

# Home Learning Booklet



Knowledge Goals Year 8  
Half Term 1

# How to self-test

## Mind mapping

- Mind mapping is simply a diagram to visually represent or outline information.
- Use information gathered from your knowledge goals booklet to create mind maps, make sure to use colour and images, keep writing to the bare minimum.

How to mind map:



## Information for parents on knowledge retrieval



## Flash cards

Use your knowledge goals booklet to make flash cards. Write the questions on one side and on the other record the answer. Test yourself or work with a friend to make sure you know all the key information for each topic.

How to mind map:



## How should students use the Knowledge Goals booklets?

Your Knowledge Goals booklet provide the essential knowledge that you need to learn in each subject this half term. You are **expected to spend one hour a night during the week 'learning' the content.** You will be assessed during lessons using 'low stake' quizzing. **Your teacher may choose to set you additional homework.**

## How can parents support?

- Read through the organiser with your child – if you don't understand the content then ask them to explain it to you – 'teaching' you helps them to reinforce their learning.
- Test them regularly on the spellings of key words until they are perfect. Get them to make a glossary (list) of key words with definitions or a list of formulae.
- Read sections out to them, missing out key words or phrases that they have to fill in. Miss out more and more until they are word perfect.

# Subject Index

Suggested Homework Schedule (1 hour of independent study per night).

To help you get organized, we have planned out your weekly home learning to cover all subjects. You may choose to create your own version:

Subject	Page No
Art	6
Biology	9
Chemistry	11
Computer Science	13
Drama	15
Electronics	17
English Language	19
Food technology	20
French	22
Geography	24
History	26
Materials	28
Pdev	30
PE	32
Physics	34
Maths	36
Music	39
PRE	41
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Freya model templates	45

## Week A

Day	Subject 1 (20mins)	Subject 2 (20mins)	Subject 3 (20mins)
Monday	Art	English Language	Physics
Tuesday	Biology	Technology	Maths
Wednesday	Chemistry	Spanish	Music
Thursday	Computer Science	Geography	RS
Friday	Design Technology	History	PE

## Week B

Day	Subject 1 (20mins)	Subject 2 (20mins)	Subject 3 (20mins)
Monday	Drama	Personal Development	Teir 2 Vocab
Tuesday	Maths	English	Physics
Wednesday	Chemistry	English	Music
Thursday	Teir 2 Vocab	Maths	Biology
Friday			

# Literacy Tier 2 Vocabulary

These words are all 'tier 2' words; in other words, they are seen as 'academic vocabulary' and if you know them, can understand them and use them, you will do better in your exams and be able to communicate more precisely and effectively in life.

#	Key word	Definition
1	Justify/justification	
2	Analyse	
3	Context	
4	Infer/inference	
5	Compare/comparison	
6	Imply/implication	
7	Annotate	
8	Exemplify	
9	Consequence	
10	Evaluate	

# Literacy Tier 2 Frayer Model

examples

Definition	Characteristics
Examples	Non-examples

Definition	Characteristics
A shape with equal length sides and equal angles between each side. They differ from irregular polygons in that they not only cannot have unequal length sides or angles, but they can also not have curved lines.	Enclosed shape of straight sides Sides are equal length Angles are equal between the sides No curved lines Can be drawn on flat surface
<b>Regular Polygons</b>	
Examples 	Non-examples 

DEFINITION	CHARACTERISTICS
The multiple created when a positive integer is multiplied by the same positive integer	<ul style="list-style-type: none"> <li>The process of creating a square number is called "squaring" and is shown using an exponent of 2 (<math>c^2</math>)</li> </ul>
<b>EXAMPLES</b> $4 (-2^2)$ $9 (-3^2)$ $100 (=10^2)$ $484 (=22^2)$ $1 (-1^2)$ $10\,000 (=100^2)$	<b>NON-EXAMPLES</b> $2 (\neq 1^2)$ $10$ $1000$ $5$ $-4$ $\%$

**Square Number**

Definition:	Characteristics:
A cold-blooded, air breathing animal that has scales instead of hair or feathers. There are around 6,000 species	<ul style="list-style-type: none"> <li>- Dry, scaly skin</li> <li>- Reproduce by laying eggs</li> <li>- Cold blooded &amp; air breathing</li> <li>- Backbone</li> </ul>
<b>Reptiles</b>	
<b>Examples:</b> Four existing orders of reptiles: Turtles, crocodiles & alligators, lizards & snakes, and tortoises.	<b>Non-examples:</b> <ul style="list-style-type: none"> <li>- Amphibians e.g. frogs</li> <li>- Mammals e.g. elephants</li> <li>- Fish e.g. sharks</li> </ul>

Definition	Characteristics/Features
A change beginning around 1750 where a greater number of goods were produced in large factories rather than in homes or small family businesses.	<ul style="list-style-type: none"> <li>improved agricultural production</li> <li>increase in population and number of cities</li> <li>steam-driven machinery used for transport and goods production</li> <li>use of coal as an energy source</li> <li>greater availability of iron</li> </ul>
<b>Industrial Revolution</b>	
<ul style="list-style-type: none"> <li>First mechanical reaper in 1834.</li> <li>Increase city size and density: London increased from 5 million in 1700 to nearly 9 million by 1800.</li> <li>Mass production of goods occurs:               <ul style="list-style-type: none"> <li>Britain: textile manufacture centralised to mills by 1780s</li> <li>USA: by 1914, the USA was producing more steel than Britain, Germany, France and Austria-Hungary combined.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>isolated communities with a hunter-gatherer economy</li> <li>people living as subsistence farmers on small plots</li> <li>people working fields by hand</li> <li>transport predominately by horse and cart</li> </ul>
<b>Examples</b>	<b>Non-Examples</b>

Have a go at creating a Frayer Model for each of the 6 tier 2 words from this term (blank templates are at the back of the booklet for you to complete this activity).

Watch this video for more information  
<https://youtu.be/Dvb3TrGqCaA>

# Knowledge Goals: Art

## Project overview

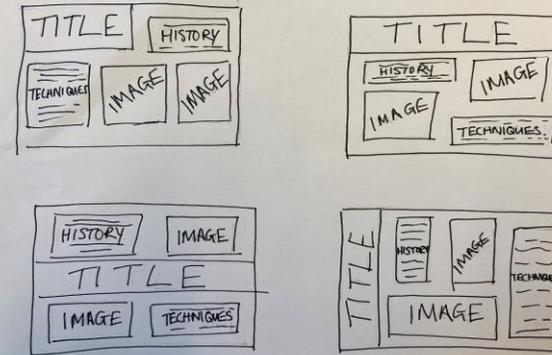
Using **seascapes** as your subject you will create an A3 painting using techniques inspired by **traditional Chinese ink paintings** and more **modern watercolour** techniques based on the work of **John Palmer** and **Peter Rothwell**. You will research the history and techniques of traditional Chinese ink painting and create a research page based on this. You will learn about what **tone** is, and practice creating a full range of tone before applying that to your seascape painting. You will also learn and practice how to create texture using watercolour paint.

## When and where did ink painting originate?

- Ink painting is created with a **brush on rice paper or silk** and uses different concentrations of **black ink**.
- It emerged in **Tang dynasty (618-907) in China**, and scholars spent years perfecting the brush strokes and techniques.
- The skills of ink painting spread to other countries in Asia such as **Japan and Korea**.
- The paintings were normally created on **long scrolls**.
- Collectors would often add **poems** and their seal would be added with a **stamp and red ink**.
- With this style of painting it is important to portray **the spirit of the subject** rather than creating a life-like painting.

## How to plan a layout for your ink painting research page

Use one of the page layouts below



## Key terms

**Focal Point** - the area in the composition to which the viewer's eye is naturally drawn.  
**Tone** - How light or dark something is



# Knowledge Goals: Art

## Leonard Baskin

Leonard Baskin (November 11, 1922 – June 3, 2000) was an American sculptor, draughtsman and graphic artist.

Baskin is known for his wood, limestone, bronze, and large-scale wallblock prints, which range from naturalistic to fanciful, and were frequently grotesque, featuring hybrid figures or humans merging with animals.

Having vowed to become a sculptor at the age of 15, Baskin studied sculpting as an apprentice to Maurice Glickman from 1937 to 1939 at the Educational Alliance in New York City. Baskin studied at the New York University School of Architecture and Applied Arts from 1939 to 1941. In 1941, he won a scholarship to Yale. There he studied for two years.



## Project Overview

Using **birds** as the theme, you will develop skills in **observational drawing** from secondary sources using **charcoal**. You will research the work of artist **Leonard Baskin**, and use your sketchbook to develop ideas. Your final outcome is an A2 charcoal bird drawing. During this project you will learn how to break down complex forms into **simple shapes**, to help improve the **accuracy of your drawing**.

## Key terms

**Tone** – How light or dark

**Medium** is

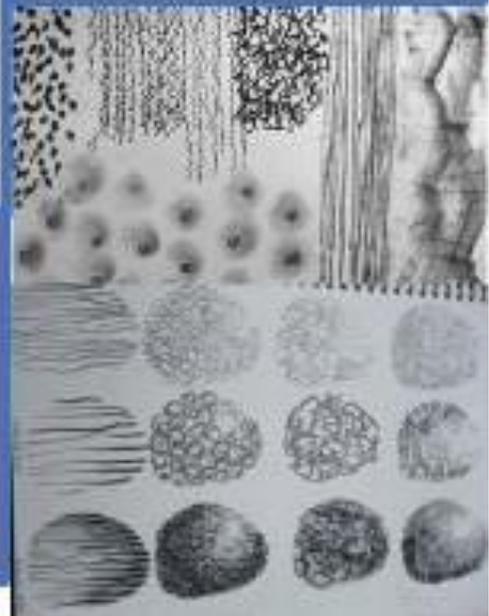
**Line** – delicate and soft, or harsh and bold

**Style** - expressive and moody or intricate and calm

What words would you use to describe Leonard Baskin's art work?

Find out more about Leonard Baskin here  
<https://www.artnet.com/artists/leonard-baskin/>

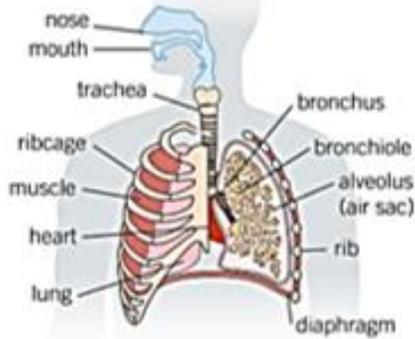
Mark making describes the different types of lines, dots, patterns, and textures we create in our art.





# Knowledge Goals: Biology – Breathing

## What happens when we breathe?



1. Air enters your body through your mouth or nose.
2. Air moves down the trachea (windpipe) – a large tube.
3. Air moves into one of two bronchi – smaller tubes.
4. Air moves into a bronchiole – an even smaller tube.
5. Air moves into an alveolus – an air sac in the lung.

## Alveoli

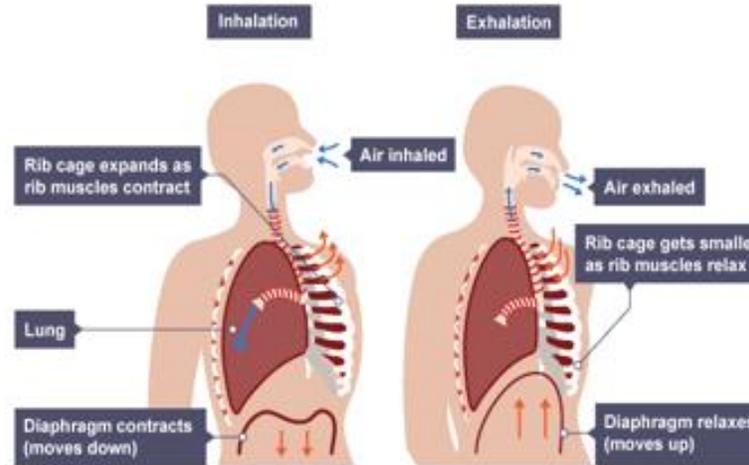
There are millions in your lungs. This creates a large surface area.

They have very thin walls (one cell thick). This allows gases to exchange quickly.

## Why do we breathe in and out?

- We inhale to take in oxygen (used in respiration).
- We exhale to remove carbon dioxide (waste product - turns limewater cloudy).
- The harder you exercise, the faster your breathing rate and greater your depth of breathing.
- This allows you to take in more oxygen for respiration (transferring more energy to the muscle cells).

## Inhalation and exhalation



## Smoking

Tobacco smoke contains many harmful substances. These include:

**Tar** – Causes lung, mouth, and throat cancer. It coats the inside of the lungs, including alveoli, causing coughing. It damages alveoli making it more difficult for gases to exchange.

**Nicotine** – Is addictive and also increases heart rate and blood pressure, so it can lead to heart disease.

**Carbon monoxide** – Is a gas that takes the place of oxygen in red blood cells, reducing the amount of oxygen that blood can carry. It means that the circulatory system has to work harder, causing heart disease.

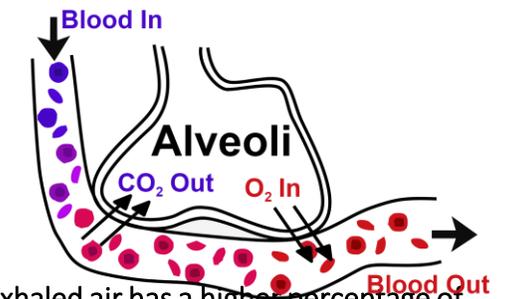
It also causes low birth weight in babies born to mothers who smoke.

The breathing system is well adapted for gas exchange.

Breathing occurs through the actions of muscles in the ribcage and diaphragm changing the volume of the chest.

Lungs are made of elastic tissue which can expand when you breathe in. As they are delicate, they are protected by your ribs.

Gas is exchanged between the blood and the alveoli through the process of diffusion.



Exhaled air has a higher percentage of CO<sub>2</sub> and water vapour.

Gas	Amount in inhaled air	Amount in exhaled air
Oxygen	21%	17%
Carbon dioxide	Very small amount	3%
Nitrogen	79%	79%
Water vapour	Small amount	Large amount



# Knowledge Goals: Chemistry – Periodic table

## The periodic table

- The periodic table is arranged in rows called periods and columns called groups, which can be used to locate any element.
- Metals are found on the left of the periodic table and non-metals on the right.
- Rows of elements are called periods. They go across the whole periodic table, even if there is a gap. For example, the third period contains sodium (Na) through argon (Ar).
- Columns of elements are called groups and are numbered. For example, group 4 contains carbon (C) through flerovium (Fl).
- Groups contain elements with similar chemical and physical properties. For example, all the elements in group 0 are unreactive gases.

Groups												Group 4					Periods					
1	2											3	4	5	6	7	0					
																		H			He	1
Li	Be											B	C	N	O	F	Ne					2
Na	Mg											Al	Si	P	S	Cl	Ar					3
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr					4
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe					5
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn					6
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og					7

■ Metals
 ■ Non-metals

## Group 1 – Alkali metals

- Lithium, sodium, potassium
- They are all very soft, with a low melting point and low densities (meaning they can float on water).
- Their melting points and boiling points increase going down Group 1.
- They are very reactive and react vigorously with water forming an alkaline solution.
- They need to be stored in oil as they will react with air.
- The reactivity increases going down the group.

3	Li	Lithium
11	Na	Sodium
19	K	Potassium
37	Rb	Rubidium
55	Cs	Caesium
87	Fr	Francium

## Group 7 – The Halogens

Halogen	Appearance	Use
Fluorine	Pale yellow gas	Toothpastes and in drinking water
Chlorine	Green gas	Disinfectant in bleaches and pools
Bromine	Brown/orange liquid	Pesticides and in making plastics
Iodine	Grey solid (purple vapour)	Antiseptic (usually in hospitals)

- The melting and boiling points increase going down Group 7.
- Reactivity of the halogens decreases down the group
- A more reactive halogen will displace a less reactive one from its compound.

9	F	Fluorine
17	Cl	Chlorine
35	Br	Bromine
53	I	Iodine
85	At	Astatine
117	Ts	Tennesine



# Knowledge Goals: Computer Science – App Development

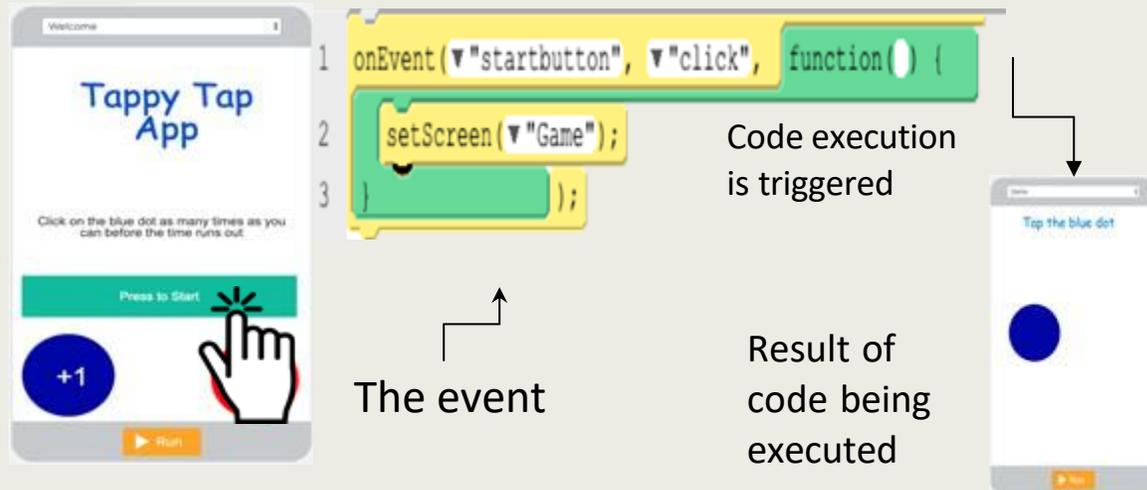
In **event-driven programming**, the flow of the program is controlled by events.

Events can be user actions such as:

- Mouse clicks (or the touchscreen equivalent)
- Key presses
- Hovering over a picture
- Voice input (“OK Google...”)

Events can also be triggered by:

- Sensors (e.g. if movement is sensed, turn the light on)
- Messages from other programs



## Programming constructs

### Sequence

**Instructions** are **executed** one after another. Sequence is the order in which the instructions are executed.

### Selection

Is the process of making a decision. The result of the decision decides which path the **program** will take next.

### Iteration

There are times when a **program** needs to repeat certain steps until told otherwise, or until a condition has been met. This process is known as iteration.

## Variables

When programming it is often necessary to store a value for use later on in the program. A variable is a label given to a location in memory containing a value that can be accessed or changed. Think of a variable as a box with a label that you can store information in.





# Knowledge Goals: Drama- Script and Genre

## Knowledge Goals: KS3 Drama – Script & Genre

### 1. Know

- Key features of a script, including dialogue, stage directions, and character names.
- A range of dramatic genres (e.g., comedy, tragedy, horror, melodrama, historical, fantasy).
- Drama-specific vocabulary such as monologue, duologue, blocking, and subtext.
- The structure of a scene and how it contributes to a play.

### 2. Understand

- How different genres influence the style, tone, and performance of a script.
- The purpose of stage directions and how they guide actors and directors.
- How characterisation is developed through script and performance.
- The role of voice, movement, and facial expression in bringing a script to life.

### 3. Be Able To

- Read and interpret a script with understanding of character, genre, and intention.
- Use vocal and physical skills to perform a scripted scene.
- Collaborate with others to rehearse and perform a scene effectively.
- Reflect on and evaluate performances using drama terminology.

## Simple Script Example: "The Lost Phone"

**Title:** *The Lost Phone*

**Setting:** A school corridor at break time.

**Characters:**

- **Alex** – worried
- **Sam** – helpful friend

**[Scene begins]** ( *This is a **scene heading** – tells us where and when the scene takes place*)

*(Alex is pacing nervously. Sam walks over.)*

 *(This is a **stage direction** – tells actors what to do or how to move)*

**ALEX:** I can't find my phone anywhere!

 *(This is **dialogue** – what the character says)*

**SAM:** Where did you last see it?

**ALEX:** I think I left it in the canteen... or maybe the library?

**SAM:** Let's retrace your steps. Come on!

*(They exit together, hurrying off stage.)*

 *(Another **stage direction** – shows action or movement)*

**[Scene ends]**

 *(Marks the end of the scene)*



# Knowledge Goals: Drama

## Script and Genre



### Half Term 1: Tier 3 Vocabulary

#	Key word	Definition
1	Genre	A category or style of drama (e.g., comedy, tragedy, horror)
2	Script	A written text of a play, including dialogue and stage directions.
3	Scene	a sequence of continuous action in a play, film, opera, or book.
4	Characterisation	the creation or construction of a character.
5	Stage directions	Instructions in the script for actors' movements, expressions, or actions
6	Narration	Narration generally means any kind of explaining or telling of something. It is usually used in reference to storytelling.
7	Dialogue	The spoken words between characters.

Genre	Features
Comedy	Humorous, light-hearted, often with a happy ending.
Tragedy	Serious themes, often ending in death or downfall.
Melodrama	Exaggerated characters and emotions, clear good vs evil.
Horror	Designed to scare or unsettle the audience.
Historical	Set in a specific historical period, often based on real events.
Fantasy	Involves magical or supernatural elements.

### Performance Techniques

- Voice:** Pitch, pace, tone, volume, and clarity.
- Movement:** Body language, gestures, posture.
- Facial Expression:** Showing emotion and reaction.
- Proxemics:** Use of space between characters to show relationships.
- Levels:** Use of height to show status or emotion.

**Genre:** the type of story being told by the playwright. Genre is important with Devising as it can often help generate more material and you can tailor performance work to a specific genre such as horror, comedy, western, romantic.

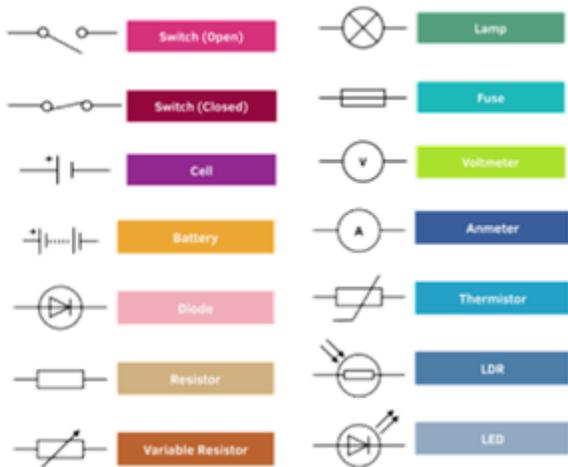
# Knowledge Goals: Electronics

## Health and Safety

It is really important we **ASSESS** the **RISK** and **REDUCE** the **RISK** of Injury by **LISTENING** To the **TRAINING** and following the correct PPE usage

- Hair must be tied up in the workshop
- Blazers and ties must be removed
- Jewellery must be removed
- Only use machines you have been told to use and have been demonstrated to you
- Ensure you know where the emergency stop button is
- Do not eat or drink in the workshop
- No running

## Symbols to recognise



Input	Function	Use
Light-dependent resistor (LDR)	The resistance changes as the light level changes, and the change in resistance can be used as an input	Solar garden lights and street lighting
Thermistor	The resistance changes as the temperature changes, and the change in resistance can be used as an input	Fridges, central heating systems and freezers to maintain temperatures
Process	Function	Use
Switch	A switch can either allow or prevent electrical power from flowing round a circuit	Any device that needs power to be turned on and off
Resistor	To limit the flow of current - they are made to restrict current flow in varying degrees (resistance)	It helps control the flow of current and protects delicate components from being overloaded
Output	Function	Use
Speaker	Uses pulses of electricity to move an electromagnet that vibrates to create sound	Headphones and radios
Light-emitting diode (LED)	A long-lasting, low-power light	Torches, lamps and power indicators
	Wire strippers: Remove the plastic coating from the wire to expose the wire to attach with soldering to other components	
	Solder- using a soldering iron it attaches two components together	

## Polymers

**KEY TERMS** Types of plastics

**Thermosetting**  
Plastics **cannot be reheated** and **reshaped** due to a chemical reaction that occurs when they are first manufactured.

- Initially **set by heat**
- Cannot be **reshaped once set**
- Extremely **strong and durable**
- **CANT** be recycled

**Thermoforming**  
Plastics **can be reheated** and therefore **reshaped**.

- **Soften** when heated
- Can be **reshaped**
- More commonly used in **school**
- **CAN** be recycled

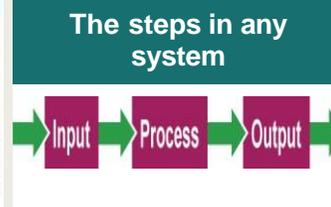
Think of the word "set" what does it mean?  
(Put something in a set position)

JIG: A production aid to make sure that every time the material is shaped to the same angle

## CAM Computer Aided Manufacture

**Laser cutter**

Laser cutting works by directing the output of a high-power laser. The focused laser beam is directed at the material, which then cuts the material leaving an edge with a high-quality surface finish. In school we mainly cut and engrave on Plywood and Acrylic



# Knowledge Goals: English Lang

TEXT SELECTION	CORE ASSESSMENT SKILLS AND WHAT STUDENTS ARE AIMING TO BE ABLE TO WRITE:
<p>A Sound of Thunder Ray Bradbury Avatar The Guardian: Nasa names first female astronaut The Time Machine HG Wells The War of the Worlds by HG Wells The Hunger Games (2012 film) The Hunger Games by Suzanne Collins Children of Men (2006 Film) The Children of Men by PD James Divergent (2014 film) Divergent Veronica Roth The Quiet World by Jeffrey McDaniel Compassion Circuit by John Wyndham Online Article: Meet the Teenage AI Whizz</p>	<p>Vary sentence construction (SV) What different sentence types can you find here? Use ambitious punctuation (AP) What are the dashes used for here? Apply language techniques (ALT) Which ones are examples of repetition and which are rhetorical questions? Use ambitious vocabulary (AV) Can you find three words to improve?</p> <p>It's not like I had to try very hard, is it? Everyone always thinks I'm older than I really am, just because I'm tall. In St Joan of Arc Primary the teachers seemed to think that height and age were the same thing. If you were taller than someone, you must be older than them. If you were tall and you made a mistake – even if it was only your first day – you got, "You should know better, big lad like you." Why, by the way? Why should a big lad know better just because he's big? King Kong's a big lad. Would he know the way to the toilet block on his first day at school? When no one had told him? No, I don't think he would. Anyway a few hours back the Infinite Possibility was supposed to complete a routine manoeuvre and basically it didn't. It rolled out of orbit, wrecking all the communication equipment, and now we're very lost in space.</p>

<p>Home Learning Tasks:</p> <ol style="list-style-type: none"> <li>1) Complete 15 minutes of reading every night, using your AR book.</li> <li>2) Complete the vocabulary acquisition quizzes, set on Teams every fortnight.</li> <li>3) Using this knowledge organiser, learn and review the key ingredients of crafting effective narratives.</li> <li>4) Read at least one text from the wider reading list!</li> </ol>	<p><b>Dreadnought</b> by April Daniels</p>	<p><b>All the Light We Cannot See</b> by Anthony Doerr</p>	<p><b>All the Broken Places-</b> John Boyne</p>	<p><b>The Knife of Never Letting Go</b> by Patrick Ness</p>	<p><b>Explorers: Amazing Tales of the World's Greatest Adventurers</b> (DK Explorers) by Nellie Huang</p>
	<p><b>Dosh</b> by Robert Swindells</p>	<p><b>The Amber Spyglass</b> by Philip Pullman (Young Adult)</p>	<p><b>Grasshopper Jungle</b> by Andrew Smith</p>	<p><b>Not Your Sidekick</b> Book by C. B. Lee (Young Adult)</p>	<p><b>Night</b> by Elie Wiesel</p>
	<p><b>Number The Stars</b> by Lois Lowry</p>	<p><b>Configured</b> by Jeanette Penner</p>	<p><b>The Disasters</b> by M.K. England</p>	<p><b>Ignite the Stars</b> by Maura Milan</p>	<p><b>Illuminae</b> by Amie Kaufman and Jay Kristoff</p>
	<p><b>The Girl from Everywhere</b> by Heidi Heilig</p>	<p><b>The Long Way to a Small Angry Planet</b> by Becky Chambers (Young Adult)</p>	<p><b>The Unbeliever</b> by Robert Dale Parker</p>	<p><b>The Lion, the Witch and the Wardrobe</b> by C. S. Lewis</p>	<p><b>Defy the Stars</b> by Claudia Gray</p>

# Knowledge Goals: Food Technology

## Seasonality and Food Miles

### What are seasonal foods?

Seasonal food is the time of year when food is at its best, in terms of flavour or harvest.

Many foods are available all year, as they are imported from other countries.

When local seasonal food is available it tends to be fresher and cheaper - there has been less travel/storage from farm to fork.

Food - a fact of life 2012

**REDUCING FOOD MILES!**

Food Miles are how we calculate how far food has to travel before it reaches our plates.

**How To HELP!**

- 1) Buy local products
- 2) Recycle food scraps
- 3) Grow your own
- 4) Eat foods in season
- 5) No plastic packaging
- 6) Buy foods that have good assurance logos, for example FAIRTRADE

## Micronutrients

Needed in small amounts to help the body function properly

Vitamin	Food Sources
Vitamin A	Carrot, sweet potato, milk, eggs
Vitamin B complex	Whole grains, legumes, nuts and seeds, meat, eggs, dairy
Vitamin C	Citrus fruits, strawberry, bell peppers, tomatoes
Vitamin D	Fatty fish, fish liver oil, egg yolk, mushrooms
Vitamin E	Wholegrain foods, nuts and seeds, avocado
Vitamin K	Green leafy vegetables, broccoli, cauliflower, cabbage, meat, fish, eggs

## Macronutrients

Needed in large amounts to help the body to function properly

**Fat**

**Function:** Energy, Warmth, Protection of organs

**Sources**

<b>Saturated Fat (Bad Fats)</b>	<b>Unsaturated Fat (Good Fats)</b>
Meat	Avocado
Processed Foods	Nuts
Lard	Olive oil

Saturated Fats - solid at room temperature and are from animal sources. Unsaturated fats are liquid at room temperature and are vegetable sources.

Too much	Too little
<ul style="list-style-type: none"> <li>Obesity</li> <li>Type 2 diabetes</li> <li>Heart Disease</li> </ul>	<ul style="list-style-type: none"> <li>Fat soluble vitamin deficiencies</li> </ul>

**Carbohydrates**

**Function:** Energy

**Sources:** Bread, Pasta, Rice, Wheat, Potatoes, Cereals

**Sugars:** Cakes, Sweets, Fizzy drinks

We should consume no more than 30g of sugar per day

Too much	Too Much
<ul style="list-style-type: none"> <li>Obesity</li> <li>Type 2 diabetes</li> <li>Heart Disease</li> </ul>	<ul style="list-style-type: none"> <li>Tooth decay</li> <li>Type two diabetes</li> <li>Obesity</li> </ul>

**Protein**

**Function:** Growth and Repair, Energy

**Sources:**

<b>Plant:</b> Nuts, Quorn, Beans, Lentils	<b>Animal:</b> Eggs, Fish, Meat
---	---------------------------------

Too much	Too little
<ul style="list-style-type: none"> <li>Turns to fat if not turned into energy</li> </ul>	<ul style="list-style-type: none"> <li>Anaemia</li> <li>Slow growth in children</li> </ul>

**Water**  
Keeps us hydrated.

**Source**  
Drinks, fruit and vegetables, soup.

<p><b>Function</b></p> <ul style="list-style-type: none"> <li>Controls body temperature.</li> <li>Gets rid of waste in the body.</li> </ul>	<p><b>Too little</b></p> <ul style="list-style-type: none"> <li>Dehydration leads to headaches, irritability and loss of concentration.</li> </ul>
---	--

**Fibre**

**Function:** It helps with digestion, it helps to get rid of waste

**Source:** Wholegrain, Whole wheat, Wholemeal cereals, Peas and beans

**Too Little**

- Constipation
- Bowel Cancer

## Vegetarianism

<p><b>Lacto-ovo-vegetarians</b></p> <ul style="list-style-type: none"> <li>Eggs</li> <li>Milk</li> <li>Honey</li> <li>Plant food</li> </ul>		<p><b>Lacto-vegetarians</b></p> <ul style="list-style-type: none"> <li>Eggs</li> <li>Milk</li> <li>Honey</li> <li>Plant food</li> </ul>	<p><b>Vegans</b></p> <ul style="list-style-type: none"> <li>Eggs</li> <li>Milk</li> <li>Honey</li> <li>Plant food</li> </ul>
---	--	---	--

Yes, they eat these foods

No, they do not eat these foods

## Food Poisoning

**Types of Food Poisoning**

Food poisoning comes from many sources, including bacteria, viruses, and fungi.

<p><b>Listeria</b> fresh milk, unwashed produce</p>	<p><b>E. coli</b> fecal contamination</p>	<p><b>Campylobacter</b> undercooking, unhygienic kitchen</p>	<p><b>Salmonella</b> undercooking, poor hygiene</p>
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<p>Abdominal pain</p>	<p>Diarrhea</p>	<p>Fever</p>	<p>Nausea Vomiting</p>
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# Knowledge Goals: French

<b>Nous habitons ...</b>	<b>We live ...</b>
à la campagne	<i>in the country</i>
à la montagne	<i>in the mountains</i>
au bord de la mer	<i>on the coast</i>
dans un village	<i>in a village</i>
en banlieue	<i>in the suburbs</i>
en ville	<i>in town</i>
un appartement	<i>a flat</i>
un chalet	<i>a chalet</i>
une ferme	<i>a farm</i>
un immeuble	<i>a block of flats</i>
une maison	<i>a house</i>
notre/nos	<i>our</i>
chez nous	<i>at home/at our house</i>

<b>Les pièces</b>	<b>The rooms</b>
le bureau	<i>the study</i>
la cave	<i>the cellar</i>
la chambre	<i>the bedroom</i>
la cuisine	<i>the kitchen</i>
la douche	<i>the shower</i>
l'entrée	<i>the entrance hall</i>
la salle à manger	<i>the dining room</i>
la salle de bains	<i>the bathroom</i>
la salle de jeux	<i>the games room</i>
le salon/la salle de séjour	<i>the sitting room/ lounge</i>
l'escalier	<i>the staircase</i>
le garage	<i>the garage</i>
le jardin	<i>the garden</i>

<b>Qu'est-ce que c'est?</b>	<b>What's this?</b>
C'est ...	<i>It's ...</i>
le collège	<i>the (secondary) school</i>
l'église	<i>the church</i>
la gare	<i>the station</i>
la poste	<i>the post office</i>
le supermarché	<i>the supermarket</i>
Ce sont ...	<i>They're ...</i>
les magasins	<i>the shops</i>

<b>Qu'est-ce qu'on fait dans ...?</b>	<b>What do you do in ...?</b>
On dort.	<i>You sleep.</i>
On fait sa toilette.	<i>You get washed.</i>
On lit des livres.	<i>You read books.</i>
On mange.	<i>You eat.</i>
On prend une douche.	<i>You take a shower.</i>
On prépare les repas.	<i>You prepare meals.</i>
On travaille.	<i>You work.</i>

<b>Qu'est-ce qu'on fait ce soir?</b>	<b>What are we going to do this evening?</b>
On regarde la télé?	<i>Shall we watch TV?</i>
On joue aux cartes/aux échecs?	<i>Shall we play cards/chess?</i>
On joue à l'ordinateur?	<i>Shall we play on the computer?</i>
On écoute de la musique?	<i>Shall we listen to music?</i>
On fait les devoirs?	<i>Shall we do our homework?</i>
On regarde la télé/une vidéo?	<i>Shall we watch TV/a video?</i>

<b>Ma maison</b>	<b>My house</b>
au sous-sol	<i>in the basement</i>
au rez-de-chaussée	<i>on the ground floor</i>
au premier/deuxième/troisième étage	<i>on the 1st/2nd/3rd floor</i>
à la mansarde	<i>in the attic</i>
Il y a ...	<i>There is/There are ...</i>
Nous avons ...	<i>We have ...</i>
un balcon	<i>a balcony</i>
une cave	<i>a cellar</i>
un garage	<i>a garage</i>
un jardin	<i>a garden</i>

Il n'y a pas de ...	<i>There isn't a/There aren't any ...</i>
avec	<i>with</i>
beaucoup de	<i>lots of</i>
mais	<i>but</i>
très	<i>very</i>
<b>Où?</b>	<b>Where?</b>
dans	<i>in</i>
devant	<i>in front of</i>
autour de	<i>around</i>
près de	<i>near</i>

<b>Dans ma chambre</b>	<b>In my room</b>
As-tu un/une/des ...?	<i>Have you got a/ some ...</i>
Oui, j'ai un/une/des ...	<i>Yes, I've got a/ some ...</i>
une armoire	<i>a wardrobe</i>
des CD	<i>some CDs</i>
une chaîne stéréo	<i>a stereo system</i>
une chaise	<i>a chair</i>
une commode	<i>a chest of drawers</i>
une étagère	<i>a bookcase</i>
une lampe	<i>a lamp</i>
un lit	<i>a bed</i>
des lits superposés	<i>bunk beds</i>
un ordinateur	<i>a computer</i>
des posters	<i>some posters</i>
une table	<i>a table</i>
Non, je n'ai pas de/d'....	<i>No, I haven't got a/any ...</i>
dans	<i>in</i>
par terre	<i>on the floor</i>
sous	<i>under</i>
sur	<i>on</i>

<b>Verbes au pluriel</b>	<b>Plural verbs</b>
nous habitons	<i>we live</i>
vous habitez	<i>you live</i>
ils/elles habitent	<i>they live</i>
nous avons	<i>we have</i>
vous avez	<i>you have</i>
ils/elles ont	<i>they have</i>





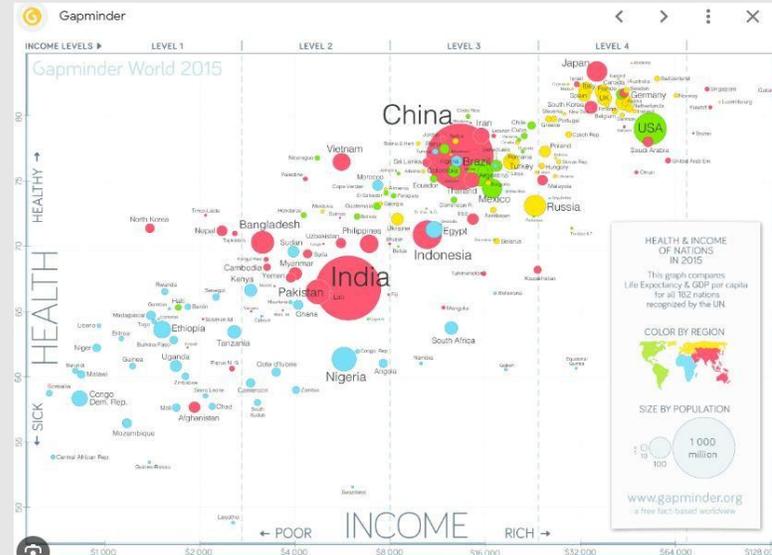
# Knowledge Goals: Geography

## Will poverty ever end?



### Poverty

Poverty is when an individual lacks access to basic human needs such as clean water, shelter, food, work, health care, sanitation and education. The World Bank judges people to be living in Extreme Poverty if they have an income of less than US \$1.90 a day. The poverty cycle below shows how difficult it can be for people to get out of poverty unless there is some outside intervention. There is a strong link between poverty and human well-being. This can be explored using a scattergraph.



### WHAT CAUSES WATER SCARCITY?

There are a number of factors contributing to the rise of water scarcity around the globe, including:

- Climate Change**
  - It is raising the frequency and severity of droughts across the planet and rapidly melting glaciers and snow packs that traditionally provide a source of freshwater downstream.
- Unsustainable energy production**
  - These include coal-fired electric plants, the operation of which draws on tremendous amount of water.
- Water pollution**
  - Sources include pesticides, fertilizers, industrial waste, and human wastewater.
- Unsustainable industrial practices**
  - A variety use massive amounts of water and/or contribute significantly to water pollution.
- Industrial agriculture**
  - It currently uses a whopping 70 percent of the globe's available freshwater – and then waste 60 percent as a result of poor irrigation and application methods.
- Global population growth**
  - This has increased the number of people drawing on water resources.

Source: worldwildlife.com

What does 'poverty' mean?

- 4% of people in LEDCs use the internet
- More than half the people in LEDCs live on less than \$1.25 /day
- The average life expectancy in LEDCs is 57 years
- 60% of the world's poorest billion are female

Key facts about world poverty

UN, 2012



**SUSTAINABLE DEVELOPMENT GOALS**  
17 GOALS TO TRANSFORM OUR WORLD



Explore GapMinder scan here



### Measuring poverty and inequality

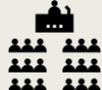
The World Bank uses the economic indicator of Gross National Income (GNI) per capita. This is dollar value of a country's final income in a year, divided by its population. In 1990 the Human Development Index (HDI) was created which combined living standards, health and education, though many experts feel as if human activities on the environment should also be considered. A choropleth map can be used to compare development at global scales.

Investigate regional difference found across the UK by looking at range of economic and social factors by visiting the [https:// www.gov.uk/search/research-and-statistics](https://www.gov.uk/search/research-and-statistics)

McArthur Highway, Brgy. Nancayasan, Urdaneta City 2428  
8:00 AM to 5:00 PM (Monday to Friday) | 8:00 AM to 12:00 NN (Saturday) | (075) 656-1044 / 09258734261  
facebook.com/ucwdprimewaterurdanetacity

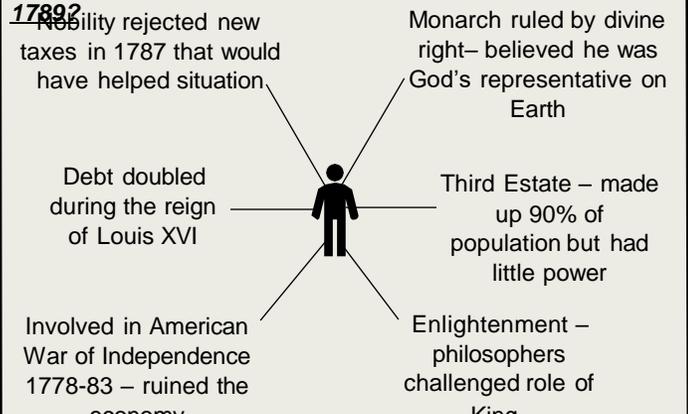


# Knowledge Goals: History – French Revolution

							
1774 Louis XVI becomes King of France	4 May 1789 Estates General meets	14th July 1789 Storming of the Bastille	20-21 June 1791 Flight to Varennes	21 September 1792 First French Republic declared	21 January 1793 Execution of Louis XVI	Jan. 1793-July 1794 Reign of Terror	1804 Napoleon becomes Emperor of the French

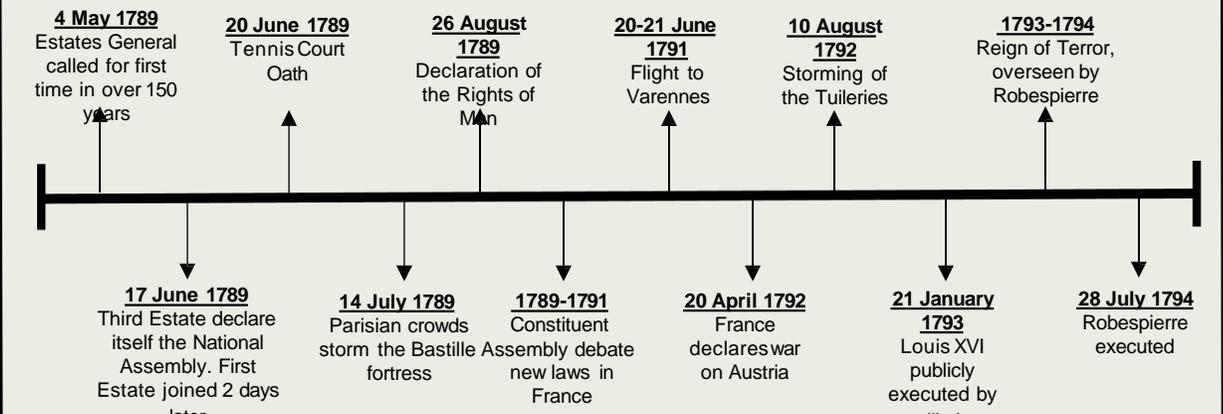
**What was the French Revolution?**  
 The French Revolution was not a single event, but a series of developments over many years. Caused by various factors, the French Revolution continued from the meeting of the Estates General in May 1789 to widespread criticism of the monarchy, government and society. The French Revolution showed the people of Europe that inspired revolutionaries everywhere.

**What was life like in France before 1789?**



- Nobility rejected new taxes in 1787 that would have helped situation
- Monarch ruled by divine right—believed he was God’s representative on Earth
- Debt doubled during the reign of Louis XVI
- Third Estate – made up 90% of population but had little power
- Enlightenment – philosophers challenged role of King
- Involved in American War of Independence 1778-83 – ruined the economy

**What happened during the French Revolution, 1789-94?**



<b>4 May 1789</b> Estates General called for first time in over 150 years	<b>20 June 1789</b> Tennis Court Oath	<b>26 August 1789</b> Declaration of the Rights of Man	<b>20-21 June 1791</b> Flight to Varennes	<b>10 August 1792</b> Storming of the Tuileries	<b>1793-1794</b> Reign of Terror, overseen by Robespierre
<b>17 June 1789</b> Third Estate declare itself the National Assembly. First Estate joined 2 days later	<b>14 July 1789</b> Parisian crowds storm the Bastille fortress	<b>1789-1791</b> Constituent Assembly debate new laws in France	<b>20 April 1792</b> France declares war on Austria	<b>21 January 1793</b> Louis XVI publicly executed by guillotine	<b>28 July 1794</b> Robespierre executed

**Who was Maximilien Robespierre?**  
 Robespierre was a French lawyer, and before the French Revolution was known for defending the poorest in society. Shortly after the execution of the King, he was elected to the Committee of Public Safety. This was created to oversee the government without a King. In this time, he encouraged and oversaw the Terror, leading to the execution of around 40,000 opponents to the Revolution. Eventually, the Committee of Public Safety turned on him, and he was executed on 28 July 1794.  
 Robespierre has been viewed as an evil figure in the history of the French Revolution. This has been shown by his execution of ‘enemies of the people’. However, others

**Who was Napoleon Bonaparte?**  
 Napoleon was a French military leader. A brilliant general who won many battles, he organised a coup and established the Consulate in France in 1799. He became the First Consul, making him a dictator in some way. He later became the Emperor of the French. It has been debated whether he destroyed the values of the French Revolution, or actually spread them.



- Turned France into an absolutist regime – against what French Revolution was challenging.
- Over a million French people died as Napoleon tried to build the French Empire
- Restored slavery and the slave trade in France and its colonies in 1802

**On the one hand... he destroyed the French Revolution**

**On the other hand... he spread the French Revolution**

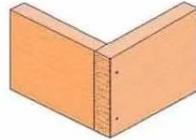
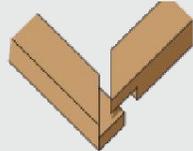
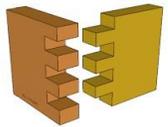
- Key ideas of ‘Liberty, Equality and Fraternity’ kept under Napoleon.
- Recognised freedom of opportunity, and promoted people on merit.
- Set up a new system of schools (lycees ) and supported the idea of universal education.



# Knowledge Goals: Materials

## Wood Joints

Finger      Half-Lap      Half-Lap Mitre      Butt



## Scales of production



**One off production** – These products are expensive at cost price, sometimes bespoke, and often take a long time to make and cost of materials & labour are high. Many prototypes are 'one off products'.

**Batch production** – these products are identical and produced in small batches, daily, weekly, monthly or when needed. They can range in cost priced. Production normally runs from between 2 - 10k.

**Mass production** – These products are produced in very high volumes, 10k +. They are normally products that are in high demand and can range in expense, cars are a good example.

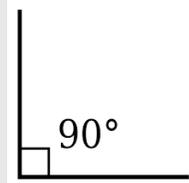
**Continuous production** – These items are normally very cheap to but make and could be considered 'throwaway'. These factories are often found in developing countries where land for factories and equipment are cheaper.

**Just in time production (JIT)** – This scale of production relies on the product been manufactured to a time schedule. This allows raw materials to be delivered at an exact time for production and then manufactured and are shipped straight to distribution /retailers. Apple INC uses JIT production.

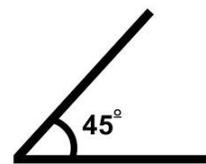
**Plan of Manufacture:** The steps to manufacture the product in order including health and safety and Quality Control

## Maths

90 degrees



45 degrees



## Saws

Tenon Saw  
For straight lines



Mitre Saw  
Sawing 45 degrees



## Health and Safety

It is really important we **ASSESS** the **RISK** and **REDUCE** the **RISK** of Injury by **LISTENING** To the **TRAINING** and following the correct **PPE** usage

- Hair must be tied up in the workshop
- Blazers and ties must be removed
- Jewellery must be removed
- Only use machines you have been told to use and have been demonstrated to you
- Ensure you know where the emergency stop button is
- Do not eat or drink in the workshop
- No running

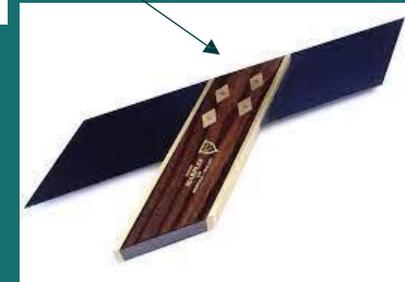


Cross-headed screwdriver



Engineers square

Mitre-Square



Scribe



Router





# Knowledge Goals: PDEV

## Self-Care Tips for Better Self-Confidence



	Recognition	Regulation
Personal Competence	<b>Self-Awareness</b> <ul style="list-style-type: none"> <li>✓ Self-confidence</li> <li>✓ Awareness of your emotional state</li> <li>✓ Recognizing how your behavior impacts others</li> <li>✓ Paying attention to how others influence your emotional state</li> </ul>	<b>Self-Management</b> <ul style="list-style-type: none"> <li>✓ Getting along well with others</li> <li>✓ Handling conflict effectively</li> <li>✓ Clearly expressing ideas and information</li> <li>✓ Using sensitivity to another person's feelings (empathy) to manage interactions successfully</li> </ul>
Social Competence	<b>Social Awareness</b> <ul style="list-style-type: none"> <li>✓ Picking up on the mood in the room</li> <li>✓ Caring what others are going through</li> <li>✓ Hearing what the other person is "really" saying</li> </ul>	<b>Relationship Management</b> <ul style="list-style-type: none"> <li>✓ Getting along well with others</li> <li>✓ Handling conflict effectively</li> <li>✓ Clearly expressing ideas/information</li> <li>✓ Using sensitivity to another person's feelings (empathy) to manage interactions successfully</li> </ul>



verywell

## INTERNAL VS EXTERNAL SELF-AWARENESS

FROM: DR. TASHA EURICH

IMAGE BY: JACOB MORGAN



VS



### Internal self-awareness

is how we see our own values, thoughts, and emotions.

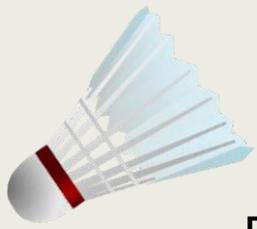
### External self-awareness

is how we are seen by others.

THEFUTUREORGANIZATION.COM







## Badminton

- Serving** – I know the rules concerning service areas .I can perform both the Backhand and Forehand serves over a modified net.
- The Clears** – I can hit the shuttle high and with power over a modified net.
- The Drop Shot** – I can land the shuttle towards the front of the court, over a modified net.
- The Smash** – I can perform the smash using good technique and clear the modified net.
- Net Play**– I show good technique and land the shuttle close to the net.
- Game Play** – I am able to score correctly during a game



## Hockey

- Ball Control** – I consistently use the stick to control the ball at increasing speeds and demonstrate changes of direction and pace in my work.
- Passing** – I can assess the technique of others and can offer assistance to improve technique. My reception position is low providing a "long bar" to stop the ball.
- Dribbling**– I can move with the ball in front of me either using short taps or rolling the ball with increasing speed.
- Tackling**– I can increasingly use the block tackle effectively in structured practice to breakdown another player's control of the ball.
- Game Situations**– I take advantage of taking free hits quickly to help my team gain ground up the pitch.

# Knowledge Goals: PE

## Football



- Ball Control** – I can control the ball comfortably with my feet and use other body parts but not always with control.
- Passing** – I can pass the ball accurately using my inside foot while not under pressure over a moderate distance.
- Defending** – I can *pressure* an opponent quickly and successfully tackle them in a 1v1.
- Dribbling** – I can dribble the ball with control when it is close to me and not under *pressure*.
- Shooting** – I can accurately shoot from a moderate distance using the inside of my foot.
- Game Situations** – I move into space in games and communicate with teammates and can maintain *possession* for short periods when the ball is at my feet.



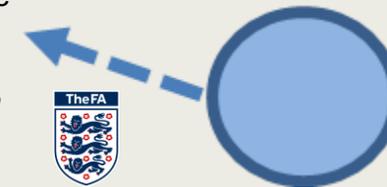
## Netball

- Passing** – I am able to pass the ball accurately using a chest, shoulder and bounce pass and identify what pass should be selected for certain situations.
- Footwork** – I am able to demonstrate a good pivot technique when catching the ball and looking for my next pass.
- Attacking skills** – I can change direction to create a space to receive the ball.
- Defending skills** – I am able to mark a player with a ball demonstrating a knowledge of the rules; i.e. a 3 foot mark.
- Game Situations** – I can demonstrate an understanding of both an attacking and a defending position and where all positions can go on the court.

## Gymnastics



- Floor** – I can perform an individual 6-8 action sequence including a variety of balances and linking movements, showing control and tension.
- Jumps** – I can perform flight movements (pike & straddle) from the springboard or trampette.
- Apparatus** – I can perform an astride, through vault and a neckspring off the end of the box.
- Performance** - I can perform simple movements and balances as part of a pair.

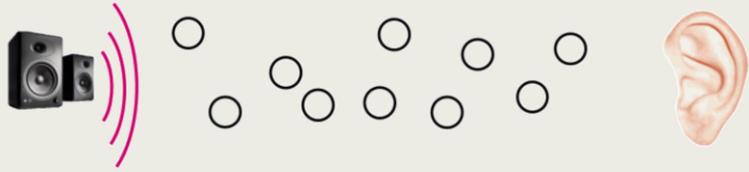


## Rugby

- Evasion/Support Play** – I understand the 2<sup>nd</sup> 'principle of play' – support and can demonstrate this during drills.
- Passing & Catching** – I can catch a ball on the move that is passed accurately to me and then pass it to a team mate holding depth in attack and moving onto the ball at pace I can perform a 'loop' pass and manipulating defences
- Tackling/Defensive Strategies** – I can tackle an opponent using the side tackle and front tackle at speed
- Rucks & Mauls** – I can form a ruck and maul to successfully secure possession.
- Game Play** – I understand the different positions and the attributes needed to perform them. I understand the setup of 3-man uncontested scrums.



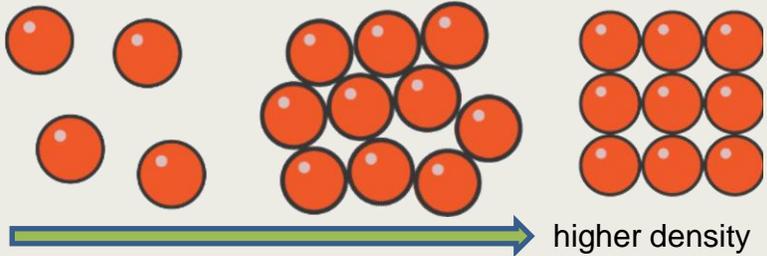
# Knowledge Goals: Physics – Waves (Sound)



Sound needs a medium (particles) to travel through. Particles in the medium vibrate and collide to pass on the vibrations.

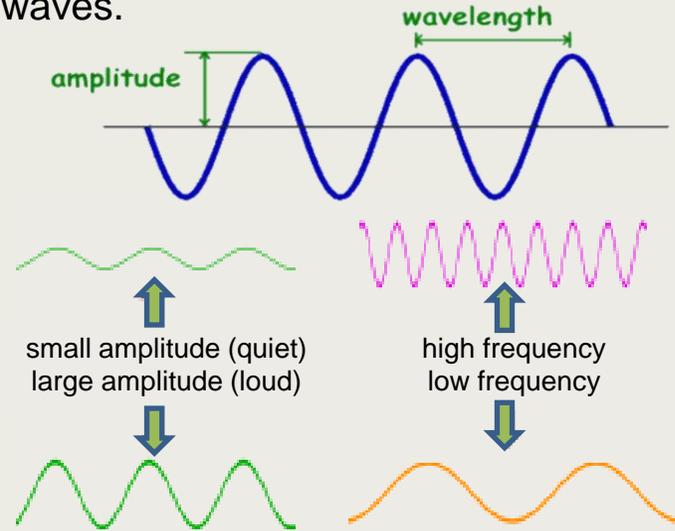


Sound cannot travel through the vacuum of space because there are no particles to carry vibrations.



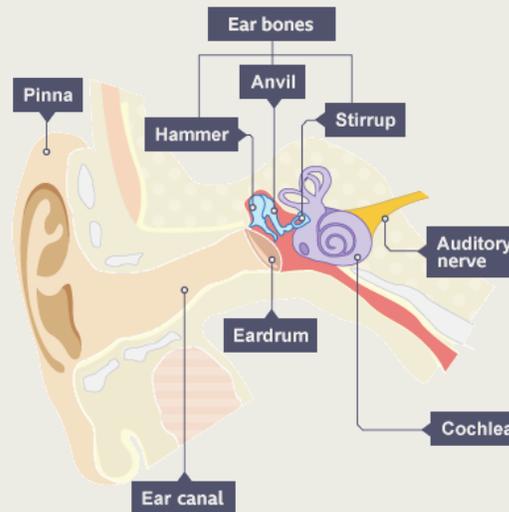
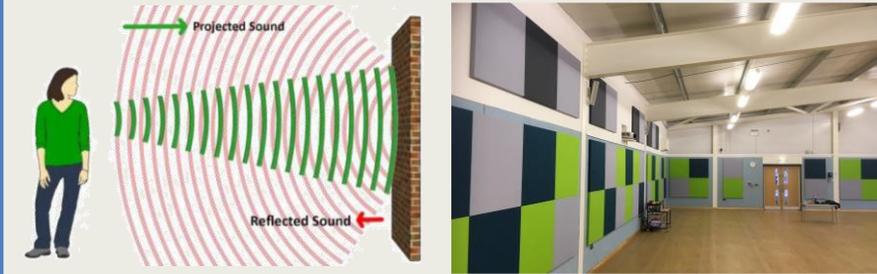
Sound travels more quickly through a solid because the particles are closer together. In other words; the denser the medium, the faster sound travels. The speed of sound in air is 330 metres per second, a million times slower than light.

Wave forms show the amplitude, frequency, and wavelength of different waves.



When sound waves reflect off a surface you might hear an echo. Large, flat surfaces such as walls are good at reflecting sound to make echoes. **Acoustic foam** is not good at reflecting sound; it absorbs the energy of the sound waves.

Architects have to design buildings carefully to minimise echoes in large rooms or halls.



## How the ear works

1. The sound waves are funnelled into the ear by the pinna.
2. The sound waves travel along the ear canal.
3. The ear drum vibrates.
4. The small bones (hammer, anvil and stirrup pass the vibrations to the cochlea.
5. The cochlea is a spiral tube containing liquid and sense cells.
6. The auditory nerve carries electrical signals to the brain.



# Knowledge Goals: Maths

Unit 1 – Rounding & Estimating		
Topic	Video	Resource
Rounding to decimal places	<a href="#">Watch this</a>	<a href="#">Complete</a> <a href="#">Check your work</a>
Rounding to significant figures	<a href="#">Watch this</a>	<a href="#">Complete</a> <a href="#">Check your work</a>
Estimating	<a href="#">Watch this</a>	<a href="#">Complete</a> <a href="#">Check your work</a>

### Estimating Calculations

Estimate the value of  $28 \times 48$

If we round both to 1 sf, this gives:  
 $30 \times 50 = 1500$

Therefore  $28 \times 48 \approx 1500$

Estimate the value of  $(59.3 + 12.09) \div 23.4$

We can approximate this sum to be  $(60 + 12) \div 20 = 25$

Therefore,  
 $(59.3 + 12.09) \div 23.4 \approx 25$

Estimate the value of  $\frac{(4.2 \times 2.4)^2}{\sqrt{5}}$

We can estimate that  $(4.2 \times 2.4)$  is approximately equal to  $4 \times 2 = 8$

Now to deal with  $\sqrt{5}$ . We know that 4 is a square number and it is close to 5 so we can say that  $\sqrt{5}$  is approximately equal to  $\sqrt{4} = 2$

The sum becomes  $\frac{(4 \times 2)^2}{\sqrt{4}} = 32$

so  $\frac{(4.2 \times 2.4)^2}{\sqrt{5}} \approx 32$

### Round to Decimal Places

"To 1 dp" means to one number after the decimal  
 "To 2 dp" means to two numbers after the decimal

**Method 1**  
 Round 7.46582 to 1 dp

**Method 2**  
 Round 7.46582 to 1 dp

7.46582, 6, so we round up to 7.5

Round 7.46582 to 2 dp

7.46582, 5, so we round up to 7.47

### Round to Significant Figures

Start counting as soon as you get to a non-zero digit

**Rounding to 1 significant figure (1 sf)**

- Round 1394 to 1 sf = 1000
- Round 265 to 1 sf = 300
- Round 32 to 1 sf = 30
- Round 187 to 1 sf = 200
- Round 0.439 to 1 sf = 0.4
- Round 0.008722 to 1 sf = 0.009
- Round 0.0005043 to 1 sf = 0.0005

**Rounding to 2 significant figures (2 sf)**

- Round 1394 to 2 sf = 1400
- Round 265 to 2 sf = 270
- Round 32 to 2 sf = 32
- Round 187 to 2 sf = 190
- Round 0.439 to 2 sf = 0.44
- Round 0.008722 to 2 sf = 0.0087
- Round 0.0005043 to 2 sf = 0.00050

# Knowledge Goals: Maths

Unit 2 – Calculations with Fractions		
Topic	Video	Resource
Find equivalent fractions & write fractions in their simplest form	<a href="#">Watch these equivalent</a> <a href="#">Watch this simplifying</a>	<a href="#">Online practice</a> <a href="#">Simplifying Worksheet</a> <a href="#">Check your answers</a>
Compare & order 2 or more simple fractions	<a href="#">Watch this</a>	<a href="#">Ordering Worksheet</a> <a href="#">Check your answers</a> <a href="#">Quick Online Practice</a> <a href="#">Equivalent Fraction Pairs</a>
Convert mixed numbers to improper fractions & vice versa	<a href="#">Watch this</a> <a href="#">Watch this</a>	<a href="#">Improper fractions to mixed numbers</a> <a href="#">Mixed numbers to improper fractions</a>
Calculating with fractions including mixed numbers	<a href="#">Watch this + &amp; -</a> <a href="#">Watch this multiplication</a> <a href="#">Watch this division</a>	<a href="#">Adding</a> <a href="#">Subtracting</a> <a href="#">Multiplying</a> <a href="#">Dividing</a>

**Multiplying non-unit fractions**

Shade in 3 parts →  $\frac{3}{4} \times \frac{2}{3}$  → Repeat it on this many rows

This many columns → This many rows

Modeled:  $\frac{3}{4} \times \frac{2}{3} = \frac{6}{12}$

Parts shaded → Total number of parts in the diagram

**Dividing any fractions** Remember to use reciprocals

$\frac{2}{5} \div \frac{3}{4}$  → Multiplying by a reciprocal gives the same outcome →  $\frac{2}{5} \times \frac{4}{3}$

Represented:  $\frac{8}{15}$

**Add/Subtraction fractions (improper and mixed)**

$2\frac{1}{5} - 1\frac{3}{10}$

$2\frac{2}{10} - 1\frac{3}{10} = \frac{9}{10}$

- Convert to an improper fraction
- Calculate with common denominator

Partitioning method

$2\frac{1}{5} - 1\frac{3}{10} = 2\frac{2}{10} - 1\frac{3}{10} = 2\frac{2}{10} - 1 - \frac{3}{10} = 1\frac{2}{10} - \frac{3}{10} = \frac{9}{10}$



# Knowledge Goals: Music Year 8 Half Term 1: Form & Structure

Learning Objective	Summary of Learning	Key Knowledge Children Will Learn by the End of the Term	Key Terms and Definitions
Introduction to Theme and Variation	Discuss the concept of theme and variation in music with examples. Introduce basic musical terms.	Understanding of 'theme' and 'variation,' and familiarity with key musical terms.	Theme: The main musical idea. Variation: Changes made to the theme to create a different sound while retaining some original aspects.
Analysing Composers' Techniques in Theme Development	Study how composers use a simple idea to create complex pieces, focusing on a case study.	Insight into composers' techniques in expanding a theme.	Structure: The arrangement of musical ideas. Texture: The way different musical sounds are combined.
Exploring Elements of Music	Explore how different elements like tempo, rhythm, and tonality affect melody and create variety.	Knowledge of how musical elements like tonality and tempo create variety in melody.	Tempo: The speed of music. Rhythm: The pattern of sounds and silences in music. Tonality: The character of music determined by the key.
Practical: Using the Piano	Hands-on lesson on using the piano to create contrasts and motifs. Teach reading treble clef.	Ability to play and read music from the treble clef; understanding piano's role in musical contrast.	Motif: A short musical idea or pattern that is developed within a composition.
Composition Techniques	Compose short pieces using learned concepts, focusing on rhythm and melody.	Skills in composing using rhythm and melody; understanding of musical structure and texture.	Melody: A sequence of single notes that is musically satisfying.
Performance and Evaluation	Perform composed pieces, followed by a session of feedback and evaluation. Discuss how to enhance performance.	Performance skills; ability to critique and improve based on the elements of music.	Pulse: The steady beat that underpins the rhythm.

# Knowledge Goals: Philosophy, Religion and Ethics

## Philosophy

### The first cause argument

**Thomas Aquinas**

The **first cause** argument is an argument for the existence of God associated with **St Thomas Aquinas** (1225-1274).



### The design argument

“ *In the absence of any other proof, the thumb alone would convince me of God's existence.* ”

Isaac Newton (1642-1727)



**William Paley** (1743-1805) compared the design of the universe to finding a watch. He argued that if you were walking on a moor (grassland area) and found a watch lying on the grass and saw how complicated it was you would have to assume someone made it.

By looking at the watch you would see that all the coils, springs and movements all work together so that the watch is able to keep time.

Anyone who found this watch, having never seen a watch before, would have to conclude that **someone designed it** for it to fulfil its purpose of keeping time.

Paley compared this to the design of the world. He argued that just as someone who found the watch would conclude that it was made by someone because of its design, someone who looks at the universe must conclude that there is a designer because of how the universe has been designed.

### Religious experience argument

A religious experience is when someone feels they have had a direct or personal experience of God.

It is argued that if someone feels they have experienced God, this will be the most convincing proof of God's existence because they have personally experienced or felt God for themselves. It is not simply an argument based on logic or reason.

A religious experience could be a dream or vision where God speaks to a person, or it could be a miraculous healing. This first-hand experience is utterly convincing to that person.



#### All in the mind?

It could be argued that religious experience is all in the mind. We do not fully understand the complexities of the human mind and perhaps it can play tricks on us, making us think we have experienced God.

#### Coincidence?

It could be argued that religious experiences are simply coincidences, or that a person is looking for a religious experience and therefore creates one in their mind.



Find out more!



# Estrategia



## Building your vocabulary

Try to collect words so that you can use them again. Here are some ideas:

1 Note down words in different categories:

- Verbs
- Adjectives
- Nouns
- Cognates

2 Note down words under different topic headings:

- Hobbies
- Daily routine
- Appearance
- Character
- Opinions

3 Note down words as pairs of opposites:

alto/a – bajo/a

4 If you find a word difficult to remember, write out a sentence using it:

lazy = perezoso  
Mi mejor amigo es inteligente, pero un poco perezoso.

### En mi tiempo libre

¿Qué haces en tu tiempo libre?

- Bailo.
- Chateo por internet.
- Escucho música.
- Hago deporte.
- Juego con el ordenador.
- Mando mensajes.
- Salgo con mis amigos.
- Voy de compras.

### In my free time

What do you do in your free time?

- I dance.
- I chat online.
- I listen to music.
- I do sport.
- I play on my computer.
- I send messages.
- I go out with my friends.
- I go shopping.

¿Qué te gusta?

- Me gusta ...
- Me interesa ...
- Me encanta ...
- el fútbol
- la música
- la natación
- Me gustan ...
- Me interesan ...
- Me encantan ...
- los cómics
- los videojuegos
- las hamburguesas

What do you like?

- I like ...
- I'm interested in ...
- I love ...
- football
- music
- swimming
- I like ...
- I'm interested in ...
- I love ...
- comics
- video games
- hamburgers

¿Qué no te gusta?

- No me gusta la música.
- Odio el fútbol.
- No me interesan los cómics.

What don't you like?

- I don't like music.
- I hate football.
- I'm not interested in comics.

### Los amigos

tu mejor amigo/a  
¿Cómo es?

Es ...

- alto/a
- bajo/a
- delgado/a
- guapo/a

### Friends

your best friend  
What is he/she like?  
What does he/she look like?

- He/She is ...
- tall
- short
- slim
- good-looking, attractive

### Más o menos

¿Quién es más alto/a?  
¿Quién es menos alto/a?  
... es más viejo/a que ...  
... es menos joven que ...

### More or less

Who is taller?  
Who is less tall/shorter?  
... is older than ...  
... is less young than/  
isn't as young as ...

¿Cómo es de carácter?

- Es ...
- No es ...
- Nunca es ...
- divertido/a
- generoso/a
- hablador(a)
- inteligente
- perezoso/a
- serio/a

What kind of person is he/she?

- He/She is ...
- He/She isn't ...
- He/She is never ...
- amusing
- generous
- talkative, chatty
- intelligent
- lazy
- serious

¿Cómo es su pelo?

- Tiene el pelo ...
- castaño
- negro
- pelirrojo
- rubio
- corto
- largo
- ondulado

What is his/her hair like?

- He/She has ... hair.
- brown
- black
- red
- fair, blond
- short
- long
- wavy

¿De qué color son sus ojos?

- Tiene los ojos ...
- azules
- grises
- marrones
- verdes

What colour are his/her eyes?

- He/She has ... eyes.
- blue
- grey
- brown
- green

### ¿Cuándo?

después  
luego  
normalmente  
por la mañana  
por la tarde  
primero

### When?

afterwards  
then  
normally  
in the morning  
in the evening  
first

# Knowledge Goals: Spanish

### Mi rutina diaria

¿Qué haces por la mañana?  
Por la mañana ...  
me despierto  
me levanto  
me ducho  
me peino  
me visto  
desayuno  
voy al instituto

### My daily routine

What do you do in the morning?  
In the morning ...  
I wake up  
I get up  
I shower  
I comb/brush my hair  
I get dressed  
I have breakfast  
I go to school

¿Qué haces por la tarde?

Por la tarde ...  
hago mis deberes  
ceno  
veo la televisión  
me lavo los dientes  
me acuesto

What do you do in the evening?

In the evening ...  
I do my homework  
I have dinner/supper  
I watch TV  
I brush my teeth  
I go to bed

### Palabras muy útiles

nunca  
pero  
también  
y  
o  
más  
menos  
mejor

### Very useful words

never  
but  
also  
and  
or  
more  
less  
better, best

### Nacionalidades

¿Cuál es tu nacionalidad?

Soy ...  
argentino/a  
chileno/a  
colombiano/a  
escocés/escocesa  
español(a)  
estadounidense  
galés/galesa  
inglés/inglesa  
irlandés/irlandesa  
mexicano/a

### Nationalities

What is your nationality?

I'm ...  
Argentinian  
Chilean  
Colombian  
Scottish  
Spanish  
American  
Welsh  
English  
Irish  
Mexican









