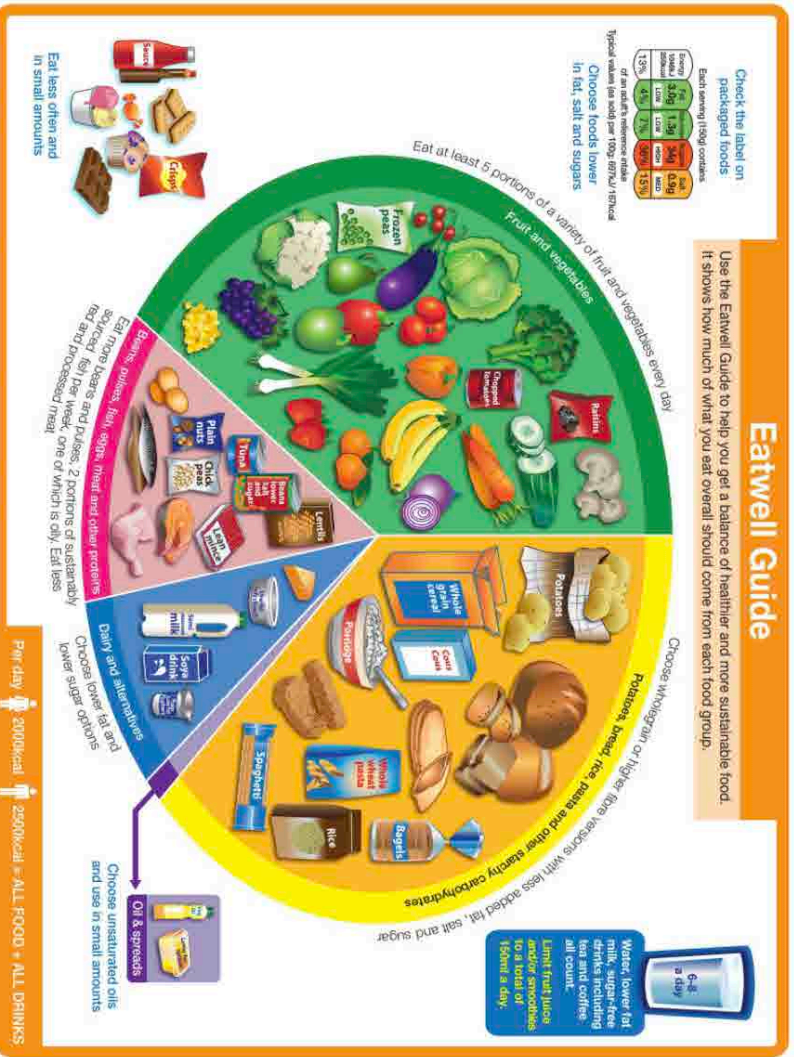


**Diet** is the term for the food and drink that we consume daily. A diet needs to be both healthy and sustainable. A healthy diet is a **balanced diet**. It provides the necessary **nutrients** needed for healthy body functions and normal physical activity.

To keep a balanced diet is to eat a variety of foods to give the body the range of nutrients it needs to stay in top condition. Eating a balanced diet promotes good health and contributes to a healthy lifestyle.

**The Eatwell Guide** is designed to help everyone over the age of two to eat a healthy, balanced diet. It shows how much of each food group should be eaten. The four food groups are:

- potatoes, bread, rice, pasta and other starchy carbohydrates
- fruit and vegetables
- dairy and alternatives
- beans, pulses, fish, eggs, meat and other proteins



## Nutrients

are chemicals found in food which give the body nourishment and are needed for the maintenance of life. The body needs nutrients to perform its daily **functions** properly. Health problems might occur if any one of these nutrients is lacking in a person's diet. There are two types of nutrients:

### Macronutrients:

**Carbohydrates** - the main energy source for the body.

**Protein** - needed for growth, repair and maintenance of the body.

**Fat** - used for energy and essential vitamins and fatty acids.

The body needs these in large amounts and are measured in grams.

### Micronutrients

**Vitamins**  
**Minerals**

### Trace elements

The body needs these in small amounts and are measured in milligrams or micrograms. In order for the body to function properly it needs a range of vitamins and minerals

The body also needs **dietary fibre** and **water**

Source: Public Health England in association with the United Government Food Standards Scotland and the Food Standards Agency in Northern Ireland. © Crown Copyright 2018



## Year 9: Topic 1: WW1 Causes

### MILITARISM

Militarism was the process of building up arms and armies. There was an arms race between Britain and Germany that increased military tension between the two countries.

### ALLIANCES

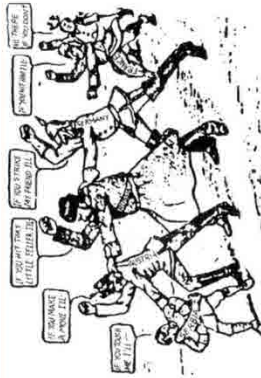
Triple alliance – Germany, Austria-Hungary and Italy (wanted to expand their empires and protect their ports/ sea routes in the Mediterranean)  
Triple entente – Britain, France and Russia (wanted to protect their empires from Germany)

### IMPERIALISM

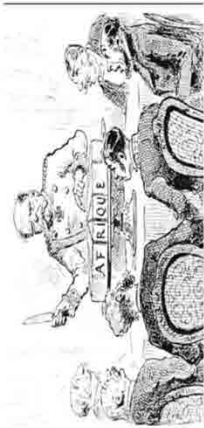
Britain and France had very large global empires; Russia also had a large empire in Europe/Asia that made them rich and powerful. Germany wanted to expand its empire into Europe and needed a large army and navy to be able to challenge them.

### NATIONALISM

European nationalism caused lots of social and political problems – conflict in Europe due to different ideologies and competing political interests (e.g. Black hand gang, German nationalism)



Allied Countries		Central Powers	
Country	Flag	Country	Flag
France		Germany	
United Kingdom		Austria-Hungary	
Italy		Ottoman Empire (Modern Turkey)	
Russia		Bulgaria	
U.S.A			



### The Assassination of Archduke Franz Ferdinand, June 1914

The archduke travelled to Sarajevo in June 1914 to inspect the imperial armed forces in Bosnia and Herzegovina, annexed by Austria-Hungary in 1908. The annexation had angered Serbian nationalists, who believed the territories should be part of Serbia. A group of young nationalists hatched a plot to kill the archduke during his visit to Sarajevo, and after some missteps, 19-year-old **Gavrilo Princip** was able to shoot the royal couple at point-blank range, while they travelled in their official procession, killing both almost instantly.

The assassination set off a rapid chain of events, as Austria-Hungary immediately blamed the Serbian government for the attack. As large and powerful Russia supported Serbia, Austria asked for assurances that Germany would step in on its side against Russia and its allies, including France and possibly Great Britain. On July 28, Austria-Hungary declared war on Serbia, and the fragile peace between Europe's great powers collapsed, beginning the devastating conflict now known as the First World War.



Gerhard Hirschfeld, professor of modern and contemporary history, University of Stuttgart

"The actual decision to go to war .... resulted from a fatal mixture of political misjudgement, fear of loss of prestige and stubborn commitments on all sides of a very complicated system of military and political alliances of European states."



"Serbia bore the greatest responsibility for the outbreak of WW1. Serbian nationalism was profoundly disruptive and Serbian backing for the Black Hand terrorists was extraordinarily irresponsible."

Richard Evans

Historical interpretation is the process by which we (as Historians) describe, analyse, evaluate, and create an explanation of past events.



## 9.1 Decision Making Enquiries



### Sea level rise in The Maldives

Global sea levels are rising due to:

- Global warming is melting the polar ice caps
- Global warming causes thermal expansion of the world's oceans

This is threatening the future of The Maldives, where much of the islands are less than 2m above sea level.

The Maldives are considering 3 options for their long-term future:

1. Evacuate the islands and move the population elsewhere.
2. Build sea walls around the islands to protect them from the rising water.
3. Reclaim land from the shallow seas around the islands, by dredging sand from the lagoons and building up the height of the islands.

Stakeholders are divided over the issue. Many do not want to lose the unique culture of the Maldives by moving elsewhere. Others do not want to change forever the delicate ecosystems in the island chain.



**Economic** impacts are those that affect money, business and jobs.

**Social** impacts are those that affect people and communities; families, health, education, communication.

**Environmental** impacts are those that affect the quality of the environment, pollution and the balance of the ecosystem

**Sustainability** is when materials and resources are used in a way which balances the needs of people in the present with the need to maintain something in to the future.

**Stakeholders** are individuals and groups of people with a particular interest in an issue.

### The UK's energy mix

The UK's energy mix (where we get our energy from) has changed a lot over the past 30 years. Fossil fuels - gas, coal and oil – still account for more than 50% of our energy mix, but renewable sources of energy such as solar and wind power have been steadily increasing.

Cleve Hill is a proposed solar park in Kent, with construction due to begin in 2022. It would be the UK's biggest solar farm and would generate enough electricity for 91,000 homes.

Stakeholders are divided over whether the solar park should go ahead.

- Some think that it is an essential step in moving the UK away from dependence on the fossil fuels that are causing climate change.
- Some are concerned about the impact on the habitat of local wildlife and migrating birds in particular.
- Some are in favour due to the huge local investment and jobs that will be created.
- Others are opposed due to the 'eyesore' effect.



### Flood management on the Somerset Levels

The Somerset Levels have always been prone to flooding. However, in 2014 the floods were so bad that huge amounts of damage were caused to farms and homes. Since then, the debate has continued: should the Somerset Council spend more on building flood defences on the Levels?

- Farmers and local residents want the flood defences to protect their homes and work places.
- The Council knows that the defences – dredgers and building levees – are expensive, leaving less in the budget for schools and other services.
- Some environmentalists think that dredging rivers won't work in the long term, will disturb the natural habitat of wildlife and may even make the floods worse.



## Religion and World Views Knowledge Organiser 9.1

<b>Morality</b>	The right action
<b>Situation Ethics</b>	Decision that are deemed right dependant on the situation
<b>Utilitarianism</b>	Decisions that generate the greatest amount of happiness for the greatest number of people
<b>Intentionalism</b>	The right decision is the one that intended the best outcome.
<b>Abortion</b>	The termination of pregnancy, before birth
<b>Euthanasia</b>	Being allowed to die ('painless death')
<b>Sanctity of life</b>	All human life is precious as given by God
<b>Quality of life</b>	How well a person can enjoy life
<b>autonomy</b>	The ability to make your own decisions
<b>Conscience</b>	A person's moral sense of right and wrong

### The Principals of Medical Ethics

<b>Autonomy:</b> The patient's decision	<b>Justice:</b> Is fair (resources and procedure)
<b>Beneficence:</b> will do good for the patient	<b>non-maleficence:</b> will cause no additional harm

### Issues concerned with medical ethics:

- Abortion
- Euthanasia
- IVF
- saviour siblings
- Vaccinations
- organ transplantation
- cosmetic surgery
- Cloning
- genetic modification of embryos

**Relative morality:**  
The rightness of an action is dependant on the situation

**Absolute morality:**  
Regardless of the situation, the action is wrong.

<b>Abortion</b>	<b>View 1</b>	<b>View 2</b>
Christians	Sanctity of life Genesis -All created in Gods image. Exodus –10 commandments 'Do not Kill'	Jesus taught that we should not allow people to suffer and therefore various churches permit it but do not agree with it
Jews	Concerned for sanctity of life and do not allow it on demand	Permitted in the first 40 days or if mothers or baby's life will suffer
Humanist	Individual conscience disagrees	Humans can make the right choices for themselves

<b>Euthanasia</b>	<b>View 1</b>	<b>View 2</b>
Christians	Sanctity of life and it is forbidden –10 commandments 'Do not Kill'	May support voluntary and passive euthanasia (God gave human beings free will)
Jews	Concerned for sanctity of life and it is forbidden	Permit passive euthanasia (withdraw anything keeping a person alive)
Humanist	Individual conscience disagrees	Humans can make the right choices for themselves

## 9.10 Leisure and healthy living

3 time frames  
Infinitives  
Time phrases

opinions  
justifications  
describing and comparing

### Verbs and the present tense in French

#### The infinitive

When you look up a verb in the dictionary, you find its original, unchanged form which is called the **infinitive** (manger, boire, jouer, visiter, habiter, aller etc.). The infinitive ends in **-re, -er or -ir**.

#### Forming the present tense in French

Take off the last 2 letters of the infinitive (**-re, -er or -ir**) and add the following endings depending on the pronoun:

\*Important! There are some key irregulars to learn which don't follow this pattern – aller (as shown here), être, avoir and faire are really important!

	RE verb	ER verb	IR verb
Je (I)	-s	-e	-s
tu (you)	-s	-es	-s
il/elle (he/she)		-e	-t
nous (we)	-ons	-ons	-issons
vous (you all)	-ez	-ez	-issez
ils/elles (they)	-ent	-ent	-issent

### Verbs and the past tense in French

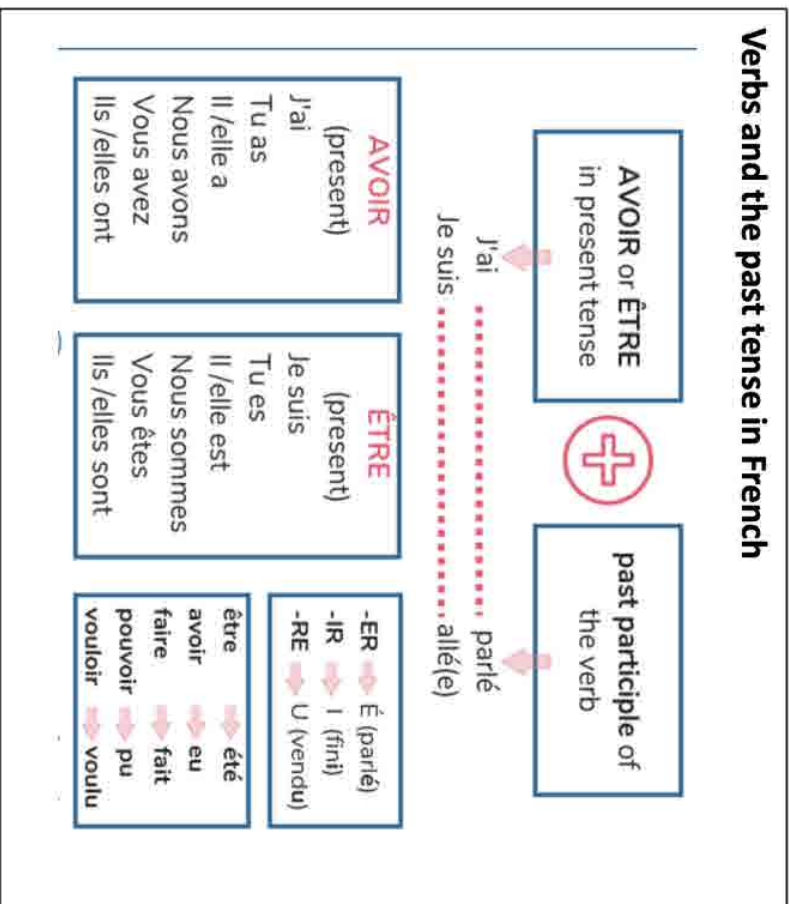
**Verbs and the near future tense in French**  
You can talk about the future by using the **near future** tense.

Use part of the verb ALLER + a + the infinitive to say what you are **going** to do.

Ce soir je vais jouer au tennis. *This evening I am going to play tennis.*

Demain Paul va a faire un gateau. *Tomorrow Paul is going to make a cake.*

Aller (to go)	
Je vais	I am going
Tu vas	You are going
Il/elle va	He /she/one is going
Nous allons	We are going
Vous allez	You (lot) are going
Ils/elles vont	They are going



## 9.10 Leisure and healthy living

3 time frames  
Infinitives  
Time phrases

opinions  
justifications



### 1. Expressing FUTURE intentions :

J'ai l'intention de + infinitive (I plan to/ I intend to ...)  
Je voudrais + infinitive (I would like to...)

### 2. Using infinitives after j'aime/je m'aime pas/je déteste/je préfère :

You can also use an infinitive after opinion verbs such as aimer, détester and préférer. They are usually translated with a **gerund** (a verb ending with -ing) in English:

J'aime habiter à Newcastle - I like living in Newcastle.

Tu préfères jouer au foot ou au tennis? - Do you prefer playing football or tennis?

Je déteste boire du café parce que c'est dégoûtant - She hates drinking coffee because it's disgusting.

### 3. Opinions

J'aime - I like

J'aime beaucoup- I like a lot

Je n'aime pas beaucoup- I don't like

**much**

Je préfère – I prefer

Je déteste - I hate

Je ne peux pas supporter - I can't stand

### 4. Justification

**Parce que** - because

**Ainsi**– therefore/so

**Par conséquent** - consequently

### 5. Comparisons

**Plus.....que** – more...than

**Moins...que** - less...than

**Aussi...que** – as...as

### 6. Superlative

**Le/la plus** – the most

**Le/la moins** – the least

**Le/la mieux** – the best

**Le/la pire** – the worse

### 7. Time phrases

**Normalement** - normally

**D'habitude** - usually

**Généralement** - generally

**Quelquefois** – sometimes

**Ensuite** – next

**Rarement** - rarely

**Le weekend prochain**– next weekend

**La semaine prochaine** - next week

**Le weekend dernier** - last weekend

**Le mois dernier** - last month

**L'été dernière** - last summer

**Pendant le confinement** - during lockdown



9.10 Leisure and healthy living vocabulary list

Les activités	activities	Les endroits	Places	Adjectifs	Adjectives	Healthy living key verbs
<p> <b>Aller</b>  <b>jouer</b>  <b>manger</b>  <b>visiter</b>  <b>faire</b>  <b>danser</b>  <b>boire</b>  <b>regarder</b>  <b>écouter</b>  <b>lire</b>  <b>acheter</b>  <b>finir</b>  <b>voir</b>  <b>écrire</b>  <b>dormir</b>  <b>nager</b>  <b>rencontre</b>  <b>voyager</b>  <b>chanter</b>  <b>envoyer des SMS</b>  <b>contacter</b>  <b>téléphoner</b>  <b>cuisiner</b>  <b>télécharger</b>  <b>travailler</b>  <b>aider</b>  <b>méditer</b>  <b>se relaxer</b>  <b>se détendre</b> </p>	<p> to go  to play  to eat  to visit  to do  to dance  to drink  to watch  to listen  to read  to buy  to finish  to see  to write  to sleep  to swim  to meet  to travel  to sing  to text  to contact  to call  to cook  to download  to work  to help  to meditate  to relax  to rest </p>	<p> <b>Chez moi</b>  <b>Chez mon ami</b>  <b>Chez mon père</b>  <b>Chez ma mère</b>  <b>Chez mes grand-parents</b>  <b>Dans ma chambre</b>  <b>Dans le salon</b>  <b>Dans le jardin</b>  <b>Dans ma zone</b>  <b>En Angleterre</b>  <b>À l'étranger</b>  <b>En ville</b>  <b>À la campagne</b>  <b>À la montagne</b>  <b>Au bord de la mer</b> </p>	<p> <b>Places</b>  At home  At my friend's house  At my dad's  At my mum's  At my grand-parents'  In my room  In the living room  In the garden  In my neighbourhood  In England  Abroad  In town  In the countryside  In the mountains  By the seaside </p>	<p> <b>Adjectifs</b>  <b>Aimable</b>  <b>Agreable</b>  <b>Content(e)</b>  <b>Bavard(e)</b>  <b>Beau/belle</b>  <b>Amusant(e)</b>  <b>Mignon(ne)</b>  <b>Joli(e)</b>  <b>Propre</b>  <b>Parfait</b>  <b>Rapide</b>  <b>Rich</b>  <b>Sage</b>  <b>Timide</b>  <b>Travailleur/se</b>  <b>Triste</b>  <b>Ennuyeux/se</b>  <b>Embêtant(e)</b>  <b>Sérieux/se</b>  <b>Facile</b>  <b>Difficile</b>  <b>Stricte</b>  <b>Moche</b>  <b>Bryuant(e)</b>  <b>Impoli(e)</b>  <b>Horrible</b>  <b>Parasseux/se</b>  <b>Sportif/ve</b>  <b>Enrichissant/e</b>  <b>Intéressant(e)</b>  <b>Vieux/vieille</b>  <b>Relaxant</b> </p>	<p> <b>Adjectives</b>  Kind  Pleasant  Happy  Chatty  Beautiful  Fun  Cute  Pretty  Clean  Perfect  Fast  Rich  Wise  Shy  Hard working  Sad  Boring  Annoying  Serious  Easy  Difficult  Strict  Ugly  Noisy  Rude  Horrible/Awful  Lazy  Sporty  Enriching  Interesting  Old  Relaxing </p>	<p> <b>Healthy living key verbs</b>  <b>Se coucher</b>  <b>Avoir envie de</b>  <b>Courir</b>  <b>Se droguer</b>  <b>Se souler</b>  <b>Se sentir bien/mal</b>  <b>Être au régime</b>  <b>Être en forme</b>  <b>Éviter</b>  <b>Fumer</b>  <b>Essayer de (+ infinitive)</b>  <b>Se lever</b>  <b>Rester en forme</b>  <b>S'inquiéter</b>  <b>Goûter</b>  <b>Se sentir</b>  <b>Vaincre</b>  <b>Avoir mal</b>  <b>Être fatigué</b> </p>
						<p> to go to bed  to fancy, to feel like  to run  to take drugs  to get drunk  to feel well/ill  to be on a diet  to be fit  to avoid  to smoke  to try to  to get up  to keep fit  to worry  to try, to taste,  to feel  to overcome  to have a pain (in)  to be tired </p>

## 9.9 French Technology and Media Knowledge Organiser

### 3 time frames Infinitives Time phrases and connectives

### Negative constructions Opinions and justifications Comparatives and superlatives

#### **Comparatives** – to express more or less than

- ... c'est plus...**adjective**...**que** - is more...adjective...than
- ... c'est moins ...**adjective** ....**que** - is less...adjective... than
- ... c'est aussi...**adjective**....**que** – is as...adjective...as

#### **For example:**

*Il est plus grand que son frère. (He is taller (more tall) than his brother.)*

*Cette maison est moins grande que notre maison. (This house is smaller (less big) than our house.)*

*Ce chien est aussi grand que mon chat. (This dog is as big as my cat).*

#### **Make a French comparison from good to better or from bad to worse:**

Like in English the words for bad and good are irregular. Good > better (bon > mieux) and bad > worse (mauvais > pire).

#### **For example:**

Cette pizza est mieux que l'autre. (This pizza is better than that other one.)

La grippe est pire qu'un rhume. (Flu is worse than a cold)

*\*Notice that the adjective always agrees with the first noun*

#### **Superlatives** – to express the biggest, the most interesting etc...

- ... c'est le/la/les plus + adjective – is the most + adjective
- .... c'est le/la/les moins + adjective – is the least + adjective

#### **For example:**

*La plus intelligente de la classe (the most intelligent in the class)*

*Le moins grand de la famille (the shortest (least tall) in the family)*

#### **Adjectives** describe nouns e.g. a **blue** phone.

In French, adjectives normally go after the words they are describing e.g. un portable bleu (a blue mobile phone) and they have to agree with the noun they are describing.

In French, adjectives must agree with the noun (or pronoun) they describe in gender and in number. This means that if the noun an adjective describes is feminine, the adjective must be feminine e.g. une télévision noire (a black television). If that same noun is also plural, the adjective will be feminine AND plural as well e.g. les télévisions noires (black televisions).

#### **Opinion phrases**

A mon avis  
Je pense que  
Je crois que  
Je dirais que  
Personnellement  
Je considère que  
De mon point de vue  
Je le/les trouve

In my opinion  
I think that  
I believe that  
I would say that  
Personally  
I consider that  
From my point of view  
I find it / them

#### **Time phrases**

Aujourd'hui  
Normalement  
Quelquefois  
De temps en temps  
Le weekend  
(Deux) fois par semaine  
Souvent  
Toujours

Today  
Normally  
Sometimes  
From time to time  
On the weekend  
(Twice) a week  
Often  
Always

Hier

Yesterday

Avant-hier

The day before yesterday

La semaine dernière

Last week

Le weekend dernier

Last weekend

Le mois dernier

Last month

L'année dernière

Last year

Hier soir

Last night

(Two days/years) ago

Demain

Tomorrow

À l'avenir

In the future

Le weekend prochain

Next weekend

La semaine prochaine

Next week

L'année prochaine

Next year



## 9.10 Leisure and healthy living

3 time frames  
Infinitives  
Time phrases

opinions  
justifications  
describing and comparing

### Verbs and the present tense in Spanish

#### The infinitive

When you look up a verb in the dictionary, you find its original, unchanged form which is called the **Infinitive** (comer, beber, jugar, visitar, vivir, ir etc.). The infinitive ends in **-ar, -er** or **-ir**.

#### Forming the present tense in Spanish

Take off the last 2 letters of the infinitive (**-ar, -er** or **-ir**) and add the following endings depending on the pronoun:

\*Important! There are some key irregulars to learn which don't follow this pattern – **ir** (as shown here), **ser**, **tener** and **hacer** are really important!

	AR verb	ER verb	IR verb
yo (I)	-o	-o	-o
tu (you)	-as	-es	-es
él/ella (he/she)	-a	-e	-e
nosotros/as (we)	-amos	-emos	-imos
vosotros/as (you all)	-áis	-éis	-ís
ellos/ellas (they)	-an	-en	-en

### Verbs and the near future tense in Spanish

You can talk about the **future** by using the **near future** tense.

Use part of the verb **IR** + **a** + the infinitive to say what you are **going** to do.

Este tarde **voy a jugar** al tenis. *This evening I am going to play tennis.*

Mañana Paul **va a hacer** un pastel. *Tomorrow Paul is going to make a cake.*

IR (to go)	
voy	I am going
vas	You are going
va	He /she/one is going
vamos	We are going
vais	You (lot) are going
Van	They are going

### Verbs and the past tense in Spanish

The **preterite** is the past tense used in Spanish to describe a completed action at a specific time in the past (e.g. ayer (yesterday), el año pasado (last year)). For regular we take off **-ar, -er** – **ir** and add the below endings :

	-AR	-ER / -IR
I	é	í
You (sg)	aste	iste
He/she/it	ó	ió
We	amos	imos
You (pl)	asteis	isteis
They	aron	ieron

#### Examples:

Tomar = to take  
To form "I took"

~~TOMAR~~ > tom > tomé

Hablar = to speak  
To form "she spoke"

~~HABLAR~~ > habl > habló

## 9.10 Leisure and heathy living

3 time frames  
Infinitives  
Time phrases

opinions  
justifications



### 1. Expressing FUTURE intentions :

Tengo la intención de + infinitive (I plan to/ I intend to ...)

Me gustaría + infinitive (I would like to...)

### 2. Using infinitives after me gusta/no me gusta/odiar/preferir :

You can also use an infinitive after opinion verbs such as *aimer*, *odiar* and *preferir*. They are usually translated with a **gerund** (a verb ending with -ing) in English:

Me gusta *vivir* à Newcastle - I like living in Newcastle.

Prefieres *jugar* al fútbol o al tenis? - Do you prefer playing football or tennis?

Odio *beber* café porque es asqueroso – She hates drinking coffee because it's disgusting.

### 3. Opinions

Me gusta(n) - I like

Me gusta(n) **mucho** - I like a lot

No me gusta(n) **mucho** - I don't like much

Prefiero – I prefer

Odio - I hate

No soporto - I can't stand

### 4. Justification

**Porque** - because

**Por lo tanto** – therefore/so

**Por consiguiente**- consequently

### 5. Comparisons

**Más...que** – more...than

**Menos...que** - less...than

**Tan...como** – as...as

### 6. Superlative

**El/la más** – the most

**El/la menos** – the least

**El/la mejor** – the best

**El/la peor** – the worse

### 7. Time phrases

**Normalmente** - normally

**Usualmente** - usually

**Generalmente** - generally

**De vez en cuando/a veces** – sometimes

**Luego** – next

**Raramente** - rarely

**El fin de semana que viene**– next weekend

**La semana que viene**- next week

**El fin de semana pasado** - last weekend

**El mes pasado** - last month

**El verano pasado**- last summer

**Durante la cuarentena**- during lockdown

9.10 Leisure and healthy living vocabulary list

Las actividades	activities	Sitios	Places	Adjetivos	Adjectives	Healthy living key verbs	
ir	to go	En casa	At home	Amable	Kind	acostarse	to go to bed
jugar	to play	En la casa de mi amigo	At my friend's house	Agradable	Pleasant	apetecer	to fancy, to feel like
comer	to eat	En la casa de mi padre	At my dad's	Contento/a	Happy	conseguir (un trabajo)	to get (a job)
visitar	to visit	En la casa de mi madre	At my mum's	Hablador/a	Chatty	correr	to run
hacer	to do	En la casa de mis abuelos	At my grand-parents'	Bonito/a	Beautiful	drogarse	to take drugs
bañar	to dance	En mi dormitorio	In my room	Divertido/a	Fun	emborracharse	to get drunk
beber	to drink	En el salón	In the living room	Mono/a	Cute	encontrarse bien/mal	to feel well/ill
ver	to watch	En el jardín	In the garden	Guapo/a	Pretty	estar a dieta	to be on a diet
escuchar	to listen	En mi barrio	In my neighbourhood	Limpio/a	Clean	estar en forma	to be fit
leer	to read	En Inglaterra	In England	Perfecto/a	Perfect	evitar	to avoid
comprar	to buy	En el extranjero	Abroad	Rápido/a	Fast	fumar	to smoke
terminar	to finish	En el pueblo	In town	Sabio/a	Wise	intentar (+ infinitive)	to try to
mirar	to see	En el campo	In the countryside	Timido/a	Shy	levantarse	to get up
escribir	to write	En las montañas	In the mountains	Trabajador/a	Hard working	mantenense en forma	to keep fit
dormir	to sleep	En la costa	By the seaside	Triste	Sad	preocupar	to worry
nadar	to swim	La gente	People	Aburrido/a	Boring	probar	to try, to taste,
quedar	to meet	Con	With	Molesto/a	Annoying	sentirse	to feel
viajar	to travel	Mis amigos	My friends	Serio/a	Serious	superar	to overcome
cantar	to sing	Mi hermano	My brother	Fácil	Easy	tener dolor (de)	to have a pain (in)
Mandar SMS	to text	Mi hermana	My sister	Difficil	Difficult	tener sueño	to feel sleepy
contactar	to contact	Mis padres	My parents	Estricto/a	Strict		
Llamar	to call	Mi familia	My family	Feo/a	Ugly		
cocinar	to cook	Solo/a	Alone	Ruidoso/a	Noisy		
descargar	to download	Intensifiers		Maleducado/a	Rude		
trabajar	to work	muy – very	demasiado – too	Horrible	Horrible/Awful		
ayudar	to help	tan – so	realmente – really	Vago/a	Lazy		
mediar	to meditate	bastante – quite	extremamente – extremely	Glotón	Greedy		
relajar	to relax	Un poco – a bit	nada - not at all	Deportivo/a	Sporty		
descansar	to rest			Enriquezador/a	Enriching		
				Interesante	Interesting		
				Viejo/a	Old		
				Relajante	Relaxing		



## Components of Fitness



### Physical Components

1. Aerobic Endurance → The ability to exercise (your cardiorespiratory system) for a long period of time
2. Muscular Endurance → The ability to exercise (your muscular system) for a long period of time
3. Muscular Strength → The maximum force that a muscle or muscle group can produce
4. Flexibility → The range of movement around a joint
5. Speed → Speed is the distance covered over time (meters per second)
6. Body Composition → The ratio of fat mass to fat free mass in the body

### Skill Components

7. Balance → The ability to maintain a centre of mass above a base of support
8. Coordination → Being able to use two or more body parts at once to complete a motor task efficiently
9. Reaction Time → The time taken to respond to a stimulus
10. Power → The combination of speed and strength
11. Agility → The ability to change direction at speed without losing balance



Note-  
Aerobic Endurance is also known as  
Cardiovascular Endurance.

Name

--	--	--	--	--	--	--	--	--	--	--



Definition

--	--	--	--	--	--	--	--	--	--	--



Sporting Example

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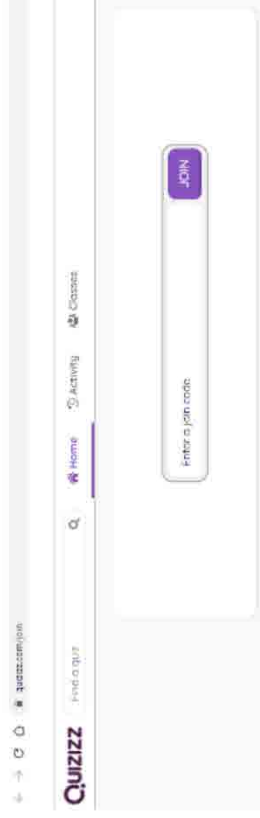


# SPACE and Careers Independent Study

This year you will take a Quizizz at the end of your SPACE topics to demonstrate your understanding of key topics. This will be uploaded to SIMS the same as your other subject with the instructions and Quizizz code you will need to use.

- When you enter your name, you must add your SPACE teacher's initials in brackets to show us which class you are in. E.g. Polly Thomas (DDA)
- When completed write your score and percentage in your knowledge organiser booklet on your SPACE page. Write the title and score along with 2 WWW's / EB1's in your IS textbook. These will be based on the questions you felt most confident about and ones you got wrong.

Topic	Quizizz Code	Score	Percentage
Being me in my world			
Celebrating difference			

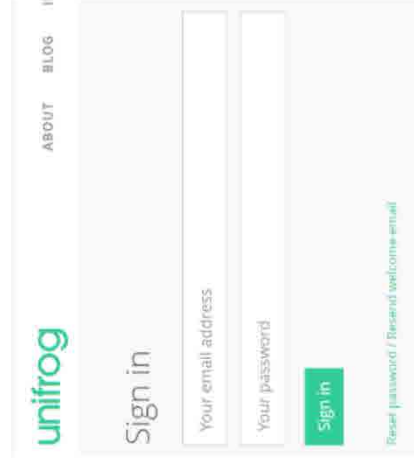


Once a term you will have a careers lesson using Unifrog and one piece of I.S which will be to complete a Unifrog activity which will be explained in SIMS.

- You will find your login details in an email sent by Unifrog. If you have forgotten your details go to [www.unifrog.org](http://www.unifrog.org) - sign in – reset password / resend welcome email.
- If you are still having issues logging in, please email Mrs Daw or go to I.S Club in A3 after school.

You can use Unifrog at any time to find out information about career pathways, post 16, post 18 and which jobs are best suited to your personality, likes and dislikes.

There will be termly rewards for students who complete the most activities, log the most and spend the most time using Unifrog.



## Independent Study Hand in dates:

<b>Week</b>	<b>Subject</b>
10/10/22	English
	Maths
	Science
	French
	Space
17/10/22	English
	Maths
	Science
	INSET
	INSET
<b>Autumn Half Term</b>	
31/10/22	English
	Maths
	Science
	RS
	History
07/11/22	English
	Maths
	Science
	Tech
	Spanish
14/11/22	English
	Maths
	Science
	French
	Geography
21/11/22	English
	Maths
	Science
	Art
	RS
28/11/22	English
	Maths
	Science
	History
	Spanish
05/12/22	English
	Maths
	Science



	Drama
	Careers
12/12/22	English
	Maths
	Science
	Computing
	Space
<b>Christmas Holiday</b>	
02/01/23	Bank Holiday
	Inset Day
04/01/23	English
	Maths
	Science
	Spanish
	History
09/01/23	English
	Maths
	Science
	French
	PE
16/01/23	English
	Maths
	Science
	Music
	Geography
23/01/23	English
	Maths
	Science
	History
	RS
30/01/23	English
	Maths
	Science
	Space
	Spanish
06/02/23	English
	Maths
	Science
	French
	Geography