# Year 7
## Term 2A


Name _____

Form _____

St Cuthbert's Catholic High School

MORE THAN A SCHOOL

St Cuthbert's
Catholic High School
*Live life in all its fullness*

"An investment in knowledge pays the best interest."

Benjamin Franklin

*(research 10 facts about Benjamin Franklin)*

# Year 7 Knowledge Organiser:
## Term 2A

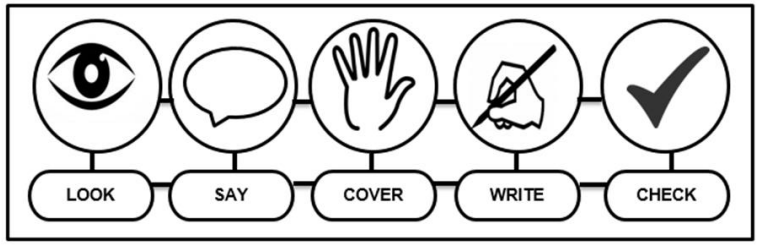
# Instructions for using your Knowledge Organiser

The timetable on the next page tells you which subjects you should be studying on which days (it doesn't matter if you have that subject on that day or not, you should follow the timetable).

You are to use your exercise book to show the work you have done. Each evening you should start a new page and put the date clearly at the top.

You need to bring your KO and exercise book with you EVERY DAY to school. Your KO and exercise book will be checked regularly in form time.

You will also be tested in your lessons on knowledge from the organisers.




You must use the revision strategy Look – Say – Cover – Write - Check to learn the knowledge. You can also use your KOs and book in a number of different ways but you **should not just copy** from the Knowledge Organiser into your book.

## Presentation

**You should take pride in how you present your work:**

- Each page should be clearly dated at the top right hand side with the **Subject** written in the middle e.g. English.
- Half way down the page a line should divide it in two with **Next Subject e.g. Maths** written above the dividing line.
- Each half of the page should be neatly filled with evidence of self-testing. There should be an appropriate amount of work.
- Failure to show pride in your presentation or wasting space on your page with large writing or starting a number of lines down will result in a **negative AtL**.

# Year 7 Knowledge Organiser Homework Timetable

**You are expected to study the subjects shown on your timetable each day. You need to spend 20 minutes on each subject and you will need to evidence your work in your exercise book.**

| WEEK A | Subject 1 | Subject 2 | Subject 3 |
|---|---|---|---|
| MONDAY | English | Spanish | Geography |
| TUESDAY | Science | Maths | PD |
| WEDNESDAY | History | Music | Science |
| THURSDAY | RE | Maths | Food |
| FRIDAY | Computing | Technology | English |

| WEEK B | Subject 1 | Subject 2 | Subject 3 |
|---|---|---|---|
| MONDAY | English | Drama | Geography |
| TUESDAY | Science | Maths | RE |
| WEDNESDAY | History | PE | Science |
| THURSDAY | RE | Maths | Spanish |
| FRIDAY | Computing | Art | English |

# Reading Log

*"The more that you read, the more things you will know. The more that you learn, the more places you'll go"*

***Dr Seuss***

Use this reading log to record the books you read and how long you have spent reading.

| Week | MON | TUE | WED | THURS | FRI | SAT | SUN | Book(s) read (title and author) | Time spent reading | Parent comment/signature |
|---|---|---|---|---|---|---|---|---|---|---|
| Week 1 | | | | | | | | | | |
| Week 2 | | | | | | | | | | |
| Week 3 | | | | | | | | | | |
| Week 4 | | | | | | | | | | |
| Week 5 | | | | | | | | | | |
| Week 6 | | | | | | | | | | |

# Year 7 Religious Education – Term 2A: Galilee to Jerusalem

**Section 1;**

Christians believe that Jesus is the full and final revelation of God. Revelation is the way that God makes himself know to humans.

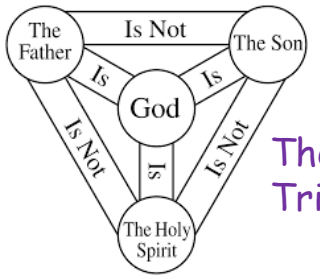
Christians believe that Jesus is God! - he is the incarnation, which means he is God made into a person. He is fully God and fully human. This is a difficult idea to understand and in the days of the early Church there was some disagreement about it.

**Section 2;**

Christians believe in the trinity. This is the belief in one God known through three persons – father, son and holy spirit. This belief is expressed in prayer, including a special prayer called the Nicene Creed. A creed is a statement of belief – the Latin 'credo means 'I believe' Belief about trinity is also expressed in art.

Jesus has lots of different titles in the Bible; Son of God. Son of Man, Lord. They express Christian beliefs about him.

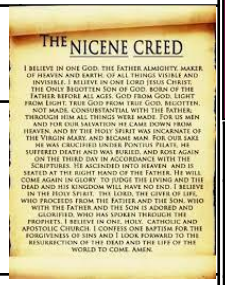
For Christians Jesus is the model of perfect human living and they try to live as he did. They follow his example of service and love.




The Trinity

## Sources of Wisdom and Authority (SOWAA)

(1) The Nicene Creed
'I believe in one God..'




(2) And a voice came from heaven ' you are my beloved son; with you I am well pleased'
Mark's Gospel

(3) 
'Truly this man was the Son of God'
Matthew 27:54

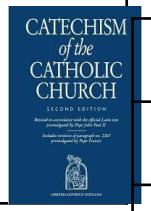
(4) But who do you say I am? Peter answered him; 'you are the Christ' Mark 8:29

(5) 'The son of man came not to be served but to serve' Mark 10:45

(6) He reveals the invisible God…He was born, died and rose again for us….He is the one who knows us and loves us; He is our companion and the friend of our life' Pope St Paul VI 1970

(7) For the Liturgy is indeed a sacred thing, since by it we are raised to God and united to Him, thereby professing our faith and our deep obligation to Him for the benefits we have received and the help of which we stand in constant need. Pope Pius XI in 1928

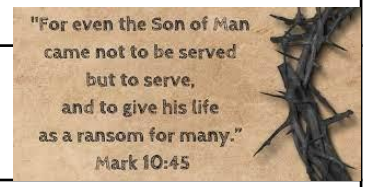
(8) Christ, the Son of God made man is the father's one perfect and Unsurpassable Word. In him he has said everything; there will be no other word than this one (Catechism)






**Big Questions:**

- Who is Jesus?
- What do the different names or titles for Jesus mean?
- What is incarnation?
- What is the trinity?
- How is Jesus a model of holiness?

| Key words | Definition |
|---|---|
| **Incarnation** | 'made into flesh' – Jesus is the incarnation = God made into flesh / a human |
| **Trinity** | One God known through 3 persons; the father the son and the holy spirit |
| **Son of Man / son of God / Lord** | Titles for Jesus     |
| **Christ** | Annointed one / messiah – from the Greek 'christos' |
| **Heresy** | When someone who is a baptised Catholic deliberately denies or questions Church teaching  |
| **Arianism** | The belief that Jesus was not fully God . Arius was an early Christian priest, who was found guilty of heresy |
| **lex orandi, lex credendi** | Latin for 'the law of prayer, The law of belief' |
| **service** | Selflessly working for the benefit of other people |

| Complete the learning homework for each week; work in your yellow book | | Week 4 | Section 2 and trinity diagram |
|---|---|---|---|
| Week 2 | Key words and definitions | Week 5 | SOWAA 1 - 5 |
| Week 3 | Section 1 | Week 5 | SOWAA 7 - 8 |

# Year 7 English - Term 2A: Legends of the Past

**Subject Specific vocabulary**

**Task 1: What is a legend?** A traditional story sometimes popularly regarded as historical but not authenticated (not shown to be true).

| **Task 2:** | |
|---|---|
| Appositive | **Noun or noun phrase** that provides extra information or further identifies another noun/noun phrase. |
| Epithet | An **adjective or phrase** describing a characteristic of the person/thing described e.g. the wine-dark sea. |
| Juxtaposition | The fact of two things being seen or placed close together with contrasting effect. |
| Protagonist | One of the major characters in a narrative. |

# Year 7 English - Term 2A: Legends of the Past

| Subject Specific vocabulary | |
|---|---|
| **Task 3:** | |
| Exposition | The opening of a story, introducing characters, setting and plot. |
| Climax | The most intense, exciting, or important point of a narrative. |
| Denouement | The solution of a mystery, the winding up of a plot, the outcome of a set of events. |
| Rhetoric | Language designed to have a persuasive or impressive effect. |
| Metaphor | Language that transports meaning from one 'place' to another. E.g. Juliet is the sun. |
| Ground | The relationship between the tenor and the vehicle. E.g. 'Juliet is the sun.' Both are bright/warm. |
| Tenor | The subject of a metaphor. E.g., 'Juliet is the sun,' Juliet is the tenor. |
| Vehicle | The imagery used to describe the tenor. E.g. 'Juliet is the sun,' The sun is the vehicle. |

## Task 4: How has language changed over time?

**Anglo Saxon** people spoke **Old English**

(Anglo Saxon : A term used to describe the people and era in England from 400AD – 1066AD)

(Old English: spoken by the Anglo Saxons)

**Middle English**: The form of English spoken between 1066 and 1500 AD **after the Norman invasion**.

# Year 7 English Term 2A: Legends of the Past

**Task 5:** Record the definitions of the vocabulary below and learn how to spell each word.

| Vocabulary | Definition |
|---|---|
| Chivalrous | |
| Gallant | |
| Illustrious | |
| Valiant | |
| Vengeful | |

# Year 7 Maths– Term 2A : 2d shapes, perimeter, area and co-ordinates

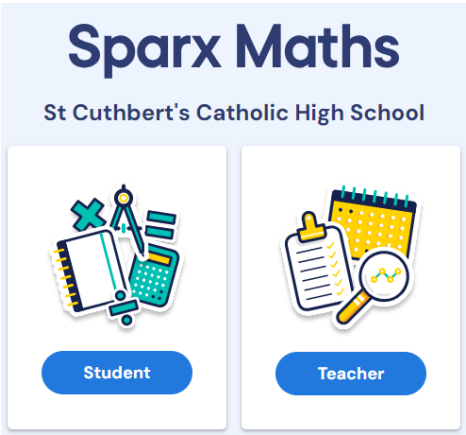
All Maths homework is set online through **Sparx Maths**. Set and due in every **Wednesday at 8am**.

Use the QR code on the right to access the site or go to **www.sparxmaths.uk** and choose student.

To log in, use your school email address and the password you use to access the school computers.
e.g. Joe Bloggs  24BloggsJ@stcuthberts.com

**We have chosen to use Sparx Maths as:**

- The homework is personalised to you.
- Sparx Maths keeps learning from your attempts to create challenging yet achievable questions each week.
- It is proven to improve students grades in Maths.
- There are support videos for each question, if needed.
- It provides your teachers with lots of insights about which topics you need more help with.
- It has consolidation questions each week to help you remember more.
- Because homework is made specifically for you, you will be able to answer every question correctly, but
  - ❑ **some questions may take slightly longer than others**
  - ❑ **some questions will probably need more than one try to get it right.**



# Year 7 Maths- Term 2A : 2d shapes, perimeter, area and co-ordinates

Use your Knowledge organiser book to write down your question number, working out and answers. This will help you to pass your bookwork checks so that you will get fewer.

Compulsory personalised homework is set and due in each week on a **Wednesday at 8am**, this includes questions on topics you have recently covered in class, consolidation work and times tables. If you complete it by Monday 8am you will earn extra class charts points!

Compulsory

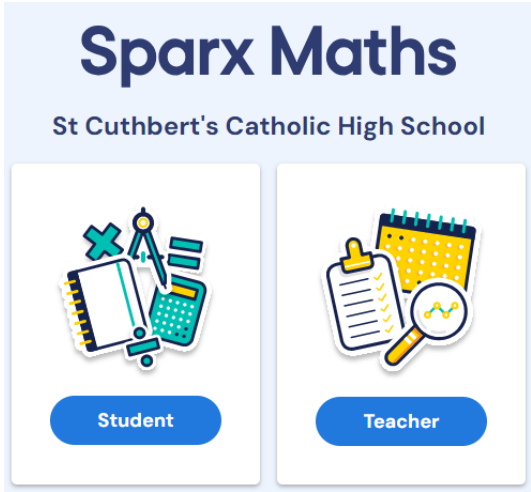
XP Boost

Target

Independent Learning

Sparx produces three personalised task for your each week. Two are optional.

- After you finish your **Compulsory** homework, refine your skills by completing similar problems in **XP Boost**
- Further enhance your skills by completing the **Target** work which is a set of six questions chosen specifically to challenge you
- You can also complete **Independent Learning** to support you further. You choose the level for this.




IF YOU DO NOT HAVE ACCESS TO A PHONE, COMPUTER, LAPTOP, TABLET COME TO THE SPARX CLUB TUESDAY LUNCH TO COMPLETE YOUR HOMEWORK

# Year 7 Science – Term 2A

**Organs** are made of tissues – one organ can contain several tissues.

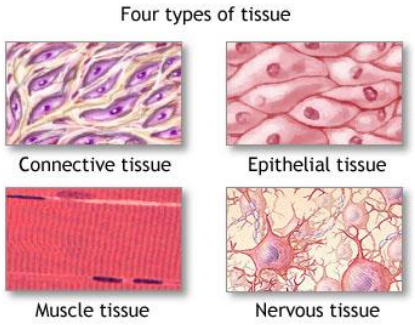
E.g. the **stomach**:

Muscular tissue **contracts** to churn food.

Glandular tissue to **produce enzymes**.

Epithelial tissue to **cover** the organ.

Nervous tissue to **carry impulses** to control contractions.



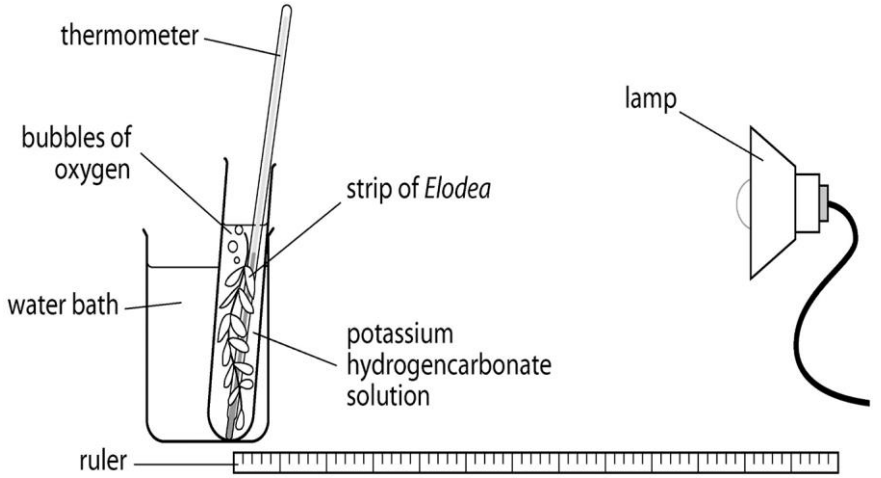

| Key Term | Definition |
|---|---|
| Cell | The building block of life and the smallest structural unit of an organism |
| Tissue | A group of cells working together to perform a particular function |
| Organ | A group of tissues working together to form a particular function |
| Organ system | A group of organs working together to perform a particular function |
| Organism | An individual life form, can be unicellular or multicellular |

## Photosynthesis

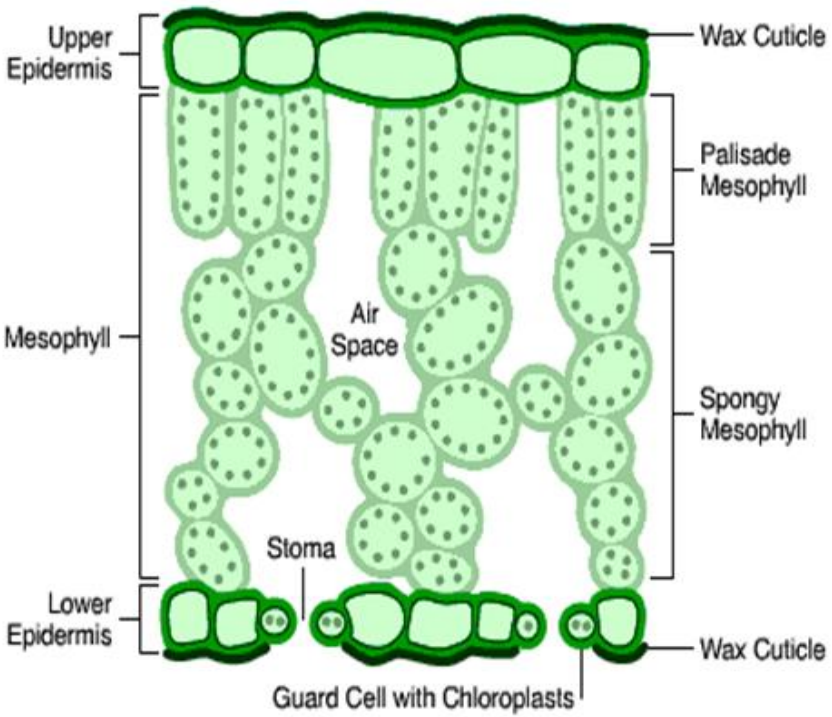
Carbon dioxide + water ➡ glucose + oxygen

Chloroplasts in the palisade cells contain chlorophyll, a green pigment which absorbs light. This is used to convert carbon dioxide and water into glucose and oxygen.

The rate of photosynthesis can be measured by counting bubbles or measuring volume of oxygen produced, like in the diagram below:



## Structure of the Leaf




**Palisade cells** – where photosynthesis takes place, adapted to absorb as much light as possible

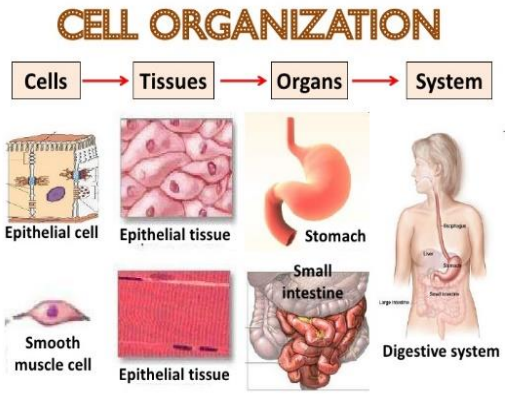
**Guard cells** – open and close stomata to allow gases in and out, and control water loss.

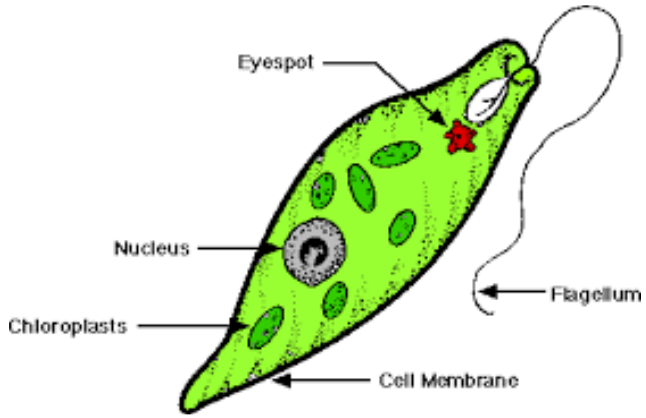
**Xylem** – moves water and minerals up from the roots

**Phloem** – transports sugars around the plant.

## Unicellular Organisms

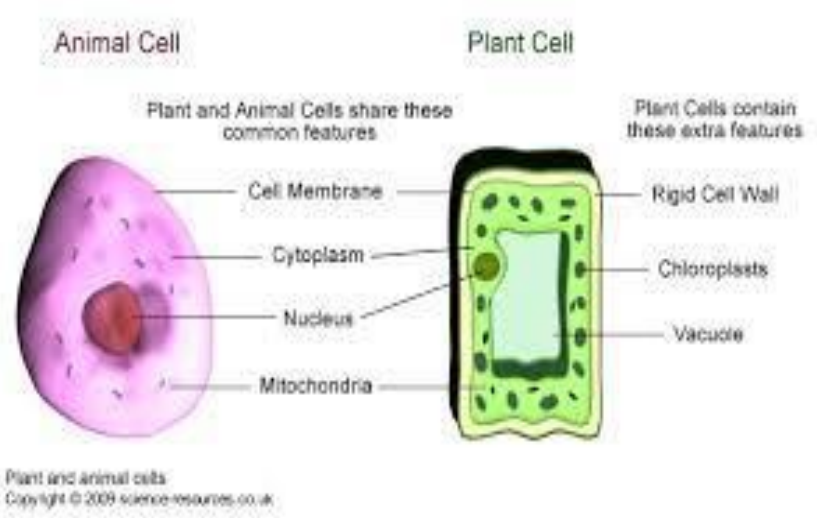
Unicellular organisms are made of <u>one cell</u>. There are <u>no tissues, organs or organ systems.</u> They have structural adaptations to help them survive, for example Euglena have a flagellum (tail) to help them move and chloroplasts so they can make their own food.



## Cells

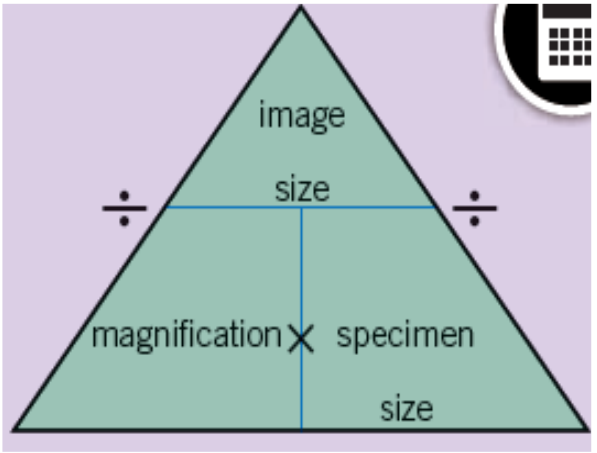
Cells are the building blocks of all living organisms.
They contain organelles which have different functions

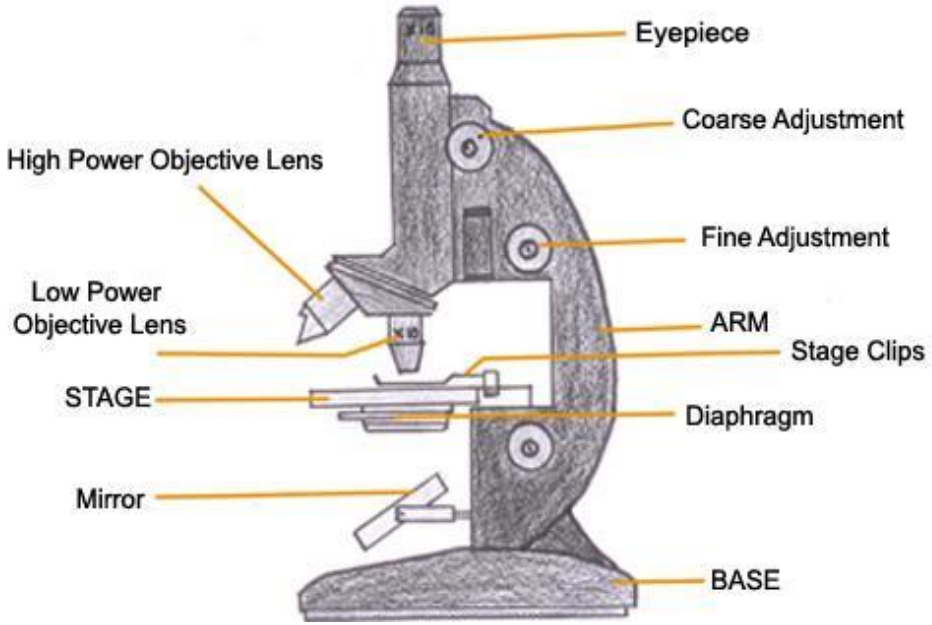



| Key Term | Definition |
|---|---|
| Cell wall | Made of cellulose, which supports the cell |
| Cell membrane | Controls movement of substances into and out of the cell |
| Cytoplasm | Jelly-like substance where chemical reactions happen |
| Nucleus | Contains genetic information and controls what happens inside the cell |
| Vacuole | Contains a liquid called cell sap which keeps the cell firm |
| Mitochondria | Where respiration takes place |
| Chloroplast | Where photosynthesis takes place |
| Ribosome | Where proteins are synthesised |

**How to Set up a Microscope**

1. Place the microscope with the eyepiece facing towards you and tilted back.
2. Turn the lenses so that the lowest power objective lens is in place.
3. Place the slide onto the stage and secure with the stage clips.
4. Use the **course adjustment** to lower the lowest power objective lens to as low as it can go without touching the slide.
5. Turn on or adjust the light source.
6. Look through the eyepiece and slowly turn the course focus to move the objective lens away from the slide, until the image comes into focus.
7. Use the fine adjustment if needed for fine focussing.
8. You can then change to a higher power objective lens, adjusting the fine focus to see the image.

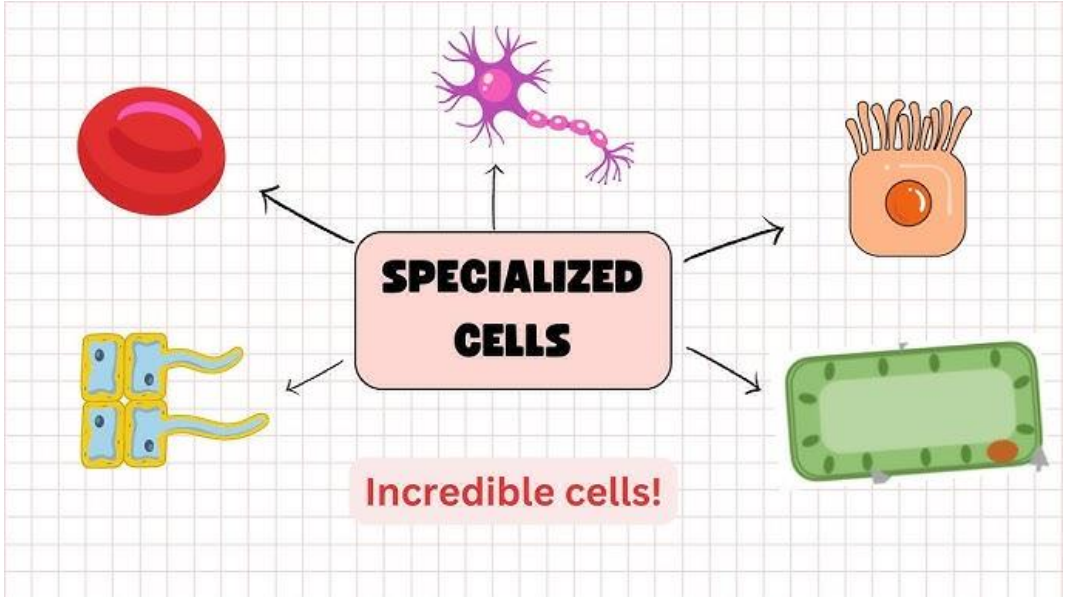


**Specialised Cells**

Multicellular organisms are made up of specialised cells.

Each cell has a particular function.




| | | |
|---|---|---|
|  | SPERM CELL | Long tail for swimming<br>Head for getting into the female cell |
|  | EGG CELL | Large<br>Contains lots of cytoplasm |
|  | NERVE CELL | Long connections at each end<br>Can carry electrical signals |
|  | RED BLOOD CELL | Large surface area<br>Contains haemoglobin, which joins with oxygen |
|  | ROOT HAIR CELL | Large surface area |
|  | LEAF PALISADE CELL | Large surface area<br>Lots of chloroplasts |
|  | XYLEM CELL | Hollow so it conducts water<br>Strong cell walls |

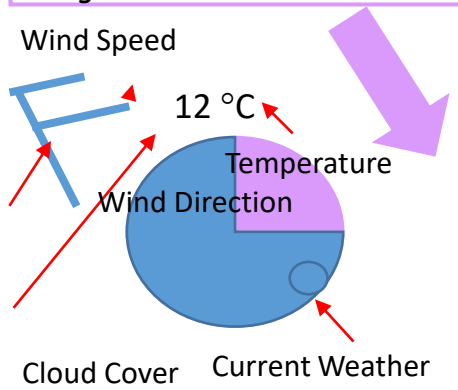
# Year 7 Geography – Term 2A: What is weather & Climate?

## Key Words

- **Weather** – The conditions of the Earth on a daily basis (e.g. is it raining? Snowing? Sunny? Hot?).
- **Climate** – State of the atmosphere over long periods of time (e.g. The North Pole has a cold, dry climate but the UK has a mild, wet climate).
- **Meteorology** – The study of the atmosphere/weather.
- **Temperature** – How hot or cold an area is.
- **Precipitation** – Any form of water e.g. Rain, sleet, snow, hail.
- **Clouds** – Millions of water and ice particles that are floating in the sky.
- **Air pressure** – The pressure that the air puts on the Earth's Surface
- **Wind** – Movement of air from high to low pressure.
- **Condensation** – Water vapour (gas) turns to liquid (rain).
- **Evaporation** – Water (liquid) turns to water vapour (gas) when the water is heated.
- **Air mass** – A large area of warm or cold air.
- **Front** – Boundary between a cold and warm air mass.
- Warm Front – Area of warm air.
- Cold Front – Area of cold air.
- Occluded Front – Cold front catches up with a warm front which lifts the warm air above the Earth's surface.
- **Anticyclone** – High pressure system which forms stable conditions. The air is sinking, which forms warm and dry weather. Winds blow clockwise. Associated with frost and fog, thunder and cumulonimbus clouds.
- **Depression** – Low pressure system which forms unstable conditions. The air is rising, which forms wet, cloudy weather. Winds blow anticlockwise. Associated with dew on grass, stratocumulus clouds and light winds.
- **Isobars** – lines on a weather map that show the air pressure in an area.
- **Altitude** – Measure of the land's height above sea level. Every 100 m increase in height = - 1°C in temperature.

## How to Measure Weather

- **Temperature** is measured by minimum/maximum thermometers. It is measured in degrees centigrade (°C).
- **Stevenson Screens** shade thermometers and filter the air through it, to measure the temperature in the shade.
- **Air Pressure** is measured by a barometer. It is measured in millibars.
- **Sunshine** is measured by Campbell Stokes Sunshine Recorder which was designed in 1879. A glass sphere concentrates the suns ray's onto a card. As the sun travels hourly, the sun's rays mark lines across the card.
- **Wind Speed and Direction** are measured by anemometers. The faster the wind is, the faster the cups on the anemometer spin. This is measured in knots. Wind roses record the wind direction.
- **Rainfall** is measured by a rain gauge which is a cup that is sunk into the ground. This is measured in millimetres.




These record weather data:

- Bouys
- Satellite
- Ground Stations
- Rigs
- Ships
- AMDAR

## Rain Formation

- Air contains water vapour (warm air can hold more water vapour than cold air).
- Warm air rises -> warm air expands and cools -> As air cools, it can hold less water vapour -> When the temperature cools to dew point, condensation happens -> Water vapour condensates from a gas to a liquid -> the liquid forms a cloud -> droplets are held in the sky by warm rising air -> droplets join together and get bigger -> droplets are too heavy -> droplets fall to the ground as rain.

## Types of Rain

**Relief Rainfall** – Mountains force air to rise, so air cools and condenses, which forms rain. On the other side of the mountain, the air sinks, so it can hold more water vapour.

**Convectional Rainfall** – Ground is heated by the sun which causes moisture to evaporate and rise. Air rises fast which forms cumulonimbus clouds. Rising warm air push the water droplets high up. Sometimes the water droplets freeze and form hail. The large water droplets fall, causing heavy rain. Sometimes there is lightening.

**Frontal Rainfall** – A warm air mass meets a cold air mass. The warm air mass is less dense than the cold air mass, so it rises above the cold air mass. This forms a front. The warm, less dense air cools and condenses, which forms rain.

**Elements of a Depression** = Warm Front, Cold Front and Occluded Front.

## Conducting a Weather Enquiry

1) Prepare the investigation (e.g. pick a question).
2) Collect the data
3) Present your findings (e.g. graphs).
4) Analyse your results.
5) Write a conclusion.
6) Evaluate your work.

**UK Climate** = Hot dry summers and cold wet winters.

## Climate Zones

- Earth separated into climate zones.
- Tropical zones are hot as the sun is at a higher angle.
- High altitude places are usually cold climate zones.

# Year 7 History – Term 2A: The Norman Conquest

## Who were the Normans?

1

William was born in 1028 and ruled Normandy from 1035. He was a large man and someone who had grown up fighting.
William is said to have had great determination and ambition and was sometimes brutal. William was born when his mother and father weren't married. Nowadays, this doesn't matter but in the eleventh century it made someone seem less respectable. This made some people see William's rule as illegitimate which made his control over Normandy weaker. As a result, when William was young, many powerful people in Normandy fought against him to try and take control over Normandy. William had to crush many rebellions and fought for his right to rule. As he got older, William was able to better control Normandy. William's thoughts then turned to taking more land.

## William and Matilda

2

William and Matilda married in 1051.
Matilda's family was powerful in France and Flanders. Flanders was also important because lots of trade between England and the rest of Europe passed through it. Matilda was also legitimate which meant that she was born to two married parents. Matilda was therefore very important to William as their marriage made William's standing in Normandy stronger. Matilda was considered calmer than her husband and their marriage produced several children.

3

*The death of Edward the Confessor in January 1066 started a year of turmoil. Three key contenders all had strong claims to become the next king of England.*

| Contender 1: Harold Godwinson | Contender 2: William of Normandy | Contender 3: Harald Hardrada |
|---|---|---|
| Anglo-Saxon Earl of Wessex, one of the most powerful men in England. Harold's sister was married to King Edward. Harold was a brave and respected soldier with a tough streak. The Witan, wanted Harold to be the next King. Edward promised the throne to William on his deathbed. | Duke of Normandy, France. William came from a fighting family. He was a brave soldier. Edward's cousin. Edward had lived in Normandy from 1016-1042. Edward had supposedly promised that William should become King of England. Harold had promised to support William. | Viking King of Norman Vikings, had ruled Britain before. He was the most feared warrior in Europe. Hardrada means 'hard ruler' and his nickname was 'The Ruthless'. Harald was supported by Tostig, Harold Godwinson's brother who wanted revenge. |

## The Battle of Stamford Bridge

4

In September 1066, Harald Hardrada and a force of 8000 Viking warriors invaded the north of England.
The new king, Harold Godwinson, had been waiting in the south of England, anticipating an invasion from William from France. He quickly marched his army 185 miles north and reached Harald Hardrada's men in just four days, taking them by surprise.
The two sides went to battle at Stamford Bridge, just outside of York.
After a violent battle, Harold Godwinson was victorious.

# Year 7 History – Term 2A: The Norman Conquest

5

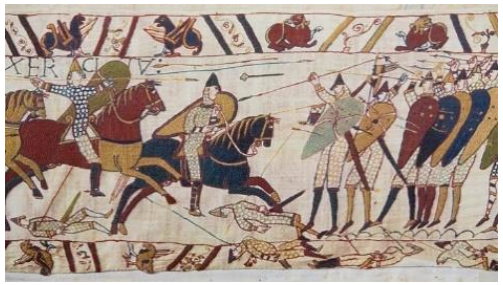
## The Battle of Hastings

At the Battle of Hastings on October 14, 1066, King Harold II of England was defeated by the invading Norman forces of William the Conqueror. By the end of the bloody, all-day battle, Harold was dead and his forces were destroyed.

6

## The Bayeux Tapestry

The Bayeux Tapestry was produced by the Normans following William's conquest. Its origins are not known for certain, but some historians believe it was arranged by William's half-brother, Odo, and sewn by English women. The tapestry is 70 metres long and gives an account of events from 1064 - 1066.



7

**Conquest -** is the act of conquering a country or group of people.

**Migrated -** movement of a group of people from one place to another

**Illegitimate -** People in the 11th century were considered illegitimate if they were born but their parents weren't married (nowadays this doesn't matter!). If rulers were illegitimate they were often seen as less respected and had a weaker claim to rule.

**Legitimate -** Someone who is seen as a rightful ruler because their birth was 'respectable'.

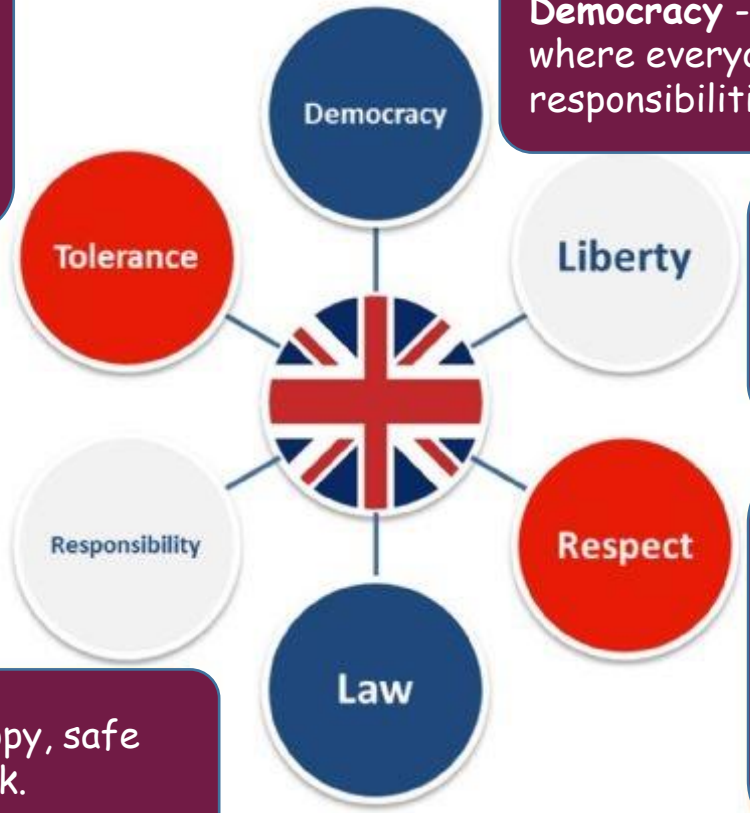
**Rebellions -** armed resistance against a leader or country.

# Year 7 Personal Development – Term 2A

## Core British Values

**Tolerance** - Understanding that we all don't share the same beliefs and values.

**Democracy** - A culture built upon freedom and equality, where everyone is aware of their rights and responsibilities.




**Liberty** - Protection of your rights and the right of others you are with.

**Responsibility** - Something that it is your duty to deal with

**Respect** - Respecting the values, ideas and beliefs of others whilst not imposing our own onto others.

**Law** - The need for rules to make a happy, safe and secure environment to live and work.

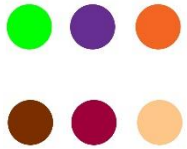
Social - Moral - Spiritual - Cultural

# Year 7 Art - Term 2A

## Colour Theory

Primary Colours

Secondary Colours



The **secondary** colours are created by mixing the **primary colours** together.
**Red** + **Blue** = **Purple**.
**Blue** + **Yellow** = **Green**.
**Yellow** + **Red** = **Orange**.

**Red, Yellow** and **Blue** are the most important colours . These are The **Primary** or first colours in Art , because by mixing these together ( in different amounts) all other colours in the **spectrum**/colour wheel are created.

In this project you will need to experiment with mixing colours, to create your skin tone, blazer colour and hair colour.

## Key Words and Specialist Vocabulary:

**Primary Colours**—The most important colours from which all others are mixed.

**Secondary Colours**—The colours mixed from the Primaries.

**Sketching**—A first rough attempt at a drawing.

**Tone**—The light and dark shading added to an image.

**Form**—The illusion of depth crated through the use of tone.

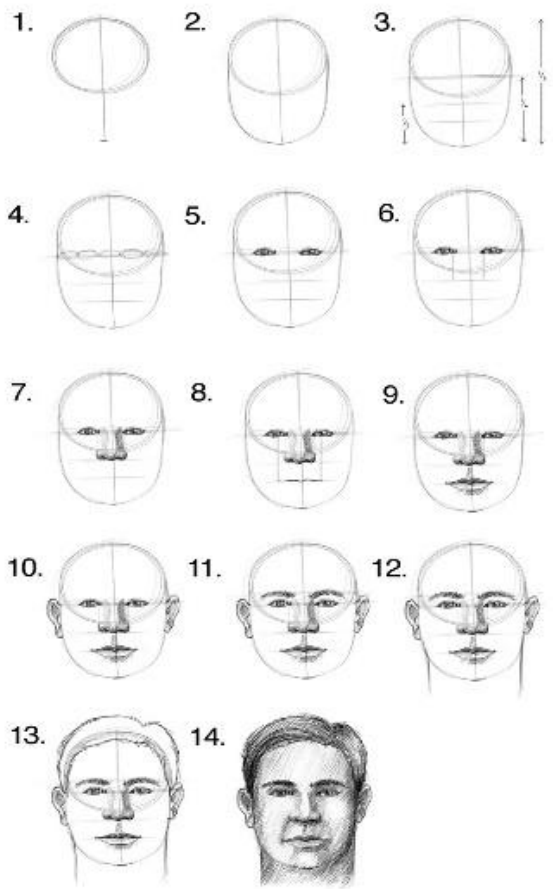
# Year 7 Art – Term 2A


## The Colour Wheel

In order to successfully mix colours in Art, you need an understanding of COLOUR THEORY.
In this wheel you can see that the primary colours mix together to create the secondary colours.

It is also good practice to learn the correct name for colours used in Art. Use this wheel to help you to learn them .

# Year 7 Art – Term 2A

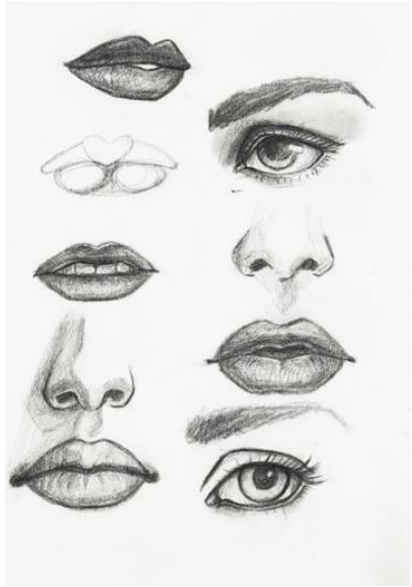



This diagram shows step by step how to create a realistic human face. If you try out this technique at home, it will transform every face drawing that you draw.

Watching YouTube tutorials about how to draw the face, and facial features and practising these techniques in your own time will enhance your understanding and knowledge before we do this work in class.

When you draw yourself a good idea is to use a mirror so that you can get really close to the details and shapes that you will need to draw. All artists have drawn themselves throughout the history of Art. Give it a go.

## Facial Features

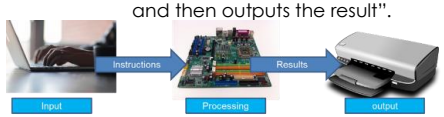


In this project you will need to experiment with mixing colours, to create your skin tone, blazer colour and hair colour.

To make your Self-Portrait look realistic you will have to look carefully at your face and try to carefully record all of the details that you see. This image (by Artist Manugen) shows how adding TONE ( shading) and detail can help to bring your drawing to life.

## What is a Computer?

"A computer is generally considered to be a programmable machine, often electronic, which takes in data, processes it and then outputs the result".




There are actually a lot of devices that can be considered computers (or at least to contain a computer). A washing machine can be programmed, has buttons to input data, a CPU to process the instructions and motors/values which produce different outputs. By definition it is therefore a computer.

## Input and Output Devices

All of the devices shown on the right are **input devices**. They all send data/instructions to the computer system. For example, the games controller will send directional data/instructions, the scanner will send image data and the microphone will send sound data to the system.

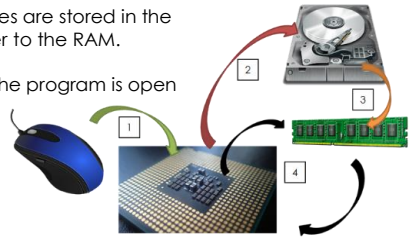
All of the devices shown on the left are **output devices**. They all output information (processed data) from the computer system to the user. For example, the monitor will display images and the speakers will output sound.

## Key Vocabulary

| *Key Word* | *Definition* |
|---|---|
| **Input device** | Piece of equipment that helps put data / commands into a computer. |
| **Output device** | Piece of equipment that helps get information out of a computer. |
| **Process** | Decisions and Calculations made by a computer |
| **CPU** | Central Processing Unit |
| **RAM** | Random Access Memory |
| **Motherboard** | Main circuit board – components are connected to this |
| **Hard drive** | The computer's file storage |
| **I/O Devices** | The input devices send data to the CPU, the output devices receive information from the CPU. |

## How does a computer actually work?

1. Firstly, when you double click a program's icon, the mouse (input device) sends an instruction (input) to the CPU requesting that the program is loaded.
2. The CPU will decode this instruction and then execute it. Now, because all programs and files are stored in the hard drive, it sends a signal to the hard drive requesting that the program files are copied over to the RAM.
3. The hard drive accepts this request and loads the program onto the RAM.
4. The CPU can now directly access and process the program files, at speed, and as a result the program is open and ready to use by the computer user.




## The Office Worker Analogy (comparison)

- Imagine that the office worker is the CPU, their drawers are the hard drive and their desk is the RAM.
- The worker (CPU) has just been asked to do some work by their boss. So, they go to their drawers (the hard drive) to find the relevant documents that they need to work on.
- Now, because the drawer is low down with little space, it is not comfortable to work at those documents while they're in the drawer (hard drive). Work would be slow!
- The worker therefore decides to bring the documents onto the desk (RAM), which is at the right height for working, so that they (the CPU) can carry out their task efficiently, at speed.

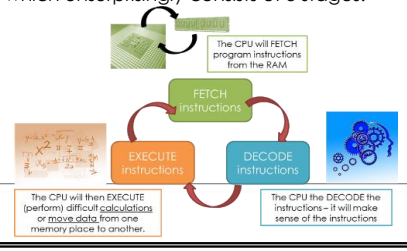

## The CPU

- It is known as the brain of the computer.
- Its job is to process data, by carrying out calculations, performing logic and coordinating input and output signals.
- It is located on the motherboard and will often have a heat sink and fan positioned on top of it, to keep it cool, as it gets very hot, when in use!

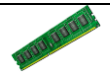
***Clock Speed***

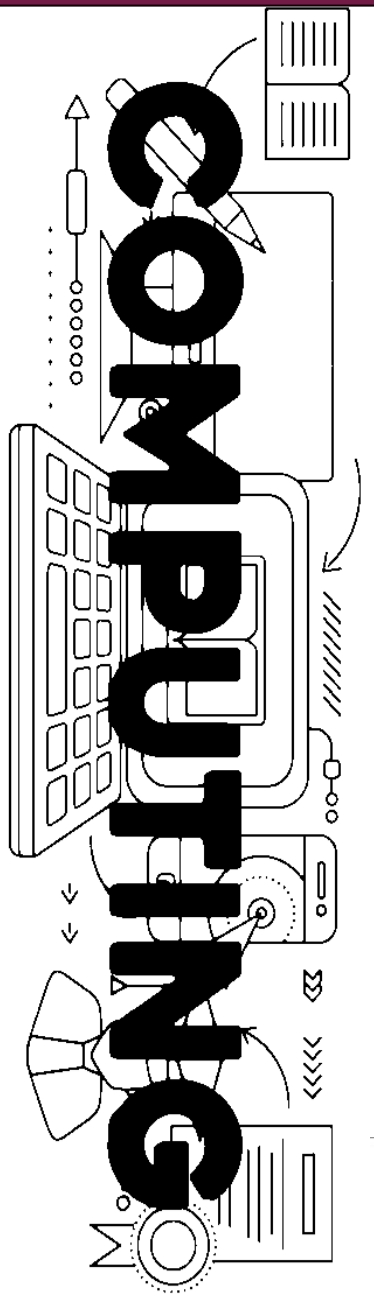
- The CPU's speed is determined by its clock speed
- This is the number of instructions the CPU can process in one second.
- It is measured in Hertz (cycles per second).
- CPUs currently run at about 3 Gigahertz, which means 3 billion Fetch-Decode-Execute cycles per second!

When the CPU processes instructions, it performs the **Fetch-Decode-Execute** cycle, which unsurprisingly consists of 3 stages.




## What's inside a Computer?

| Component | Image | Description |
|---|---|---|
| **CPU** ***(Heat Sink and Fan)*** |  | - Known as the Brain of the computer<br>- Responsible for processing data & instructions<br>- Gets hot very quickly and so often comes with a heat sink and fan to extract the excess heat. |
| **RAM** |  | - The computer's short-term memory.<br>- Stores programs that are currently in use.<br>- Fast data access speeds<br>- Needs electricity in order to store data |
| **Hard Drive** |  | - The computer's long-term memory.<br>- All programs and user files are stored there.<br>- Does not require electricity to store data. |
| **Motherboard** |  | - Large circuit board which connects all of the other components together, allowing them to communicate with one another.<br>- The CPU and RAM actually slot into this component. |
| **Power Supply Unit (PSU)** |  | - Provides the components of a computer with electricity.<br>- Often has a fan to manage the heat that it generates. |
| **Graphics Card** |  | - Contains a GPU which provides extra processing power, specifically for rendering screen images at speed.<br>- Similar to a CPU, it is often accompanied with a heat sink and fan to extract heat. |
| **Sound Card** |  | - Converts digital audio signals to analogue and vice-versa.<br>- Allows the computer to interface with a variety of sound devices. |
| **Network Interface Card** |  | - Converts a computer's data signals into a form that can be transmitted across a network (and vice-versa). |



# Year 7 Design Technology – Term 2A: Introduction to Design and Technology

| Key vocabulary | Definition |
|---|---|
| Quality control | A process through which a business seeks to ensure that product quality is maintained or improved. |
| Prototype | An early sample, model, or release of a product built to test a concept or process. |
| Finite resource | Are non-renewable and will eventually run out. Metals, plastics and fossil fuels. (coal, natural gas and oil) are all examples of finite resources. |
| Manufacturing specification | Contains all the information that is needed to make the product. |
| Sustainable | Able to be maintained at a certain rate or level. |
| Smart material | Materials that sense and react to environmental conditions or stimuli. |
| One-off production | The manufacture of a single product/item. |
| Thermoplastic | Plastic that can be softened through heating. |
| Line Bending | A manufacturing process used to create bends within a sheet of plastic. |
| Manufactured board | A range of sheet materials produced by pressing and bonding together wood particles, fibres or veneers to achieve particular characteristics. |

Most used measurements

Centimetre = 10mm

cm x 10 = mm

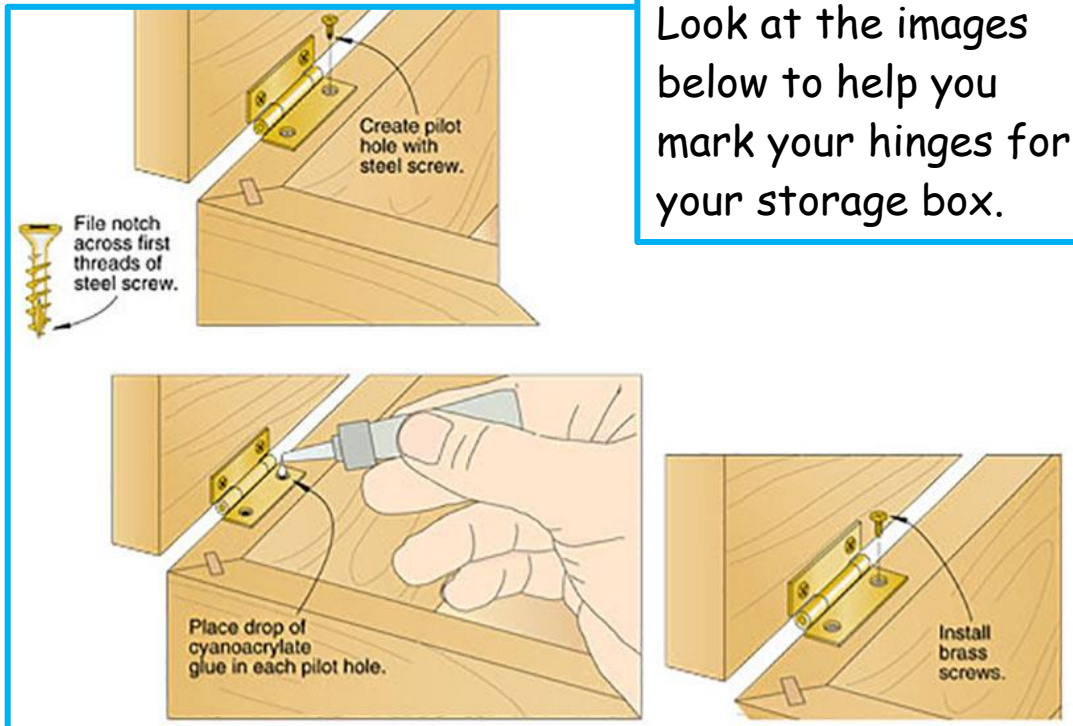
Right Angles = 90°

Techsoft

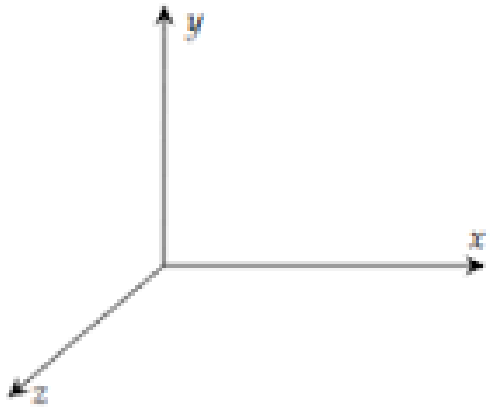
Scan the QR code view a manual to help you with Techsoft.

Techsoft

Scan the QR code to watch a tutorial about Techsoft




Look at the images below to help you mark your hinges for your storage box.

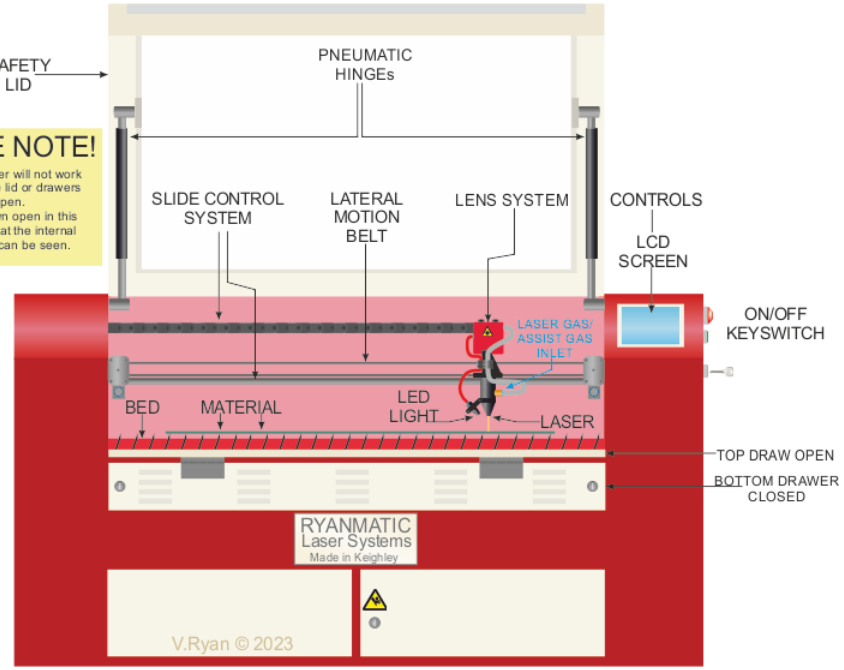



**XYZ Coordinates:**

Y is up and down

X is left to right

Z is front to back.




A Laser Cutter.

# Year 7 Drama – Term 2A: Practicing vocal and physical skills

| Key terminology | Definition |
|---|---|
| **Pace** | The speed at which an actor speaks |
| **Pitch** | How high or low an actors voice is |
| **Volume** | How loud or quiet an actors voice is |
| **Accent** | How an actor speaks based on where the character comes from |
| **Clarity** | How clear our words and phrases are |
| **Pause** | A temporary stop in action or speech |
| **Emphasis** | Stress given to a word or words when speaking to indicate particular importance. |
| **Facial expression** | How we communicate our emotions through use of our facial features |
| **Gesture** | A movement of part of the body, especially a hand or the head, to express an idea or meaning. |
| **Emotion** | A strong feeling deriving from one's circumstances, mood, or relationships with others. |
| **Still image** | When actors create a stage image using their bodies with no movement |
| **Slow motion** | Students reduce the speed at which a drama is enacted, to highlight a scene or bring a big moment into focus. It can also be used to create dramatic tension by slowing the action when building up to an important event. |
| **Mime** | A technique of suggesting action, character, or emotion without words, using only gesture, expression, and movement. |
| **Tension** | The development of suspense in drama, usually due to conflict. |

# Year 7 Food – Term 2A: Food and the Environment

## Breakfast

Breakfast is the first and the most important meal of the day because it **'breaks the fast'** when we have not eaten for many hours. Breakfast cereals are the most popular breakfast food in the UK, they are made from different types of cereal which are a good source of carbohydrate for energy and fibre.

Many breakfast cereals are fortified with vitamins and minerals, so are important sources of iron, folic acid and vitamins B and D. Lots of people do not eat breakfast, but it provides us with energy that we need to start the day, and eating breakfast can help us concentrate at school and work.

Scan the QR codes to watch a video about breakfast around the world and complete your homework quiz 1.

SCAN ME
SCAN TO WATCH

SCAN ME
SCAN FOR QUIZ

## Food provenance is knowing…

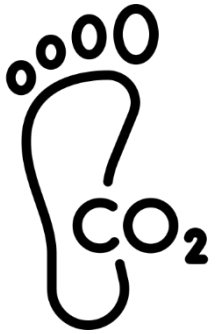
- where food is grown, caught or reared
- how it is produced
- how it is transported.

| | |
|---|---|
| Grown | Crops like wheat and barley are grown in the UK. Apples, potatoes, carrots, lettuce, sprouts and soft fruits like strawberries and raspberries are suited to our climate. |
| Reared | Animals that are reared on farms in the UK include cows for meat and milk, sheep, pigs and chickens for meat and eggs. |
| Caught | Fish and shellfish such as mackerel, haddock, mussels, scallop and salmon can be caught in the seas around the UK. |

| Key vocabulary | Definition |
|---|---|
| Caught | Fish and shellfish caught in seas by trawling, line-caught and pots. |
| Commodity | Groups of food, e.g., cereals, milk, cheese and yogurt, fruit and vegetables. |
| Dough | A mixture of dry ingredients and a liquid that is mixed, kneaded and baked. |
| Food provenance | Knowing where food is grown, reared and caught and how it is produced. |
| Grown | Crops such as wheat/oats/barley. Fruits and vegetables. |
| Harvest | When it is time to pick the crop and send for further processing. |
| Knead | To stretch the gluten by pushing dough across a work surface and back. |
| Reared | Animals that are reared for food, e.g., cows/sheep/pigs/chickens. |
| Slaughter | To kill an animal for food. |
| Sustainable | Meets the needs of the present, without making it difficult for the future. |

# Year 7 Food – Term 2A:

## Food and the Environment




## Carbon footprint

A **carbon footprint** is the total amount of greenhouse gas emissions generated by our actions, from production to consumption. Every product has a carbon footprint. Product carbon footprints are generated by all the elements that go into developing, making and transporting the product from beginning to end. It includes carbon dioxide emissions from factories through production, transportation (food miles), production of packaging and removal of waste.

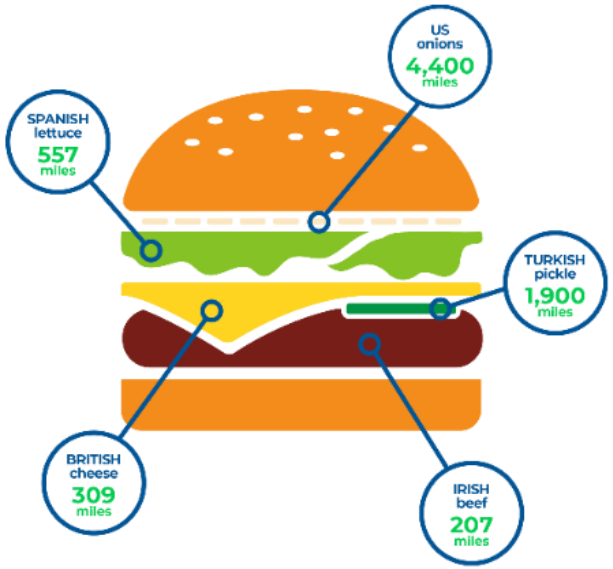
## Food miles

Scan the QR codes to watch a video about food miles and complete your homework quiz 2.

SCAN TO WATCH

SCAN FOR QUIZ

A food mile is the distance which food travels, from its production until it reaches the consumer. Look at how many miles the ingredients for this burger have travelled. Could the miles be less?




Food miles contribute to a person's carbon footprint (see note on the left).

# Year 7 Music – Term 2A:

## The Ukulele

The ukulele is **a member of the guitar family** of instruments. It generally employs four nylon strings.

The ukulele originated in the 19th century as a Hawaiian adaptation of the Portuguese machete, **a small guitar-like instrument**, which was introduced to Hawaii by Portuguese immigrants, mainly from Madeira and the Azores. It gained great popularity elsewhere in the United States during the early 20th century and from there spread internationally.

## The Four Chord Song

One popular chord progression used in popular music is the 'four chord sequence', and it uses chords: **I – V – vi – IV.**

It is one of the most commonly used chord sequences.

Next time you are listening to some music, see if you can identify it in any songs you are listening to.

## Chords

A chord, in music, is any **harmonic set of pitches consisting of multiple notes** (also called "pitches") that are heard as if sounding simultaneously.

Chords and sequences of chords are frequently used in modern West African and Oceanic music, Western classical music, and Western popular music; yet, they are absent from the music of many other parts of the world.

## The Piano

The piano is a stringed keyboard instrument in which the strings are struck by wooden hammers that are coated with a softer material (modern hammers are covered with dense wool felt; some early pianos used leather).

## The Guitar

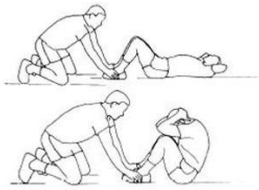
The strings run between the **headstock of the guitar**, where they are affixed to tuning pegs that can be rotated to tighten and slacken them, and the bridge, where they're fixed to the guitar's body. On an acoustic guitar, the strings are fixed to the bridge with removable pegs, and on an electric guitar the strings are generally strung through an eyelet.

The neck of the guitar is the long wooden piece of wood, flat on one side (this is called the fretboard) and curved on the other. The fretboard is inlaid with metal frets that demarcate the different notes.

# Year 7 Physical Education – Term 2A

## Fitness Tests

| Test | Component Measured | How to complete the test? |
|---|---|---|
| Bleep Test | Cardiovascular Endurance | Cones 20m apart, run back and forth in time with the bleep. |
| Sit up bleep test | Muscular Endurance | Perform a full sit up in time with the bleep / or as many as possible in One minute. |
| Grip test | Muscular Strength | Using the grip dynamometer, return the dial to 0, hold above your head with a straight arm. Clench as hard as you can and pull towards your side. |
| Sit and Reach Test | Flexibility | Feet flat against the sit and reach box, keeping your legs straight, slide the ruler with your hands and hold for 3 seconds. |



## Sport specific key terms/techniques

| Handball | |
|---|---|
| **Key terms** | Meaning. |
| **Double dribble** | Handball players cannot receive the ball and bounce it, then hold the ball, and bounce it again. |
| **'Walking'** | If a handball player takes more than three steps without dribbling or holds the ball for more than 3 seconds without bouncing it, shooting or passing, then that is deemed 'walking' and possession is lost. |
| **Penalty throw-in** | Awarded when denying a clear goal scoring opportunity. |
| **Distance** | Defenders are required to stay 3m (9.84ft) away from the person taking the free-throw. |

| Basketball | |
|---|---|
| **Key terms** | Meaning. |
| **Heart Rate** | Measured in Bpm. |
| **RHR** | "Resting Heart Rate" – how fast our heart beats before we exercise. |
| **WHR** | "Working Heart Rate" – how fast our heart is beating immediately after exercise. |
| **RR** | "Recovery Rate" – measured every minute after finishing exercise – to see how long it takes to get back to our resting heart rate (RHR). |
| **BPM** | Beats per minute. |




# Year 7 Spanish – Term 2A

## 1. Mi equipaje

| | | | |
|---|---|---|---|
| a pencil case | **un estuche** | a school bag | **una mochila** |
| a pencil | **un lapíz** | a rubber | **una goma** |
| some pencils | **unos lapices** | a sharpener | **un sacapuntas** |
| some scissors | **unas tijeras** | a ruler | **una regla** |
| a text book | **un libro** | an exercise book | **un cuaderno** |
| a glue | **un pegamento** | a pen | **un bolí/bolígrafo** |
| a marker pen | **un rotulador** | a fountain pen | **una pluma** |
| a calculator | **una calculadora** | my PE kit | **mi equipo** |

## 2. Mis asignauturas

| | | | |
|---|---|---|---|
| Spanish | **el español** | French | **el francés** |
| English | **el inglés** | Chinese | **el chino** |
| German | **el alemán** | Italian | **el italiano** |
| Art | **el dibujo** | IT | **la informática** |
| RE | **la religión** | Drama | **la drama** |
| Technology | **la tecnología** | Music | **la música** |
| Sport | **los deportes** | PE | **la educación física** |
| Maths | **las matemáticas** | Science | **las ciencias** |
| Biology | **la biología** | Physics | **la física** |

# Year 7 Spanish – Term 2A

## 3.Vocaubulario útil

| the school | el colegio /instituto | the class(es) | la(s) clase(s) |
|---|---|---|---|
| (they) start | empiezan | (they) finish | terminan |
| the teacher | el profesor<br>la profesora | my classmates | mis companer@s de clase |
| my friends | mis amig@s | pupil | alumn@ |
| dining room | la cantina | the classroom | la aula |
| homework | los deberes | the library | la biblioteca |
| the yard | el patio | lunch time | la comida |
| timetable | el horario | breaktime | el recreo |
| before lunch | antes de la comida | after school | despúes del colegio |
| during | durante | complicated | complicad@ |
| I study | estudio | I prefer | prefiero |
| I like (it) | me gusta | I like (them) | me gustan |
| I hate | odio | I love (it) | me encanta |
| I hate | detesto | I love (them) | me encantan |
| because it's | porque es | because they are | porque son |
| useful | útil | useless | inutil |
| difficicult | dificíl | easy | facíl |
| the best (thing) | lo mejor | the worst (thing) | lo peor |
| the good (thing) | lo bueno | the bad (thing) | lo malo |
| I go | voy | I travel | viajo |
| to school | al colegio (a+el=al) | to the canteen | a la cantina |
| by car | en coche | by bike | en bici/bicicleta |
| by bus | en autocar | on foot | a pie |
| my favourite … | mi … preferid@ | subject | asignatura |
| my favourite… | mi …favorit@ | in my opinion | en mi opinión |

my= mi(s)
your= tu(s)
his/her= su(s)
our= nuestr@(s)

En mi opinión el español es muy divertido pero según mi amigo Alberto, es complicado en su opinión. Sus asignaturas preferidas son el dibujo y la música.

¿Cuál es tu opinión ?

Accents go on vowels to make you sound that letter a little more…
it's easy (facíl)

á é í ó ú all in the same direction & ñ
(ny sound like 'new')

# Notes

# St Cuthbert's Catholic High School

*Live life in all its fullness*