



“If you’re not willing to learn no one can help you. If you’re determined to learn no one can stop you.”

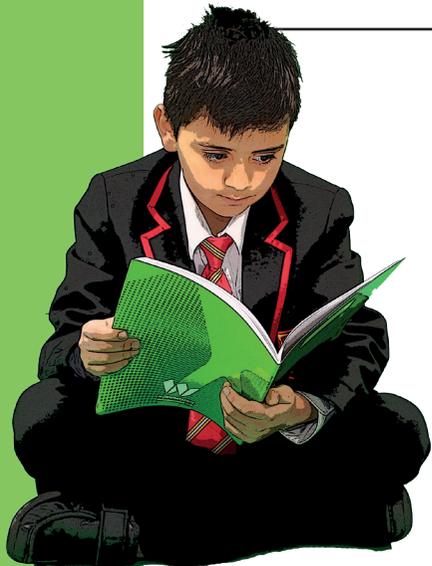
*Anon*

Name

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Tutor

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Educating  
for life in  
all its  
fullness

# St Cuthbert Mayne School Year 7 Autumn Term



Knowledge Organiser

## CORE VALUES

To have integrity and be courageous, compassionate and creative. These core values underpin how we work as a School Community and the values we look to develop in all members of the Community.

**Courageous:** Being confident, to embrace challenge.

**Compassionate:** Reflect the love of God. A care for others, to be peace makers who understand the importance of forgiveness and reconciliation.

**Creative:** To be inventive, resourceful and visionary.

**Integrity:** To do the right thing even when no one is watching.

## Introduction

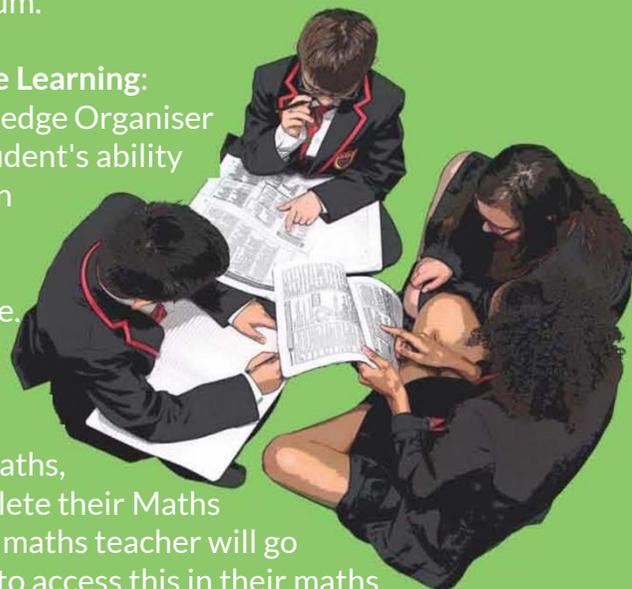
This booklet provides you with all of the KNOWLEDGE that you will need to succeed in your learning this term. The minimum requirement from you is one full A4 page or 20 minutes per subject. Your home learning will be checked by your subject teachers each week. Subjects will set additional Home Learning to help you apply the knowledge from this booklet.

At St Cuthbert Mayne there are two strands to our Home Learning Strategy:

**Subject Specific Home Learning:** students will be set specific subject tasks linked to the curriculum.

### Guided Independent Home Learning:

An approach using a Knowledge Organiser which aims to develop a student's ability to retain knowledge over an extended period of time. Students will routinely self test core subject knowledge.



Students will use SPARX Maths, an online platform to complete their Maths home learning. Your child's maths teacher will go through the details of how to access this in their maths lessons and communicate this home. Other subjects may also use online platforms to facilitate their subject specific tasks and those subjects will communicate this to students and to parents at the start of term.

## Instructions for completing your Home Learning

**Read**

The definition a couple of times



**Cover**

The Page



**Remember**

The definition, think about it



**Write**

Write what you remember



**Repeat**

Each step until you can write the definition correctly



## Home Learning Timetable



	Monday	Tuesday	Wednesday	Thursday	Friday
	Maths	Computing	Technology	Music	English
Developmental Studies		French	Geography	PE	
	Science	Drama	History	Art	RE







## UNIFORM AND APPEARANCE - OUR EXPECTATIONS

Students are expected to present themselves correctly and tidily at all times both in school and on the way to and from school or when involved in off-site visits. This not only helps to maintain the high standards of the school, but also is good training for later life.

There are separate guidelines on dress code for students in the 6th Form available on application to the school. If parents / carers are unsure about whether an item of uniform is suitable for school they should visit our website or contact us directly prior to purchasing.

- Blazers – This must be the school blazer (black with red braiding and school badge) purchased from Torre Sports / Pro-direct Sport. These must be worn at all times except if involved in physical activity on the field or on the yards during lunch and morning break when they can be removed if desired. If a student wishes to take his or her blazer off during a lesson then he/she should ask the teacher. A black V-neck jumper (not sweatshirt) may be worn under the blazer.
- Skirts – Black\* knee length pleated skirt, as supplied by Torre Sports / Pro-direct Sport or an identical skirt. The skirts should be approximately knee length and not worn in a very short manner (e.g. Not more than 5cms above the knee). Tights if worn should be plain black. Socks if worn should be plain black ankle socks.
- Boys Trousers - Trousers must be plain black\* formal style school trousers, as supplied by Torre Sports / Pro-direct Sport or an identical item. Not acceptable: black jeans, chino or denim style or any form of tight stretchy style of trouser. Plain black socks to be worn. If a belt is worn, it needs to be plain black (wide belts and large buckles are not appropriate).
- Girls Trousers – Trousers must be plain black\* formal style school trousers, as supplied by Torre Sports / Pro-direct Sport or an identical item. Non acceptable items are as listed for boys.

Black\* means that the colour and shade of the trousers /skirt must match that of the blazer (as supplied by Torre Sports / Pro-direct Sport

- Shoes – Formal black shoes that are fully polishable. Moreover, Footwear, which displays a sports branding, is not appropriate for school i.e. the Nike tick. Moreover, trainers should not be worn. All students in the main school must wear shoes that are completely black including on their way between home and school. Shoes should be of a “sensible style” suitable for a wide variety of activities that students tackle each day. Shoes should be waterproof, flat soled, leather or leather like, able to be polished and cover the whole foot. Therefore, platform soles higher than 3cms, high heels higher than 5cms, mules, flip flops, sling backs and sandals, Converse, Vans or boots of any kind are inappropriate for school wear and must not be worn.

- School Bags – A suitable school bag which can carry at least A4 folders e.g. ruck sack not a large fashion handbag.



## UNIFORM AND APPEARANCE - OUR EXPECTATIONS

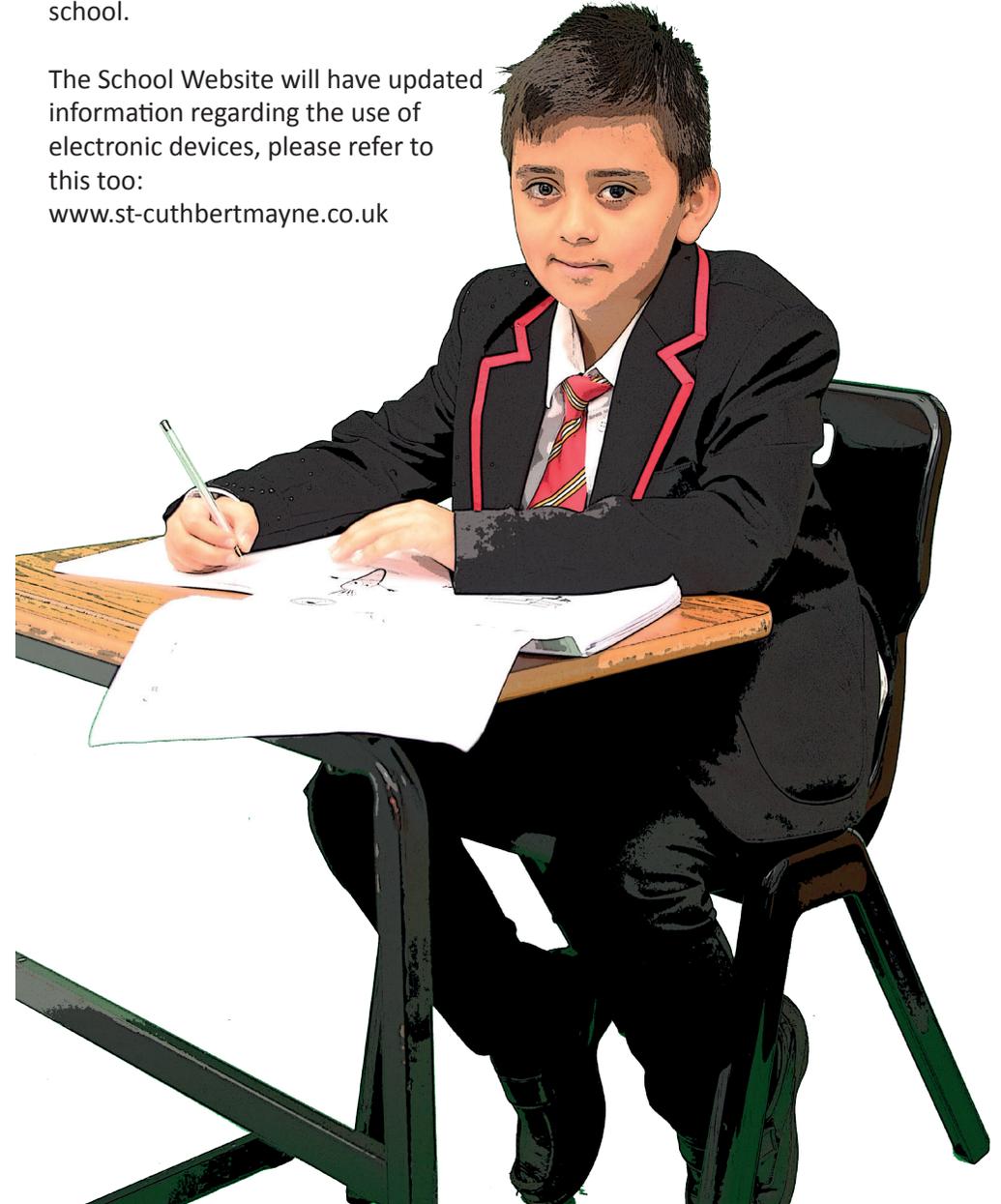
- School Coat – Dark (blue/black) plain outdoor style coat (with no logo, design or graffiti), preferably waterproof. Denim or leather jackets, hoodies or other sweatshirts are not acceptable as school uniform even as outdoor clothing. Coats, hats, gloves or scarves should not be worn in classrooms at any time.
- Make-up – Make-up must be kept to a minimum and should be subtle and not noticeable. Nail varnish is not to be worn into school, if worn students will be instructed to remove it. False nails are not appropriate for school.
- Collared Shirt and Tie – Students must wear a white formal shirt which must button at the neck and be tucked in at all times. All ties must be the school's clip-on tie.
- Jewellery – Jewellery should be kept to a minimum and removed during PE or sporting activities. If students wear a necklace it should not be visible but worn under their shirt. Bracelets must not be worn to school. If excessive or inappropriate jewellery is worn (e.g. rings) the items will be confiscated and put in a safe place until collected by Parents / Carers (normally from Student Services).
- Earrings – For safety reasons any earring which is not of a small stud type should not be worn to school. There must be no more than one in each ear.
- Body piercings - Studs, rings, etc including on the face, nose and in the mouth must not be worn to school under any circumstances. Piercings that require a ring, retainer or object to remain in place whilst the site heals is not acceptable during school sessions. Nose studs cannot be worn in school.
- Hair – Non-natural occurring hair colours are unacceptable for school. Extreme hair styles are also not acceptable e.g. Mohicans, tram lines, highly gelled etc. Headwear of any kind should not be worn in school unless; It is of a religious nature or for medical reasons and has been previously agreed with the Head teacher

- Additional notes:

Aerosols of any description, fizzy drinks, rugby balls, are not permitted in school.

The School Website will have updated information regarding the use of electronic devices, please refer to this too:

[www.st-cuthbertmayne.co.uk](http://www.st-cuthbertmayne.co.uk)



# ART: Year 7 Unit 1

Please work on plain paper.  
Tasks to be completed:  
Sept-Oct half term

**Task 1:** Using the information below create your own fact sheet about the artist Chuck Close, make your own self portrait that is inspired by his style. Find a selection of his images. Present thoughtfully.

Chuck Close is noted for his highly inventive techniques used to paint the human face. He rose to fame in the late 1960s for his large-scale, photo-realist portraits.

### QUOTES

"I think most paintings are a record of the decisions that the artist made. I just perhaps make them a little clearer than some people have."  
—Chuck Close

Chuck Close was born on July 5, 1940, in Monroe, Washington. Suffering from severe dyslexia, Close did poorly in school but found solace in making art. After earning his MFA from Yale in 1964, Close took his place atop the American art world by creating large-scale, photorealist portraits that have creatively blurred the distinction between photography and painting.

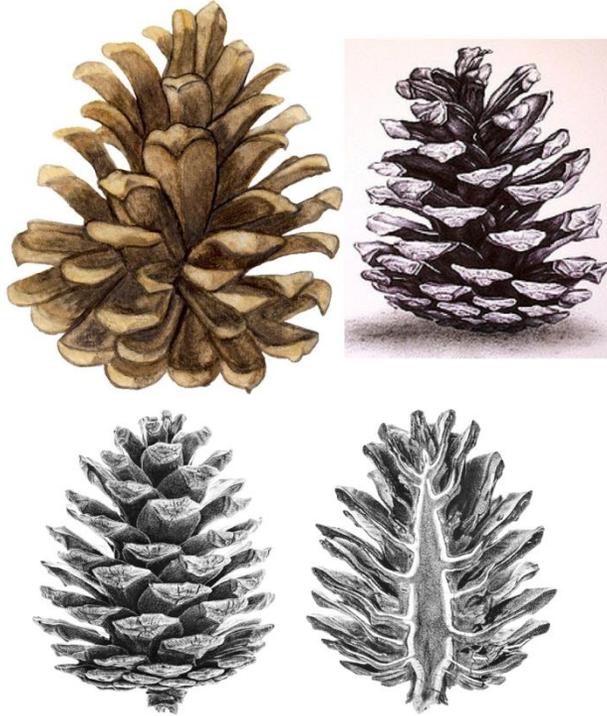
### Early Life

Charles Thomas Close was born July 5, 1940, in Monroe, Washington. The son of artistic parents who showed great support of their boy's early creative interests, Close, who suffers from severe dyslexia, struggled in almost all phases of schoolwork except art. He was not terribly popular in school, and his problems were furthered by a neuromuscular condition that prevented him from playing sports. For the first decade of his life, Close's childhood was more or less stable. But when he was 11, tragedy struck, when his father died and his mother fell ill with breast cancer. Close's own health took a terrible turn around this time as well, when a kidney infection landed him in bed for almost a year. Through all of this, however, Close deepened his love for painting and art in general. At the age of 14, he saw an exhibition of Jackson Pollock paintings. Pollock's style and flair had a great impact on Close, and, as he later recounted, it made him determined to become an artist.



CHUCK  
CLOSE

**Task 2:** Create a pine cone in another medium. You could do a pencil crayon drawing, felt tip or anything else creative you can think of.

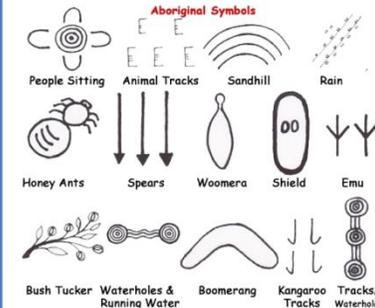


## MIXED MEDIA

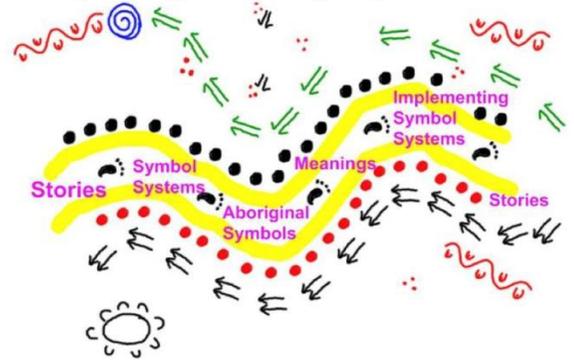
**Key Words:** Mixed Media, Texture, Tone, Observation, Scale, Proportions, Patterns.

**Extension:** Try drawing a box around an area on your drawing and complete a second drawing that is an enlarged section/ close up section. You could even use a view finder to find an interesting section to recreate.

**Task 3:** Create your own journey to school using images inspired by the aboriginal symbols.



### Story Telling... Learning Map



**Key Words:** Aboriginal, Symbols, Key, Journey, Story, Narrative, Pointillism, repetition.

**Tip:** Try to add a key to your journey that explains what symbols you have created and why. Make your journey exciting.

**Information:** Please use this blank piece of paper to complete your ART work on or work on your own paper for better quality. If you need additional paper please request more from your subject teacher (some students often complete several pages of Art KO each half term). You may alternatively use paper that you have at home. You will then hand your work in to your subject teacher at the end of each half term by cutting this page out and/ or handing in additional paper. You will then place your

 - - - - - work in the back of your school Art sketchbook - - - - -



# ART: Year 7 Unit 2

Please work on plain paper.  
Tasks to be completed:  
October - Christmas Holidays

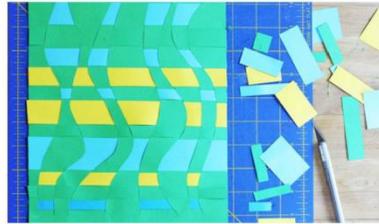
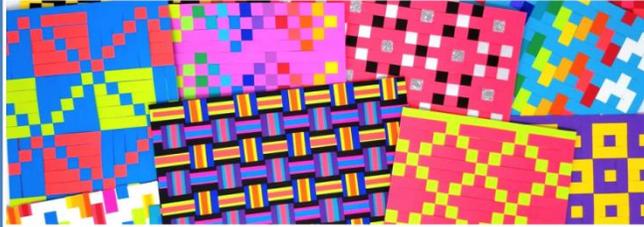
**Task 1:** Create a piece of artwork inspired by African artist Joseph Amedokpo. Below are some examples of his artwork.



**Information:** Joseph Amedokpo is a Togolese painter. Amedokpo paints using locally available oils and his canvases are recycled flour sacks, washed and stretched. His studio forms part of his family compound; a tin roof shelters him from the African sun and seasonal rains. He has achieved recognition in Europe and the United States.

**Tip:** Look carefully at the shapes he creates within his artwork. See if you can create repeated patterns. Sticking to a few colours can work best. You could even consider using colours that are more commonly seen in African Art.

**Task 2:** Create a paper weave. To do this you may use coloured paper or even sections from magazines. Weave is a simple technique that allows you to join materials (in this case paper) together without any glue. Look at video clips online if you are unsure of the process.



**Aim Higher:** You could even try and create shapes with a weaved pattern in the centre. If you do not have access to coloured paper ask your teacher for some to take home or alternatively attend lunch clubs where assistance can be given.



**Websites:**

<https://www.youtube.com/watch?v=sOmYCURzd7Y>

<https://www.youtube.com/watch?v=Ph0sDLXgLKQ>

<https://www.youtube.com/watch?v=Ph0sDLXgLKQ>

<https://www.youtube.com/watch?v=Ph0sDLXgLKQ>

**Task 3:** Find a range of images that you believe have a message/s within them. Make a copy of the artwork and explain what you think the message is. If you do not have access to a printer at home remember you can always use the school facilities, you could also just draw the artwork yourself.



**Aim Higher:** Create your own piece of artwork with a message within. Think carefully about what it is you are trying to say. It is often more effective to have a message that has a deeper meaning or a political message.

**Messages you could consider:**

- Climate Change
- Political
- Technology- effects on its users
- Increase in mental health issue, what is the cause?

**Information:** Please use this blank piece of paper to complete your ART work on or work on your own paper for better quality. If you need additional paper please request more from your subject teacher (some students often complete several pages of Art KO each half term). You may alternatively use paper that you have at home. You will then hand your work in to your subject teacher at the end of each half term by cutting this page out and/ or handing in additional paper. You will then place your

 - - - - - work in the back of your school Art sketchbook - - - - -



# Computing: Google Drive and Classroom

<b>GAfE</b>	Google Apps for Education, this is the suite of apps developed by Google for school use.
<b>Google Doc</b>	This is the Google version of Microsoft Word. Used for writing essays, letters 
<b>Google Slide</b>	This is the Google version of Microsoft PowerPoint. Used for creating Presentations 
<b>Google Sheets</b>	This is the Google version of Microsoft Excel. Used to calculate accounts, class gradebook 
<b>Google Form</b>	This app is used to create quizzes, questionnaires or forms

<b>Google Classroom</b>	Is a learning platform that allows your teachers to create, distribute and grade assignments in a paperless way. 
<b>Assignment</b>	This is a task that you are required to complete and hand in.
<b>Announcement</b>	This is a message or task that your teacher wants you to know about. It may have files attached.
<b>About</b>	This is the section that informs you about the subject and may have unit/topic documents
<b>Stream</b>	This is the section that will list all of your assignments and announcements

<b>Collaborative work</b>	A group of up to 50 people, can work on the same document at the same time.
<b>Make a Copy</b>	You can automatically make a duplicate version of the app you are working on.
<b>Share</b>	You can share documents and folders in 3 ways. <b>View Only</b> - Only allows the recipient to view the file or make their own copy. <b>Can Edit</b> - allows the recipient to change your version of the document. <b>Comment Only</b> - allow the recipient to make comments on your version of the document but not change it.

<b>Google Drive</b>	This is a cloud storage service, provided by Google. You have unlimited storage space.
<b>Shared with me</b> 	This is where you can find all files and folders that other people have shared with you. You can ' <b>make a copy</b> ' of the file or folder, this will make a duplicate version for you, but you will not see any future changes. You can ' <b>add to drive</b> ' this will make a real-time copy of the file or folder and any changes you or someone else make will be seen by you.

**Extra for Experts:**




# Computing: Hardware and Computer Systems

### What is a computer?

A computer is any device that takes an input, processes it and then outputs information.

```

    graph LR
      Input[Input] --> Process[Process]
      Process --> Output[Output]
      Output --> Input
  
```

### What is a CPU?

The CPU (Central Processing Unit) is the part of a computer system that is commonly referred to as the "brains" of a computer. The CPU is also known as the processor or microprocessor.

The CPU is responsible for executing a sequence of stored instructions called a **program**. This program will take **inputs** from an input device, process the input in some way and **output** the results to an **output device**.

**The CPU has two main parts: ALU & CU**  
**Arithmetic and Logic Unit**  
 The ALU carries out all of the arithmetic and logical operations including addition, subtraction and comparisons (< > =)

**Control Unit**  
 The CU uses electrical signals to direct the system to execute the instructions in stored programs.

### YouTube Video links

How does a CPU work? 

Computer components explained 

Input & Output devices explained 

### Input Devices

An input device is a piece of hardware that can be used to enter data into a computer

**Input**

### Output Devices

An output device is a piece of hardware that can be used to represent information in a variety of ways.

**Output**

### KEYWORDS

Input	Process	Motherboard
CPU	Output	Heat Sink
FDE	RAM	Component
Hard Drive	Clock Speed	
Power Supply		

How does RAM work? 

How does the Motherboard work? 

### Components

Computer components are all the different internal parts of a computer system that help it to operate. Each component has its own purpose and functions.

**Central Processing Unit**  
 The CPU is the brain of the computer. It does all the processing and calculating for the computer 

**Heat Sink**  
 A heat sink is used to draw heat away from important components such as the CPU that can get quite hot. If a component gets too hot then it won't be able to perform its job as well. 

**Motherboard**  
 The motherboard is what connects all the other components. It helps keep them secure and allows the components to communicate. 

**Power Supply**  
 A power supply helps to convert electricity to a suitable voltage to power the computer safely 

**Hard Drive**  
 A hard drive is where all the computers long term data is stored i.e. data you want to keep for in the future, such as your own documents, music, films and games. 

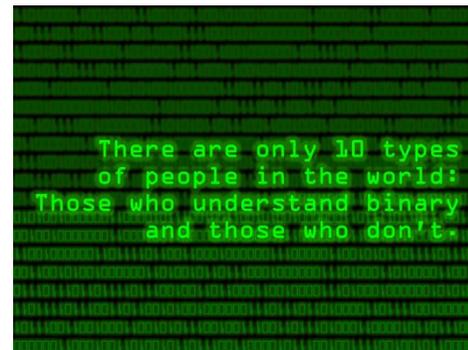
**Random Access Memory**  
 RAM is where temporary data is stored while the computer is currently being used. Once a computer is switched off this data is lost. 

**Network Interface Card**  
 A NIC enables a computer system to connect to a network. Some allow access wirelessly. 

# IT - BINARY

<b>analogue</b>	Continuous data which can have a range of values.
<b>ASCII</b>	American Standard Code for Information Interchange. A 7-bit character set used for representing English keyboard characters.
<b>binary</b>	A number system that contains two digits, 0 and 1. Also known as base 2.
<b>bit</b>	The smallest unit of data in computing represented by a 1 in binary.
<b>byte</b>	A unit of data containing 8 bits.
<b>Denary</b>	The number system most commonly used by people. It contains 10 unique digits 0 to 9. Also known as decimal or base 10.
<b>pixel</b>	Picture element - a single dot of colour in a digital bitmap image or on a computer screen.
<b>Hexadecimal</b>	Hexadecimal (or hex) is a <a href="#">base 16</a> system used to simplify how <a href="#">binary</a> is represented. A hex digit can be any of the following 16 digits: 0 1 2 3 4 5 6 7 8 9 A B C D E F.

		Binary pattern							
		Place value 128	Place value 64	Place value 32	Place value 16	Place value 8	Place value 4	Place value 2	Place value 1
Denary number	0								0
	1								1
	2							1	0
	3							1	1
	4						1	0	0
	5						1	0	1
	6						1	1	0
	7						1	1	1
	8					1	0	0	0
	9					1	0	0	1
	10					1	0	1	0
	....								
255	1	1	1	1	1	1	1	1	



## Extra for Experts

Binary

<https://www.bbc.co.uk/education/guides/zwsbwmn/revision>

Hexadecimal

<https://www.bbc.co.uk/education/guides/zp73wmn/revision>

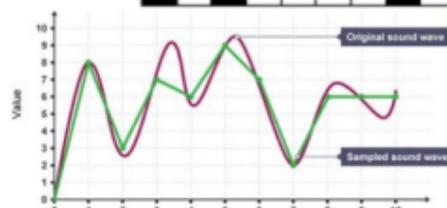
# Computing – Binary and Data Representation

A.	
Binary	Numbering system which uses base 2 (0s & 1s) – the only language that computers truly understand. 0 means off, 1 means on
Denary	Numbering system which uses base 10 (0-9) – these are our normal numbers that we use every day. (Otherwise known as decimal)
Hexadecimal	Numbering system which uses base 16 (0-9 and A-F). These numbers are used to represent colours and code in assembly
Binary addition	Adding binary numbers together (see rules of binary addition)
Overflow	If you cannot represent a number in the given amount of space (IE more bits are needed to represent a number), then this is an overflow error.
Binary Shift	Moving bits within a binary number in a certain direction. Any empty positions are filled with 0.
Check digit	Adding binary numbers together (see rules of binary addition).
Overflow	If you cannot represent a number in the given amount of space (IE more bits are needed to represent a number), then this is an overflow error.
Binary Shift	Moving bits within a binary number in a certain direction. Any empty positions are filled with 0.
Check digit	An additional digit at the end of a string of numbers used to check for mistakes in transmission. ISBNs are formed of 12 bits for the item number, then the 13th is a check digit.

C.	
Bit	The smallest amount of data (stands for binary digit) (0 or 1)
Byte (B)	8 bits
Kilobyte (KB)	1024 bytes
Megabyte (MB)	1024 kilobytes
Gigabyte (GB)	1024 megabytes
Terabyte (TB)	1024 gigabytes
Petabyte (PB)	1024 terabytes

## D. Binary addition rules

0	0	0	1	1	1	1	0	0	0
0	0	0	1	0	0	1	0	0	0
0	0	0	1	0	0	1	0	0	0
1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1
0	1	0	0	0	0	0	0	1	0
1	1	1	0	0	0	0	1	1	1
1	0	1	0	0	0	0	1	0	1
1	0	1	0	0	0	0	1	0	1
1	0	1	0	0	0	0	1	0	1



Binary Addition	
0 + 0	= 0
0 + 1	= 1
1 + 0	= 1
1 + 1	= 0, carry a 1
1 + 1 + 1	= 1, carry a 1

B.	
Character	A single letter, number or symbol. (e.g., A, 1, !)
Character set	A set of characters used in a language, which are each represented using a unique binary number.
ASCII	A character set which uses 7 bits to store a maximum of 128 characters. This uses the binary numbers 0 to 127
ASCII Extended	The same as ASCII, though uses 8 bits (1 byte) to represent 256 characters using the numbers 0 to 255.
Unicode	The modern standard for representing characters in a computer system. Uses 16 bits to allow 65,536 characters to be represented
Image	A picture that has been created or copied and stored in electronic form
Bitmap	A map of bits, whereby the image is made of pixels.
Vector	An image represented using lines and shapes with specific properties such as line and fill colour. Data about each shape is stored in binary.
Pixels	The individual units (dots) that make up an image.
Colour depth	The number of bits, which are used to represent each pixel in an image. Increased numbers of colours means more bits are needed.
Resolution	The level of detail in an image, measured in dots per inch (dpi). If the size of an image is increased then the quality will reduce.
Metadata	Data, which is stored about a file. Examples include the type of file, date and time created, file size and geolocation.
Sampling	Method of converting an analogue sound signal into a digital file containing binary numbers.
Sample rate	The frequency at which you record the amplitude of a sound. Measured in Hertz.
Sample resolution	The number of bits used to store each sample.
Sample size	The number of seconds over which the sample was taken.
Compression	The re-encoding of data so that less bits are used to store it. Usually done to increase speed of transmission.

## Hygiene and safety

### Personal Hygiene

1. Wash your hands before practical lessons
2. Tie back long hair
3. Always wear an apron
4. Do not cough or sneeze over food
5. Do not lick your fingers
6. Do not wear nail varnish/jewellery

### General safety during practical

1. Take care when using sharp knives
2. Turn pan handles to the side
3. Use oven gloves
4. Do not run around the room
5. Be careful with boiling water
6. Be careful with gas/electricity

### The 4 C's: Cleaning, Cooking, Chilling & Cross contamination

Cross contamination occurs when bacteria are transferred from food or surface to another.

## WEEK 2

## 5 – a day

Fruit and vegetables are part of a healthy, balanced diet and can help us stay healthy. It's important that we eat enough of them. Fruit and vegetables are a good source of vitamins & minerals, including vitamin C. They're an excellent source of dietary fibre, which can help to maintain a healthy gut and prevent constipation and other digestion problems. A diet high in fibre can also reduce your risk of bowel cancer. Evidence shows there are significant health benefits to getting at least five 80g portions of a variety of fruit and vegetables every day. That's five portions of fruit and veg in total.

## WEEK 3

## Vitamins & Minerals

### Vitamin C

Function:  
Vitamin C helps to heal cuts and prevents scurvy

### Food Sources:

oranges, lemons, limes, grapefruit, kiwi, strawberries, blackcurrants, peppers, tomatoes, potatoes



### Vitamin D

Function:  
Vitamin D helps our bones to grow strong and prevents rickets

Food sources:  
cheese, milk, egg yolks, oily fish and sunshine



### Calcium

Function:  
Calcium help us to have strong bones and teeth

Food Sources:  
milk, cheese, green vegetables, tofu, and some cereals



### Iron

Function:  
helps red blood cells carry oxygen to prevent anaemia

Food sources:  
red meat, spinach, beans and lentils



## WEEK 4

## Equipment



Wooden Chopping board – used to chop veg, cooked meats, fruit, bread



Vegetable knife – used to cut and chop vegetables, fruit



Saucepan – used to cook pasta, vegetables, sauces



Grater – used to grate cheese, carrot, lemon rind



Colander – used to drain pasta, vegetables



The 5 A Day campaign is based on advice from the World Health Organisation, which recommends eating a minimum of 400g of fruit and veg a day to lower the risk of serious health problems.



Fruit and vegetables can help to reduce your risk of heart disease, stroke and some cancers. They taste delicious and there's so much variety to choose from



Fruit and vegetables are an excellent source of dietary fibre. The NHS recommends that the average adult should take in 30g of fibre every day.

## Food Provenance

Local produce – food produced locally  
Food miles – the distance food travels from where it's produced to the consumer  
Carbon footprint – measures the impact your lifestyle has on the environment  
Fair trade – improving conditions for farmers

## WEEK 5

## The cooker and heat transfer

The 3 main parts of the cooker are the hob, grill (small oven) and the main oven.

Heat is transferred by conduction, radiation and convection.

Conduction: This is the transfer of heat energy through the vibration of particles eg frying

Convection: This is the transfer of heat energy through gases eg air or liquids eg boiling

Radiation: This is the transfer of heat energy through waves of radiation eg grilling



## What is the Eatwell Guide?

The Eatwell Guide is a guide that shows you the different types of food and nutrients we need in our diets to stay healthy.

## Why is the Eatwell Guide important?

The Eatwell Guide shows you how much (proportions) of food you need for a healthy balanced diet.

## What are the consequences of a poor diet?

A poor diet can lead to diseases and can't stop us from fighting off infections.

## What are the sections on the Eatwell Guide?

1. Fruit and vegetables
2. Potatoes, bread, rice, pasta and other starchy food
3. Dairy and alternatives
4. Beans, pulses, fish, egg, meat and other proteins
5. Oils and spreads

The Eatwell Guide



## Extension Task:

Record 3 days of your diet - food and drink. Use the Eatwell Guide to analyse your diet.

## WEEK 7

## Macronutrients

Needed in **large amounts** to help the body to function properly



### Fat



**Function:**  
Energy  
Warmth

Protection of organs

**Food Sources:**  
Meat Avocado Nuts  
Oil Butter/margarine  
Processed foods

### Too much

- Obesity
- Type 2 diabetes
- Heart Disease

### Protein



**Function:**  
Growth and Repair  
Energy

**Food Sources:**  
Meat Poultry Fish  
Eggs Milk  
Dairy Soya

### Too much

Turns to fat if not turned into energy

### Too little

Slow growth in children

### Carbohydrates



**Function:**  
Energy

**Food sources:**  
Starch – Bread Pasta Rice  
Wheat Potatoes Cereals  
Sugars – Fruits Cakes  
Desserts Sweets  
We should consume no more than 30g of sugar per day

### Too Much

- Weight Gain -Tooth decay
- Type two diabetes - Heart disease

### Fibre

**Function:**  
It helps prevent constipation and helps to get rid of waste

**Food Source:**  
Wholegrain, whole wheat, wholemeal cereals, Peas and beans

### Too Little

- Constipation
- Bowel Cancer

### Water

Keeps us hydrated

**Function:**  
Controls body temperature.  
Gets rid of waste in the body.

**Food Sources:**  
Drinks, fruit and vegetables, soup

### Too Little

- Dehydration leads to headaches, irritability and loss of concentration.

## WEEK 8

## Micronutrients

Needed in **small amounts** to help the body to function properly



Vitamin	Sources	Function
Vitamin A	Fish, eggs, oranges	Helps us to see well
Vitamin C	Oranges, tomatoes, vegetables	Helps to heal cuts, helps the immune system.
Vitamin D	Eggs, the sun	Helps our bones to grow
12 B Vitamins	Cereals, meat, fish	Helps to keep us healthy

Mineral	Sources	Function
Iron	Red meat, spinach, beans and lentils	Helps our red blood cells carry oxygen so that we are not anaemic.
Calcium	Milk, cheese and some cereals	Help us to have strong bones and teeth.

# D&T: Picture Frame Project




## Workshop safety




**Extension Task:** Produce a risk assessment for each of the practical lessons. Use the 3 headings – Process Risk/Hazard Safety Rule

## Pillar Drill Safety Rules

1. Always use the guard.
2. Wear goggles when drilling materials.
3. Clamp the materials down or use a machine vice.
4. Never hold materials by hand while drilling.
5. Always allow the 'chippings' to clear the drill by drilling a small amount at a time.
6. Follow all teacher instructions carefully.
7. Never use the machine until you have been shown how.
8. Check your work as you go to see if you are cutting straight.



WEEK 2

## Materials



WEEK 1



**Pine** A natural wood, pine is a soft wood. This means it comes from an evergreen tree.



**PVA Wood Glue**  
Used to permanently join wood together

**Plywood** A man made timber made by gluing sheets of other woods together, Gluing the wood in opposite grain direction makes it very strong



**Acrylic** is a type of plastic. It comes in a variety of colours and is brittle (snaps easily)

## Cutting a straight line



1. Put the bench hook in the vice and tighten.
2. Make sure your wood is measured correctly and the waste is marked.
3. Place the saw on the far edge, just inside the waste.
4. Draw back three times.
5. Make sure you are stood with your saw arm at your side, able to swing freely in a straight line.
6. Saw back and forth slowly bringing the saw flat with the pencil line just visible at the side of the cut.
7. Use the whole blade to cut back and forth until you are through.
8. Check your work as you go to see if you are cutting straight.

WEEK 4

WEEK 3

## Tools

**Pencil** For marking lines on the wood



**Try Square** For measuring and marking right angles on wood



**Steel Rule** More accurate than a plastic ruler, this can measure down to half a millimetre



**Marking/Mortise Gauge** The pin scores a line parallel to the stock, used for marking out chamfers and mortises



**Bench Hook** This fits in the vise, used to hold wood steady when cutting a straight line



**Tenon Saw** Used to cut straight lines in wood. This saw will not cut curves



**Wood Vise** Used to hold wood in place while it is worked on. The sort wooden jaws stop the wood from being dented



**Laser Cutter** Uses a beam of light to etch a design into the top of your box.



**Pillar Drill** used to drill holes in materials. You must not use this machine until you have been shown how. Don't forget your goggles.



**Bradawl** Used to open up a small hole you can use to start off a screw.



**Screwdrivers** Used to turn screws into the wood



**Glass Paper and Block** The abrasive paper is wrapped round the block so that it can grate off an even layer of wood. Used to smooth out the surface of the wood.



## Natural Wood

WEEK 5

Natural woods fall into one of two families or groups, ie) softwoods and hardwoods. Softwoods come from needle leaved, cone bearing trees while hardwoods come from broadleaf, fruit (and nut) bearing trees.

Hardwoods are generally (but not always) harder, heavier and stronger than softwoods but are also more expensive since they take longer to grow.



Hardwoods



Softwoods

Name	Properties	Uses
Oak	Strong, heavy, hard, tough	Construction, furniture
Beech	Strong, very hard, tough but warps easily	Furniture, tool handles, toys
Ash	Strong, hard, tough and resists warping	Sports equipment, ladders
Mahogany	Fairly strong, durable, attractive	Furniture, boatbuilding
Teak	Strong, tough, natural oils make it extremely durable	Outdoor furniture, boatbuilding

Name	Properties	Uses
Pine	Fairly strong, soft & light but knotty	General construction & joinery
Fir	Strong, stiff, fairly hard but decays easily	General construction, boat masts
Spruce	Fairly strong & light, soft, decays easily	General construction, aircraft props
Cedar	Low weight, stable, durable	Joinery, thermal cladding

## Engineered Wood

WEEK 6

Engineered wood is also known as 'manufactured board'. It consists of fibres, chippings, blocks or layers of natural wood (by-products of sawmills), which are compressed and bound together with a resin or glue.

Engineered wood has no grain and therefore is more homogenous than natural wood, ie) more uniform in structure, and is available in much bigger sheets.

Medium Density Fibreboard (MDF) and High Density Fibreboard (Hardboard) are produced by mixing wood fibres with resin and compressing until set. Hardboard is only available in thin sheets because it's density would make thick sheets impractical.

Name	Constituents	Properties	Uses
Plywood	Thin layers or plies, glued together with grain in opposing directions	Very strong for it's weight, flexible, durable, medium cost	All types of construction & joinery
MDF	Wood fibres mixed with resin	Strong & stiff but thick sheets can be heavy, low cost	Interior construction & joinery
Hardboard	Even more wood fibres mixed with resin	Flexible, fairly tough, takes paint well (on one side)	Interior construction & panelling



Plywood

MDF



Hardboard

## Wood as a Sustainable Resource

The earth's resources can initially be divided into two main groups; 1) Finite and 2) Non-finite. Finite resources include things like fossil fuels (coal, oil & gas) which will run out fairly soon at our current rate of consumption.

Wood (or timber) is considered a 'non-finite' resource because as existing trees are felled for wood, nature grows new trees in their place.

However, over the past few thousand years we have been cutting down trees 'faster' than nature can grow new ones.

In the developed world we have begun to appreciate this problem and many areas have been substantially reforested. Many forests are 'managed' with continual replanting programmes.



In the developing world though it is a different story, with illegal logging destroying thousands of acres of tropical rainforest every year. Many species of tree have been lost forever and there are many more on the 'endangered' list!

The Programme for the Endorsement of Forest Certification (PEFC) and the Forest Stewardship Council (FSC) are organisations which promote responsible use of timber and sustainable forestry. Look for their logos.

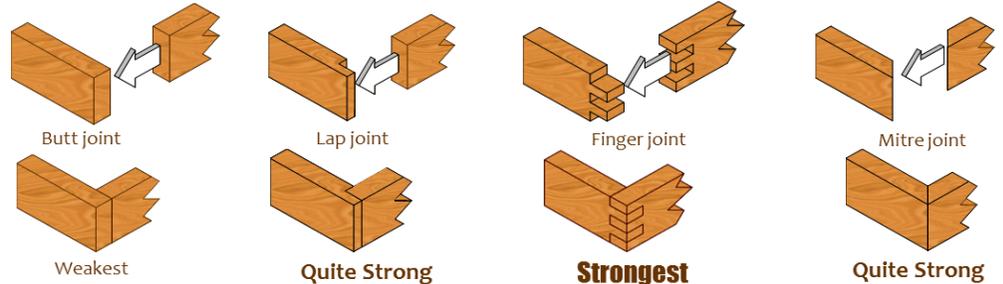


## Joining Wood

WEEK 8

Remember, there are two main categories of wood joints; 1) Permanent and 2) Temporary.

Temporary joints allow a product to be disassembled and reassembled as required, whereas permanent joints do not. The main difference is that permanent joints are generally glued as well as screwed, nailed, dowelled etc.



Butt joint

Lap joint

Finger joint

Mitre joint

Weakest

Quite Strong

Strongest

Quite Strong

Butt joints are often used for temporary joints with screws or dowels. Lap joints and finger joints are commonly used for boxes and mitre joints for picture frames. When glued and clamped properly these joints will be as strong or stronger than the wood itself.

What is CAD/CAM?

CAD/CAM is a way of designing and making a product or part of a product (a component), entirely or almost entirely by computers.

CAD stands for 'Computer Aided Design' and CAM stands for 'Computer Aided Manufacture'.

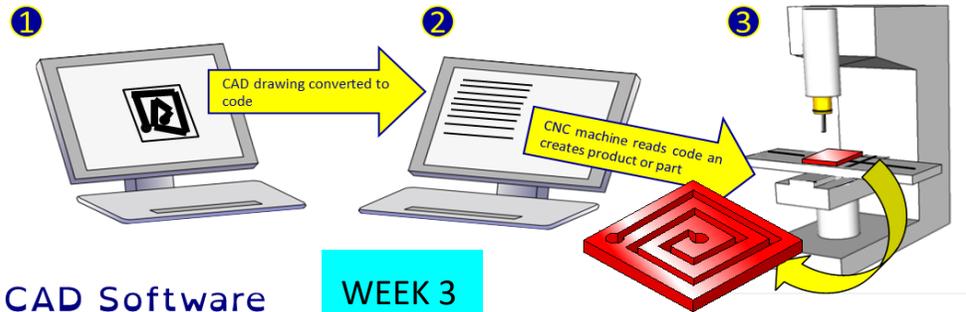
First, CAD (computer aided design) software is used to create the design drawings of a product (or component). The computer then converts these drawings into 'code'. Finally a CNC machine reads the code and automatically cuts out (ie. manufactures) the product or component.

CNC stands for 'Computer Numerically Controlled'.

CNC machines include laser cutters, 3D printers, vinyl cutters, milling machines, routers and lathes.

Although generally very safe to use CNC machines can be dangerous if guards or covers are left open while they are running. Most now have automatic cut off switches which stop the machine if a guard or cover is opened during operation.

Components (parts of products) which have been produced using CAD/CAM may then be assembled by hand in a semi automated manufacturing system or by robots in a fully automated system.



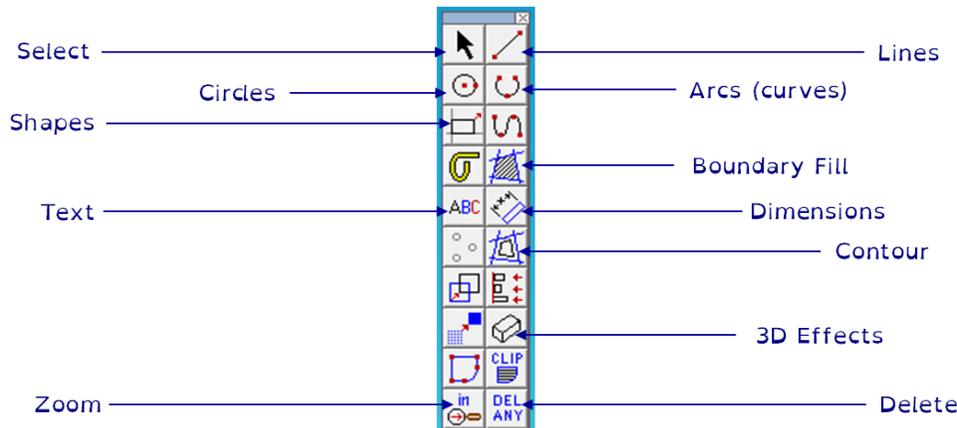
CAD Software

WEEK 3

The CAD software we use in the D&T Department is called Techsoft 2D Design which is good software to learn about the basics of computer aided design.

Other popular CAD software is 'Autocad' which is widely used in industry but quite expensive and Google SketchUp which is free.

Techsoft 2D Design is compatible with a variety of CNC machinery for computer aided manufacture (CAM).



Plastics

WEEK 2

Plastics are relatively modern materials which came to prominence after WW2. Plastics are synthetic (man-made) materials produced mainly from coal, oil and gas, although some plastics can be produced from plants.

There are two main families of plastics: 1) Thermoplastics and 2) Thermosetting Plastics (Thermosets). Both families are formed by 'heat' in the first instance but only 'thermoplastics' can be re-heated and re-shaped over and over again.

Some common thermoplastics include; Acrylic, PVC, Polyethylene (polythene), Polystyrene, Polypropylene etc.

Plastics now feature in just about every manufactured product you can think of, even items that appear to be made solely of wood will probably be finished with some kind of plastic based paint or varnish.

Properties and characteristics of plastics vary from type to type but most are fairly flexible, quite tough and highly durable, ie) longlasting (do not rot or rust etc).

Their durability is a double edged sword however and the fact that they do not rot or rust means they can pollute the environment for many years, poisoning our water supply and endangering wildlife. Because of this we must learn to use plastics more responsibly by reducing, re-using and recycling.

WEEK 4

Thermoforming

Thermoforming refers to several different methods of shaping thermoplastics. These include line bending, vacuum forming, injection moulding etc.

During this project you will produce a 'blister pack' for your maze by vacuum forming.

The process involves heating a sheet of thermoplastic until soft and allowing it to 'form' or 'drape' over a mould or 'pattern'.

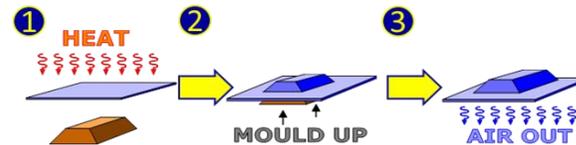
At the same time air is sucked out, creating a vacuum between the softened thermoplastic sheet and the mould. The vacuum helps the soft thermoplastic form around the mould. Suitable thermoplastics for vacuum forming include acrylic, polystyrene and PVC.

Examples of vacuum formed products include yoghurt pots, model kits, the trays inside boxes of chocolates etc.

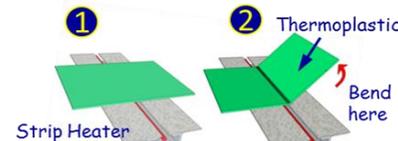
Line bending simply involves heating a piece of thermoplastic along a line with a strip heater then bending it to the required angle. Great for making quick photoframes, smartphone and toothbrush holders etc.

You can produce simple injection moulded shapes with a hot glue gun, coloured glue sticks and a mould or pattern. This is a good way to make soft, flexible feet for all sorts of products.

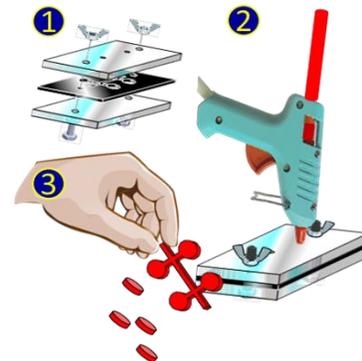
Vacuum Forming



Line bending



Injection Moulding



# Design and Technology CAD/CAM/MAZE

## WEEK 5: Renewable and non-renewable materials

All raw materials are taken from the planet and waste products remain with us in some form

**Renewable** materials are grown from plants or animals



**Non-renewable** materials are taken from oil, ores and minerals, and can't be replaced (they are finite)



We need to ensure that we

- Use resources carefully
- Aim not to damage our environment
- Minimise the environmental impact of using raw materials in new products

## WEEK 7: Product disposal

It's very important that we all dispose of products carefully and responsibly. Products and packaging have symbols on them to show...

- If they can be recycled
- The percentage of recyclable materials used
- The materials they are made from so we know how to separate them for recycling
- Green dot symbol to show if a fee has been paid to recover packaging
- A warning if they cannot be disposed of in normal household waste (ie batteries, electrical products)

**WEEK 8:** A carbon footprint is the amount of carbon produced by any human activity and its effects on the environment. It's measured in units of **Carbon Dioxide**. Every product you use can be measured in terms of the...

- Amount of energy used at every stage
- The carbon emissions produced

Research information about your carbon footprint

## The 6 Rs

WEEK 6

The 6 Rs are an important checklist. They are used by designers to reduce the environmental impact of products. They can also be used to evaluate the environmental impact of other products. The 6Rs stand for:

- **Reduce** - is it possible to reduce the amount of materials used? This will help to protect valuable resources.
- **Rethink** - is there a better way to solve this problem that is less damaging to the environment?
- **Refuse** - this means not accepting things that are not the best option for the environment. For example, is the packaging really needed?
- **Recycle** - could recycled materials be used, or is the product made from materials that are easy to recycle?
- **Reuse** - could the product have another use? Could its parts be used in other products? Is this information clearly communicated on the product? This will extend its life.
- **Repair** - is the product easy to repair? This will extend its life.



**Extension Task:** Research the recycling logos



## WEEK 1

### Safety Rules in Textiles

To work safely in Textiles and to prevent accidents from occurring, safety rules must be followed at all times:

- Walk around the classroom, do not run
- Keep bags and chairs out of the walk ways
- Hold scissors with the blades closed if not in use
- Be careful when using needles and pins
- Always put equipment away in the correct place
- Wear goggles when using the sewing machine
- Only 1 person at a machine at one time
- Concentrate at all times, especially when using the machine
- Be careful with the hot iron
- Turn off electrical equipment when finished
- Sensible behaviour at all times

## WEEK 2

### Cotton

**Cotton is the most important natural fibre grown in the world. The fibres grow inside seed pods, which burst open to expose the cotton fibre**

**Cotton is a staple fibre, the average length is about 2–5 cms**

The natural colour of cotton is a light cream; cotton today is either **bleached** for white coloured products, or **dyed** to create a range of colours

**Calico** is the name for a cheap woven fabric used for toile making. It is not bleached or dyed, so cotton in it's original state



**Extension Task:** Research another natural fibre e.g. wool and produce an information sheet about it. Include properties and uses.

## WEEK 3

### Properties of cotton:

The table below shows the properties and disadvantages of Cotton:

PROPERTIES:	DISADVANTAGES:
<ul style="list-style-type: none"><li>• <b>strong</b>, especially when wet: so can be washed regularly at high temperatures</li><li>• Good <b>moisture absorption</b>: can absorb perspiration, especially good for active wear</li><li>• It's <b>breathable</b>, so cool to wear</li><li>• Can be <b>bleached</b>, as it is resistant to most chemicals</li><li>• Has a good <b>resistance to abrasion</b>: so hard-wearing</li><li>• <b>Inexpensive</b></li></ul>	<ul style="list-style-type: none"><li>✗ <b>Can shrink when Washed</b></li><li>✗ <b>very flammable</b></li><li>✗ <b>Creases badly</b></li><li>✗ <b>will go mouldy if left damp</b></li><li>✗ <b>dries slowly because of it's high absorbency</b></li></ul>

## WEEK 4

**Extension Task:** Research a textiles artist who uses recycled materials.

### Equipment

**Needle** - A thin piece of metal with a hole at one end and a sharp point at the other. Thread is pushed through the hole and it is used to sew.

**Pins** - Like a needle but with a flat head and no hole. These are used to hold things on fabric temporarily.

**Fabric Scissors** - Special sharp scissors used for cutting fabric only.

**Sewing Machine** - Machine used to sew fabric together

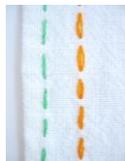
**Extension Task:** Produce a safety poster for display in the Textiles room, listing the rules to be followed when using the different tools and equipment in Textiles.

## WEEK 5

### Hand Sewing

#### Running Stitch

This is where you take the thread up and down through the fabric in one line. It is the simplest hand stitch.



#### Cross Stitch

Two stitches are sewn crossing diagonally over each other. Cross stitch is used as a decorative stitch. It can be used to make up whole pictures



#### Chain Stitch

A line of stitches is made by looping back under the previous stitch. This makes a decorative line. It is often used as an outline in embroidery.



#### Blanket Stitch

Thread is sewn in loops round the edge of a fabric, each loop catches the one before so there is a line of thread along the edge. It is used to stop fabric from fraying, most commonly when making blankets



#### Decorative Techniques

Hand Stitching Machine Embroidery Embellishments  
e.g. Buttons and Sequins Applique

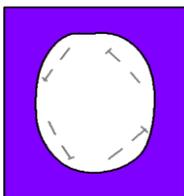
**Extension Task:** Produce an information sheet about decorative techniques used in Textiles

## Using a Pattern

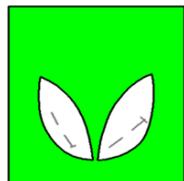
## WEEK 6



Patterns are templates that the fabric is cut around so that it is the right shape and size.



The shape is drawn out on paper, cut out and pinned down to the fabric



Fabric scissors are then used to cut neatly around it. This way lots of pieces can be made exactly the same using one pattern.

## WEEK 8

### Safety Labels

Many products including toys should always be bought with a safety label. Sketch and label the safety symbols below



**Extension task:** Research and find out what other information can be found on a clothing label

## WEEK 7

### Key Terms

**Thread** Thin strands of fabric wound tightly together. Used with a needle to hold two pieces of fabric together permanently.

**Stitch** A loop of thread pulled through fabric with a needle and thread to join pieces of fabric.

**Embroidery** A collection of stitches built up to make a picture

**Decorative** Something done to look attractive

**Fraying** Where a woven fabric starts to fall apart at the edge

**Button** A piece of usually metal or plastic that can be sewn on to fabric and pushed through a hole in another to join them in a way that can be undone again.

**Stuffing** Material that is pushed inside fabric to make it stick out.

**Pattern** Templates used in sewing to cut fabric to the right shape and size.

**Natural Fabrics** Cloth made from natural substances, such as; Cotton and linen from plants, wool from goats and sheep and leather from cows' skin.

**Man-made Fabrics** Cloth made from man made chemicals, usually different forms of plastic, such as Polyester, Nylon, Viscose and Lycra. All these are made from oil.

### Physical Checklist

<b>Facial Expression</b>	Using your face to communicate emotions and thoughts
<b>Body Language</b>	Using your body to communicate thoughts and feelings
<b>Gesture</b>	Using your body, head or hands to express emotion/meaning
<b>Eye Contact</b>	Looking at another person or the audience to communicate a message or meaning
<b>Levels</b>	Using height and positioning on stage to communicate status/meaning

You must learn these key definitions that will be used throughout your drama lessons. Try the following:

- Look, Cover, Copy, Write
- Creating a poster
- Creating flashcards
- Create pictures to represent the key words

### Challenge Tasks...

Write a review of a lesson that uses WWW/EBI for how you used your drama skills

Create a poster including the Drama Lesson Expectations

### Explorative Techniques

<b>Still Image</b>	A moment of action frozen in time, like a photograph
<b>Narration</b>	A performer describing what is happening/telling the story to the audience
<b>Thought Tracking</b>	When an actor speaks their inner thoughts and feelings on stage, all other actors are frozen on stage
<b>Hot seating</b>	Staying in character and answering questions truthfully – and seriously!

### Vocal Checklist

<b>Volume</b>	Loud/quiet
<b>Pitch</b>	High/low
<b>Pace</b>	Speed, fast/slow
<b>Pause</b>	A temporary stop
<b>Tone</b>	Pitch, strength, quality of voice

### Please remember:

- Be kind**
- Be brave**
- Try out new ideas**
- Respect the work of others**
- Focus and concentrate**
- Do your best**

**Textual or script writing devices (advanced)**

You will find these in some of the texts we study this year but you can also use these in your own devised or improvised work.



**Narrator**

An actor describing what is happening/telling the story.

**Monologue**

A piece of text performed by one actor.

**Choral Speech**

A number of actors speaking together at the same time.

**Flashback**

Showing a time period in the past.

**Direct Address**

Speaking out to the audience, addressing them/breaking the Fourth wall.

**Multi-role**

Actors playing more than one character in a performance.

You must learn these key definitions that will be used within your drama lessons. Try the following:

- Look, Cover, Copy, Write
- Creating a poster
- Creating flashcards
- Create pictures to represent the key words or scenes
- Write a script

**Challenge Tasks...**

Write a script that uses these advanced techniques.

Create a story board or set of images that use some of these advanced devices.

**Physical skills (advanced)**

**Synchronised Movement**

How you move your body with unison with another performer

**Posture**

Position you hold your body upright when standing/sitting or slumped to show defeat or fear etc

**Explorative Techniques (advanced)**

(use these in your practical work and in script writing to deepen your approach)

**Cross Cutting**

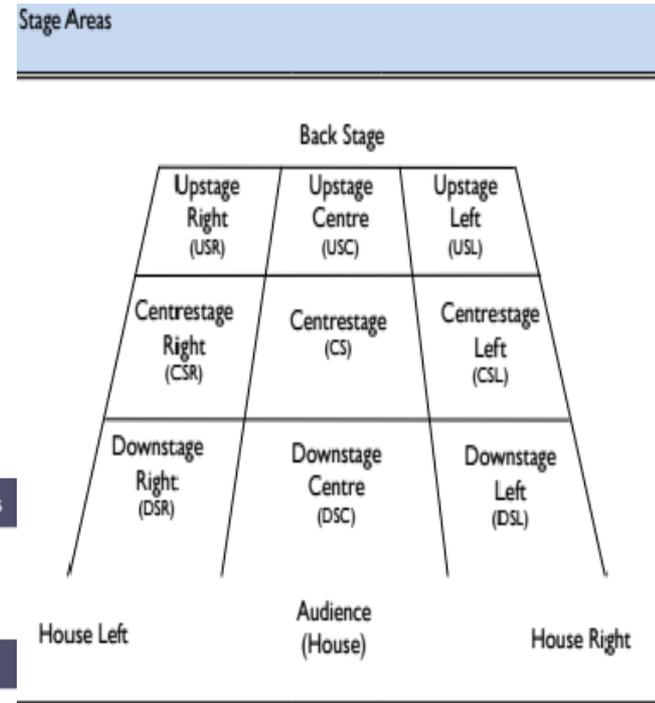
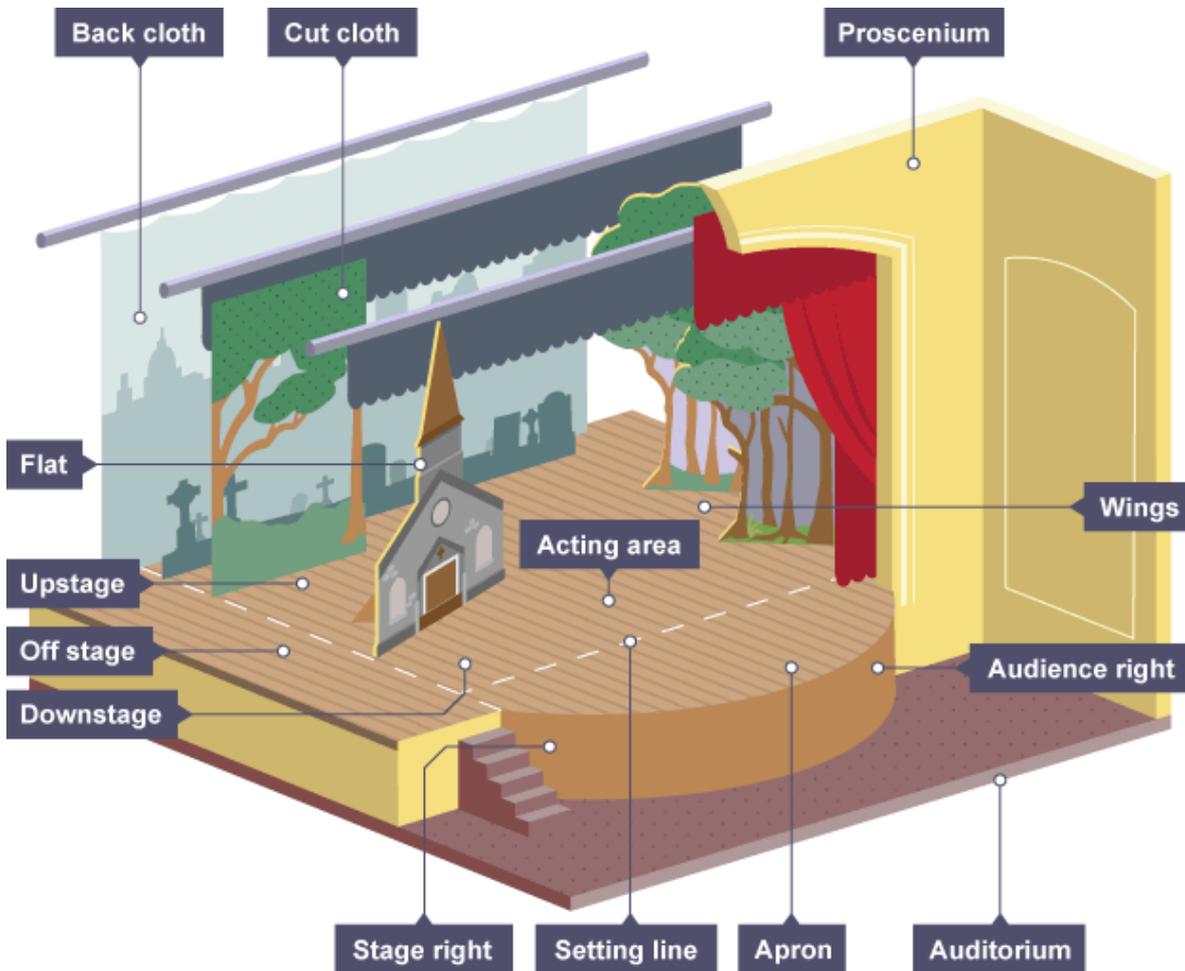
Split stage, action on one side and frozen on the other. You can then create drama that goes forwards and backwards in time.

**Role Play**

Scenes which include speaking and movement to communicate believable characters.

# The Performance Space

<https://www.bbc.co.uk/bitesize/guides/z26bjxs/revision/3>



## Challenge Tasks...

Learn and use these staging areas in your drama lessons.

Write a script that uses these staging areas.

# Drama Lesson Expectations

Please learn and follow these expectations as they will help us all enjoy and learn!

- Please enter the drama or dance studio **quietly**
- Please **do not throw** anything during the lesson (blocks/bottles)
- Please place your bags and/or shoes **sensibly** in the correct area
- Please complete the **DO IT NOW** task as instructed
- Please use focus and concentration to **maximise** or make the most of discussion and rehearsal time
- **Do not shout out when others perform**
- Please use **WWW/EBI** to give constructive/useful feedback
- Please speak to each other with **respect and consideration**
- **Apologise** if a mistake is made
- Please **try out new ideas** in rehearsal to be ready for 'show time'
- **Try not to laugh** if something goes wrong in a performance
- **Be brave**
- **Be kind**

# Year 7 Unit 1

## English in the Past

### Week 1

Create a time-line for Chaucer's life. Include kings, queens and significant events in Britain.

### Week 2

Create a poster that explores the word classes you have learned this week

### Week 3

Write a paragraph about Old English that includes the three types of sentence.

### Week 4

Create a poster that has FANBOYS explained with example sentences.

### Week 5

Write a list of ten modern words that have Greek origins.

### Week 6

Write a short monologue for The Wife of Bath or The Pardoner.

### Key Words:

synonym - words with similar meanings

verb - actions, feelings and emotions

lexical field - words that can be grouped together by meanings

### FANBOYS

for/and /nor/ but/yet /so

### Word Classes

Verb

Adjective

Noun

Adverb



**Bonus Activities that your teacher will ask you to complete.**

<b><u>Spellings</u></b>	<b><u>Reading</u></b>	<b><u>Writing</u></b>
Chaucer/ ancient / old fashioned / different / similar / change / medieval / manuscript	<a href="https://kids.kiddle.co/Geoffrey_Chaucer">https://kids.kiddle.co/Geoffrey_Ch aucer</a> Read all about Chaucer	Write a biography for Chaucer.
wealthy / poverty / exploit / advantage / humorous / unique / gregarious / verbose / character	<a href="https://wiki.kidzsearch.com/wiki/The_Wife_of_Bath%27s_Prologue_and_Tale">https://wiki.kidzsearch.com/wiki/T he Wife of Bath%27s Prologue and Tale</a> Read all about The Wife of Bath.	Create a character like The Wife of Bath. Write their Pilgrimage Story.
verb/ adjective/ noun / adjective / grammar / subject / object	<a href="https://kids.kiddle.co/Old_English">https://kids.kiddle.co/Old_English</a> Find out about Old English <a href="https://kids.kiddle.co/Beowulf">https://kids.kiddle.co/Beowulf</a> Read about Beowulf.	Write the story of Beowulf in your own words.

## YEAR 7 FRENCH – AUTUMN TERM 1

1	Je m'appelle.... <i>I am called....</i>
2	J'ai quatorze ans. <i>I am 14 years old.</i>
3	Mon anniversaire c'est le vingt Janvier. <i>My birthday is the 20<sup>th</sup> January.</i>
4	Mon frère a dix ans. <i>My brother is 10 years old.</i>
5	J'ai un frère et deux soeurs. <i>I have a brother and two sisters.</i>
6	J'ai les yeux verts. <i>I have green eyes.</i>
7	J'ai les cheveux longs et raides. <i>I have long and straight hair.</i>
8	Je porte des lunettes. <i>I wear glasses.</i>
9	Je suis de taille moyenne. <i>I am average height.</i>
10	Je suis bavard et très sportif. <i>I am chatty and very sporty.</i>
11	Ma soeur a les yeux bleus et elle est timide. <i>My sister has blue eyes and she is shy.</i>

A	Français	A	Français
1	Un	11	Onze
2	Deux	12	Douze
3	Trois	13	Treize
4	Quatre	14	Quatorze
5	Cinq	15	Quinze
6	Six	16	Seize
7	Sept	17	Dix-sept
8	huit	18	dix-huit
9	Neuf	19	Dix-neuf
10	Dix	20	Vingt

A	Français
30	Trente
40	Quarante
50	Cinquante
60	Soixante
70	Soixante-dix
80	Quatre-vingt
90	Quatre-vingt-dix
100	Cent

B	Français	English
1	Janvier	January
2	Février	February
3	Mars	March
4	Avril	April
5	Mai	May
6	Juin	June
7	Juillet	July
8	Août	August
9	Septembre	September
10	Octobre	October
11	Novembre	November
12	Décembre	December

B	Français	English
1	Mon frère	My brother
2	Ma soeur	My sister
3	Ma mère	My mum
4	Mon père	My dad
5	Mes parents	My parents
6	Ma belle-mère	My stepmum
7	Mon beau-père	My stepdad
8	Mon oncle	My uncle
9	Ma tante	My auntie
10	Ma grand-mère	My grandmother
11	Mon grand-père	My grandfather
12	Mes grand-parents	My grandparents
13	Mon cousin	My cousin (m)
14	Ma cousine	My cousin (f)

### Expressions using J'ai

C	Français	English
1	.....ans	years old
2	Les yeux	Eyes
3	Les cheveux	Hair
4	Un frère	A brother
5	Une soeur	A sister

C	Français	English
1	Vert	Green
2	Bleu	Blue
3	Marron	Brown
4	Brun	Brown (hair)
5	Noir	Black
6	Blanc	White
7	Orange	Orange
8	Jaune	Yellow
9	Rose	Pink
10	violet	Purple

### Expressions using Je suis

C	Français	English
1	Grand(e)	Tall
2	Petit(e)	Short
3	De taille moyenne	Average height
4	Bavard(e)	Chatty
5	Timid(e)	Shy
6	Sportif / sportive	Sporty
7	Marrant(e)	Funny
8	Paresseux/ paresseuse	Lazy
9	Sympa	Nice
10	Amusant(e)	Fun
11	Intelligent (e)	Intelligent
12	Méchant(e)	Mean
13	Casse-pieds	Annoying
14.	Fils/fille unique	An only child

### Key verbs

	Français	English
1	J'ai	I have
2	Je suis	I am
3	Je porte	I wear
4	C'est	It is
5	Il est	He is
6	Elle est	She is
7	Il a	He has
8	Elle a	She has

### Connectives

	Français	English
1	Et	And
2	Mais	But
3	Aussi	Also
4	En plus	In addition

### Intensifiers

	Français	English
1	Assez	Quite
2	Très	Very
3	Un peu	A bit
4	trop	too

## YEAR 7 FRENCH – AUTUMN TERM 2

1	Je suis sportif/sportive. <i>I am sporty.</i>
2	J'adore le foot parce que c'est amusant. <i>I love football because it is fun.</i>
3	Je déteste la voile parce que c'est difficile. <i>I hate sailing because it is difficult.</i>
4	Je joue au tennis. <i>I play tennis.</i>
5	Je joue au rugby parce que c'est passionnant. <i>I play rugby because it is exciting.</i>
6	Je fais de la natation. <i>I go swimming.</i>
7	J'aime télécharger des chansons. <i>I like to download songs.</i>
8	Sur mon portable. <i>On my mobile phone.</i>
9	Qu'est-ce que tu aimes faire le weekend? <i>What do you like to do at the weekend?</i>
10	Pendant mon temps libre.... <i>In my free time...</i>
11	Je vais au cinéma et je regarde les films. <i>I go to the cinema and I watch films.</i>

A	Français	English
1	J'adore	I love
2	J'aime	I like
3	Je n'aime pas	I dislike
4	Je déteste	I hate

B	Français	English
1	Le tennis	Tennis
2	Le foot	Football
3	Le rugby	Rugby
4	Le cyclisme	Cycling
5	Le basket	Basketball
6	Le billard	Snooker
7	Le volleyball	Volleyball
8	La pétanque/les boules	Bowls
9	La voile	Sailing
10	La course automobile	Motor racing
11	L'équitation	Horseriding
12	Le vélo	Cycling
13	La gymnastique	Gymnastics
14	La natation	Swimming
15	La danse	Dancing

C	Français	English
1	Le ski	Skiing
2	Le hockey sur glace	Ice hockey
3	Le tir à l'arc	Archery
4	La luge	Sledging
5	Le patinage	Skating
6	Le snowboard	Snowboarding
7	Le rafting	Rafting
8	L'aplinisme	Hiking
9	Le canoë-kayak	Canoeing
10	La planche à voile	Windsurfing
11	Les randonnées	Walks
12	La motoneige	Snowbiking

D	Français	English
1	Bloguer	To blog
2	Écouter de la musique	Listen to music
3	Envoyer des SMS	Send texts
4	Prendre des selfies	Take selfies
5	Partager des photos et des vidéos	Share photos and videos
6	Regarder des films	Watch films
7	Tchatter avec mes copains/copines	Chat with my friends
8	Télécharger des chansons	Download songs

### Adjectives

E	Français	English
1	Sportif / sportive	Sporty
2	Marrant(e)	Funny
3	Paresseux/ paresseuse	Lazy
4	Ennuyeux	Boring
5	Amusant(e)	Fun
6	Cool	Cool
7	Difficile	Difficult
8	Facile	Easy
9	Génial	Great
10	Chouette	Great
11	Nul	Rubbish
12	Passionnant	Exciting

### Key verbs

F	Français	English
1	Je joue	I play
2	Il joue	He plays
3	Elle joue	She plays
4	On joue	He plays
5	Je suis	I am
6	Il est	He is
7	Elle est	She is
8	C'est	It is
9	Je vais	I go
10	Je mange	I eat
11	Je regarde	I watch
12	Je sors	I go out

### Connectives

G	Français	English
1	Et	And
2	Mais	But
3	Aussi	Also
4	En plus	In addition

### Intensifiers

H	Français	English
1	Assez	Quite
2	Très	Very
3	Un peu	A bit
4	trop	too



## A What is Geography?

People who study geography are called geographers. Geographers are interested in Earth's physical features, such as mountains, deserts, rivers, and oceans. They are also interested in the ways that people affect and are affected by the natural world.

The study of Geography is split into:

**Physical      Human      Environmental**



**C Map Skills** - Maps can help us to find a place, or they provide information about a place. They show places from above and show things much smaller than in real life. There are many types of maps. You need to know how to use an OS Map.

**Extra** - How many different types of map can you find? What do these look like? What do they show? How are they useful? Could you find a really unusual map of the world?

## D The continents and oceans of the world.

Make sure you are able to label and name these



**Extra** - Watch this clip - how would you do?

A continent is one of the earth's seven major areas of land.

The continents are **Africa, Antarctica, Asia, Oceania/Australasia, Europe, North America, and South America.**

Within these continents are all the countries of the world.

An ocean is a huge body of salt water. Oceans cover nearly 71% of Earth's surface. They contain almost 98% of all the water on the Earth.

There are **four** main oceans on Earth: **the Pacific, the Atlantic, the Indian, and the Arctic.** These oceans have no real borders, and water flows freely between them. Smaller parts of these oceans are called **seas, gulfs, and bays.**

**Extra** - choose any country in the world and produce an information leaflet outlining lots of good geography about that place - population, weather, landscape, culture, cities . . . .

**B Physical Geography:** This focuses on the study of the natural features of the world such as rivers, coasts, mountains, ecosystems, the weather and climate.

**Human Geography:** this focuses on the study of human interaction with the environment, its cultural, social and economic aspects.

**Environmental Geography:** This focuses on the interactions between Physical and Human Geography.

**Extra** - Write a poem or a rap about the different types of geography

## E Latitude and longitude

Lines of **latitude** and **longitude** are used to locate places accurately on the Earth's surface.

- Lines of latitude circle the Earth in an east-west direction. They are parallel.
- Lines of longitude run from the top of the Earth to the bottom. They are not parallel as lines of latitude are – they meet at a point at the north and south poles and are called meridians. They divide the Earth into segments, like an orange.

The **index of an atlas** gives shows where places can be found, e.g. Birmingham, UK - 52° north 1° west. This means that Birmingham is located at approximately latitude 52° north and longitude 1° west.

**Extra** - find the longitude and latitude of places/countries that you have visited

**F** The **British Isles** is made up of:

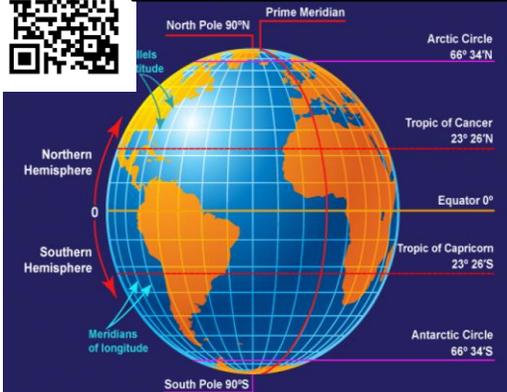
**ENGLAND  
WALES  
SCOTLAND  
NORTHERN IRELAND**



**Extra** - find out 5 interesting facts about the Geography of the British Isles

The UK lies between the North Atlantic Ocean and the North Sea, and comes within 35 km (22 miles) of the northwest coast of France, from which it is separated by the English Channel. The UK has a total area of approximately 245,000 km<sup>2</sup>, almost a quarter-of-a-million square kilometres. The longest river is the River Severn, which is 338 km long.

## Longitude and Latitude





## Year 7 Knowledge Organiser 2: BEING A GEOGRAPHER IN OUR LOCAL WORLD

**A Maps and symbols** - A map is a two-dimensional drawing of an area. Maps help us to understand what places are like and how to plot routes.

**Extra:** Can you draw a simple map of an area that you are familiar with?

Maps should have a: **Title, scale, north arrow, and a key**

**Map symbols** help us to include lots of detail on maps that are drawn to scale. They include simple images, colours, letters and abbreviations. Here are some examples:

OS Map Symbols												

**Extra** - look at an OS map and try to recognise some symbols. Ask if you would like to borrow a map of the local area!

### B Direction

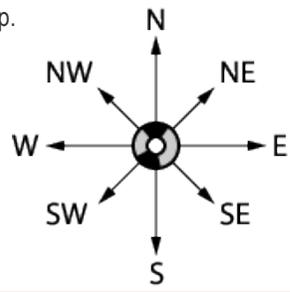
Try to remember the main compass points by using a mnemonic, e.g.

**Naughty Elephants Squirt Water – North East South West**

The four main points of the compass are **north, east, south and west**. Half way between each of these there are four other points: **north-east, south-east, south-west and north-west**. This makes an eight-point compass.

There are a further eight points between these... remember the names of these are a mix of the two closest compass points but they always start with the main compass point, i.e. north, east, south or west.

**Ordnance Survey** maps are always printed so that north is at the top of the map.



**Extra** - visit the Mapzone website to test your skills!

### C Grid references

A grid of squares helps the map-reader to locate a place. The horizontal lines crossing the map from one side to the other are called northings. They are numbered – the numbers increase to the north. The vertical lines crossing the map from top to bottom are called eastings as the numbers increase in an easterly direction.

**Things to remember:** On an OS map **each grid square** is 1 km x 1 km or **1 sq. km**. When you give a grid reference, always give the easting first... **"Along the corridor and up the stairs"**.

### E Height on maps – can be shown in 3 ways

**Spot heights and triangulation pillars** - These show the exact heights by a black dot with a number next to it. The number is the height above sea level in metres. The blue triangle represents a triangulation pillar

**Contours** - These are lines drawn on maps that join places of the same height. They are usually an orange or brown colour. Some contour lines have their height above or below sea level written on them. It is possible to use them to see the shape of the land – if contour lines are close together the slope is steep, if they are far apart the slope is gentle.

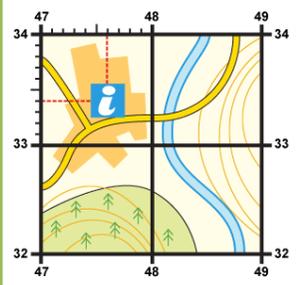
**3. Layer shading** - Maps are sometimes shaded to show the height of land.

### D Four-figure grid references can be used to pinpoint a location to within a square measuring 1 sq. km. To find the number of the square:

Start at the left-hand side of the map and go east until you get to the easting crossing through the bottom-left-hand corner of the square you want. Write this number down.

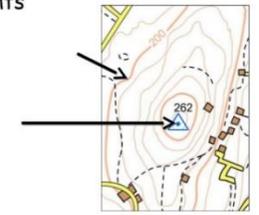
Move north until you get to the northing crossing the bottom-left-hand corner of the square you want. Look at the number of this grid line and add it to the two-digit number you already have. This is your four-figure grid reference.

The information centre is in 4733



**Extra** - can you find out about 6 figure grid references and how they are used?

### Using contour lines and spot heights



Have a look at the BBC page for map skills



## Year 7 Knowledge Organiser 1: OUR POPULATED WORLD

**1. WORLD CITIES** – Urban settlements are some of the largest, busiest and most exciting places on Earth. Cities like London, New York and Rio de Janeiro were once small towns and have grown over time into the amazing places we see today. There are several reasons why cities grow and develop in particular places. It's mostly to do with their geographical setting and their connections to other places. Typical locations for cities are:

- On a historical trading route
- On a coastline which makes it easier to trade with other places
- Near a river, which allows transport and trade to take place
- On flat land, as it is difficult to build a city on a mountain!
- Close to raw materials, which allows goods to be manufactured and exported
- Protected by mountains from harsh climates or possible attacks or invasions



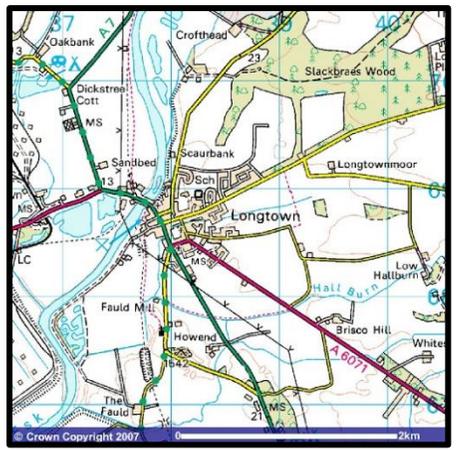
**Examples** - London is on the banks of the River Thames which provide good transport and opportunities for trade. The capital cities of **Finland, Sweden and Norway** are located in the south of each country, where the climate is more temperate. **Lagos**, in Nigeria is the fastest growing city in Africa - the discovery of oil nearby has aided its rapid growth

Extra – can you find some more examples of major cities, and then try to find out the reasons why they are located in that particular place . . . .

**2. What is Urbanisation?** This happens when more and more of a country's population moves to towns and cities.

The graph above shows a steady increase in the number of people living in urban areas:

- In 1950, 750 million people lived in urban areas
- In 2015, 3.95 billion people lived in urban areas – that's a huge difference in just 65 years!



**ACTIVITY** – why do you think Longtown developed in this location – think about all the reasons and write them down

**3. Unstoppable Growth** – there are two main reasons why there has been an increase in urbanisation:

- Rural-to-urban migration** – cities are magnets for people from rural areas because they tend to offer good job opportunities and services (such as buses, doctors, schools)
- Natural increase** – cities tend to have a high proportion of young people, particularly migrants. This means that cities usually have high birth rates and a rapidly growing population.

**4. Global Patterns of Urban Population** – there are huge differences around the world:

- Only 43% of Africa's population live in towns and cities. This is mainly because many African countries are Low Income Countries (LICs), so most people live in rural areas and work in farming.
- In contrast, most High Income Countries (HICs) have already experienced the rapid growth of towns and cities, mainly due to industrialisation & increased jobs.
- However, many urban areas in many LICs are getting bigger very quickly! E.g., by 2050, India is expected to add 416 million more people to its cities!
- Rates of urban growth in HICs are very low because most people who want to live in towns & cities already live there.

<https://www.bbc.co.uk/bitesize/guides/zs6m82p/revision/1>.

<https://www.youtube.com/watch?v=2yXCtlamjPM>  
**Extra** - watch these clips to further your understanding

**5. Welcome to Rio de Janeiro!** Rio is a globally important city. It's an industrial, & financial city & the cultural capital of Brazil.

- The city is enclosed by hills which made it easy to defend
- The SE of Brazil has plenty of raw materials such as iron and coffee. Rio processes these and then exports overseas.
- Rio is growing very quickly mainly because of rural-to-urban migration
- Rio has 3 airports so it's well connected to South America and the world
- Rio has 5 ports which help to trade

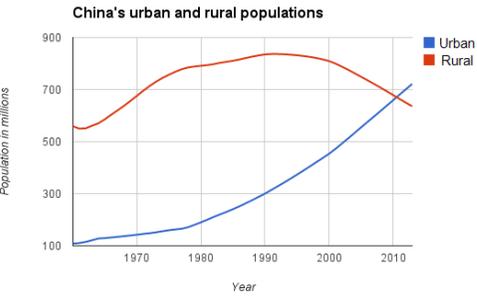




**Year 7 Knowledge Organiser 2: OUR POPULATED WORLD**

**1. Rural-to-Urban Migration in China** – it is expected that by 2050, another 2.5 billion people will live in cities around the world. This means that nearly two-thirds of everyone in the world will live in a city!  
 Shanghai in China is already home to 24.18 million people – the same as the population of the whole of Australia. China is an example of a country that has urbanised very quickly.

- In 1960 only 16% of China's population lived in cities
- In the 1980s, factories were built and many rural migrants began to move there for jobs
- In the 1990s companies from other countries began to build factories in China also – so there were even more jobs for the migrants!
- In 2017, now 58% of China's population lived in cities
- By 2030, it's estimated that 1 billion people will live in China's cities



**Extra** - Find out some of today's megacities. Where are they located? How fast have they grown?

**2. Why do people move to China's cities?**  
 Along with natural increase, rural-to-urban migration is one of the main causes of the growth of China's urban areas. But why do so many people want to leave their rural homes and move to China's cities? The reasons they want to leave are called **PUSH FACTORS**. Some people are attracted by the benefits that city life will offer – these reasons why people want to move to the city are known as **PULL FACTORS**.

**3. Push and Pull Factors for China**

PUSH FACTORS	PULL FACTORS
Lack of jobs other than farming	Many doctors offering good healthcare
Limited leisure opportunities	Well-paid jobs
Few doctors and no hospitals	Good schools
Poor schools	Reliable power supplies
Starvation due to crop failure	Lots of government investment
Unreliable water supplies	Plentiful food supply
Poverty	Modern well-built homes

**6. Megacities** – imagine living in a city with 37 million neighbours! If you lived in Tokyo in Japan that's how many people you would share your city with. That makes London's population of 8 million people seem small.  
 The Megacity Explosion – some cities have grown so huge they are known as megacities. In 1950 there were only 2 (New York and Tokyo), today there are nearly 40

**4. Life in China's Cities**  
 Many of our belongings are now made in China, and many people moved to the cities for the jobs. People worked in the factories for low wages, so that meant the products could be made cheaper than in many other countries. This attracted business from around the world to set up factories in China. There were so many jobs available that many people to the city from the countryside. Many factories did not follow health and safety laws and did not stick to fair working hours and working conditions.

**Extra** – you are considering moving to one of China's cities. Write a blog about your experiences

**5. What happened to the rural areas in China?**  
 When people leave the rural areas of China the villages they leave behind can suffer;

- The elderly and children remain in the rural villages
- There are not enough young people to work on the farms
- Villages experience more food shortages
- Villagers become poorer
- Young people move to the cities . . . . .

**What can China do to make people stay in rural areas?** The Chinese government has tried to encourage people to stay in or move to rural areas. In 2018, they announced a 3 yr plan to improve the quality of life in rural areas by:

- Making farming easier
- Reducing the cost of setting up a business in a rural area
- Improving access to basic services, such as water, sanitation and energy
- Improving roads, healthcare and education

**Extra** - imagine you are a member of the Chinese Government. Design a poster to encourage more people you stay in rural areas.



**Year 7 Knowledge Organiser 2: OUR POPULATED WORLD**

**1. The Unstoppable Growth of Megacities** - some megacities are growing so fast that no one really knows exactly how many people live in them. But what makes them grow so quickly?

- **Rapid rural-to-urban migration** – in some countries the sheer scale of rural-urban migration has caused the massive growth of cities
- **High natural increase** – these are really high in some megacities. With large numbers of mostly young people migrating into these huge cities, rates of natural increase are likely to rise even further.

Whilst high rates of rural-urban migration and natural increase account for the growth of megacities in LICs, the reasons for high populations in HICs, like Tokyo and New York are different:

**New York** – this was the main destination for migrants moving from Europe to the USA in search of jobs and opportunities to start a new life. Located near the coast and with plenty of relatively flat land, New York is an ideal place for the development of a large city.

**Tokyo** – much of Japan is very mountainous and so is very difficult to live on. So the limited flat land, close to the coast is ideal for the growth of large cities. In the past Tokyo has grown rapidly as a national and regional centre for trade and businesses attracting huge numbers of people from Japan and elsewhere.

**2. Welcome to Jakarta – the Sinking Megacity**  
 Jakarta is the capital of Indonesia and the third largest megacity in the world. 31 million people call it home but by 2050 it could be underwater! Indonesia is a NEE (Newly Emerging Economy). Megacities in LICs and those in NEEs are growing quicker than any other megacities.

<https://www.youtube.com/watch?v=qOSwBlstZUs> Watch this clip on Jakarta

**5. Housing the Poor** – when migrants move to the city in LICs they often find themselves living in squatter settlements.

- The people who live there don't own the land, they are there illegally
- They live there because they can't afford anywhere else
- The houses are built from any materials they can find
- There are no sewers, few toilets & limited water supply

**3. Living in Jakarta** – like many megacities there are many challenges and opportunities of living in Jakarta

**4. Why is Jakarta Sinking?** Jakarta is the fastest sinking in the world. Parts of it are sinking by up to 25cm each year. The city is sinking because of subsidence. This is mainly because too much water is taken out of groundwater supplies. Over 75% of Jakarta's residents have drilled illegal wells to get water as the city's supplies are not efficient. As the water is taken out, the land subsides. Miners suggest that the weight of the skyscrapers built to house the millions of residents is also adding to the subsidence problem. As a result dangerous cracks appear in buildings when the ground moves and some buildings have been abandoned.

Half the city is below sea level. During the rainy season floods are very common and devastating for residents. In recent years, land around the edges of Jakarta has also been built on, removing natural wetlands and forests that usually soak up rainwater. This makes flooding more likely and much worse. Global rise in sea levels also contributes to this threat

**Extra** – do your own research on another of the world's megacities. What challenges and opportunities are there for the people living there?



OPPORTUNITIES	CHALLENGES
Together the people in the city make over US\$321 billion per year	Not all homes have a clean water supply
It's the headquarters for many Asian banks	There isn't much open green space
Lots of tourists visit the theme parks on the coast	There are traffic jams for most of the day
People move there from Indonesia's other islands so it's very diverse	Its rivers and canals are polluted with waste
There are 142 museums and many cultural festivals	Many people have poorly paid jobs or have no jobs
It has excellent healthcare	Some people live in kampungs which are temporary shacks

# St Cuthbert Mayne History Department: Year 7 Knowledge Organiser One - Concepts and the Anglo Saxons

Key Term	Definition
<b>History</b>	The study of the past, including people, events and turning points.
<b>Chronology</b>	The placing of events in time order.
<b>Century</b>	A hundred years
<b>Decade</b>	10 years
<b>Similarity</b>	Where things remain the same / do not change
<b>Difference</b>	Where things change, this can be small or massive.
<b>Cause</b>	Something that leads to an event.
<b>Consequence</b>	Something that happens because of an event.

Key Term	Definition
Angles	A tribe of people from modern day Denmark
Saxons	German / Dutch tribes who arrived in Britain from 450 AD
Migration	Where people move from one place to another
Invasion	Where people move to another country to take it over.
Pagan	A religion that involves worshipping many gods / goddess
Christianity	A religion based on the teachings of Jesus.
Witan	The Anglo Saxon Parliament

## Why have a KO?

In History there are some words you have to know. For each topic you cover there will be 15 key words to learn. You will be tested on these on a regular basis.

## How do I use my KO?

Your teacher will tell you when you need to study for a test. It's really simple:  
 Read  
 Cover  
 Write  
**Repeat the process until you know the key terms and their definitions.**  
**Enjoy!**

# St Cuthbert Mayne History Department: Year 7 Knowledge Organiser Two - 1066!

Key Word	Definition
Edward the Confessor	King of England who died in 1066.
Harold Godwinson	Most powerful noble in England. Contender.
Harald Hardrada	King of Norway. Contender.
William of Normandy.	Duke of Normandy. Contender.
Heir	A child of the king .
Oath	A promise with God.
Crisis	When something bad happens
Hastings	The place where the final battle took place in 1066

Key Word	Definition
Normans	A group of people from the Normandy region of France.
Conquest	Taking an area by force.
Fyrd	Local farmers who fought in the Anglo Saxon army.
Housecarls	Paid, professional soldiers who fought in the Anglo Saxon Army
Cavalry	Soldiers who fought on horseback.
Battle of Fulford Gate	Where Hardrada defeated the Northern Earls.
Battle of Stamford Bridge	Where Godwinson defeated Hardrada

## **Why have a KO?**

In History there are some words you have to know. For each topic you cover there will be 15 key words to learn. You will be tested on these on a regular basis.

## **How do I use my KO?**

Your teacher will tell you when you need to study for a test. It's really simple:

- Read
- Cover
- Write

**Repeat the process until you know the key terms and their definitions.  
Enjoy!**

# St Cuthbert Mayne History Department: Year 7 Knowledge Organiser Three - The Norman Conquest

Key Term	Definition
Medieval	The time period lasting from 1066 - 1485
Feudal system	The social structure of England.
Tax	Money that had to be paid to the king.
Villien	Peasant at the bottom of the feudal system.
Baron	Noble landowner that pledged loyalty to the king.
Roman Catholicism	The religion that everyone in England believed.
Knights	Landowners who had to fight for the king
Domesday Book	Finished in 1086, it had information on what people owned

Key Term	Definition
Castle	A defensive building
Motte	Defensive mound of earth
Bailey	Large walled areas around the motte
Keep	Safest place in the castle
Moat	Deep ditch around the castle, sometimes filled with water.
Rebellion	Where people go against the king.
Harrying of the North	When William destroyed large parts of the North

## **Why have a KO?**

In History there are some words you have to know. For each topic you cover there will be 15 key words to learn. You will be tested on these on a regular basis.

## **How do I use my KO?**

Your teacher will tell you when you need to study for a test. It's really simple:

- Read
- Cover
- Write

**Repeat the process until you know the key terms and their definitions.**

**Enjoy!**

# The power of Sparx for parents and carers

sparx

Be empowered to become a pivotal part of your child's education.

## The challenge

Engaging young people with any homework can be tough, let alone tackling maths. At Sparx, we know that parents and carers can be very influential when it comes to homework, and that is why we are so keen for you to be involved in their maths learning journey.

## What is Sparx?

In schools, Sparx Maths Homework automatically sets one hour of personalised learning for every student, every week.

Unique content, covering the KS3 and GCSE maths curriculum, is devised and written by our in-house teams. Over 33,000 hand-written questions are supported by more than 7,800 tutorial videos, which help explain concepts and encourage independent learning.



## Receive reassurance

You will receive a weekly email keeping you up-to-date with your child's homework hand-in dates and what they are studying in the coming week.



## Helpful videos

Your weekly emails contain a link to a topic-based video that can help you to understand the topic your child will be covering.



## Personalised learning for every student

Our technology learns where students' strengths and weaknesses lie, and how long they take to complete different types of questions. It then determines which homework questions would help improve and consolidate their learning. Question difficulty is gradually increased to suit the learner and topics are repeated during the year to help them fully understand the skill for the long term.



## Improves attainment

Additional teacher time and a bespoke learning experience drive both progress and attainment in maths.



## Supports mental health

Progress in core subjects such as maths has a recognised effect on overall attainment. Tackling issues such as 'maths anxiety' and rewarding progress for all students creates confidence that is evidenced at a school-wide level.



## Keeps your child motivated

Students collect XP (experience points) and are rewarded with mini-games.

Home Learning set weekly every Friday 16:00 and due every Thursday 08:00. If you have completed 30% by Monday, we recommend that you attend Bright SPARX.

“ I used to hate maths, now I want to do maths every day ”

Student from All Saints Academy

Bright SPARX clubs run every Monday and Tuesday from 15:10 – 16:10. Supervised by the Maths Department to help anyone who may have issues logging in or would like help on any aspect of the homework.

**AUTUMN TERM 1 TASKS**

**BUILDING BRICKS**

Please complete the following tasks for your Music Lessons using your 'Building Bricks' Knowledge Organiser pages. There are TWO pages.

Try to write the tasks in your very best handwriting with the title (e.g. 'Week 1 - Music') and date at the top of your page. **Make sure you complete your KO every week even if you don't have a lesson** and remember, you should use your KO as a guide to learn and revise keywords and information - don't just copy it down!

	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
<b>T A S K S</b>	<p><b>Task:</b> Learn the definitions and spellings of the following terms:</p> <ul style="list-style-type: none"> <li>- Pulse</li> <li>- Rhythm</li> <li>- Pitch</li> <li>- Tempo</li> </ul> <p>Also, learn the English and Italian words to describe Tempo in box 3.</p>	<p><b>Task:</b> Learn the definitions and spellings of the following terms:</p> <ul style="list-style-type: none"> <li>- Dynamics</li> <li>- Structure</li> </ul> <p>Also, learn about the different types of Dynamics (box 1) and Structure (box 4) you can use in music.</p>	<p><b>Task:</b> Learn the definitions and spellings of the following terms:</p> <ul style="list-style-type: none"> <li>- Texture</li> <li>- Timbre</li> </ul> <p>Also, learn the different types of Texture (box 2) that we have in music.</p>	<p><b>Task:</b> Draw out the table of Rhythm Pyramid <b>NOTES</b>.</p> <p>Make sure your notes are accurate (the note heads should all be the same size) and drawn in pencil.</p> <p>Write how many beats each note lasts for next to each row.</p>	<p><b>Task:</b> Draw out the table of Rhythm Pyramid <b>RESTS</b>.</p> <p>Make sure your rests are accurate (each type of rest should be the same size) and drawn in pencil.</p> <p>Write how many beats each rest lasts for next to each row (<b>hint:</b> the rests last are the same duration as the notes)</p>	<p><b>Task:</b> Learn the 'Melody rhythms' from page 2 of your Building Bricks KO.</p> <p>Create your own 8 beat rhythm using the syllable examples given (e.g. tea, coffee, lemonade, coca-cola) making sure that you stay in time.</p> <p><b>Extension:</b> Complete the 'Revision Ideas' box on page 2.</p>

# Building Bricks of Music

1

## Pulse

The beat of the music. Every piece of music has a heartbeat. It doesn't need to be played by drums - you can 'feel' the beat.

## Rhythm

Notes have different lengths, some long, some short. When we combine long and short sounds, it creates a pattern, which is a rhythm.

## Pitch

Pitch is a variation of high and low sounds. Pitch increases and decreases by steps of a scale. Scales are Major and Minor.

## Tempo

Tempo means the speed of the music. Music can change tempo within a piece. We describe tempo using Italian words.

## Dynamics

Dynamics means the volume of the music. Music can change dynamics within a piece. We describe dynamics using Italian words.

## Structure

Music is divided into sections. The order of these sections creates a structure. Song structure includes Chorus, Verse, Instrumental etc.

## Texture

A single melody creates a thin sound. Adding more parts/layers creates a bigger sound. These layers can interact with each other.

## Timbre

Each instrument has a unique sound and sounds different to others. This individual sound quality is called Timbre.

1

## DYNAMICS

Fortissimo *ff* VERY LOUD

Forte *f* LOUD

Mezzo-forte *mf* Fairly Loud

Mezzo-piano *mp* Fairly Soft

Piano *p* Soft

Pianissimo *pp* Very Soft

3

## TEMPO

*Lento* Slowly 

*Largo* Slow and stately 

*Adagio* Leisurely 

*Andante* At a walking pace 

*Allegro* Fast 

*Vivace* Lively 

*Presto* Very quickly 

2

## TEXTURE

THICK - lots of instruments or melodies

THIN - small amount of instruments or melodies



### MONOPHONIC

Contains one melody with no harmonies, although there may be a rhythmic accompaniment.



### POLYPHONIC

Contains two or more melodies playing at the same time.



### HOMOPHONIC

Where there is more than one independent melody playing at the same time.

4

## STRUCTURE

### Binary Form

Music that has two sections:

**A & B**

### Ternary Form

Music that has three sections:

**A & B & A**

### Rondo Form

Music that has a recurring theme (A) contrasted by different sections

**A & B & A & C & A & D & A**

# Building Bricks of Music

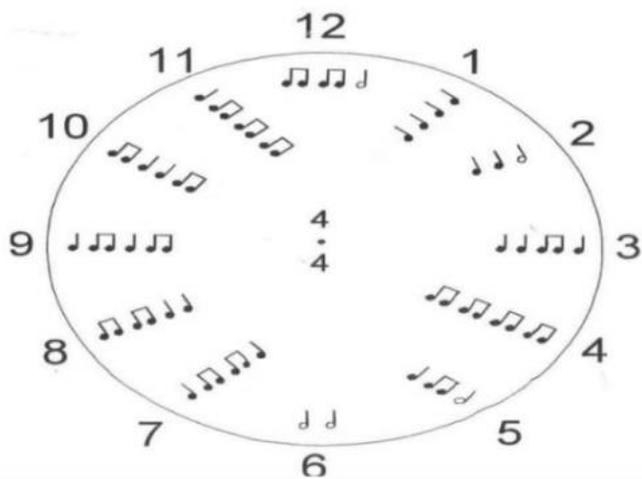
2

## Revision Ideas:

1. Make some musical sums for a partner. Eg.  +  =
2. Create some 2, 3 and 4 beat rhythms.
3. Clap a rhythm and see if a partner can notate it.
4. Clap some rhythms from the rhythm clocks
5. Create your own rhythm clock.

$$\text{quarter note} + \text{quarter note} =$$

### RHYTHM CLOCK



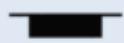
Melody rhythms - use the syllables to create the rhythms

				
Tea	Coffee	Lemonade	Coca-Cola	Pineapple

## Rhythm Pyramid NOTES

				Semibreve				
				Minim				
				Crotchet				
								Quaver

## Rhythm Pyramid RESTS

				Semibreve Whole bar Rest				
				Minim Rest				
				Crotchet Rest				
								Quaver Rest

## AUTUMN TERM 2 TASKS

# SONORITY CITY

Please complete the following tasks for your Music Lessons using your 'Sonority City' Knowledge Organiser page.

Try to write the tasks in your very best handwriting with the title (e.g. 'Week 1 - Music') and date at the top of your page.

**Make sure you complete your KO every week even if you don't have a lesson** and remember, you should use your KO as a guide to learn and revise keywords and information - don't just copy it down!

	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
T A S K S	<p>Draw and label section <b>F - Map/Plan of an Orchestra</b> in your green KO book.</p> <p>Try to use different colours to show the different instrument families. You should draw this in landscape mode not portrait.</p>	<p>Learn about section <b>A - Strings Section/Family</b>.</p> <p>Once you have learnt this information try to listen to each instrument in the Strings Section so that you can recognise them easily.</p>	<p>Learn about section <b>B - Woodwind Section/Family</b>.</p> <p>Once you have learnt this information try to find out why some woodwind instruments have <b>double reeds</b>.</p>	<p>Learn about section <b>C - Brass Section/Family</b>.</p> <p>Once you have learnt this information try to find out what <b>valves</b> are for in brass instruments.</p>	<p>Learn about section <b>D - Percussion Section/Family</b>.</p> <p>Once you have learnt this information make a list of different types of <b>tuned</b> and <b>untuned</b> percussion instruments.</p>	<p>Learn all of the keywords and definitions in section <b>E - Key Words</b>.</p> <p>Can you think of an example of a <b>fanfare</b>? Write it down in your green KO book.</p>

# SONORITY CITY

Exploring Instruments of the Orchestra



A. Strings Section/Family	B. Woodwind Section/Family	C. Brass Section/Family	D. Percussion Section/Family
<p>Made from wood and have strings. They are usually played with a <b>BOW (ARCO)</b> – not the Harp (<i>shown right</i>) but can also be <b>PLUCKED (PIZZICATO)</b>. The smaller the instrument, the <b>HIGHER PITCHED</b> it is. The bigger the instrument, the <b>LOWER PITCHED</b> it is. However, the Harp has many more strings so can play both high- and low-pitched notes.</p>   <p>Violin Viola Cello Double Bass</p>	<p>A selection of instruments divided into two subsections: <b>FLUTES</b> (create a sound by air passing over a small hole and include the Flute and Piccolo) and <b>REEDS</b> (use a piece of bamboo reed to create a vibration). The Saxophone (<i>shown above right</i>) is not traditionally used in an orchestra. However, some modern composers have included it.</p>   <p>Piccolo Flute Clarinet Oboe Bassoon</p>	<p>There are more brass instruments used in brass bands, but the orchestra normally has four. They are made of metal and the sound is made by blowing into the mouthpiece by buzzing the lips in a similar way to blowing a raspberry! The bigger the instrument, the lower the pitch. The smaller the instrument, the higher the pitch – the Trumpet is the highest.</p> <p><b>Brass Family</b></p>  <p>Trumpet Trombone French Horn Tuba</p>	<p>Includes a vast range of instruments which produce sound when <i>hit, struck, scraped or shaken</i>. These fall into two subsections: <b>TUNED PERCUSSION</b> (able to play different pitches) and <b>UNTUNED PERCUSSION</b> (<i>e.g. drums</i>)</p> <p><b>TUNED PERCUSSION</b></p>  <p>Piano Xylophone Glockenspiel Timpani</p> <p><b>UNTUNED PERCUSSION</b></p>  <p>Bass Drum Snare Drum Cymbals Woodblock Guiro</p>  <p>Triangle Gong Tambourine Cabasa Maracas</p>

## E. Key Words

**ORCHESTRA** – A large **ENSEMBLE** (group of musicians) divided into four **SECTIONS** or **FAMILIES** of musical instruments – **STRINGS, WOODWIND, BRASS** and **PERCUSSION** - led by a **CONDUCTOR** who stands at the front of the orchestra and directs it. They will indicate the main beats in the music using a **BATON** (a “stick” that they hold and beat time with). All musicians look at the conductor whilst playing as they are ultimately in control of the whole piece.

**SONORITY** (also called **TIMBRE**) – Describes the **unique sound or tone quality** of different instruments and the way we can identify orchestral instruments as being distinct from each other – “each instruments’ own unique sound”. Sonority can be described by many different words including – *velvety, screechy, throaty, rattling, mellow, chirpy, brassy, sharp, heavy, buzzing, crisp, metallic, wooden etc.*

**PITCH** - The **highness or lowness** of a sound, a musical instrument or musical note (high/low, getting higher/lower, step/leap).

**FANFARE** – A short, lively, loud piece of music, usually for **BRASS INSTRUMENTS** and sometimes **DRUMS** and other **PERCUSSION**. A Fanfare is usually warlike or victorious in character and can be used to mark the arrival of someone important, give a “signal” *e.g.* in battles or be used to signal the opening of something *e.g.* a large sporting event or similar ceremony. Fanfares often use only notes of the **HARMONIC SERIES** – a limited range of notes played by bugles and Valveless trumpets.

## F. Map/Plan of an Orchestra



# PHYSICAL EDUCATION YEAR 7 KS3 KNOWLEDGE ORGANISER - WARMING UP & COOLING DOWN

The best way of preparing for both a good training session, and competition is by warming-up. This will help you to avoid injury and prepare you physically and mentally for exercise. A good warm up should include:

- **pulse raising activity** -jogging, skipping, heel flicks, high knees
- **dynamic stretches** - bounding, power hops, arms swings
- **Skill based drills** - dribbling, passing, shooting

Cool downs are often overlooked once you have finished training and after competition because the fun bit is over and you're tired! However a cool down will help your body to return back to normal more quickly and will help reduce any aches and pains the next day!

A good cool down should consist of:

- **Light exercise such as jogging or walking reducing in pace**
- **Static stretches**
- **Breathing exercises**

**Flexibility** – Having the adequate range of motion in all joints of the body. It is important for all sports performers

## Warm ups are vital as:

- Body temperature increases and blood flow to the muscles increases, to get them ready for action. This helps prevent sprains and strains
- Warm-ups should stretch the muscles, get the joints moving and increase the range of motion. This will also help avoid injury
- Warm-ups help focus the mind on the exercise
- Gets performer mentally ready
- Increase range of movement
- Build up to 'match readiness'
- Can practise skills in warm up to prepare for game situation
- Increase of oxygen going to working muscles

## A cool down is important as:

It helps reduce the Oxygen debt and clear any lactic acid in the muscles

It stops blood from pooling within the veins when you stop as continued gentle exercise will keep the blood pumping and muscles contracting which squeezes blood back towards the heart

- Reduces risk of DOMS (delayed onset of muscle stiffness)
- Reduces risk of injury
- Performer can calm themselves down

## Static Stretching

Static stretching involves slowly stretching a muscle to the limit of its range of movement and then holding the stretch still for 10 to 20 seconds. It is usually just used as part of a standard warm up routine to help prepare muscles and joints for exercise. There are 2 types of static stretches:

- Active Stretching
- Passive Stretching

## Ballistic Stretching

Ballistic stretching involves making fast jerky movements, usually in the form of bouncing or bobbing through the full range of movement. This type of stretching can incorporate sport specific movements to prepare the body for the activity. The aim is to improve body flexibility and reduce chance of injury.

## Dynamic Stretching

Dynamic stretching involves performing activities that are similar to the sporting movements that will be needed during a game or event. For example you will see football players perform kicking movements without actually kicking the ball. This is a form of dynamic stretching

### The 3 stages of a warm up are:

<b>Stage 1</b>	Light running / jogging	Increases heart rate; Increases blood flow to muscles; Raises the body temperature.
<b>Stage 2</b>	Stretching	Allows easier movement; Increases joint flexibility; Stretches the muscles.
<b>Stage 3</b>	Practice actions from the activity	Warms up specific parts of the body that will be used in the activity.

## Personal Challenges – Be The Best You Can Be

Personal challenges are a great way to motivate yourself and provide a bit of competitiveness. The great thing is that it is purely about YOU! No one else. It doesn't matter how anyone else does.

Have a go and set a score.

Can you improve it to get a personal best?

Even if it's only a small improvement.



## Lifestyle

A healthy active lifestyle is essential for physical and mental health and wellbeing. **You should be physically active for at least 60 minutes a day. 30m in school, 30m at home #active60**

Your diet is also important. A healthy diet involves eating from the 5 food groups: Carbohydrates, Protein, Fruit and Veg, Dairy (if applicable) and Fats



## Growth Mindset

Having a growth mindset is associated with having the fundamental belief that your abilities and outcomes are influenced by hard work. Therefore, the more effort you put in and the harder you work, the better your skills, fitness and overall performance will be.



## Circuits

Circuit training is a brilliant way to train in all aspects of your fitness. A circuit can be designed to train all areas of fitness or focus on a specific one such as flexibility. You can use a circuit to see how your heart rate changes after different kinds of exercise!

## Activities at home

Try to sit less – if you spend lots of time sitting down, try to get up and move around a bit every hour.

Play an active computer game – there are a few different gaming consoles you could try which involve actively moving your body while playing. Include more activity in your day-to-day routine – run up the stairs instead of walking, or do some gentle stretching while you're watching TV. Dance – put on some music and dance around your kitchen, or have a mini dance party

### TASK 1:

Plan a warm up for a team game of your choice, (e.g. football, hockey, netball, rounders) think of the 3 stages of the warm up and what particular activities and stretches would prepare someone for taking part in this activity.

### TASK 2:

Plan a warm up for an individual activity of your choice, (e.g. gymnastics, dance, athletics) think of the 3 stages of the warm up and what particular activities and stretches would prepare someone for taking part in this activity.

### TASK 3:

If someone was going to take part in a training session in the gym/fitness suite for the very first time. Plan a warm up for them explaining which machines you would use, how intense (hard) you would make each activity and the time they should work for.

### TASK 4:

Explain the importance of a cool down to an athlete and how this will help with their recovery from physical activity

### TASKS 5

Each week copy out one of the boxes above and take the advice from the information in the box. Once you have copied out the information in the box, write down what you have done to improve that aspect of your life.

For example, copy out the mental health benefits of exercise, then act on one of the pieces of advice and tell us what you have done.

For example, write about a healthy active lifestyle for the box, then tell us what you have done this week to make your lifestyle more healthy.

For example, set yourself a personal challenge to be the best you can be and tell us about it



# RE - What does it mean to belong to a Christian community?

## St Cuthbert Mayne



Our school is named after St Cuthbert Mayne. He was martyred at Launceston, Cornwall in 1577. His last words were "Father into thy hands..." He converted to Roman Catholicism during the reign of Elizabeth I and became a priest. He ministered to Roman Catholic families in the South West before being betrayed.

He was arrested by Elizabeth's agents. He had on him a letter from the Pope, a missal, a chalice and an Agnus Dei. Cuthbert was put on trial, found guilty of high treason and sentenced to be hanged, drawn and quartered. Before his execution he was given the opportunity to reject his Catholic faith, proclaim himself a Protestant and therefore live. He refused. Cuthbert Mayne was canonised by Pope Paul VI in 1970.

## The Design Argument

We can see evidence of design in the world, everything seems to fulfil its purpose. Many Christians believe it could not just have appeared by chance it is far too complex. A man called **William Paley** described it like a man coming across a watch in a deserted place, it is so complicated someone must have designed it. The world is even more complex so must have been **designed by God**.

## The Local Church

Our school is a joint Roman Catholic and Anglican School. It is in the Roman Catholic Diocese of Plymouth and Anglican Dioceses of Exeter.

Our Roman Catholic Bishop is Bishop Mark O'Toole.  
Our Anglican Bishops are Bishop of Exeter; Bishop Robert Atwell, Bishop of Plymouth; Bishop Nick McKinnel

## The Global Church

The Roman Catholic Church. Pope Francis is the 266<sup>th</sup> and current pope, a title he holds as Bishop of Rome, and sovereign of the Vatican City. He chose Francis as his papal name in honor of St Francis of Assisi.

## Anglican Church Community

The Arch bishop of Canterbury is the senior bishop and principal leader of the Church of England. The current archbishop is Justin Welby. His enthronement took place in 2013.

The head of the Church of England is the monarch, Queen Elizabeth II.

## Extension Tasks

1. Research St Francis of Assisi
2. Find out more about the Vatican City use the QR code
3. Find out more about the 7 sacraments.



## Key Words

<b>Community</b>	A set of people who may be very different but work for a common purpose.
<b>Martyr</b>	A person who is killed because of their religious or other beliefs.
<b>Saint</b>	A person acknowledged as holy and canonised by the Christian Church.
<b>Mission</b>	An important job to do. The Christian calling to go out into the world and spread its faith.
<b>Synagogue</b>	House of assembly. Jewish place of worship
<b>Sabbath</b>	Day of rest dedicated to God. Saturday for Jews and Sunday for Christians.
<b>Ekklesia</b>	A Greek word meaning called out. A Church.
<b>Diocese</b>	An area under the care of a Bishop
<b>Eucharist</b>	Thanksgiving. The ceremony in which bread and wine are consumed.
<b>Sacrament</b>	An outward sign of inward grace. The RC Church recognises 7 sacraments.

# RE - What does it mean to belong to a Christian community?

## Church Buildings

Roman Catholic and Anglican Church buildings share many features in common.



## Baptism

Baptism is a sacrament. The RC Church recognises 7 sacraments. Baptism, Confirmation, Eucharist, Reconciliation, Sacrament of the Sick, Holy Orders and Marriage.

Many Anglicans recognise 2, Baptism and Eucharist as these are the ones ordained by Jesus.

## Key Words

### Altar

The focus of attention in RC and Anglican Churches. It is where the priest offers the Eucharist as a symbol of Christ offering himself as a sacrifice to God on the cross.



### Font

Basin used to baptise new members of the Church. Traditionally, placed near the door to symbolise entry into the Church.



### Lectern

Where the readings take place. A stand often shaped like an eagle to symbolise God's word spread around the world.



### Pulpit

A raised platform where the priest gives the homily/sermon.

### The Confessional

A small room in which the sacrament of reconciliation may take place. Through this sacrament Catholics and some Anglicans believe they are reconciled (brought back together with God).

### Tabernacle

A box/safe where the reserved sacrament of the Eucharist is kept.

## What is infant baptism?

**Baptism** is a ceremony where a person joins the **Church**. In many Churches this is done to an **infant** (baby/toddler), as in the Roman Catholic, Anglican and Orthodox Churches. **Baptism** is thought of as the 'doorway' into the church because it is the child's 'entrance' into Christianity.

## What happens during an infant baptism?

- God is thanked.
- The child is welcomed into the Church.
- Water kept in a **font** (a large basin) and blessed to make it holy.
- Water from the **font** is poured over the child's head three times to represent the **Trinity** (God as Father, Son and Holy Spirit).
- The water symbolises being forgiven, washed clean of any wrong and a religious new life.
- Parents and **godparents** make promises on **behalf** of the child. They are expected to bring the child up as a Christian and attend church regularly.
- The child's name will be used in a public ceremony for the first time, which is why first names are sometimes known as Christian names.
- The priest will pray that the child will be protected by God and free from any evil influences.
- A candle may be lit to represent God's presence.
- The sign of the cross may be made on the forehead of the child using blessed oil (chrism oil) to represent God soothing and healing the child.

## What is a believer's baptism?

Some Churches do not baptise babies. The Baptist Church waits until at least 12 years of age to perform baptisms. The person being baptised must ask for it to happen.

## What happens during a believer's baptism?

- **Believer's baptism** takes place in front of the **congregation** (church goes).
- The individual publically declares that they **choose** to follow Jesus's teachings.
- The individual is **submerged** in water by a minister – this means their whole body goes under water.

# RE - What does it mean to belong to a Christian community?

## KEY WORDS

- **Opinion** – your personal view on a subject
- **Belief** - something you think is true but cannot prove
- **Fact** – something you can show to be true with evidence
- **Trinity** – Christian belief that God is three in one (Father, Son, and Holy Spirit)
- **Stewardship** – Christian idea that God told people to look after his Creation
- **Creation** – God's world
- **Evolution** – scientific ideas of how creatures developed
- **Holy Spirit** – the third person of the Trinity – God in the world
- **Design Argument** – idea the world shows evidence of design so God must have designed it
- **Theist**– someone who believes there is a God
- **Atheist** – someone who believes there is no God
- **Agnostic** – someone who believes it is impossible to be sure whether there is a God
- **Omnipotent** – all powerful
- **Omniscient** – all knowing
- **Omnibenevolent** – all loving
- **Eternal** – without end
- **Infinite** – going on forever
- **Moral evil** – suffering caused by human action
- **Natural evil** – suffering caused by nature

**Our Father who art in heaven,  
Hallowed be thy Name.  
Thy kingdom come.  
Thy will be done,  
On earth as it is in heaven.  
Give us this day our daily bread.  
And forgive us our trespasses,  
As we forgive those who trespass against us.  
And lead us not into temptation,  
But deliver us from evil.  
For thine is the kingdom,  
and the power, and the glory,  
for ever and ever.**

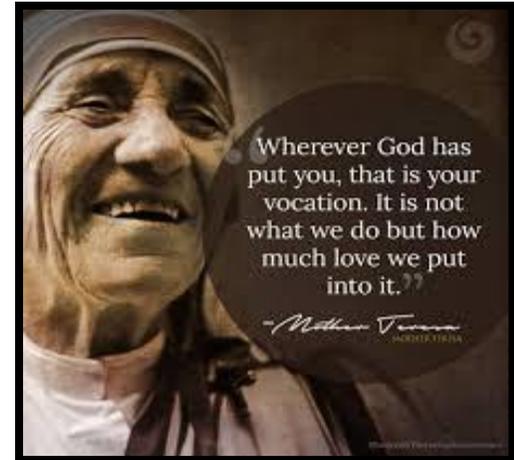
**Amen.**

## The Lord's Prayer



## Vocation

- The idea of vocation is central to the Christian belief that God has created each person with gifts and talents oriented toward specific purposes and a way of life.
- This idea of vocation is especially associated with a divine call to service to the Church and humanity through particular life commitments, such as marriage to a particular person, consecration as a religious, ordination to priestly ministry in the Church and even a holy life as a single person.
- Christian vocation includes the use of one's gifts in their profession, family life, church and civic commitments for the sake of the greater common good.



Mary, Mother of Vocations

# Science Knowledge Organiser - Autumn Term



1. There is one page in here to be completed each week.
2. Each week complete the page with the correct date at the top.
3. Use the information sheets to help you answer the questions
4. Once you have answered the questions or completed the task, spend the rest of your time learning the information. Try writing the answers in your green book, and then checking your page.
5. Ensure you have your knowledge organiser in Science lessons so that your teacher can check you have completed the work for the week.
6. You will also be tested on these questions during the week

# Information sheet - Intro to Science



## Introduction to Science Knowledge Organiser

A science laboratory is used for carrying out practical investigations. They involve using dangerous chemicals and practical equipment such as Bunsen burners.

Some practical equipment, such as test tubes, are easily breakable so care must be taken.

The pupils' and teacher's health and safety are very important so that no one gets hurt.

Hazard symbols show people how dangerous a chemical is, and what care should be taken when handling them.

Symbols can be used all over the world and are immediately recognisable, so it doesn't matter which language is used.

flammable -



corrosive -



harmful -



irritant -

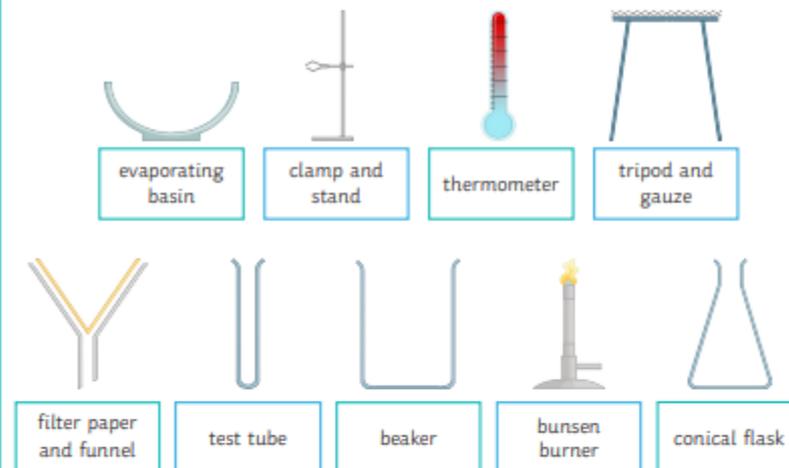


can damage the environment -



### Scientific Equipment

Diagrams are used when drawing practical equipment to make it easier and quicker to draw.



Below are some safety rules that should always be followed in a lab.

- Always wear goggles during a practical.
- Stand up during a practical.
- No running in the lab.
- Tie long hair back with a bobble.
- When something gets broken, tell a teacher.
- Inform a teacher of any spills and mop up immediately.
- Make sure equipment gets put away at the end of a practical.



### The Safety Flame

The safety flame is used when the Bunsen burner is not in use. The flame is easier to see when it is the yellow flame. To produce this flame, the air hole is fully shut. Less oxygen will get into the Bunsen burner, hence the yellow flame.



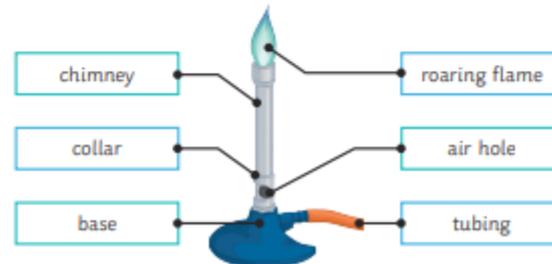
### The Roaring Flame

The roaring flame is used to heat things quickly. To produce this flame, the air hole must be fully open. More oxygen will get into the Bunsen burner, hence the blue flame.



### Bunsen Burner

The Bunsen burner is an important piece of scientific equipment. It is used in many science experiments and uses methane gas.



# Information sheet - Intro to Science - 2



## Introduction to Science Knowledge Organiser

### How to Use a Microscope

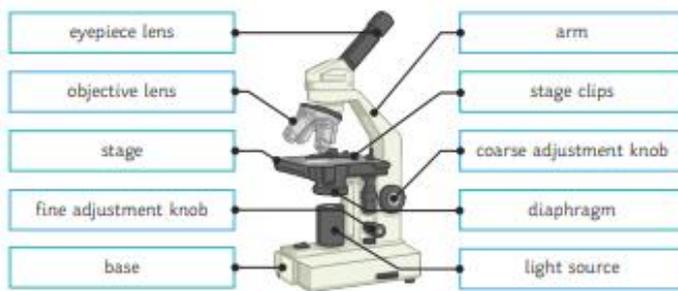
1. Plug in the microscope and turn on the light.
2. Place the specimen (the object to be observed) on the stage.
3. Turn the magnification to the smallest.
4. Make sure that the specimen is in the centre; fasten it with the clips.
5. Look down the microscope.
6. Use the fine focussing wheel to observe the specimen.
7. Increase the magnification.
8. Draw/write down any observations.

### Using a Microscope

Microscopes have been used for years to observe objects that are too small to see with the naked eye.

Over time, the magnification of microscopes has significantly improved due to developments in technology. We now have microscopes that can examine specimens at an atomic level.

We have made many important scientific discoveries thanks to microscopes.



### Investigation Skills

**Independent variable** – the variable you change.

**Dependent variable** – the variable you measure.

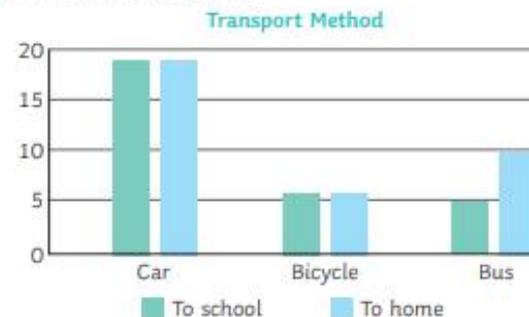
**Control variables** – the variables you keep the same.

**Prediction** – what you think will happen and why?

**Method** – how to carry out the practical investigation.

**Results table** – as the practical is carried out, write the results in a table.

**Bar graph** – used with categorical data.



### The Flame Test

This test is used to find out what metal ion is in a compound. Each metal will burn with a different colour when placed into a Bunsen burner.

1. Dip the splint in some water.
2. Dip the wet end in a test tube sample of metal chloride e.g. copper chloride.
3. Turn the Bunsen burner to the blue flame and carefully place the end of the splint with the metal into the flame.
4. Write down any observations/colours in the results table.

Chemical	Flame Test Colour
potassium (K)	purple
calcium (Ca)	yellow-red
lithium (Li)	red
sodium (Na)	orange
copper (Cu)	green-blue



**Scatter graph** – used with continuous data.



**Conclusion and analysis** – look at the results and discuss what you found out from the practical.

**Evaluation** – how can you improve the practical?



1. Name the hazard symbol
2. Give a description of the hazard symbol

<b>New hazard symbol</b>	<b>Name</b>	<b>Description</b>
		
		
		
		
		
		

# Equipment

(20/09/2020 - 24/09/2020)



1. Name the apparatus in this table.
2. How many can you remember without looking them up?

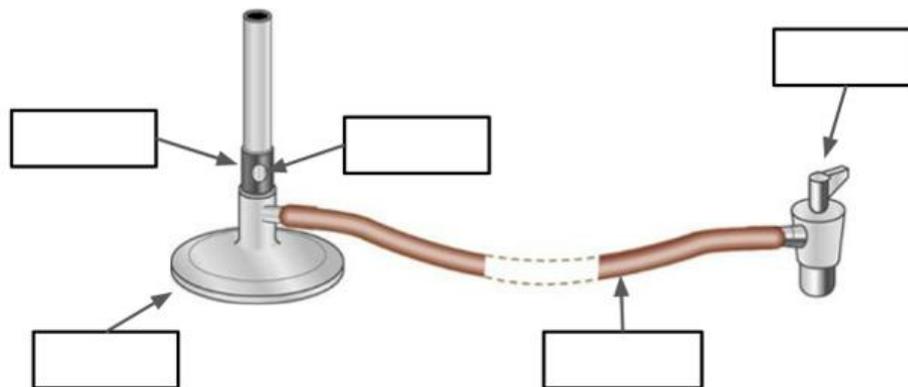
Apparatus	Name
	
	
	
	
	
	
	
	
	
	
	

# Bunsen Burners

(27/09/2020 - 01/10/2020)



1. Label the parts of the Bunsen burner
2. Answer the questions below



What colour is the safety flame on a Bunsen burner?

Which piece of equipment do we use to protect the bench when using a Bunsen burner?

Which piece of equipment do we use to hold a test tube in the flame?

List three safety precautions you must consider when using a Bunsen Burner


# Graphs

(04/10/2020 - 08/10/2020)



## Key Recall Questions

## Answers

What is the dependent variable?

What is a controlled variable?

What is a fair test?

Why is it important that tests are fair?

What is a table of results?

What are the key features of a table of results?

What are charts and graphs?

What are the most common types of chart and graph?

What kinds of chart and graph are most common?

When are bar charts used?

When are line graphs used?

What are the key features of charts and graphs?

Which axis does each variable go on?

What is a scale?

How should scales be drawn?

What is a line of best fit?

What are the two types of line of best fit?

What is an anomaly?

# Calculating the mean

(11/10/2020 - 15/10/2020)



## Key Recall Questions

1. Calculate the **mean** of each set of numbers.
2. **THINK!** Is there an anomaly there? Do we include anomalies in our calculations?

## Answers

1, 2, 3, 4, 5, 6, 7

83, 81, 89, 84, 87, 85

42, 39, 34, 78, 40, 41

21, 21, 23, 34, 21, 22

1, 2, 3, 2, 3, 2, 2, 2, 2, 2, 2, 3, 15, 2, 3, 2

100, 101, 99, 98, 97, 103, 105



You have been learning about careers which have a scientific basis.

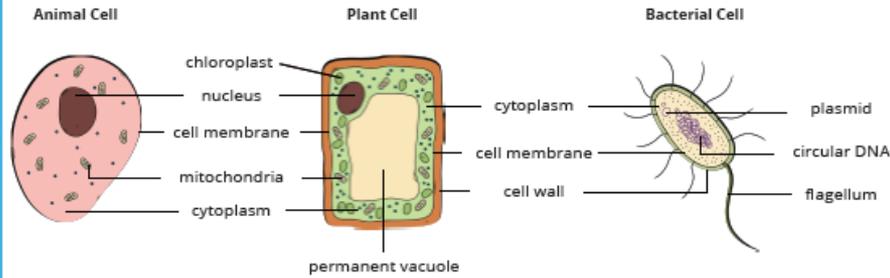
Choose one of them, or one you have researched yourself, and then answer these questions about them:

1. What would you need to study in order to be able to have this career?
2. If you did this job what would you be doing every day?
3. How much would you get paid?
4. Would you be expected to move around the country or the world to carry out this job?
5. Are there opportunities for you to get promotions and progress further after you have been doing this job for a while?

# Information sheet - Cells



## KS3 Cells and Organisation Knowledge Organiser



### The components of a cell each have different functions.

Sub-Cellular Structure	Function
nucleus	Controls the activities of the cell. It contains genetic material (DNA), which is packaged into structures called chromosomes.
circular DNA	The DNA of bacteria found free in the cytoplasm.
mitochondria	Contain the enzymes needed for aerobic respiration, which releases energy for the cell.
chloroplasts	Contain a pigment called chlorophyll, which absorbs light to provide energy for photosynthesis.
cell wall	Helps to strengthen the cell and provides support for the plant.
cell membrane	Controls the movement of substances into and out of the cell.
cytoplasm	A jelly-like substance that fills the cell, where most chemical reactions occur.
flagellum	A tail-like structure that allows bacteria to move around.
permanent vacuole	Filled with cell sap to keep the cell rigid to support the plant.
plasmids	Plasmids are small rings of DNA that code for specific features, such as antibiotic resistance.

### Different cell types contain different sub-cellular structures.

Sub-Cellular Structure	Animal Cell	Plant Cell	Bacterial Cell
nucleus	✓	✓	✗
circular DNA	✗	✗	✓
mitochondria	✓	✓	✗
chloroplasts	✗	✓	✗
cell wall	✗	✓	✓
cell membrane	✓	✓	✓
cytoplasm	✓	✓	✓
flagellum	✗	✗	✓
permanent vacuole	✗	✓	✗
plasmids	✗	✗	✓

### Levels of Organisation



A **cell** is the smallest unit of a living organism. It contains structures needed to carry out life processes.



A **tissue** is a group of cells of the same type.

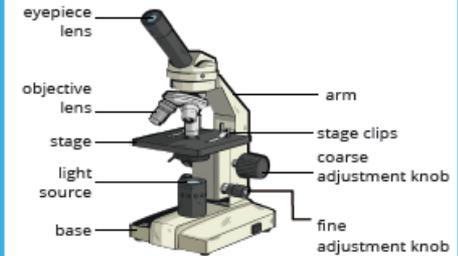


An **organ** is a group of different tissues working together to carry out a job.



An **organ system** is a group of different organs working together to perform a particular function.

### Parts of a Light Microscope



### Using a Light Microscope

- Plug in the microscope and turn on the light.
- Place the slide on the stage and hold it in place with the stage clips.
- Turn to the objective lens with the lowest magnification.
- Look down the eyepiece lens and use the adjustment knobs to focus the specimen.
- Increase the magnification by turning to a higher power objective lens, then use the fine adjustment knob to bring the cells back into focus.

### Organ System Functions

Organ System	Function
musculoskeletal system	Muscles and bones working together support and move the body.
reproductive system	Produces sperm (males) and eggs (females). In females, this is where the foetus develops.
respiratory system	Takes in oxygen from the air and removes carbon dioxide from blood.
immune system	Protects the body against infections.
digestive system	Breaks down and absorbs food molecules.
circulatory system	Transports substances around the body.



# Human Reproduction Key Revision Facts

- Hormones are responsible for the onset of puberty.
- Changes that occur in girls during puberty are:
  1. development of breasts;
  2. ovaries start to produce eggs;
  3. pubic hair grows;
  4. menstruation begins.
- Changes that occur in boys during puberty are:
  1. sex organs get larger;
  2. growth of pubic hair;
  3. voice deepens;
  4. testes produce sperm.
- Male reproductive system:
  1. Testes – produce sperm.
  2. Urethra – carries urine and sperm out of the body.
  3. Penis – allows a male to engage in sexual intercourse.
- Female reproductive system
  1. Ovaries – contain the eggs.
  2. Oviducts – carry the eggs to the uterus.
  3. Urethra – carries urine out of the body.
  4. Vagina – where the penis enters the female body and sperm can be released.
- Gametes is the name given to the sex cells, sperm and egg.
- Gestation is the time from fertilisation to birth.
- The placenta allows the blood of the foetus and mother to get close together to exchange food, oxygen and waste materials.
- The umbilical cord connects the foetus to the placenta.
- The amniotic fluid and sac help protect the developing baby.
- The menstrual cycle occurs every 28 days and involves 4 stages:
  1. Bleeding starts as the uterus lining starts to break down.
  2. Slowly the uterus lining starts to build up.
  3. An egg is released.
  4. If an egg is fertilised the lining remains thick, if the egg remains unfertilised the lining starts to break down.

# Information sheet - Cells

# Plant and Animal cells

(01/11/2020 - 05/11/2020)



## Key Recall Questions

## Answers

Name 5 organelles found in an animal cell.

Draw and label an animal cell.

Draw and label a plant cell.

Name 8 organelles found in a plant cell.

What organelles are found in plant cells but not animal cells?

What is the function of nucleus?

What is the function of a cell membrane?

What is the function of the cytoplasm?

What is the function of a ribosome?

What is the function of the mitochondria?

What is the function of the cell wall?

What is the function of the chloroplast?

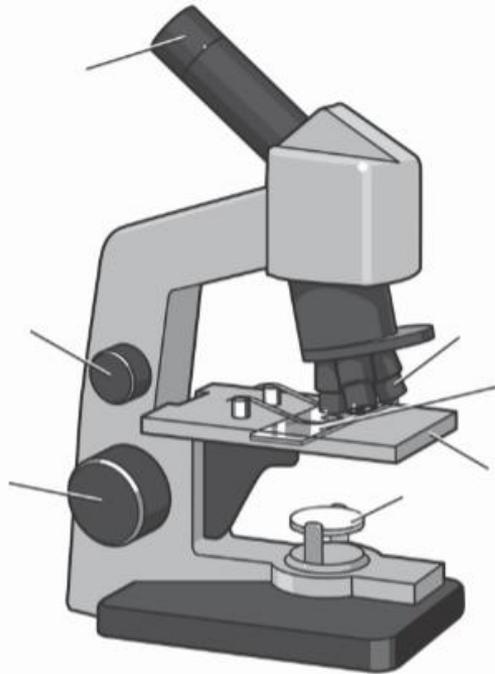
What is the function of the vacuole?

# Microscopes

(08/11/2020 - 12/11/2020)



Label the microscope, try to do this from memory first! Now answer the questions



Which part of the microscope do you hold it by?

Which part of the microscope helps you see the sample more clearly?

Which part of the microscope do you look through?

Which part of the microscope holds the sample?

Which part of the microscope helps you see more clearly?

# Specialised Cells

(15/11/2020 - 19/11/2020)



## Key Recall Questions

## Answers

State the function of sperm cells

State the function of nerve cells

State the function of muscle cells

State an adaptation of a palisade cell

State the function of ciliated cells

State the function of red blood cells

State two adaptations of ciliated cells

State the function of ovum cells

What is a tissue?

Give an example of a tissue?

What is an organ?

Give an example of an organ?

What is an organ system?

Give an example of an organ system?

Identify the organs of the human digestive system.

Identify the organs of the circulatory system

# Puberty

(22/11/2020 - 26/11/2020)



## Key Recall Questions

## Answers

List 4 things which happen to females as they go through puberty

List 4 things which happen to males as they go through puberty

Choose 3 things which happen to both males and females

Where are sperm made?

Where are ovum made?

What does our body release to cause these changes?

# Sexual Reproduction

(29/11/2020 - 03/12/2020)



## Key Recall Questions

## Answers

What is reproduction?

Define fertilisation.

Define "ovulation"

Define "menstruation"

Name the process where a matured egg is released from the ovaries

Name the hormone that causes egg maturation in the ovaries

Name the two human gametes

When does fertilisation happen?

Where are sperm stored?

What is the role of the urethra?

What is the name given to the neck of the uterus (womb)?

What carries the ovum (egg) to the womb?

# Pregnancy

(06/12/2020 - 10/12/2020)



## Key Recall Questions

## Answers

Define placenta

Define umbilical cord

Approximately how long does human pregnancy last for?

Define gestation period

Define foetus

Define amniotic fluid

What is a zygote?

What is a gamete?

Name the hormone that stimulates ovulation

Name the hormone that stimulates the build-up of the uterus lining

Name the hormone that maintains the uterus lining

State the average length of the menstrual cycle

Which two female hormones does the pituitary gland secrete during the menstrual cycle?

Which two female hormones does the ovaries release during the menstrual cycle?

Which hormone stimulates the release of oestrogen?

# Plant Reproduction

(13/12/2020 - 17/12/2020)



## Key Recall Questions

## Answers

What is the role of a flower in many plants?

What is the function of the sepals?

What is the function of the petals?

What is the function of the stamen?

What is the function of the anther?

What is the function of the stigma?

What is the function of the ovary?

What is the function of the nectary?

Define "pollination"

Name the 3 main parts of a seed

Name 4 things plants compete for

Define "dispersed"

Name 4 methods of seed dispersal