# Knowledge Organiser Booklet

## Year 8 Summer Half Term 1

"Knowledge like air is vital to life.  Like air no one should be denied it."

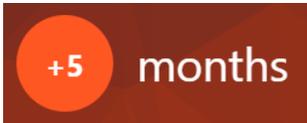-ALAN MOORE

Name:_____          Tutor group:_____

# Contents

- Home learning timetable
- Instructions on how to use a knowledge organiser
- English
- Maths
- Science
- Humanities
- Land and Environment
- Art
- Music
- MFL
- ICT

**Education Endowment Foundation** +5 months

Research carried out by the Education Endowment Foundation proved that: Homework has a positive impact on average of + 5 months, particularly with pupils in secondary schools.
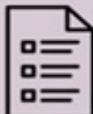
## Home learning timetable

The table below details which days each subject will set home learning on each week. Students will have one week to complete home learning tasks for each subject.

| Group | Monday | Tuesday | Wednesday | Thursday | Friday |
|-------|--------|---------|-----------|----------|--------|
| 8N | Art Humanities | Maths MFL | Science English | L&E Science | Music Reading |
| 8E | Art Humanities | Maths English | L&E Science | Science MFL | Music Reading |
| 8W | Humanities English | Art Maths | MFL Science | Science L&E | Music Reading |

Please note you have two science teachers; science home learning will be set by both teachers

These knowledge organisers have been created by your teachers to support your learning both in class and for home learning. They are also a valuable revision tool for you to use independently when preparing for assessments. It is important that you make good use of your knowledge organisers by learning how to use them in different ways.

# How to use a knowledge organiser – step by step guide

| | Look, Cover, Write, Check | Definitions of Key Words | Flash Cards | Self Quizzing | Mind Maps | Paired Retrieval |
|---|---|---|---|---|---|---|
| Step 1 | Look at and study a specific area of your KO. | Write down the key words and definitions. | Use your KO to condense and write down key facts or information onto flash cards. | Use your KO to create a mini quiz. Write down your questions using your KO. | Create a mind map with all the information you can remember from your KO. | Ask a friend or family member to have the KO or flash cards in their hands. |
| Step 2 | Cover or flip the KO over and write down everything you can remember. | Try not to use your KO to help you. | Add pictures to help support. Then self-quiz using the flash cards. You could write questions on one side, and answers on the other! | Answer the questions and remember to use full sentences. | Check your KO to see if there are any mistakes on your mind map. | They can test you by asking you questions on different sections of your KO. |
| Step 3 | Check what you have written down. Correct any mistakes in green pen and add anything you have missed. Repeat. | Use your green pen to check your work. | Ask a friend or family member to quiz you on the knowledge. | Ask a friend or family member to quiz you using the questions. | Try to make connections, linking the information together. | Write down your answers, |

## 5.1 Key Vocabulary – Skills

| | |
|---|---|
| **Prediction** | 'Pre' is Latin for before - you are therefore making a guess about something before you know what it is. |
| **Inference** | This is more of an educated guess - you are forming an idea or conclusion based on something you have read or that you know. |
| **Setting** | The place where a narrative/story is set. The setting of the text helps us understand many features of it. |
| **Context** | Factors from real life that have influenced the writer. The context behind Charles Dickens' writing was Victorian England. |
| **Refugee** | A person who has fled their own country because they are at risk of persecution or serious human rights violation. |
| **Skimming** | This is when you read something rapidly to get an overview of what the text is about 'skimming' over the words to get the gist of the content. |
| **Scanning** | This is when you read a text rapidly to find specific information in the text. |
| **Narrator** | The 'character' that is telling the story (not necessarily a character in the story itself). The narrator(s) tell us all of the information we receive. |
| **Perspective** | The position/point of view from which a story is told. Most narratives are written in first person (I, my, we) or third person (she, he, they). |

## 5.2 Key Quotations

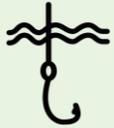| Quotation | Meaning |
|---|---|
| "A shadow falls over me somehow." (Diaries of Nella Last) | This **metaphor** indicates how Nella's mood was changing and become less positive. |
| "the eye of war had spied them out." (As I Walked Out…) | This use of **personification** makes it seem as though the war has a character and deliberately looked. |
| "You mean they didn't get enough of this in Kosovo?" (I See my Wife…) | This use of **sarcasm/humour** allows us to understand that the narrator finds the situation unusual and hard to understand. |
| "A pillar of gold light beamed diagonally… I was mesmerised by this beam… (Touching the Void) | **Light imagery** is used here to signify (show a sign of) hope and positive imagery. Dickens does the opposite to this using shadow and darkness in 'American Notes'. |
| "I go through an elaborate performance before breakfast" (Walking Home) | Armitage uses **hyperbole** (deliberate exaggeration for effect) to demonstrate that he is observed and feels uncomfortable. |
| "In Iran, Pakistan and India, city dwellers often said to me" (The Places In Between) | Stewart uses a range of examples, specifically here a **rule of three**, to emphasise the fact that this is a common experience across the whole of Asia and the Middle East. |

## 5.3 – Structuring Arguments

| Point | Evidence | Explain | Link |
|---|---|---|---|
| The writer uses… The writer gives the impression that… We can clearly see… | We see this when… …in the line "___" When X says "___"… | This… suggests implies highlights illustrates portrays conveys the idea contrasts with | A Shakespearean audience might respond to this by… Jacobeans saw religion as… |

**P**oint **E**vidence **E**xplain **L**ink

*PARAGRAPH STRUCTURE*

## 5.4 – Persuasive Writing - Structuring Arguments

**HOOK**

Make the introduction as engaging as possible. Use an anecdote or rhetorical question to get attention.

**MAIN POINT**

Put your most persuasive point first. Make it believable by supporting with facts, statistics and emotive language.

**BUILD**

Develop your first point with another. Make sure it links securely and is persuasive, using different techniques.

**COUNTER ARGUE**

What would someone who disagrees with you say? Why are they wrong? Use this section to be really emotive.

**CONCLUDE/ SUMMARISE**

End as persuasively as you started with a tripartite list, rhetorical question or anecdote. The best answers will use cyclical structure.

**STRUCTURE:**

As well as following the conventions of the type of text you are writing, you must also use paragraphs well to structure your work. One way to remember this is **'Tip Top'**.

**PARAGRAPHS**
Make them
**TiP ToP**
For a new
**Time    Place    Topic    Person**
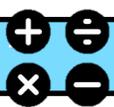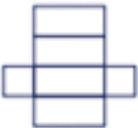start a new paragraph

### Rhetorical Devices / Techniques: DAFOREST

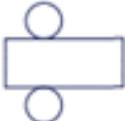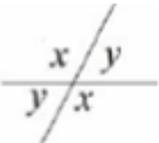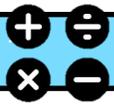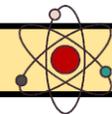| Technique | Explanation | Example |
|---|---|---|
| Direct Address | Addressing the reader directly using pronouns e.g. "we" or "you". | "You can stop the spread of coronavirus by staying at home" |
| Anecdote | A short personal story that provides an example related to the topic | "The crime rate in Amsterdam dropped significantly when they legalised cannabis" |
| Facts | Something which can be proven true | "'E' is the most common letter in the English language." |
| Opinions | A belief which cannot be proven true – someone's ideas. | "Exeter City is the greatest football club of all time" |
| Rhetorical Question | A question which does not require a response. | "Do you want to pass your exams?" |
| Emotive Language | Words which provoke an emotional response from the audience. | "This ludicrous idea will result in utter catastrophe." |
| Statistics | Numerical facts and data used to support a point. | "12% of people worldwide have never used the internet" |
| Three (rule of) | List of three things in a sentence. | "Smoking is a filthy, selfish and costly habit" |

| Key Term | Definition | Shape | Net |
|---|---|---|---|
| Cube | 6 square faces 12 edges 8 vertices | | |
| Cuboid | 6 rectangular faces 12 edges 8 vertices | | |
| Triangular Prism | 5 faces 9 edges 6 vertices | | |
| Cylinder | 3 faces 2 edges 0 vertices | | |
| Square-based Pyramid | 5 faces 8 edges 5 vertices | | |
| Triangular-based Pyramid | 4 faces 6 edges 4 vertices | | |
| Cone | 2 faces 1 edge 1 vertex | | |
| Sphere | 1 face 0 edges 0 vertices Half a sphere is known as a hemisphere. | | |

| Key Term | Definition |
|---|---|
| Vertically Opposite Angles | Vertically opposite angles are equal. |
| Alternate Angles | Alternate angles are equal. |
| Corresponding Angles | Corresponding angles are equal. |
| Co-Interior Angles | Co-Interior angles add up to 180°. |
| Volume | The amount of 'space' a solid object occupies. Units: $mm^3$, $cm^3$, $m^3$, etc. The volume of a prism $V = Area\ of\ Cross\ Section\ x\ Length$ The volume of a $cylinder = \pi r^2 h$ |
| Volume of a cube / cuboid | Length x width x height |
| Prism | A 3D shape with a constant cross-section. |
| Cross-section | The 2D shape that is consistent throughout the prism |

| Key term | Definition | |
|---|---|---|
| Average | A single number or value that is used to represent a set of data. There are three main averages we focus on: mode, median and mean. | |
| Data | Information in the form of facts and numbers. | |
| Data point | A single item from a data set. | |
| Data Set | A collection of data which all refers to the same category or topic. | |
| Intersection | The numbers of elements that belong to both/all sets. In a Venn Diagram, this is where the circles overlap. | |
| Mean | The sum of all the values in a data set, divided by the number of values in the data set. | |
| Median | The middle value in an ordered list. | |
| Mode | The most common value. It is possible to have more than one mode, or no mode. | |
| Qualitative Data | A type of data that can be grouped under named categories, often described as data that can be described. | |
| Quantitative Data | Types of data that can be represented numerically, often described as data that can be counted. | |
| Range | The difference between the smallest and largest value. | |
| Two-way Table | A diagram in which frequencies for two categories may be organised; one variable in rows and the other in columns. | |
| Venn Diagram | A diagram in which circles are used to illustrate the relationships between different sets. Must have a box drawn around it. | |

| Key Term | Definition | Examples |
|---|---|---|
| Frequency Table | A table showing how often something occurs. Can include tally charts. |  |
| Line Graph | Uses lines to join points on a graph to represent a data set. |  |
| Bar Chart | A way of displaying data using horizontal or vertical bars which are the same width and have gaps between them. |  |
| Pie Chart | A method of displaying proportional information by dividing a circle up into different-sized sectors. |  |

**Static electricity**: by rubbing insulators together **electrons** are **transferred**, which gives the objects electrostatic charges.

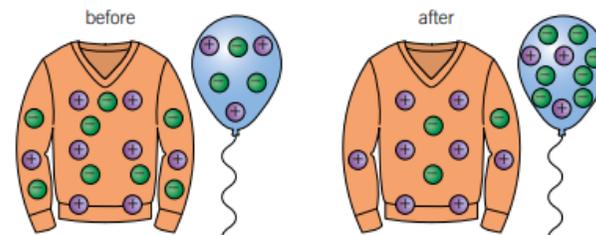**Like charges** (+ and +) or (- and -) **repel**.

**Opposite charges** (+ and -) **attract**.

Charged objects have **electric fields** around them.

**Electric field lines** are used to show how a positive charge will act.

Only **electrons** are **transferred.**


before          after

**Current** is the amount of **charge flowing per second**.

• It is measured with an **ammeter** (connected in series).

• The **unit** for current is the **amp (A)**.

**Potential difference** is the amount of **energy transferred** by the **charges** in the circuit.

• It is measured with a **voltmeter** (connected in parallel).

• The **unit** for potential difference is the **volt (V)**.

**Resistance** is a measure of how easy it is to pass through a component.

• Resistance is calculated by measuring the potential difference and the current.

• The **unit** for resistance is the **ohm (Ω)**.

**Series circuits**

• contain only one loop

• the current is the same everywhere

• the potential difference across each component adds up to the potential difference across the battery

• if one component or wire breaks, current stops flowing everywhere.


3V
6V
3V

**Parallel circuits**

• contain multiple branches

• currents in all the branches add up to make the total current

• the potential difference across each component is the same as the potential difference across the battery


6V      6V      6V

**Magnets** have north and south poles.

**Like poles** (N and N) or (S and S) **repel**.

**Opposite poles** (N and S) **attract**.

Magnets have **magnetic fields** around them.

**Magnetic field lines** are used to show how a North pole will act.



small compasses



Where the field lines are closer together the magnetic field is stronger.

**Electromagnets** are only magnetic when they have a flow of current, so they can be turned off.

• They are made by running a current through a coil of wire.

You can make an electromagnet stronger by:

• adding more turns of wire on the coil.

• using more current.

• adding an iron core in the middle of the coil.

**Adaptations** are characteristics that help an organism to survive and reproduce.

**Variation -** Differences in characteristics are called variation.

**Discontinuous variation** can only result in certain values (e.g. blood group or eye colour)

**Continuous variation** can take any value within a range (e.g. height or hair length)

**Inherited variation** - Characteristics are passed on from parents to offspring through genetic material stored in the nucleus of cells (e.g. genetic diseases, eye colour, blood group)

**Environmental variation** - Surroundings affects your characteristics (e.g. dyed hair, tattoos, accent)

Many characteristics, such as height, are affected by both inherited and environmental variation.

**DNA** is arranged into long strands called **chromosomes**.
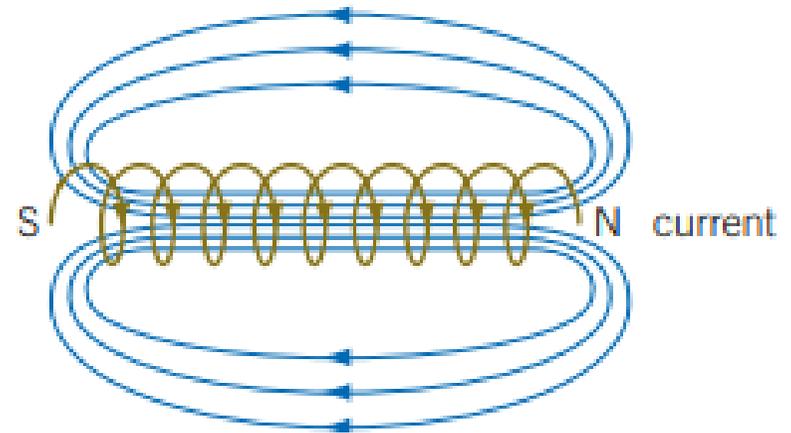
Sections of DNA that contain the information to produce a **characteristic** are called **genes.**

**Natural selection -** All living organisms have evolved from a common ancestor

1. Organisms in a species show variation caused by differences in their genes.

2. Organisms with the most useful characteristics survive and reproduce. This is called 'survival of the fittest'.

3. Successful genes are passed on to the offspring.

This is repeated many times and over a long time can lead to a new species.

sperm contains 23 chromosomes

egg contains 23 chromosomes

during fertilisation the genetic material joins together

cell division

each nucleus in an embryo contains 46 chromosomes

A species becomes **extinct** when there are no more individuals of that species left anywhere in the world. The **fossil record** shows that many species that once lived have become extinct.

Factors leading to extinction:
• changes to the organism's environment
• destruction of their habitat
• new diseases
• new predators
• Increased competition

**Endangered species** are at risk of extinction.

## 5.1 Key Terms

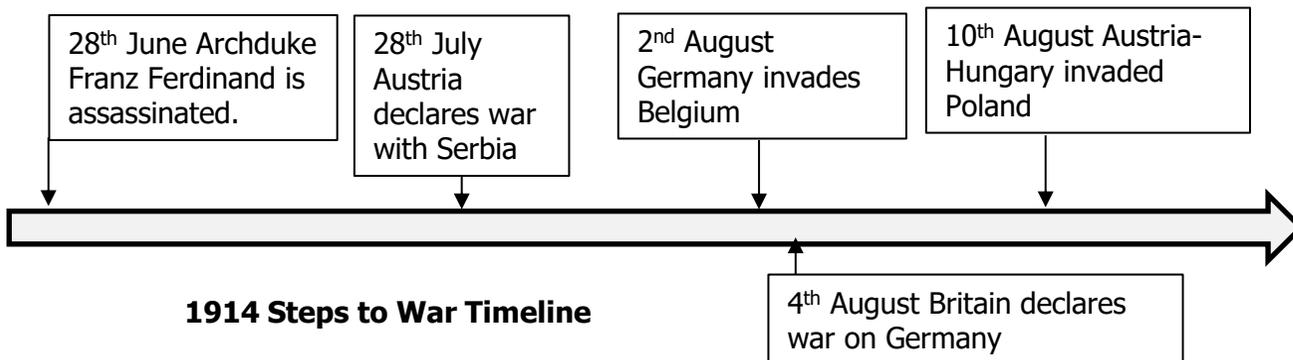| | |
|---|---|
| **5.1.1 Nationalism** | Nationalism is an idea that emphasizes loyalty, devotion, or allegiance to a nation where duty to the country outweighs individual or group interests. |
| **5.1.2. Imperialism** | Where one nation governs or controls another (sometimes referred to as colonialism). |
| **5.1.3. Militarism** | The belief that a country should maintain a strong military capability and be prepared to use it aggressively to defend or promote national interests. |
| **5.1.4. Alliance** | A union or association formed for mutual benefit, especially between countries or organizations. |
| **5.1.5. Triple Entente** | A WWI alliance formed by Great Britain, France and Russia. |
| **5.1.6. Triple Alliance** | A WWI alliance formed by Germany, Austria-Hungary and Italy. |
| **5.1.7. Arms Race** | Competition between nations to build up the largest and best equipped military. |

## 5.2 Key Individuals

| | |
|---|---|
| **5.2.1 Archduke Franz Ferdinand** | Heir to the throne of Austria-Hungary who was assassinated in Sarajevo on 28th June 1914. |
| **3.2.2. Gavrilo Princip** | Serbian nationalist who assassinated Archduke Franz Ferdinand. This event is often considered to be the spark that started WWI. |
| **5.2.3. Lord Kitchener** | British minister for war who face appeared on recruitment posters saying "Your country needs you". |
| **5.2.4. General Douglas Haig** | British war leader who is often blamed for the massacre of British troops at the Battle of the Somme |
| **5.2.5. Wilfred Owen** | British soldier and poet who was killed in action just 7 days before the end of the war. |
| **5.2.6. Woodrow Wilson** | American president who secured peace at the end of WWI. |

28th June Archduke Franz Ferdinand is assassinated.

28th July Austria declares war with Serbia

2nd August Germany invades Belgium

10th August Austria-Hungary invaded Poland

4th August Britain declares war on Germany

**1914 Steps to War Timeline**
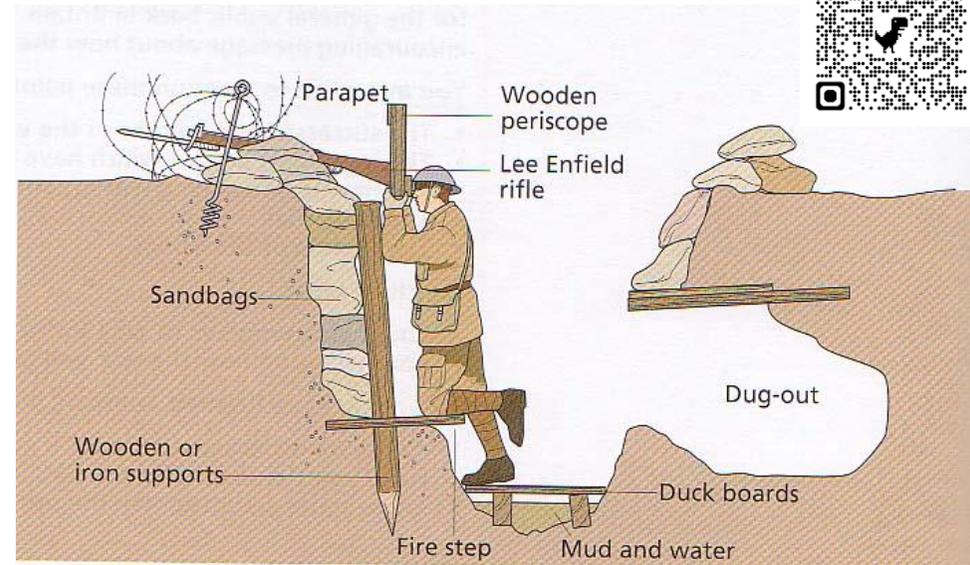
## 5.3 Key Terms

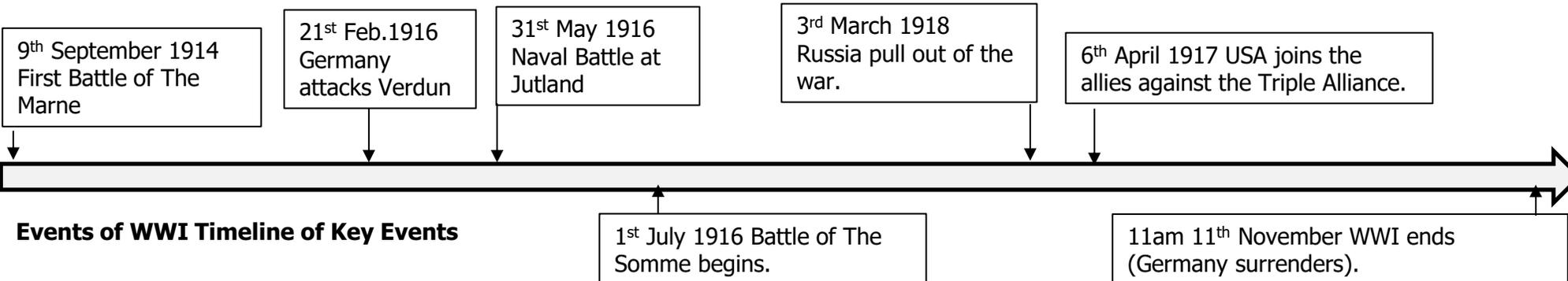| **5.3 Key Terms** | |
|---|---|
| **5.3.1. Propaganda** | Information, especially of a biased or misleading nature, used to promote a political cause or point of view. |
| **5.3.2. Conscription (draft)** | The compulsory enrollment of people for military service. During WWI the armed forces were heavily dependent on conscription. |
| **5.3.3. Conscientious Objector** | Someone who is opposed to serving in the armed forces on the grounds of moral or religious principles. |
| **5.3.4. Enlist** | The process of signing up for military service. |
| **5.3.5. Pals Battalions** | Groups of friends from the same town or village who enlist together. |
| **5.3.6. Patriotism** | A form of nationalism where one has devotion or shows vigorous support for their country. |
| **5.3.7. White Feather** | Given by women to men of fighting age who did not enlist to fight in WWI. It was a symbol of cowardice. |

### A Cross-Section of a Trench



## 5.4 Key Information

| **5.4 Key Information** | |
|---|---|
| **5.4.1. Trench Warfare** | A type of combat in which the opposing sides attack, counterattack, and defend from relatively permanent systems of trenches dug into the ground. |

**Events of WWI Timeline of Key Events**

9th September 1914 First Battle of The Marne

21st Feb.1916 Germany attacks Verdun

31st May 1916 Naval Battle at Jutland

1st July 1916 Battle of The Somme begins.

6th April 1917 USA joins the allies against the Triple Alliance.

3rd March 1918 Russia pull out of the war.

11am 11th November WWI ends (Germany surrenders).

# Kick Sampling - How to monitor the health of a river.

### What
Kick sampling is a method used to collect invertebrates living in rivers to identify and count them.

### Why
Collecting invertebrates and identifying the types you find can tell you about the health of the river.

### When
Twice a year.
Once in spring and once in autumn.

## How

**Equipment**
- White sample tray
- ID guide
- Hand lens
- Plastic spoon or pipette

Watch how it's done using the QR code

FOOT USED TO KICK THE STREAM-BED

CURRENT CARRIES FRESHWATER INVERTEBRATES INTO NET

STREAM FLOW

Copyright © Save My Exams. All Rights Reserved

## What to look for in a healthy river

Caddis fly

Mayfly

Stonefly

Damselfly
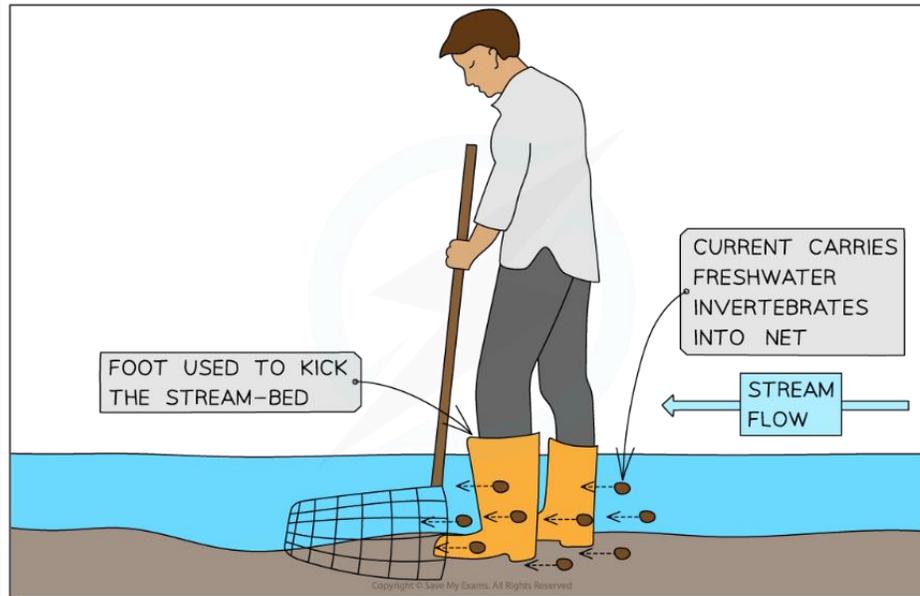
Dragonfly

## What to look for in an unhealthy river

Midge

Water louse

Leech

In this project we will explore how to draw both realistic and abstract portraits of both people and animals!

**EXPRESSIONIST**

**Oil pastels**

**POP ART**

**Transfers**

**ABSTRACT**

**Acrylic paint**

**ANIMALS**

**ONE-LINE PORTRAIT**

**Drawing ink**

**PATTERN**

**Mixed media collage**

**EXPRESSIVE COLOUR**

**Charcoal**

| Key vocabulary |
| --- |
| One-line portrait |
| Self-portrait |
| Hyperrealism |
| Cubism |
| Expressionism |
| Abstract |
| Mixed media |
| Tone |
| Implied texture |
| Flat colour |
| Motif |
| Contour lines |
| Transfer |
| Duplicated image |

*Artists we will study:* Julian Opie, Pablo Picasso, Gustav Klimt, Edvard Munch.

## 1. The Musical Elements are the basic building blocks of all music

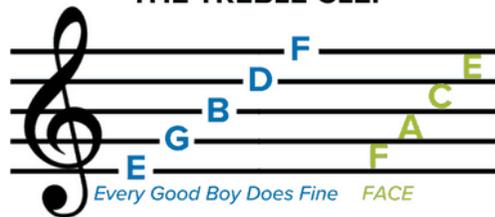| | | | |
|---|---|---|---|
| **Melody and pitch** | | | **Melody** is The tune; high and low **pitch** notes |
| **Articulation** | | | **Articulation** Is The way a note is played; **staccato** (short) or **legato** (smooth) |
| **Dynamics** | | | **Dynamics** are how **loud** or **quiet** the music is |
| **Texture** | | | **Texture** is how **thick** or **thin** the music is (how many instruments are playing) |
| **Structure** | | | **Structure** is the **layout** of a piece (How it is put together) |
| **Harmony** | | | **Harmony** is the **effect of two or more notes** sounding simultaneously; **chords, bass line** |
| **Instrument/ timbre** | | | **Timbre** is **the specific sound an instrument makes** |
| **Rhythm** | | | **Rhythm** is the **pattern of long and short notes. Duration** is how **long** or **short** the note is |
| **Tempo** | | | **Tempo** is how **fast** or **slow** the music is played |

## 2. Keywords

| | |
|---|---|
| Folk music | A traditional 'music of the people', handed down through the generations |
| Oral tradition | The passing down of folk music from generation to generation – lyrics and melodies – without writing them down |
| Orchestra | A large ensemble (group of musicians) divided into four sections - Strings, Woodwind, Brass and Percussion |
| Arrangement | A piece of music written in a different way to the original, e.g. changing the style, instrumentation, structure or mood |
| Chord | Two or more noted played together to form harmony |
| Chorus | The section of a song that is repeated identically after each verse |
| Drone | Usually one (or two continuously held notes in the bass |
| Sea Shanty | A type of work song, sung by sailors on board ships |

### THE TREBLE CLEF

Every Good Boy Does Fine    FACE

C D E F G A B

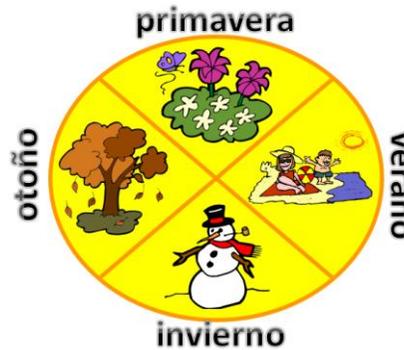| Semibreve 4 beat note | Minim 2 beat note | Crotchet 1 beat note | Quaver ½ beat note | Semi-quaver ¼ beat note |
|---|---|---|---|---|
| 𝅝 | 𝅗𝅥 | ♩ | ♪ | ♪ |

**Educational Poverty**

**Definition:** Individuals lacking the necessary education and skills to participate fully in society and the workforce, leading to limited opportunities and perpetuating cycles of poverty: in particular, children, cannot read and understand a simple story by the age of 10.

**Consequences:** Limited employment opportunities reduced economic growth, social exclusion and health problems.

**Reasons:** Lack of infrastructure: Schools in impoverished areas may lack basic resources, such as textbooks, computers, and qualified teachers.

Conflict and instability: Conflict and instability can disrupt education systems and prevent children from attending school.

hace calor / hace frío / hace sol / hace viento / hace mal tiempo / hace buen tiempo / hay tormenta / nieva / llueve / está nublado

| | | |
|---|---|---|
| el desierto | el lago | la selva |
| los campos | las montañas | el río |
| El centro | la isla | La costa |

primavera / otoño / verano / invierno

| En primavera/ verano / invierno / otoño | In spring / summer / autumn / winter |
|---|---|
| Me gusta cuando | I like it when … |
| No me gusta cuando | I don't like it when… |
| Odio cuando … | I hate it when… |
| En las montañas… | In the mountains… |

| Me encanta | I love |
|---|---|
| Me gusta | I like |
| No me gusta | I don't like |
| Odio | I hate |
| Prefiero | I prefer |

**Las asignaturas**

El español / La informática / La historia / El deporte / La música / El francés / La agricultura / Las matemáticas / La geografía / El inglés / La escuela forestal / Las ciencias / La filosofía y ética

*An operating system is software that manages a computer system.*

## Manage resources:

### Manages peripherals such as input and output devices
• Communicates with and sends data input/output to a printer/monitor/other valid input/output device.

### Manages printing using spooling
• Data is stored in a queue and is printed when printer is free. Can carry on working/ or log off when waiting for job to print.

### Manages backing store
• Ensures that data is stored and can be retrieved correctly from any disk drive.

### Manages memory (RAM)
• Ensures that programs/data do not corrupt each other and that all programs and data including itself is stored in correct memory locations.

### Manages processes
• Ensures that different processes can utilise the CPU and do not interfere with each other or crash.

### Manages security
• Allows creation and deletion of user accounts.
• Allows users to logon and change passwords.

### Manages multitasking
• Allows a user to seemingly perform more than 1 task at a time
• Tasks are allocated a time-slice by the CPU

### Manages Interrupts
• Hardware interrupts are generated when a key is pressed or when the mouse is moved
• Software interrupts are generated by a program requiring disk input or output.

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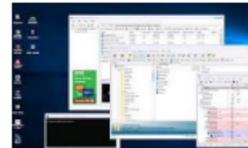## Operating Systems Knowledge Organiser

### Provides a user interface

*The operating system provides a user interface by:*
• allows **copying/deleting/moving/sorting/searching** of file or folders
• allows **access to system settings** such as hardware
• provides a **command line interface**
• allows users to **have more than one window open**
• provides a **graphical user interface** (Windows, Icons, Menus, Pointers)
• provides user with **errors/help messages**
• allows **customisation of interface**, e.g. change desktop background/layout
• allows user **to switch between tasks** (programs/windows)

### Graphical User Interface (GUI)
• Windows/icons/menus/pointers
• Easy to navigate / uncomplicated
• Uses large amount of memory & disk space

### Touch sensitive
• Very intuitive/ Easy to use
• Screens easily damaged

### Command line interface (CLI)
• Quick to use if you know commands
• Little memory and storage needed
• Only suitable for experts

### Menu driven
• Easy to navigate /Ideal for beginners
• Navigating can be long

### Voice driven
• Quick /Hands free
• May misunderstand voice commands

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**Human-computer interaction (HCI)** To allow a person and a computer system to communicate, an interface is required

## Utility software
• **File transfer** - transfers data from one location to another. (e.g copying a file from one folder to another)
• **Formatting** - prepares a disk for use. All files may be erased ready for new data to be stored.
• **Compression** - making a file size smaller. Allows more data to be stored on the disk and speeds up data transfer (e.g via email).
• **System backup** – makes a copy of data to prevent data loss.
• **System restore (roll back)** – replaces lost or corrupt data with an earlier backup
• **Defragmentation** - Re-arranges/puts fragmented (split) files back together to speed up disk access.
• **Control panel** - gives the user control of software and hardware features. Enables the user to change settings e.g sound, device, display settings.
• **Virus scanning** -checks files for viruses
• **Firewall**-monitors incoming/outgoing network traffic
• **System monitoring** – monitors resources like CPU usage and amount of free RAM
• **Task management** – provides information about processes currently running
• **Disc scanning and repair** – detects and repairs physical errors on the disk