LYMM
HIGH SCHOOL

#4

NAME:

Year 8 Knowledge Organisers

Autumn Term

(Half term 1 and 2)

2023-2024

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A Knowledge-Rich Curriculum at Lymm High School

Why are we using Knowledge Organisers?

Research around memory suggests that "knowledge is sticky": the more factual knowledge you know, the easier it is to learn more in future! But there is a catch: If knowledge is studied once, and not revisited or revised, it is not stored in long-term memory.

To strengthen your memory, and ensure information is stored permanently in your long-term memory, it must be revisited frequently. This means that after one lesson, or a single test, the knowledge is not fully embedded or learned unless it is studied again.

This is why your knowledge organiser is an important part of revising the essential information you learn in class!

Use of Knowledge Organisers for revision and in class

As part of their home learning, students should be revising what they have learned recently, but also content they were taught previously. Therefore, as part of our strategy to ensure that knowledge is embedded over time, we have developed knowledge organisers, which contain the 'bedrock knowledge' necessary in each subject area. A mastery of this knowledge will ensure that students can progress comfortably to new units of learning, and can be successful in their subjects.

This information will provide the basis of our assessments and exams, and so getting into good revision habits with these resources will ensure students feel as prepared as possible.

Teachers may set specific areas of each knowledge organiser as part of homework tasks on 'Satchel one' – formerly 'Show my Homework' – however students should be using their knowledge organiser for independent revision regularly.

For mastery of your subjects, remember:

"Don't practise until you get it right. Practise until you can't get it wrong!"

As well as supporting revision at home, this knowledge organiser should be kept in students' bags, and brought to school each day so that it can also be used and referred to in lessons.

CONTENTS
(Subjects are arranged alphabetically)

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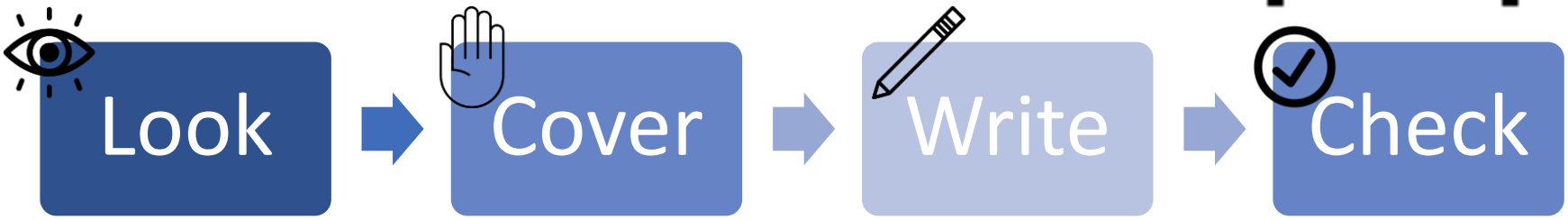
How to use your knowledge organiser:

Recommended strategies *(don't just read or highlight – **get active**!):*



- Create **mind maps**
- Create **flash cards**
- Write out **key points on post-it notes** and place somewhere visible so you see and review them regularly
- **Write your own quiz questions** based on your knowledge organiser – leave until the next morning, next day, or next week to see how well you have retained the information
- **Get someone else to test you**
- **Use key vocabulary** from your KO in sentences
- Use the formulae, vocabulary lists, facts, processes etc on your KO to **help you complete homework tasks**
- **Draw diagrams and flow charts** of key information
- **Summarise each section** into your own words – what are the MOST important facts or details in each box?
- **"Just a minute"** – time yourself for 60 seconds. **Can you talk about this topic or explain it to someone else without stopping for a whole minute?**
- **Draw images/symbol**s to represent the different concepts and vocabulary
- **Teach someone else** about this topic. Research suggests we retain even more information when we teach a topic than when we learn it or revise it.

Tier 2 Vocabulary – General academic vocabulary for success across all subjects

"The limits of my language are the limits of my world" - *Ludwig Wittgenstein*

List 1		List 2		List 3	
acquire (verb)	get	**final (adj)**	last	**primary (adj)**	First/main
appropriate (adj)	suitable/correct	**Institute (n)**	Company/society	**regulations (n)**	rules
authority (n)	the person in charge/expert/power	**injury (n)**	Pain/discomfort	**resident (n)**	Person who lives there
acquire (v)	get	**indicate (v)**	show	**restricted (adj)**	Limited/controlled
consistent (adj)	same every time	**journal (n)**	diary/bulletin/paper	**significant (adj)**	important
construct (v)	make	**legislation (n)**	laws	**sought (v)**	Looked for/wanted
consumer (n)	customer	**labour (n)**	work	**subsequent (adj)**	coming after
credit (n/v)	(to give) money	**maintenance (n)**	Repairs/upkeep	**traditional (adj)**	Old fashioned/typical
conduct (v)	do/carry out	**obtain (v)**	get	**veritable (adj)**	real/true
distribution (n)	the spread of something	**perceive (v)**	Think/believe	**withstand (v)**	bear/survive
economic (adj)	to do with wealth and money	**previous (adj)**	Earlier/before	**yield (v)**	Stop/give in
Evaluation (n)	review	**purchase (v)**	buy	**zeitgeist (n)**	what's currently popular

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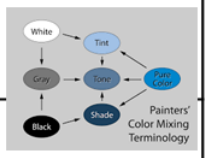
YEAR 8 KNOWLEDGE ORGANISER - BASIC SKILLS

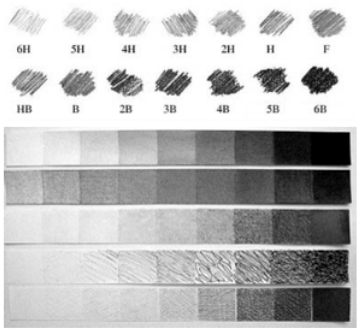
Tone	A tone is produced either by the mixture of a colour with grey, or by both tinting and shading..
Shade	The mixture of a colour with black, which increases darkness.
Tint	The mixture of a colour with white, which increases lightness
Mark making	Different lines, patterns, and textures we create in a piece of art. It applies to any art material on any surface, not only paint on canvas or pencil on paper.
Composition	The position and layout of shapes on the paper
Still life	A painting or drawing of an arrangement of objects.
Cubism	A movement in art, especially painting, in which perspective with a single viewpoint was abandoned and use was made of simple geometric shapes, interlocking planes, and, later, collage.



Recording from Observation

Primary source observational drawing: drawing something real in front of you.

Secondary source observational drawing: drawing something from a picture.



Grades of Pencils

Pencils come in different grades. The softer the pencil the darker the tone.

H = hard, B = black (soft)

In Art the most useful pencils are B, 2B and 4B.

If your pencil has no grade it is likely to be an HB (hard black in the middle of the scale)

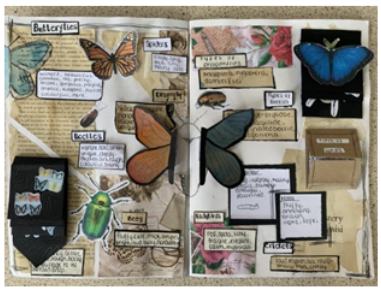
Zentangle- a type of pattern made from repeated simple shapes and lines which form seemingly complex patterns. This is carried out as a meditative, relaxing activity similar to doodling.

Symmetry- being made up of exactly similar parts facing each other or around an axis or line of symmetry.

What makes a successful artist research page?

You must include:

- Artists name (title)
- Imagery of the artists work
- Annotation and your own opinion (facts about the artist as well as analysing the artists work)
- Your own drawings or 'mini studies' of the artists work.
- Consider presentation of your page. Try to make your page reflect the artists style (through use of colour or even media you choose to use).



ANNOTATIONS

As a general rule, always try to say:
- **WHAT** you have looked at
- **WHO** made it
- **WHEN** it was made
- **WHY** it is inspiring to you
- **HOW** it will effect your own work

When talking about your own work, try to say:
- **WHAT** you have done
- **HOW** have you done it
- **WHAT** inspired you
- **WHAT** else did you try
- **WHY** is it successful
- **IS** there anything you would change

ALWAYS TRY TO BE POSITIVE!

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YEAR 8 KNOWLEDGE ORGANISER - BASIC SKILLS

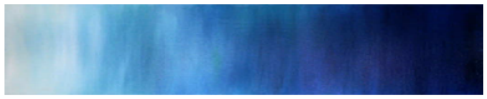
The colour wheel	This is a diagram that shows how colours are mixed or the relationship between colours.
Primary colours	Red, blue and yellow. These are colours that cant be made by mixing other colours together.
Secondary colours	Green, orange and purple. Mix two primary colours to create a secondary colour
Tertiary colours	These are colours create by mixing a primary and a secondary colour together.
Complimentary colours	These are colours that are opposite on the colour wheel.
Harmonious colours	These are colours from the same section of the colour wheel. These work well when blending.
Cool colours	Fall on one half of the colour wheel. Calm or soothing in nature. They are not overpowering and tend to recede in space. For this reason, they typically make a space seem larger.
Warm colours	Fall on the opposite side to the cool colours on the colour wheel. They are vivid or bold in nature. They tend to advance in space and can be overwhelming.

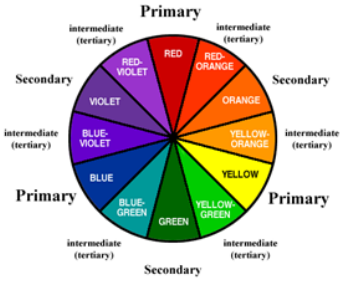
Blending

- Always start with the lightest colour and add the darker colour in small amounts
- Harmonious colours blend well together.
- Cross hatching is a good mark making method when blending dry materials.
- Wet materials should be mixed on a palette before blending.

Enlarging using the grid method – QR code below

- The grid method involves drawing a grid over your reference photo, and then drawing a grid of **equal ratio** on your work surface.

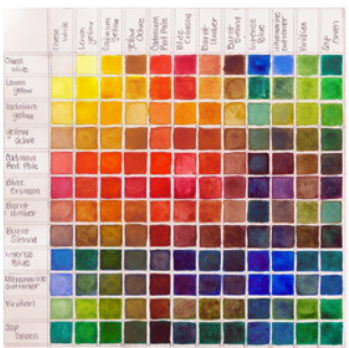




Mixing paint

- Always start with the lightest colour and add the darker colour in small amounts.
- Use a palette to mix your colour.

Scan here to view a help guide on mixing paint.



Scale

The overall physical size of an artwork or objects in the artwork.

Proportion

The dimensions of a composition and relationships between height, width and depth.

Recording from Observation

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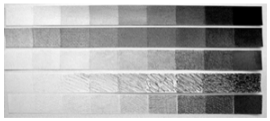

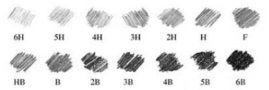

Insect	Insects have a chitinous exoskeleton, a three-part body (head, thorax and abdomen), three pairs of jointed legs, compound eyes and one pair of antennae. Insects are the most diverse group of animals.
Tone	A tone is produced either by the mixture of a colour with grey, or by both tinting and shading.
Line drawing	A drawing done using only narrow lines, without blocks of shading.
Continuous line drawing	A drawing completed without taking your pen/pencil off the page.
Mark Making	Different lines, patterns, and textures we create in a piece of art. It applies to any art material on any surface, not only paint on canvas or pencil on paper.
Mono printing	A form of printmaking that has lines or images that can only be made once, unlike most printmaking, which allows for multiple originals.
Mixed Media	A term used to describe artworks composed from a combination of different media or materials.
Needle eye	The narrow opening at the top of the needle 
Pattern cutting	The process of turning a design into a piece of fabric. However, before a design is made into a three-dimensional (3D) fabric, it is usually made on two-dimensional (2D) paper. In simple words, just imagine what you are wearing right now and think of it as a design that was first made on paper and, later, turned into a fabric.

Scan this QR code to find out interesting facts about bugs and insects

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YEAR 8 KNOWLEDGE ORGANISER – LITTLE CREATURES

Yumi Okita

Yumi Okita is a North Carolina based artist who creates beautiful textile sculptures with various textiles and embroidery techniques. The pieces are quite large and measure to almost a foot wide and contain other techniques like painting the feathers and using false fur.

What makes a successful artist research page?

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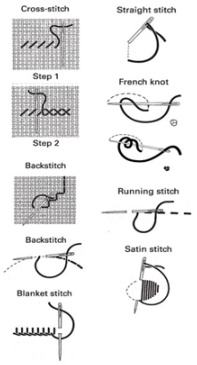
- Consider presentation of your page. Try to make your page reflect the artists style (through use of colour or even media you choose to use).

Mr Finch

About | Mister Finch (mister-finch.com)

- Professional artist
- Born in Warrington, lives in Stafford.
- Flowers, insects and birds really fascinate him.
- Most of his work uses recycled materials.

Embroidery	the craft of decorating fabric or other materials using a needle to apply thread or yarn. *Embroidery* may also incorporate other materials such as pearls, beads, quills, and sequins.
Embellishment	is a decorative detail or feature added to something to make it more attractive.
2D	Two dimensional: Having or appearing to have length and breadth but no depth.
3D	Three dimensional: Having or appearing to have length, breadth, and depth.



Scan below to view how to do basic embroidery stitches.

Drawing with wire examples

Places of interest to visit

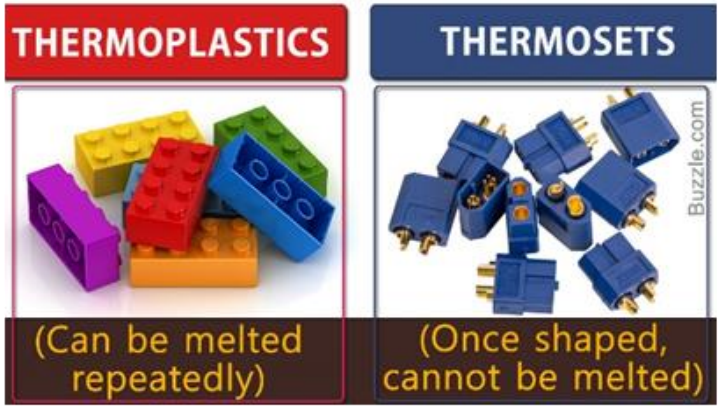
- Chester Zoo – Butterfly house
- World Museum – Liverpool
- Manchester Museum

Art

Year 8 Material Focus: Polymers

Types of Polymers.....

Scan the QR code to learn about different types of polymers.....



The properties and uses of some common thermosoftening plastics are shown in the table below.

Name	Properties	Principal uses
Polyamide (Nylon)	Creamy colour, tough, fairly hard, resists wear, self-lubricating, good resistance to chemicals and machines	Bearings, gear wheels, casings for power tools, hinges for small cupboards, curtain rail fittings and clothing
Polymethyl methacrylate (Acrylic)	Stiff, hard but scratches easily, durable, brittle in small sections, good electrical insulator, machines and polishes well	Signs, covers of storage boxes, aircraft canopies and windows, covers for car lights, wash basins and baths
Polypropylene	Light, hard but scratches easily, tough, good resistance to chemicals, resists work fatigue	Medical equipment, laboratory equipment, containers with built-in hinges, 'plastic' seats, string, rope, kitchen equipment
Polystyrene	Light, hard, stiff, transparent, brittle, with good water resistance	Toys, especially model kits, packaging, 'plastic' boxes and containers
Low density polythene (LDPE)	Tough, good resistance to chemicals, flexible, fairly soft, good electrical insulator	Packaging, especially bottles, toys, packaging film and bags
High density polythene (HDPE)	Hard, stiff, able to be sterilised	Plastic bottles, tubing, household equipment

The properties and uses of some common thermosetting plastics are shown in the table below.

Name	Properties	Principal uses
Epoxy resin	Good electrical insulator, hard, brittle unless reinforced, resists chemicals well	Casting and encapsulation, adhesives, bonding of other materials
Melamine formaldehyde	Stiff, hard, strong, resists some chemicals and stains	Laminates for work surfaces, electrical insulation, tableware
Polyester resin	Laminated, good electrical insulator, resists chemicals well	Casting and encapsulation, bonding of other materials
Urea formaldehyde	Stiff, hard, strong, brittle, good electrical insulator	Electrical fittings, handles and control knobs, adhesives

Scan the QR code to learn how plastic bottles are made.....

Scan the QR code to learn about Bio Plastics.....

2.3 Sustainability of plastics

End of life considerations are important for all products, but as most plastics take so long to biodegrade extra care should be taken to decide how it should be managed.

Many responsible companies producing plastic products conduct a **Life Cycle Assessment** (LCA) which informs them of the environmental impact of manufacturing their products. The information gathered helps them decide how to deal with their product when it has reached the end of its working life.

Almost all plastics are recyclable or biodegradable in some form – however, the difference in the quality of the recycled products varies dramatically.

Thermosetting plastics are generally considered non-recycled although they are frequently ground down and used as a filler material or they are used for **energy recovery** through incineration.

Thermoplastics are much more easily recycled for use as a recycled plastic product. If the plastics are carefully separated into the different types, the resulting material remains high quality and commands a higher price than mixed plastics. It is important to recycle as much as possible, and poorly discarded plastics are becoming a major environmental concern, especially in our countryside, rivers and ocean.

Plastic Resin Identification Codes

1 PETE	2 HDPE	3 PVC	4 LDPE	5 PP	6 PS	7 OTHER
Polyethylene Terephthalate	**High-Density Polyethylene**	**Polyvinyl Chloride**	**Low-Density Polyethylene**	**Polypropylene**	**Polystyrene**	**Other**
Common products: soda & water bottles; cups, jars, trays, clamshells	Common products: milk jugs, detergent & shampoo bottles, flower pots, grocery bags	Common products: cleaning supply jugs, pool liners, twine, sheeting, automotive product bottles, sheeting	Common products: bread bags, paper towels & tissue overwrap, squeeze bottles, trash bags, six-pack rings	Common products: yogurt tubs, cups, juice bottles, straws, hangers, sand & shipping bags	Common products: to-go containers & flatware, hot cups, razors, CD cases, shipping cushion, cartons, trays	Common types & products: polycarbonate, nylon, ABS, acrylic, PLA; bottles, safety glasses, CDs, headlight lenses
Recycled products: clothing, carpet, clamshells, soda & water bottles	Recycled products: detergent bottles, flower pots, crates, pipe, decking	Recycled products: pipe, wall siding, binders, carpet backing, flooring	Recycled products: trash bags, plastic lumber, furniture, shipping envelopes, compost bins	Recycled products: paint cans, speed bumps, auto parts, food containers, hangers, plant pots, razor handles	Recycled products: picture frames, crown molding, rulers, flower pots, hangers, toys, tape dispensers	Recycled products: electronic housings, auto parts,
						

Year 8 Material Focus: Metals

Types of Metals.....

Scan the QR code to learn where metal comes from.....

FERROUS METALS:

Metals that contain iron and are **magnetic**. They are prone to **rust**.

NAME	PROPERTIES	USES
Mild Steel	Tough. High tensile strength. Can be case hardened. Rusts very easily.	Most common metal used in school workshops. Used in general metal products and engineering.
Carbon Steel	Tough. Can be hardened and tempered.	Cutting tools such as drills.
Stainless steel	Tough, resistant to rust and stains.	Cutlery, medical instruments.
Cast iron	Strong but brittle. Compressive strength very high.	Castings, manhole covers, engines.
Wrought iron	Fibrous, tough, ductile, resistant to rusting.	Ornamental gates and railings. Not in much use today.

NON-FERROUS METALS:

Metals that do not contain iron and are **not magnetic**. They do **not rust**.

NAME	COLOUR	PROPERTIES	USES
Aluminium	Light grey	Ductile, soft, malleable, machines well. Very light.	Window frames, aircraft, kitchen ware.
Copper	Reddish brown	Ductile, can be beaten into shape. Conducts electricity and heat.	Electrical wiring, tubing, kettles, bowls, pipes.
Brass	Yellow	Hard. Casts and machines well. Surface tarnishes. Conducts electricity.	Parts for electrical fittings, ornaments.
Silver	Whitish grey	Ductile, Malleable, solders, resists corrosion.	Jewellery, solder, ornaments.
Lead	Bluish grey	Soft, heavy, ductile, loses its shape under pressure.	Solders, pipes, batteries, roofing.

ALLOYS:

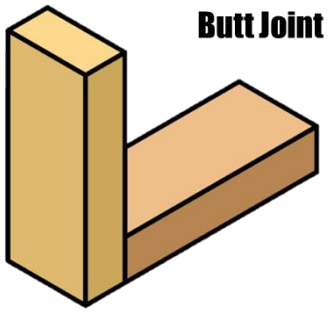
Alloys are mixtures of metal with an element to improve its properties or **aesthetic**. For example brass is a mixture of copper and zinc. Alloys can also be classified as ferrous or non-ferrous.

NAME	COLOUR	PROPERTIES & USES
Brass	Gold	An alloy of copper and zinc, can be cast and machined, used for musical instruments and ornamental hardware
Pewter	Dark grey	Made up of tin (approximately 90 per cent), antimony (7 per cent) and other metals such as copper or bismuth, it has a low melting point (approximately 200°C), often used to make jewellery, candlesticks, outside light fixtures or tankards
Solder	Grey	An alloy of 60 per cent tin and 40 per cent lead, it has a low melting point (approximately 200°C), and is electrically conductive making it ideal for circuit manufacture

Wood Joints

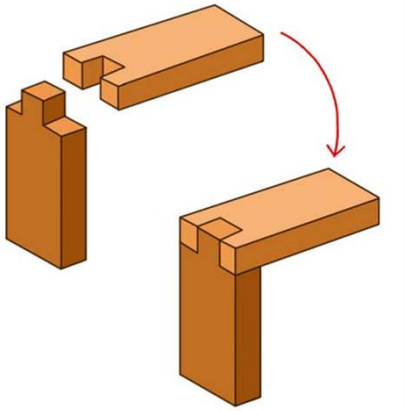
Frame/Box Joints.....

Butt Joint



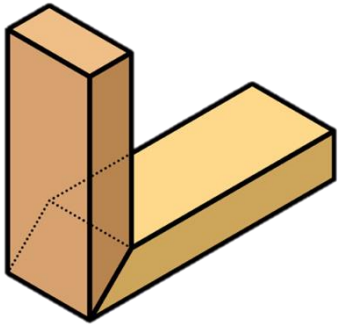
A **butt joint** is a technique in which two pieces of material are joined by simply placing their ends together without any special shaping. A butt joint can be strengthened with dowels, nails and screws.

Comb/Finger Joint



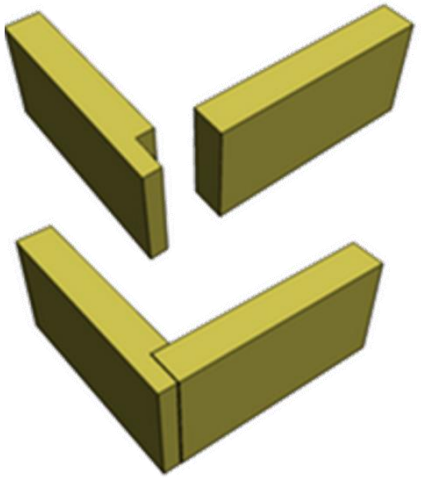
A **finger joint**, also known as a comb joint, is a woodworking joint made by cutting a set of complementary, interlocking profiles in two pieces of wood, which are then glued. The cross-section of the joint resembles the interlocking of fingers between two hands, hence the name "finger joint"

Mitre Joint



A **mitre joint** is a joint made by cutting each of two parts to be joined, across the main surface, usually at a 45° angle, to form a corner, usually to form a 90° angle, though it can comprise any angle greater than 0 degrees.

Rebate Joint (Half Lap)

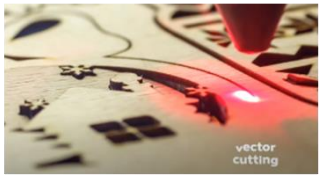


The rebate joint is a very similar to the butt joint but the big difference between the two is that one of the ends of the timber has a groove cut out of it to create much better holding strength.

Manufacturing Processes

CAD/CAM (Computer Aided Design/Computer Aided Manufacture)

Laser cutter



Scan the QR code to learn how laser cutters work.....

A drawing is sent from a CAD program such as 2D Design, to the laser cutter.
A laser cutter can cut through acrylic, laser plywood and some metals.

Tools and Equipment.....

Wasting Tools....
Cutting....

Coping Saw

Tenon Saw

Junior hack Saw

Chisel

Shaping....

File

Belt Sander

Disc Sander

Holding....

Metal Vice

F Clamp/
Screw Clamp

Finishing....

Wood

Glass Paper (Wood)

Wood Oil

Plastic & Metal

Emery Cloth

Wet & Dry Paper

Joining....

PVA glue
(wood glue)

Manufacturing Processes

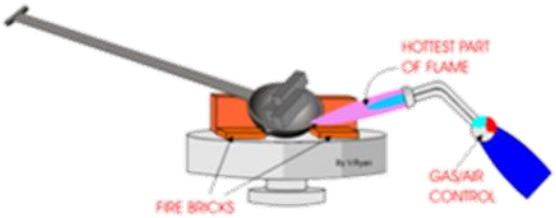
Stages of Pewter Casting.....

Scan the QR code to learn how to cast metal

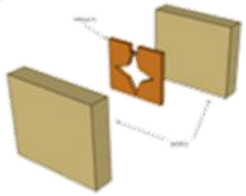
Cut the pewter ingot into small pieces

Use a metal vice & hack saw.

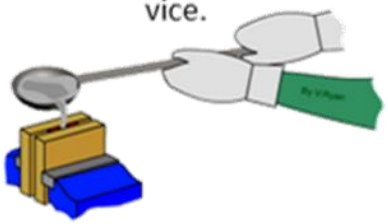
Design and make the mould by hand or by using CAD/CAM.



Place pewter ingots in the ladle and heat the pewter with a gas torch or heat gun. Melt the pewter.



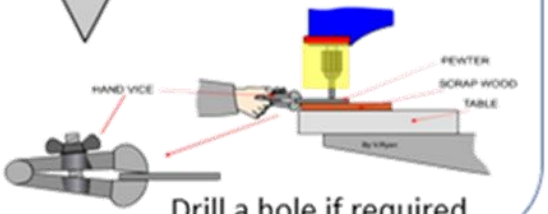
Sandwich the mould between 2 pieces of MDF. Secure in a metal vice.



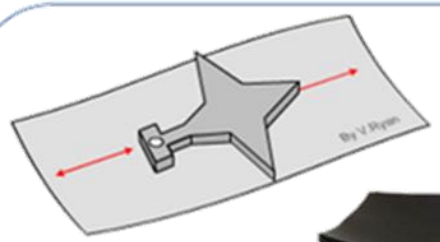
Pour molten pewter into the mould

Allow pewter to cool, then remove from the mould. Cut off the excess.

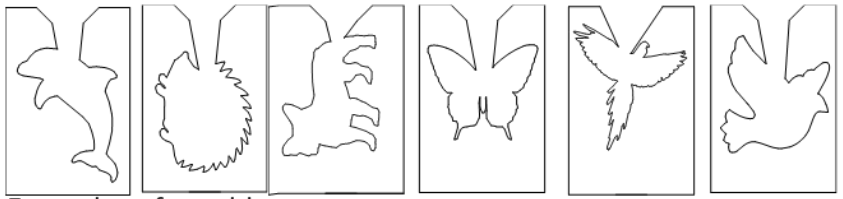
Junior hack saw.



Drill a hole if required.



Smooth the surfaces and the edges with emery cloth & wet and dry paper.



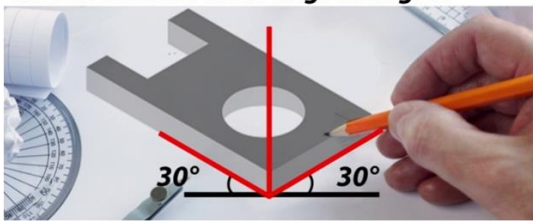
Examples of moulds

Design and Technology

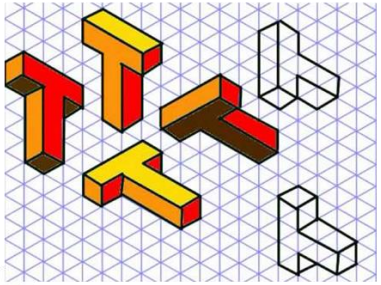
Design Movement	Images	Influences	Designers	Features
Arts and Crafts (1850-1900)	 	• Traditional craft and hand skills rather than machinery	• William Morris • Charles Voysey • Richard Norman Shaw	• Traditional wood joints in furniture • Use of natural forms • Highly decorative – with birds and florals shown on textiles and wallpapers
Art Nouveau (1880-1910)	  	• Linear patterns of Japanese prints • French Post-impressionist art • Arts and Crafts Movement	• Alphonse Mucha • Louis Comfort Tiffany • Charles Rennie Macintosh	• Floral and decorative patterns • Elegant and graceful lines • Use of traditional materials
Art Deco (1925-1939)	  	• End of WW1, growth of mass production • Range of international styles coming into the public eye	• Claric Cliff • Eileen Gray • Rene Lalique • Walkter Dorwin Teague	• Stylised geometric shapes • Bold colours often paired with black, chromes and metallic • Sunburst motiffs
Bauhaus (1919-1933)	  	• Post-WW1 idealism • Arts and crafts movement • WW1 industry methods and materials • Art Deco's geometric forms	• Walter Gropius • Marcel Breuer • Marianne Brandt • Mies Van Der Rohe	• Form follows function principle • Use of steels, chromes and leather • Modernism style-design
Streamlining (1930-1950)	 	• Post-WW2 lack of materials • Vehicle innovations breaking speed records • Rise of Bakelite	• Raymond Loewy • Norman Bel Geddes • Henry Dreyfuss • Walter Dorwin Teague	• Long horizontal lines and curving forms • Aesthetic influences from industrial and nautical design • Sleek appearance • Use of metals and plastics
Scandinavian Modern (1935-Present)	 	• Dark Scandinavian winters leading to designers maximising light and cozy features • Practical and functional designs	• Finn Juhl • Hans Wegner • Arne Jacobsen	• Clean lines • Neutral colour palette • Sleek and functional
Minimalism (1967-1978)	  	• Japanese traditional design and architecture • De Stijl art and design	• Donald Judd • Agnes Martin • Dan Flavin • Anne Truitt	• Repetition of simple geometric forms • Monochromatic/limited colour • Hard-edged • Little/minimal use of materials
Memphis (1981-1988)	  	• Rebelling against functional modernism • Art Deco • Pop Art	• Ettore Sottsass • Michele De Lucchi • Martine Bedine	• Less is Bore principles • Post-modernism design • Bright, colourful and sculptural design • Simple and Abstract forms • Use of non-traditional materials

Isometric Drawing.....

axes are drawn so that the two horizontal axes are drawn at 30 degree angles



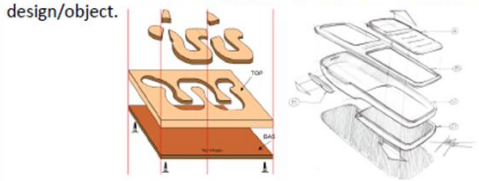
Scan the QR code to learn how to draw simple shapes in isometric.....



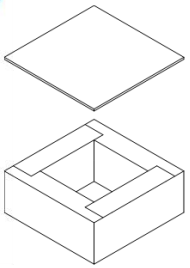
Exploded Isometric.....

Exploded views

Exploded drawings are extremely useful when explaining a design / idea. The drawing opposite is a design for an educational toy (for a young child) has been drawn with all the parts disassembled.
It is important when drawing an exploded view that all the parts line up with each other when disassembled. The vertical guidelines clearly show how the various parts are in line with each other. If an exploded drawing is constructed properly anyone looking at the drawing should be able to see how the various parts go together to form the finished design/object.

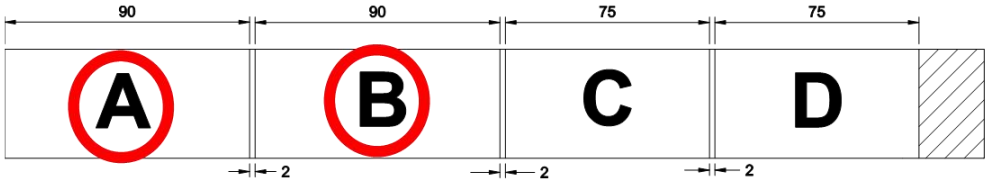


Scan the QR code to learn how to draw simple shapes in exploded isometric.....



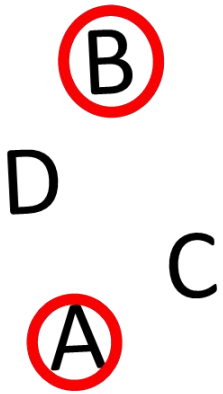
This is the box that you will manufacture.

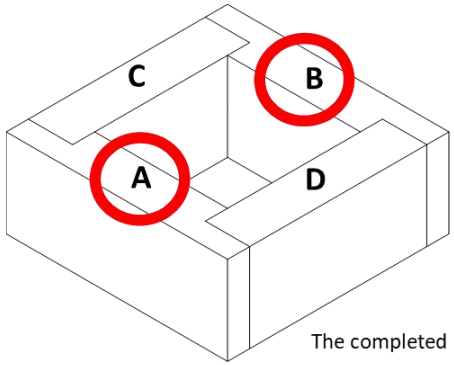
Measurements for Manufacturing the Rebate Joint (Half Lap Joint)



2mm gap should be left for the saw cut

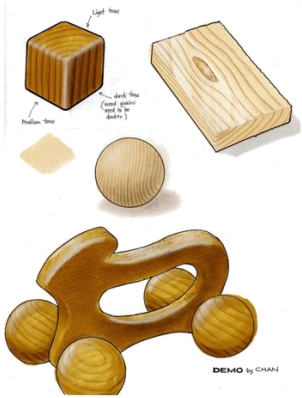
All dimensions in mm



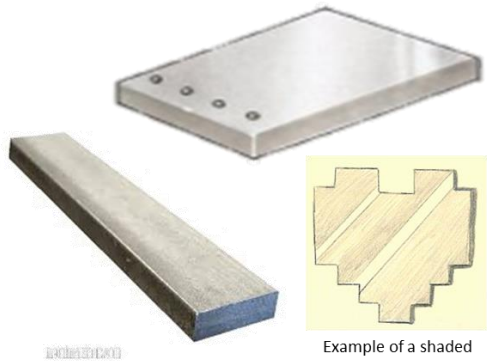


The completed box

Shading an object to look like wood....

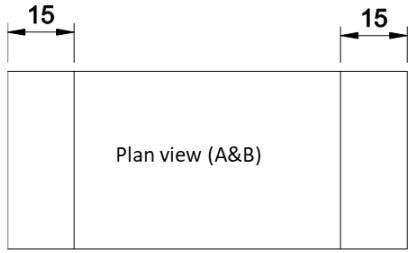


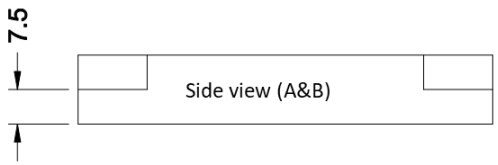
Shading an object to look like metal....



Example of a shaded pewter casting design

Rebate Joint (Half Lap Joint)





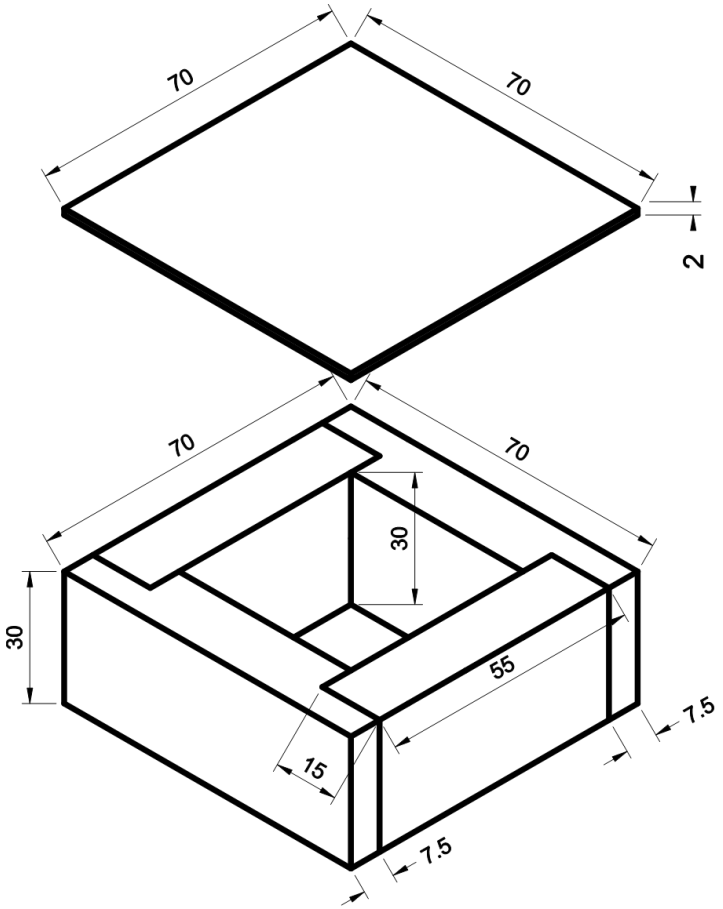
Manufacturing Processes

CAD/CAM

(Computer Aided Design/Computer Aided Manufacture)

Exploded Isometric Drawing of Box

Draw the box in an isometric projection. Use the dimensions given on the drawing. Use isometric paper, a ruler and a pencil to complete the drawing accurately.



All dimensions in mm

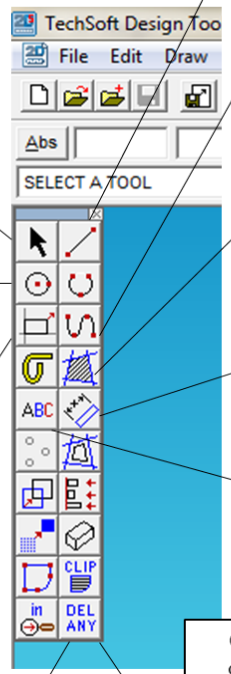
CAD 2D Design.....

The drawing tools are all located on the right hand side of your screen. At the top of your screen here, you will also find the default 'File,' 'Open' and 'Save' buttons.

Remember that 2D Design defaults to mm. If you want to use cm, type cm after a specific value.

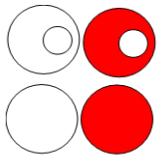
Straight line tool – click to place the start of the line, click to place end of line. Double click to set a specific length.

Select – to select multiple items hold down SHIFT on the keyboard and click the lines you want



Curved line tool – click to place the start of the line, click to place the first bend, second bend, etc. and right click to finish the line

Fill – select the area you want to fill. 'Are there any islands?' Click 'Yes' if you don't want to fill these in, or 'No' if you do.

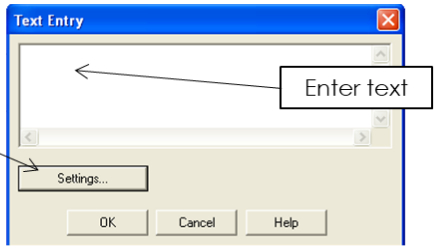


Draw a Circle – click to place the center, and then click to place a point on the circumference. Double click to set the radius.

Dimensions – Click at the beginning of where you want to measure, then again at the end. This will give you the measurement in millimeters.

Draw a Rectangle – click to place a corner, and then click to place the opposite corner.

Text – click to place text. The box below appears



Click to change font, size etc.

Deleting – click on a part you want to get rid of and use the DELETE button on the keyboard. To delete part of a shape, right click and hold on the DEL ANY icon, more delete options will appear.

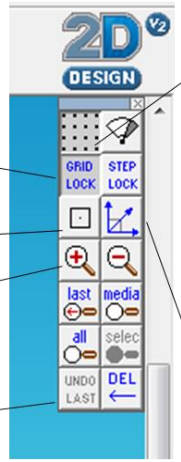
Delete anything

Delete part of a line

Draw a box, and delete the contents

CAD 2D Design.....

Your grid tools are all located on the left hand side of your screen.



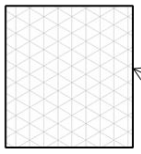
Lock to grid – Keep this on to keep your lines straight and measurements accurate

Attach – Use this tool to attach one point directly to another

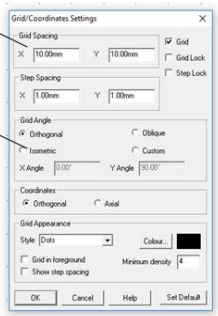
Zoom in/Out

Undo – Undo or Delete your last move.
Remember: You can only undo one last step!

Grid – The grid dots can be present or you can turn them off. Double click and you can change the spacing of the dots. The default is 10mm. You can also change the grid from orthogonal to isometric.



Isometric



Radial Lock – Allows you to draw straight lines when not attached to the grid.

Using the ARC TOOL

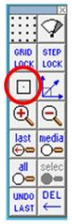
Click on the Arc button. When drawing an arc tool it needs three points, a start, middle and an end.

Click once onto the drawing screen move the pointer up there will be a straight line. Click again move the pointer to the end of the arc click once and the arc will be created.

Create the drawing as shown.

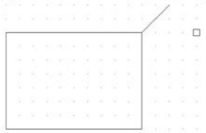
Remember to use the delete part, arc, circle and group functions.

Using the ATTACH TOOL



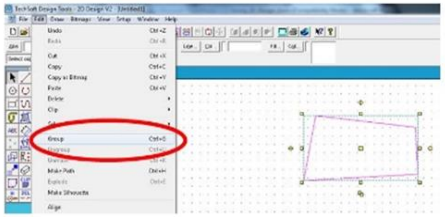
The Attach tool allows you to connect a drawing to a point on the screen.

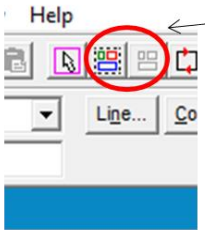
1. Draw a rectangle
2. Press the attach button
3. Press the line button
4. Move near the rectangle and click, the tool will attach your line to the rectangle.



Using the GROUP TOOL

To group the lines together, select Edit from the main tool bar and click on Group.
This combines all four lines into one object.





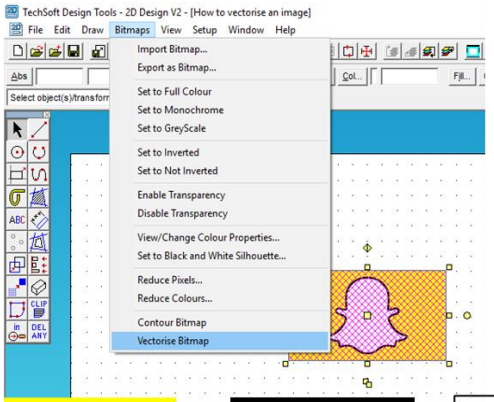
Group – Grouping an object makes it easier to move around and to resize. Use the quick group tool to group and ungroup a collection of objects.

Manufacturing Processes

CAD/CAM

(Computer Aided Design/Computer Aided Manufacture)

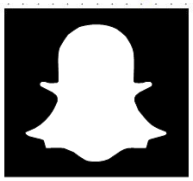
How to vectorise an image.....



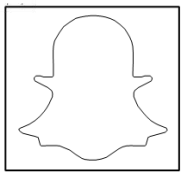
Find an image that you would like to use
To **vectorise**, follow the instructions:

- Go to Bitmaps
- Vectorise Bitmap
- A hand will appear, use this to select the image
- Set to Monochrome
- Slide the luminance bar to get the best quality image
- Then select OK
- Then select OK again
- Select the object
- Select Fill at the top (next to col)
- Select 'No Fill'
- Select OK

1. Bitmap Image



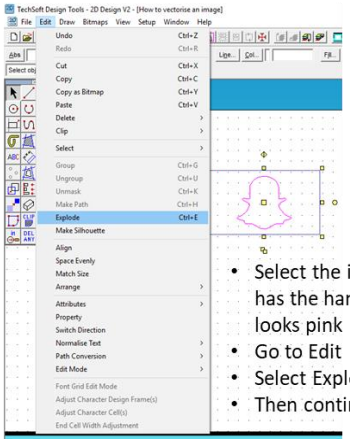
2. Vectorised Image



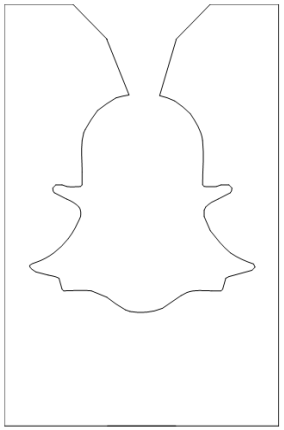
3. Outline Image with no 'fill'

4. Parts of image deleted to create a silhouette

How to delete parts of an image.....



- Select the image so it has the handles and looks pink
- Go to Edit
- Select Explode
- Then continue



Re-size your image to fit into the template that your teacher has given you. You have successfully drawn the design for your mould.

Design and Technology

DYSTOPIAN FICTION

Key Vocabulary

Dystopia: an imagined state or society in which there is great suffering or injustice, typically one that is totalitarian or post-apocalyptic.

Revolution: a forcible overthrow of a government or social order, in favour of a new system.

Totalitarian: relating to a system of government that is centralized and dictatorial and requires complete subservience to the state.

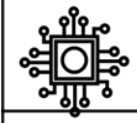
Inequality: a lack of fairness or justice.

Nihilistic: rejecting all religious and moral principles in the belief that life is meaningless.

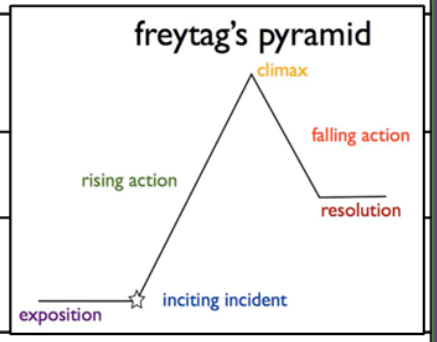
Key Context

The Industrial Revolution		Scientific and technological inventions created societal fear and religious uncertainty which led writers to explore how this could lead to a Dystopian future.
Revolutions		1789 French Revolution 1917 Russian Revolution
War		War is destructive both to humanity and the natural environment.
Nature		The power of nature to destroy (natural disasters) and the aftermath of those events is a key feature of dystopian literature.

Central Themes of Dystopian Literature

	**Didactic:** intended to teach, particularly in having moral instruction as an ulterior motive
	**Government control:** The government abuses their power and the people live in fear – often watched, listened to, and recorded.
	**Environmental destruction:** An imagined future where humanity has destroyed the earth.
	**Technological control:** A future where technology – often robots – have taken over and man has lost control.
	**Survival:** The protagonist fights to survive any of the themes mentioned here.
	Loss of individualism: People are split into similar groups/classifications and lose their freedom and imagination. Often dressed the same.
	War: The after-effects of war on civilisations and humanity. The destruction of order and a life of chaos.

Narrative **Vocabulary / Short Story Structure**

Narrative hooks 	**The <u>subtle</u> or puzzling hook** These appeal to the reader's curiosity and immediately encourage questions of the story. 	**The visual or <u>atmospheric</u> hook** This is descriptive, appeals to the reader's senses: sight, sound, smell, touch/feel, taste. 
	The '<u>In medias res</u>' opening The story starts in the middle of the action. 	**The <u>Emic</u> opening** An exposition that explains everything the reader needs to know. 
Inciting incident 	An event that introduces conflict and sets everything else that happens into motion. E.g. in Harry Potter, the inciting incident takes place when Harry receives his letter from Hogwarts.	
Rising Action 	This is the main part of a story where most of the conflict and action occurs. There should be a significant even for the protagonist that moves the plot forward.	
Climax	The most intense, exciting, or important point of a story.	
Falling Action	The moment in a story where the action begins to conclude; it moves the story toward a conclusion and resolution of conflict.	
Resolution	The conclusion of a story's plot and conflict. Also known as the denouement, the resolution is a literary term for the final plot points that occur after a story's climax and falling action. Sometimes a story may be left open for interpretation – this is called a cliffhanger.	

Grammar and Punctuation	Definition
Direct Speech 	Put speech marks ("…") around speech and before you close them make sure that you punctuate (usually with a comma). For each new person that speaks, you need to start a new line.
Ellipsis •••	Set of dots which denote missing information.
Adverbial phrases	Subordinate clauses which provide additional information in a sentence, often positioned at the start of a sentence.
Time phrases 	A phrase which gives reference to the time.
Frequency adverbials	A phrase/ adverb which gives reference to how often things take place.
Place adverbials	Adverbial phrases which give reference to where the action is taking place.

Language Features	Definition
Adjective	A word added to or grammatically related to a noun to modify or describe it.
Metaphor	A figure of speech in which something is described as though it IS something else (non-literal).
Simile	A comparison of two things using the terms like or as.
Personification	Applying human qualities or characteristics to inanimate objects.
Semantic field	A collection of words that are related to each other thematically, by their meaning.
Pathetic Fallacy	A device in which human emotions are attributed to aspects of nature – e.g. weather used to reflect mood.
Zoomorphism	Figurative language that characterises people, objects, places, and ideas with animal attributes.

Checklist for effective narratives

- An attention grabbing first sentence
- Clear description of setting
- Well described characters
- Information to establish tone/atmosphere
- Details to allow reader to understand what is happening (plot)
- Use of enigma/mystery – questions that need answering
- A hook – a way to draw the reader in to the story – could be through the use of one of the other features
- Clear sense of genre (genre means what type of story it will be e.g. mystery, horror, bildungsroman, thriller, romance etc.)
- Varied openings
- Varied sentence structure
- Upgraded or ambitious vocabulary
- A sense of pace
- A sense of action – that something is happening
- A moral purpose

Structural Features		Definition
Catalyst		An incident (often at the start) which starts the narrative.
Tension		Mental or emotional strain in a text.
Narrative/ narration		Spoken or written account of events – story. / Style or process of telling a story.
Omission		The deliberate "leaving out" of key information.
Narrative focus		What the writer chooses to focus the reader's attention toward.
Shift in focus		When the writer moves the reader's attention to something else.
Flashback		When the narrator or protagonist remembers back to a time prior to the setting or time before the main story.
Foreshadowing		A narrative device in which suggestions or warnings about events to come are dropped or planted.

Romeo and Juliet Knowledge Organiser

	PLOT
Prologue	The Chorus gives an overview of the key events and themes in the play. We learn of a long-standing hatred between two families in the Italian city of Verona, and this feud affects the whole community.
Act 1	Capulet's servants, Sampson and Gregory, pick a fight with Montague's servants. Benvolio tries to stop the fight and encourages Tybalt to do the same, but he refuses and the violence escalates. The Prince arrives and threatens death for the next person to fight in public. Meanwhile, Romeo is broken-hearted over Rosaline so Benvolio encourages him to go to the Capulets' masked ball. Romeo falls in love with Juliet at first sight and they kiss. Only then do they learn of each other's' identities.
Act 2	Romeo scales the wall of the Capulet orchard and watches Juliet on her balcony. She wishes he was not a Montague. He signals his presence, they talk and declare their love for one another, and make plans to marry. Friar Laurence warns Romeo not to rush but agrees to help because he thinks the marriage will end the feuding.
Act 3	Benvolio and Mercutio cross Tybalt, who is looking to duel Romeo because of his attendance at the Capulet ball. Newly-married Romeo refuses to get involved and Mercutio is drawn into the fight instead and is killed. Romeo, blinded by fury, then kills Tybalt. He hides in the Friar's cell as Escales decides to banish him. He is distraught but he and Juliet spend the night together. Meanwhile, Capulet brings the wedding between Juliet and Paris forward and when told, Juliet refuses to obey and Capulet threatens to disown her.
Act 4	Juliet seeks the Friar's help. He gives her a sleeping potion which will give the impression she is dead, and says he will write to Romeo and let him know. Juliet returns home and makes peace with her parents before taking the potion. When the Nurse cannot wake her the next morning, they fear she is dead and take her to the family tomb.
Act 5	The Friar's letter does not reach Romeo so when Balthazar, his servant, reports of Juliet's death, Romeo buys poison. Arriving at the tomb, he fights and kills Paris. He says goodbye to Juliet, drinks the poison and dies. Juliet wakes, realises what Romeo has done and stabs herself with his dagger. Following the Friar's explanation of events to Escales, the Capulets and Montagues decide to reconcile.

Cast and Characters

Romeo Montague: Heir to the Montague family. Intense, intelligent, quick witted, and loved by his friends.
Juliet Capulet: Naïve and sheltered at the beginning but develops into a woman with strength. Grounded.
Friar Laurence: A Franciscan monk and a friend to both Romeo and Juliet.
Nurse: Juliet's best friend and confidante, and in many ways is more her mother than Lady Capulet is.
Benvolio: Romeo's cousin who is less quick witted than Romeo and Mercutio, and tries to keep the peace.
Mercutio: Romeo's close friend. Wild, playful and sarcastic. Good-humoured.
Tybalt Heir to the Capulet family and Juliet's cousin. Quick to anger and consumed by issues of family honour. Hates the Montagues.
Capulet: Juliet's father: loving but controlling.
Prince Escales: Leader of Verona, concerned with keeping order between the warring families.
Paris: Prince Escales' kinsman and Juliet's suitor.

The universal gold	
Punishment as consequence for sin 	**An exploration of the consequences of sin** (crime and punishment). **Death as punishment for sin and subverting the Natural Order. Biblical teaching** emphasises the importance of **confession** and absolution. There is the belief that if we do not repent for our sins, we will suffer damnation.
The cyclical nature of human life. 	**Osepnskey's theory of time:** When we die, we re-enter our life again from the beginning, unless we learn from our mistakes. As humans we need the the opportunity to **learn from the mistakes of the past**. The two feuding families fail to learn from their mistakes until they suffer catastrophic loss
Exploration of gender roles 	**Exploration of gender roles –women as the second sex.** De Beauvoir's **feminist theories showing** women as **subservient, restricted and objectified.** Men as victims and perpetrators of toxic masculinity.

Historical and Social Context

Queen Elizabeth I – She was queen while Shakespeare was writing, and supported him. Elizabeth I made Protestantism the official religion of England, which angered many Catholics, and led to much conflict. Shakespeare may be referencing this in 'Romeo and Juliet', with the two warring families.

The role of women in a patriarchal society: Elizabethan England was a society controlled by men. Women were seen as the weaker sex and were expected to be ruled over by men. Women needed to be meek and mild, and most importantly, obedient to their fathers and later their husbands.

Courtly Love: a medieval tradition of love between a knight and an unattainable noblewoman common in European literature of the time. The love of the knight for his lady was regarded as an overwhelming passion and the relationship was typically one sided.

Duelling and the concept of honour: Honour was hugely important at the time, and maintaining the honour of your family name was crucial. If you were challenged to a duel and you refused, you would be deemed a coward, thus damaging your honour and the status of your family.

Arranged marriages: Marriages amongst the wealthy were arranged by parents, and were not about love. Mostly the marriages were arranged for the purposes of status and power, and improving the social standings of families.

The Catholic setting of the play: The play is set in Italy, which is a Catholic country. Religion was extremely important: marriage vows were sacred – once made, they could not be broken, and suicide was considered a sin.

The Humours – Elizabethans believed the body contained four 'humours': blood, phlegm, yellow bile and black bile. The amount you had of each determined your personality. People with too much phlegm are emotional. People with too much blood are irresponsible and gluttonous. People with too much yellow bile are violent and vengeful. People with too much black bile are depressed and self-centred.

Bubonic Plague/Black Death – a plague that killed many people. Sufferers were quarantined in their houses, with a red 'X' painted on the door, and left to die.

Key Themes

Love 	In the play, love is an overpowering force that supersedes all other values, emotions, and loyalties. Through their love, Romeo and Juliet conspire to go against the forces of their entire social world. Romeo returns to visit Juliet at points, even though he is well aware of the threat of death. At times, love is presented as fickle (Mercutio's speeches, Romeo + Rosaline).
Conflict 	A serious disagreement or argument. We see the conflict between the Montagues and Capulets which makes 'civil hands unclean'. This demonstrates how violence leads to the degradation of man and morality.
Family 	The play centres around two key families within Verona. It calls into question the expectations put upon family duty: marriage, loyalty and love. Our 'star crossed lovers' battle with their duty to their family which comes into conflict with their love for one another.
Power 	Throughout the play we see shifting power dynamics and influence. Parents over their children. Men over women. Religion through society. Society over the people. The titular characters spend the majority of the play subverting society's power dynamics in the pursuit of their love.
Death and revenge 	Death lurks throughout the play, acting as a motivator for revenge and instilling a sense of duty in those who feel they have been wronged. The use of suicide (which translates as self-murder) would have been seen as truly tragic as this would bar the victims from heaven according to Christianity.
Fate and Destiny 	In the first address to the audience, the Chorus states that Romeo and Juliet are 'star-cross'd' lovers, meaning that fate had intended for their paths to cross, and that fate controls their actions. A series of unfortunate accidents towards the end of the play thwart Friar Laurence's plan and eventually manifest in both Romeo and Juliet committing suicide, thus adding to the sense of fate.

Dramatic devices

Dramatic Irony – The audience knowing something that a characters doesn't.
Soliloquy – One person speaking their thoughts aloud on stage but directed at themselves.
Foreshadowing – Giving a hint or allusion to a future significant event.

The Tragic Genre

Tragic hero - The main character who has a fundamental flaw in their character which will lead to their death.
Hamartia – The fatal flaw in a character.
Catharsis – The release of intense emotions
Peripeteia – A sudden reversal of fortune.

1. Food Hygiene

What is food hygiene?

Food hygiene is about preventing food poisoning. Food poisoning bacteria grow very quickly in food if it is not handled properly, cooked properly or stored properly.

There are laws which control how food manufacturers can prepare and sell food. Statistics show that you are more likely to get food poisoning from a home -made meal than you are from a bought one.

Food poisoning

The illness resulting from eating food or drinking food/drinks containing poisonous substances including bacteria, viruses, pesticides, or toxins.

Usually need millions of bacteria to cause a food poisoning illness.

The multiplication of bacteria within the food plays an important part in the disease

How bacteria grow

In ideal conditions where there is Moisture, Food and Warmth (37degrees centigrade is ideal), bacteria can double every 10 to 20 minutes. They do this by dividing in to two. This is called *Binary Fission*

In order to grow and multiply germs need:

- Time
- Moisture
- food
- Warmth

Food poisoning is more likely to affect people with lowered resistance to disease than healthy people who might show mild symptoms or none at all.

Food poisoning is more likely to affect people with lowered resistance to disease than healthy people who might show mild symptoms or none at all.

Vulnerable people

The following are particularly vulnerable to food poisoning: -

- Elderly or sick people
- Babies
- Young children
- Pregnant women

Pathogenic Bacteria	Source	Symptoms	Average Onset Time
Salmonella 	Raw meat Poultry and eggs Pests and pets Human and animal intestines Dirt and refuse	Vomiting Nausea Diarrhoea Abdominal pain	12 - 36 hours after eating
Staphylococcus aureus 	Human nose, throat, ears, skin Septic wounds Animals and raw milk	Vomiting Abdominal pain Low temperature	1 – 7 hours after eating
Clostridium perfingens 	Raw meat and poultry Soil, dirt and refuse Raw vegetables Pests and pets Human and animal intestines	Diarrhoea Abdominal pain	12 - 18 hours after eating
Clostridium botulinum 	Soil Marine sediment Raw fish and meat Animal intestines	Paralysis Breathing and swallowing difficulty Diarrhoea followed by constipation	12 – 36 hours after eating
Bacillus cereus 	Dust and soil Cereal, rice and pasta	Nausea Vomiting Abdominal pain Diarrhoea	1 - 5 hours or 8 –16 hours depending on the form of the food poisoning

High risk foods

These foods tend to be high in protein and are moisture. They can include food like: raw and cooked **meat**, including **poultry** such as chicken and turkey, and foods containing these, such as **casseroles**, curries and lasagne. **dairy products**, such as custard and dairy-based desserts like custard tarts and cheesecake. eggs and egg products, such as quiche. smallgoods such as hams and salamis.

The 4C's for Good Food Safety

- Cooking
- Cleaning
- Chilling
- Cross contamination

Core temperatures:

Food Hygiene and Safety:

Before Cooking:

1. Put your apron on
2. Roll your sleeves up
3. If you have long hair tie it back with a bobble
4. Wash your hands with warm and soapy water
5. Dry your hands – moisture harbours bacteria

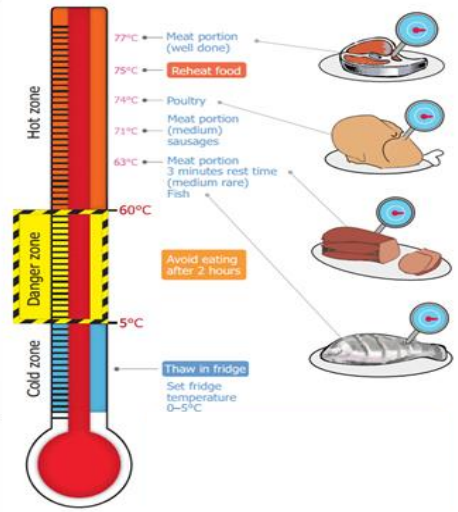
When Using The Cooker:

1. Turn pan handles in away from edge of cooker
2. Always turn hob off when not in use
3. Never leave food cooking on the hob unattended
4. Be careful not to let food boil dry
5. Never touch an electric hob when turned off, it may still be hot
6. Don't leave metal spoons in pans when cooking as they can become very hot.
7. Always use oven gloves when removing food from the oven

The Tidy Tick List:

You should work as a team to make the food room clean and sparkling!

✓Clean and dry dishes
✓No streaks and residue left on the glass bowls
✓Clean dry work surfaces
✓Clean sparkling hobs
✓Clean cupboard doors and drawers
✓Clean and dry sinks with no suds or residue food



2. Commodities - Meat, Poultry,

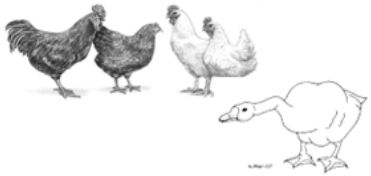
MEAT Meat is an important food commodity which provides nutrients essential for health. It is the muscle tissues of dead animals and birds are classified as meat and poultry, whereas the edible internal organs are called Offal. Game refers to wild animals

Beef		British reared breeds such as Aberdeen Angus, Longhorn and Hereford have traditionally been considered to provide the best beef in the world.
Organic Beef		Organic beef and beef from rare breeds, is the most expensive to buy as the highest farming standards will have been needed at all stages of the animal's life.
Wagu Beef		Wagu meat comes from a group of Japanese breeds whose meat is renowned for its high level of fat marbling.
Veal		Veal meat comes from the male calves of cows bred for dairy, slaughtered when they are a few months old.
Meat from sheep		Lamb is sheep under one-year-old. Hogget is a lamb older than one year. Mutton is the meat of older sheep.
Meat from Pigs	**Pork**	This is all the meat that comes from pigs. To add extra choice pork can be cured and smoked.
	Ham	This is a specific cut of the thigh part of the pig which has been cured and or salted.
	Bacon	This is produced by curing pork with salt or in brine solution. After maturing it is sold as unsmoked bacon. It can be smoked to add extra flavour to the bacon. The meat is usually darker in colour and has a distinctive flavour.
	Gammon	This is cured whole leg of pork. It is cut into slices and eaten hot as gammon steaks. It could be eaten cold as ham. Some hams may be cured and smoked such as 'honey roast'. This adds a distinctive flavour and extends the shelf-life of the product.

Other sources of meat can include:

Horsemeat	
Goat	
Rabbit	
Venison	

Poultry



Offal: Meat is the edible internal organs are called Offal.

Know your fish cuts

Suprême Délice

Paupiette Gougons

3. Commodities Fish

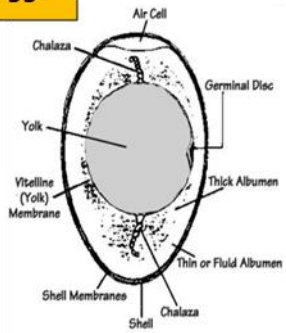
Classification	Type	Examples
White	White fish have less than 5 per cent fat (oil) in their flesh, which is why their flesh appears white. Instead, they have oil in their liver. Examples of white fish are: cod, haddock, halibut, whiting, coley, plaice and Dover sole. White fish are round (e.g. cod, haddock and whiting) or flat (e.g. plaice and sole).	
Oily	have between 10 and 20 per cent fat (oil) in their flesh, which makes their flesh quite dark. Examples of oily fish are mackerel, herring, pilchard, sprat, sardines and salmon.	
Shell	**Shell fish** are found in the sea. Shellfish are divided into: **Crustaceans** – these have a shell and legs. Examples include prawns, scampi, lobster, and crab. **Molluscs** – these have a shell but no legs and they often fix themselves to rocks. Examples include cockles, mussels, winkles and oysters. **Squid** and **Octopus** - are also classed as molluscs—even though their shell is inside! Fish produced in fresh water include trout and carp	

Ways of preserving fish. Salting - If enough salt is used, then the fish may keep for up to a year.
Smoking - Fish can be smoked using different techniques. Hot smoked fish are moist, lightly salted and fully cooked. They can be eaten without further cooking. Cold smoked fish are generally saltier in flavour and have less moisture. Cold smoking does not cook the fish. It merely adds a smoked flavour. Smoked fish and salted fish such as kippers and bloaters should have a firm flesh, shiny skin and a good 'smoky' smell. **Pickling -** Pickling fish was originally conceived as a way to preserve it. It is a common technique in Scandinavia.
Pickling is now used widely to add flavour and sharpness. **Canning -** Produces a moist, flaky product and makes the bones edible. Oily fish and shellfish such as tuna, salmon, and prawns can be canned in brine, tomato sauce or oil which adds flavour to the fish.
Drying - Fish are laid out to be dried.
Freezing - Packaged in blocks or freeze in water brushing glaze on top.

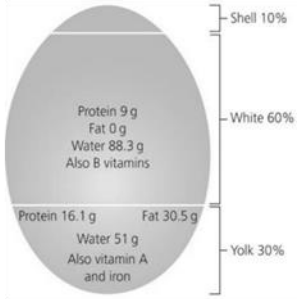
Cuts of fish:
Large fish (e.g. cod, coley, haddock) are cut into fillets, steaks or cutlets.
Small and medium fish (e.g. herrings, mackerel, rainbow trout) are usually sold whole and can be filleted by removing the backbone, tail, head and fins.
Very small fish (e.g. sprats and whitebait) can be fried and eaten whole.

4. Commodities Eggs

Eggs are an important food commodity which provides nutrients essential for health. Eggs provide a variety of different textures, colours and flavours to dishes. Eggs can be used in a variety of different ways.



Nutrients in an egg



The structure of a hen's egg

The shell: consists of an outer cuticle (a transparent, protective coating, a true shell and inner membranes. The shell is porous (pores are tiny holes), and therefore allows the developing chick to obtain oxygen. At one end of the egg, the membranes separate into an air space, to supply the chick with oxygen.

The air space: increases in size as an egg gets older, because water is lost from the egg and air is drawn in. The fresher the egg, the smaller the air space. This is why fresh eggs sink in water and rotten eggs float.

The yolk: full of goodness (vitamins A, D, E & K) and has a higher concentration of protein than the white.

The white: contains riboflavin and other B vitamins and a small trace of fat

The anchors/chalazae: white strands attached to the thick albumen which anchor the yolk in the middle of the egg.

Organic	These are more expensive as hens have to have access to organic land and eat an organic diet.
Free Range:	The hens are reared in large barns with daytime access to outside runs. There are no feeding guidelines (by products and GM foods to increase productivity and profit margins)
Barn:	The hens are reared in barns with no outside access. They are provided with perches, platforms, nest boxes and litter areas. Areas can be quite crowded with up to 16,000 hens in a barn—depends on the keeper.
Caged;	This makes up approximately 78% of the market. Hens are crammed into a cage so small they can't stretch their wings. The space they have is about the size of an A4 (this page) piece of paper. They cannot follow their natural behavior patterns. Their bodies suffer through lack of exercise. Birds can lay dead for days before they are taken out of the cage. Debeaking, brittle bones, tumors and pecking are common.

How to grade Eggs

All eggs sold at grocery stores must meet strict standards. Only those of high quality reach the consumer. Eggs must be checked for interior quality by candling, a process where eggs are passed over a strong light to show the shell and interior.

Grade A: Thick white Round, well centered yolk Small air cell (less than 5mm deep)Clean, un-cracked shell with normal shape

Grade B: Mostly used for commercial baking or go to hospitals, restaurants, etc. very few are sold at retail stores. Yolk is slightly flattened; white is thinner Shell is un-cracked and may have a rough texture; and/or be slightly soiled and stained.

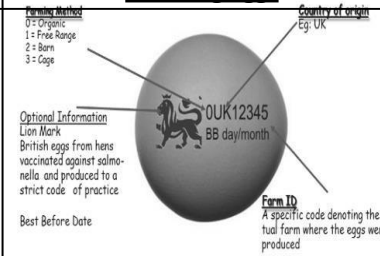
Grade C: The lowest egg grade, these are used in the production of processed egg products only. They are not sold in retail stores Yolk is flattened and may be oblong in shape; white is thin and watery. Shell may be cracked and/or stained

Storing eggs

Eggs should be stored in the fridge or a cool place away from strong smelling foods. Eggs should be stored blunt end upwards. They should be removed an hour or so before use, because cold eggs do not whisk well.

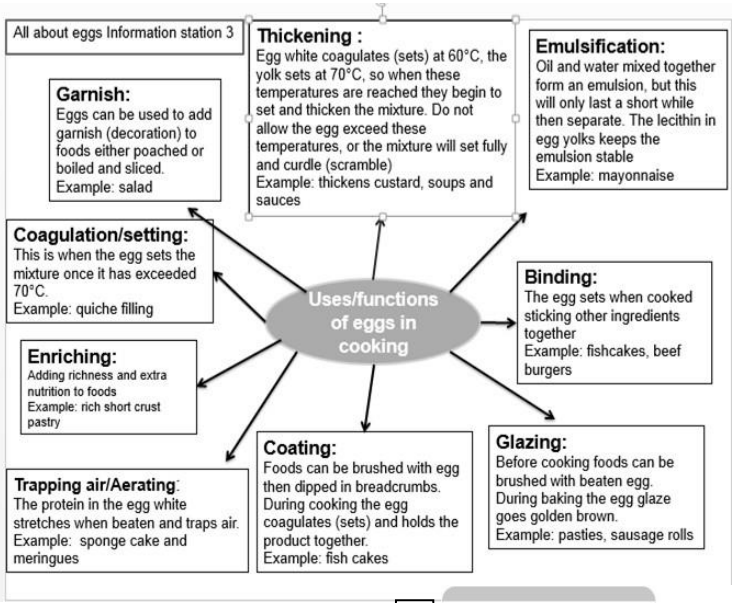
Eggs stay in good condition if stored correctly for two to three weeks. Eggs cannot be frozen whole but the whites and yolks can be frozen separately in containers. Always use eggs by the best before date. Eggs can be preserved by pickling.

Labelling Eggs



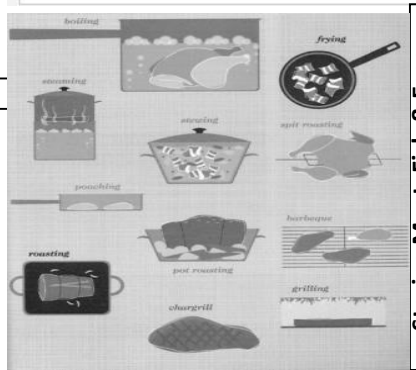
Cooking methods for Meat, Fish & Eggs

Functions of eggs

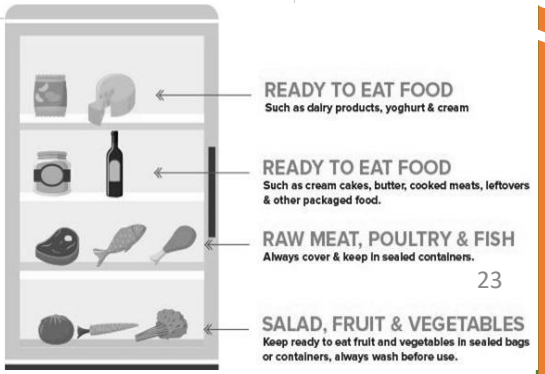


Sizing Eggs

Size	Weight
SMALL	53g + under
MEDIUM	53-63g
LARGE	63-73g
EXTRA LARGE	73g+ over



Storing Meat, Fish & Eggs



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EU Law
Under EU law, all meat and poultry for human consumption has to show traceability. Under the law, traceability means the ability to track any food, feed, food-producing animal or substance that will be used for consumption through all stages of production, processing and distribution.

Red Tractor
The Red Tractor logo gives information on where the food has been farmed, processed and packed. Food given to animals on farms displaying the Red Tractor logo is safe from them to eat with no risk of contamination to the meat or milk produced. The animals' health and welfare is regularly checked.
Farmers under this scheme must also use responsible farming methods not to pollute land and minimise the impact of their farming methods on wildlife, fauna and flowers.

Red Tractor Farm Assurance | DAIRY FARMS

RSPCA Assured

Previously *Freedom Food*, this is the RSPCA's ethical food label dedicated to animal welfare. The RSPCA Assured label makes it easy to recognise products from animals that have had a better life. It is found on the packaging of meat and dairy products which have met animal welfare

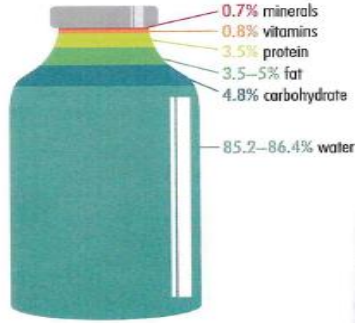
Animal Welfare
There are symbols on packaging to show that meat and poultry have met welfare standards. Animal welfare refers to the well- being of animals and covers areas such as the animals' access to fresh water and a diet to maintain full health. It also gives assurance that animals are reared free of any discomfort, pain, injury or disease, and are provided with adequate shelter and a comfortable resting area.

5. Commodities – Milk

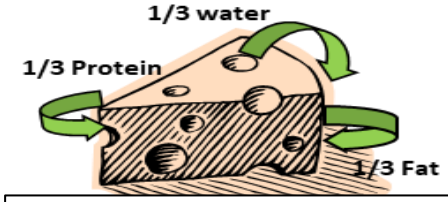
Milk is an important food commodity which provides nutrients essential for health. Milk is considered nature's most perfect food. A variety of different foods can be made from milk.
Milk is a pale liquid produced by the mammary glands of mammals. It is the primary source of nutrition for infant mammals (including humans who breastfeed)

How milk is used:
As a drink on its own or flavoured – for its nutritional content.
Added to cereal to improve the nutritional content, it changes the texture
As an essential ingredient in batter, sauces and custards—it allows Gelatinisation., combining with egg to coagulate into a soft product.
In baked products such as cakes, biscuits and bread, providing moisture to help them rise and produces a soft texture as it stops starch and fat clumping together.
The fat is separated from the rest of the milk to make cream
When acid is added it curdles and becomes solid or semi-solid, making cheese
Cream is churned (moved around quickly—beaten) to make butter
Yoghurt is fermented milk. A bacteria culture is added.
This breaks down the protein and makes it coagulate

Where does Milk come from?
Milk can come from, a cow, a goat, a sheep and even a horse. Milk can also be made from soya beans, rice and wheat.



Types of Milk	Description
Whole milk	Milk with nothing added or removed. Fat content: 3.9%.
Semi-skimmed milk	The most popular type of milk in the UK. Fat content: 1.5%
Skimmed milk	Milk that has had most of the fat removed. Fat content: 0–0.5% (average 0.1%)
1% fat milk	Offered to consumers who like the taste of semi-skimmed, but want milk with a lower fat content.
Organic milk	Milk from cows that have been grazed on pasture that has no chemical fertilisers, pesticides or agrochemicals used on it.
UHT milk	Milk that has been heat treated to give it a longer shelf life. Once opened it must be treated in the same way as fresh milk.
Lacto-free milk	Milk that has had the milk sugar (lactose) removed, making it suitable for those who have an intolerance to lactose.
Soya milk	Made from the liquid of cooked soya beans. It is suitable for vegans and substitute milk for those who are allergic to dairy food.
Goat's milk	Another substitute milk for people allergic to cow's milk.
Evaporated milk	A concentrated, sterilised milk product. It has a concentration twice that of standard milk. Evaporated milk is heat treated and then evaporated under reduced pressure, at temperatures between 60ºC and 65ºC The evaporated milk is poured into cans, which are then sealed. At this point the cans are moved to a steriliser where they are held for 10 minutes.
Condensed milk	Concentrated in the same way as evaporated milk, but with the addition of sugar.
Dried milk powder	Produced by evaporating the water content of milk using heat.
Almond and coconut milk	An alternative for vegans or people with allergies



6. Commodities – Dairy Produce

Cheese can be described as a solid or semi-solid form of milk. It is sometimes referred to as a fermented dairy food. It is made from cows', ewes', goats' or buffalo milk.

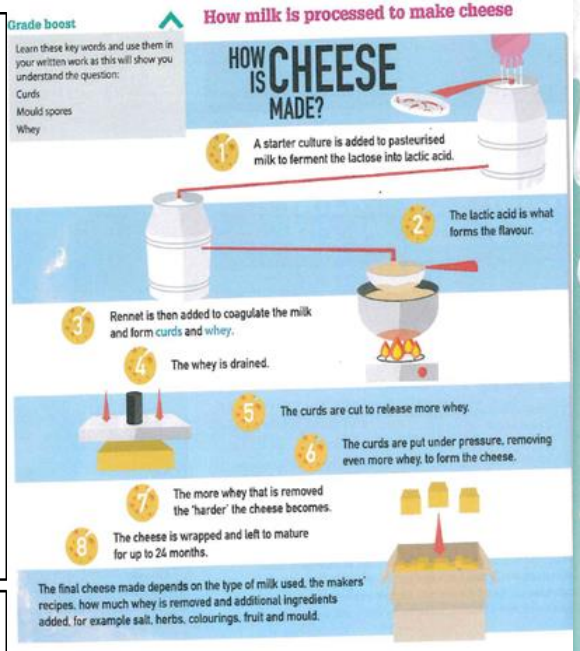
Ways to preserve milk - Heat treatments Pasteurised A mild heat treatment. It only kills pathogenic bacteria to make it safe to drink. It extends the shelf life. It needs to be kept chilled. There is no change in flavour or nutritional value. The fat (cream) rises to the top.

UHT or Long life Milk is sterilised—heated to 100°C for 20 minutes to kill all bacteria. It also destroys the B vitamins. Milk is homogenised. Milk is packaged using aseptic packaging.

Evaporated Milk Evaporated milk is a concentrated, sterilised milk product. It has a concentration twice that of standard milk. The process of producing evaporated milk involves standardising, heat treating and evaporating the milk under reduced pressure, at temperatures between 60ºC and 65ºC. It is then homogenised and cooled. The evaporated milk is poured into cans, which are then sealed. At this point the cans are moved to a steriliser where they are held for 10 minutes. A cooling stage follows and the cans are then labelled and packed.

Condensed Milk Condensed milk is concentrated in the same way as evaporated milk, but with the addition of sugar. It is not sterlised but is preserved by the high concentration of sugar. It can be made from whole milk, semi skimmed or skimmed milk. The heat treatment used consists of holding standardised milk at a temperature of 110- 115ºC for one to two minutes. The milk is then homogenised, the sugar added and the sweetened milk is then evaporated at low temperatures (between 55-60ºC). The concentration of the condensed milk is now up to 3 times that of the original milk. The milk is then cooled rapidly to 30ºC and packaged. Sweetened condensed milk is commonly used in the sugar

Dried Milk Powder Milk powder is produced by evaporating the water from the milk using heat. The milk is homogenised, heat treated. Skimmed milk powder can be mixed easily with water; however whole milk isn't easily reconstituted due to its



Uses of Cheese

Cheese can:

- provide flavour (e.g. when making a white sauce adding cheese gives improved flavour)
- be used to make both sweet and savory dishes.
- provide colour (e.g. when sprinkled on top of dishes and grilled or baked it will turn an attractive brown colour)
- provide texture (e.g. when melted in can provide a soft, moist and stringy texture)
- increase the nutritional value of a dish

Soft cheeses have the most moisture

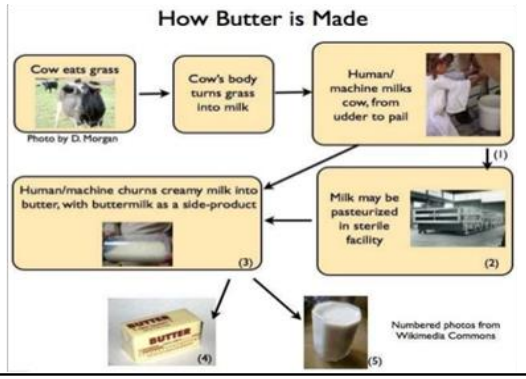
- Some soft cheeses are left to ripen such as Brie and Camembert
- Cottage cheese has a bacteria added to it that makes it clump together in lumps
- Ricotta is a soft whey cheese - low in fat
- Moulds grow on the outside and help to soften the curds inside

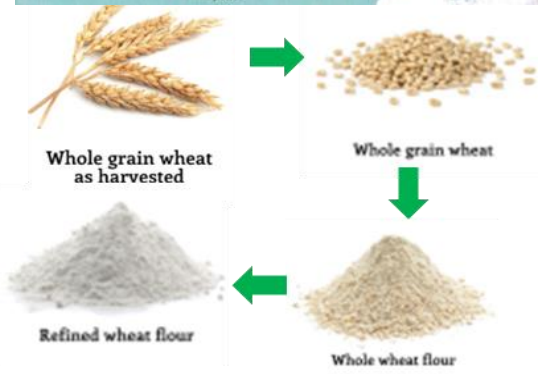
Semi- hard cheeses are 'pressed' cheeses - but not pressed as much as hard cheeses! are examples

- Lancashire, Wensleydale, Caerphilly, Edam, Gouda Port Salut, St Paulin
- Feta cheese is preserved in a brine solution
- Mozzarella is a cheese that is cooked during its process. This gives it its stringy texture

Hard cheeses have the least moisture. Examples are: Cheddar, Leicester, Double Gloucester, Cheshire Gruyère, Emmental, Parmesan, Parmesan is the hardest cheese of all!

Butter is made from the fat found in the cream.





How should cream be stored:
All fresh cream must be stored in a refrigerator at 5'C. sterilised/long life/ UHT cream has a long shelf life and can be stored, unopened, in a kitchen cupboard. However once opened this cream must be treated the same as fresh cream.

Cream is derived from the fat found in all fresh milk. Cream is the concentrated fat, which has been skimmed from the top of milk. **Types of cream:** Single cream, Double cream, Whipping cream, Clotted cream, Ultra heat treated (UHT) cream. Cream is used to add a creamy texture and flavour to dishes. The correct cream must be used for specific tasks because different types of cream have different properties – for instance single and clotted creams cannot be whisked for pipping whereas whipping and double cream will aerate when whisked.

Yoghurt is made from milk. It is made by adding harmless edible bacteria to the milk, which causes it to ferment. This means the carbohydrate (sugar) in the milk, which is lactose, is converted into lactic acid by the bacteria. The lactic acid will set the milk's protein, which will thicken it. The lactic acid will also give the yoghurt its characteristically tangy flavour. **Different yoghurts** can be made from different types of milk. Some yoghurt will include additional ingredients such as sugar, which is used to sweeten it (e.g. fruit and other flavours such as honey or vanilla).**Examples of types of yoghurt: Set yoghurt**: is set in the pot in which it is sold. Has a firmer texture than other yoghurts. **Live yoghurt:** this has been fermented with live culture bacteria that are still living. **Greek (strained) yoghurt:** made from cows' or ewes' milk. It can be quite a thick yoghurt and is higher in fat. **Nutritive value of yoghurt:**Yoghurt will provide the following nutrients: Protein,Fat Calcium ,Carbohydrates, Vitamins, Water **Storage of yoghurt -** Store in the refrigerator between 1 and 5°C. Use before the use-by date.

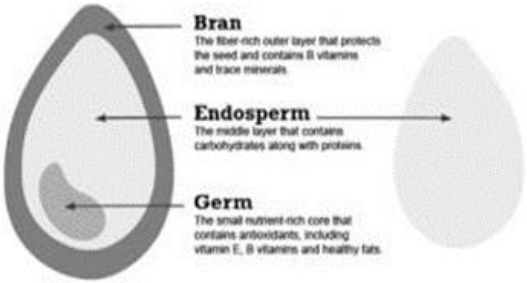
Bread is a staple food in much of the world. It is made from strong flour, yeast, salt and water. Fat is often added to extend the shelf life of bread. Sugar is added for sweetness and to add colour.

6. Commodities – Dairy Produce

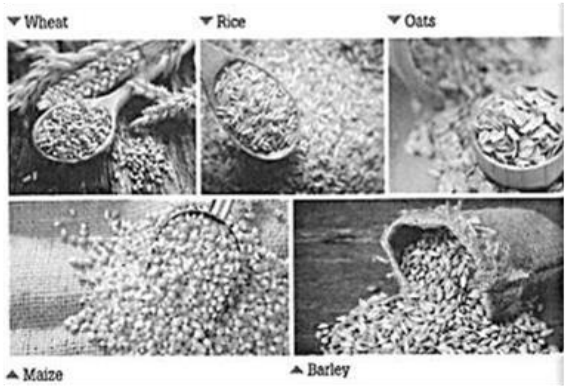
7. Commodities: Cereals

A 'wholegrain' is made up of three elements:
- a fibre-rich outer layer – the bran
- a nutrient-packed inner part – the germ
- a central starchy part – the endosperm.

Whole Grain vs. "White" Grain



Cereals provide a valuable source on energy in the diet, as well as other nutrients if the wholegrain is used. These include: Fibre, Protein, Carbohydrates, VitaminE, B vitamins, Fat, Iron.



How cereals are processed:
Processing the flour after milling
After the milling process, different grades of flour are produced by sifting, separating and regrinding the flour several times. These grades are combined as needed to produce different types of flour.
Small amounts of bleaching agents (to make the flour white) and oxidizing agents (to enhance the baking quality of the flour) are usually added to the flour after milling.
Nutrients calcium, iron and B group vitamins are added to. This is called fortification. Baking powder will be added to make self-raising flour. **Flour:**Flour comes from different types of cereals, e.g. rye and wheat. **Wheat flour** is one of the main flours produced. There are different strengths of wheat flour depending on its uses: **Strong flour** is used in bread making and comes from winter wheat, which is a hard **Wholemeal flour** is made from the whole wheat grain, nothing is added or taken away. It is referred to as having 100% extraction rate. It is a good source of dietary fibre. **Brown flour** usually contains about 85% of the original grain. Some bran and germ have been removed. **White flour** usually contains around 70-72% of the wheat grain. Most of the bran and wheat germ have been removed during the milling process. **Granary flour** is made by adding malted wheat (which has been toasted and flaked), to any type of flour but usually it is added to wholemeal or brown flour. **Stoneground flour** is wholemeal flour ground in a traditional way between two stones. **Organic flour** is made from grain that has

Pasta is made from strong wheat known as durum wheat. This type of wheat contains more protein than common wheat. During the milling process the wheat produces semolina. This is the coarsest grade of the starchy endosperm. To make pasta, water is added to form a dough, which can be shaped or extruded (forced though an opening in a shaped plate and then cut to a specific size) to produce the type of pasta required. Other ingredients that can be added during the making of the pasta dough include eggs, oil, salt and various flavourings. Different shapes, sizes and styles of pasta are widely available to buy in shops. Various colours of pasta re also sold: Green pasta is made using spinach, which provides the colour as well as some flavour. Red pasta is made using tomato paste. Squid ink pasta or black pasta is dark grey, almost black in colour and is made using, as the name suggests, squid ink. This can sometimes give the pasta a mild seafood flavour. Dried pasta is popular due to its long shelf life and versatility. It can be combined with many other ingredients. Fresh pasta must be stored in a refrigerator. Fresh and homemade pasta can be frozen Homemade pasta must be allowed to dry and then stored in an airtight container in the refrigerator. Cooked pasta should be stored in an airtight container in the refrigerator. Rinsing with cold water after cooking will stop it sticking together.

Rice is one of the most popular staple foods eaten by the world's population.
- It is a very versatile commodity because it can be used to make both sweet and savour dishes
- Rice is served as part of a meal to provide bulk and a feeling of fullness.
- It is quick to cook
- It is a good store cupboard ingredient as it has a long shelf life and is easy to store.
- Rice can be quite bland in flavour. This can be improved by cooking it with flavoursome ingredients such as garlic and herbs, or by cooking the rice in stock instead of water.

Varieties of rice:
There are many different varieties of rice available in supermarkets and it is sold in a variety of different forms, for example boil-in-the-bag, easy cook and pre-cooked. Rice can be short grain or long grain and most types are available as brown or white rice.

Year 8 Half-Term 1 French Knowledge Organiser

Unit 1: Vive les vacances!

Point de départ

J'habite...	*I live*
en Angleterre / Écosse / Irlande (du Nord).	*in England / Scotland / (Northern) Ireland*
au pays de Galles	*in Wales*
J'ai / On a...	*I have / We have*
une semaine /deux semaines de vacances	*a week / two weeks of holiday*
en janvier / février (etc.).	*in January / February (etc.).*
à Noël / à Pâques.	*at Christmas / at Easter*
Je suis / Nous sommes en vacances...	*I am / We are on holiday...*
au bord de la mer.	*at the seaside*
à la montagne	*in the mountains*
à la campagne	*in the countryside*
en colo (en colonie de vacances).	*at a holiday camp*
chez mes grands-parents.	*at my grandparents' home*
C'est...	*It is...*
assez / très / trop / un peu / complètement	*quite / very / too / a bit / completely*
nul / sympa	*rubbish / nice*
ennuyeux / intéressant	*boring / interesting*
triste / marrant	*sad / funny*

Unit 1- Tu as passé de bonnes vacances?

Pendant les vacances...	*During the holidays...*
J'ai joué au tennis	*I played tennis*
J'ai mangé des glaces	*I ate ice creams*
J'ai retrouvé mes amis	*I met my friends*
J'ai écouté de la musique	*I listened to music*
J'ai acheté des baskets	*I bought some trainers*
J'ai regardé des clips vidéo	*I watched video clips*
J'ai nagé dans la mer	*I swam in the sea*
J'ai traîné à la maison	*I hung around the house*

Unit 2- Qu'est-ce que tu as fait?

Qu'est-ce que tu as fait pendant les vacances?	*What did you do during the holidays?*
J'ai visité un parc d'attractions	*I visited a theme park*
J'ai bu un coca au café	*I drank a cola in the café*
J'ai pris beaucoup de photos	*I took lots of photos*
J'ai vu un spectacle	*I saw a show*
J'ai fait une balade en bateau	*I went on a boat ride*
j'ai vu mes personnages préférés	*I saw my favourite characters*
J'ai fait tous les manèges	*I went on all the rides*
d'abord	*first*
ensuite / puis	*then / next*
après	*after*
finalement	*finally*
C'était...	*it was*
fantastique/génial/super!	*fantastic/great/super*
amusant/marrant/sympa	*fun/funny/nice*
intéressant/ennuyeux/nul	*interesting/boring/rubbish*
Ce n'était pas mal	*it wasn't bad*

Phonics!	
Nasel sounds	– en/an, un/in *vacances / ennuyeux / intéressant / on a / un peu*
é (in past participles)	*j'ai joué*
silent final *e*	*je joue*
u	*j'ai bu / j'ai vu*

Unit 3 – Tu es allé(e) où?

Tu es allé (e) où en vacances?	*Where did you go on holiday?*
Tu es allé(e) en vacances avec qui?	*Who did you go on holiday with?*
Je suis allé(e) en vacances avec...	*I went on holiday with...*
ma famille / mes parents / mes copains	*my family / my parents / my friends*
On est allé(e)s / Nous sommes allé(e)s...	*We went...*
en Espagne / France / Grèce	*to Spain / France / Greece*
au Maroc / aux États-Unis	*to Morocco / to the USA*
Tu as voyagé comment?	*How did you travel?*
J'ai voyagé...	*I travelled*
On a / Nous avons voyagé...	*We travelled...*
en avion / en bateau	*by plane / by boat*
en bus / en car	*by bus / by coach*
en train / en voiture	*by train / by car*

Unit 4- Quel désastre!

J'ai oublié mon passeport	*I forgot my passport*
J'ai cassé mon portable	*I broke my phone*
J'ai perdu mon porte-monnaie	*I lost my purse*
J'ai choisi le poisson	*I chose the fish*
J'ai beaucoup vomi	*I vomited a lot*
Je suis tombé sur la plage	*I fell over on the beach*
Je suis resté(e) au lit	*I stayed in bed*
	we missed
On a raté l'avion	*the plane*
On est arrivé(e)s en retard	*we arrived late*
en train / en voiture	*by train / by car*

Unit 5 - Mon voyage extraordinaire!

j'ai nagé dans la mer	*I swam in the sea*
J'ai fait de la voile	*I went sailing*
J'ai vu des dauphins	*I saw dolphins*

Year 8 Half-Term 1 French Knowledge Organiser

Unit 1: Vive les vacances!

Qu'est-ce que tu as fait?

J'ai visité *I visited*	un parc d'attractions. ma famille. mes amis.	J'ai bu *I drank*	un coca au café. un Orangina. un verre de vin blanc.	J'ai vu *I saw*	un spectacle. mes personnages préférés.	J'ai fait *I did*	une balade en bateau tous les manéges	et c'était *and it was*	nul – rubbish sympa - good cool – cool ennuyeux - boring super – great

Point de départ

J'habite I live	en Angleterre - in England au Pays de Galles – in Wales	et j'ai – and I have	une semaine de vacances– 1 week holiday deux semaines de vacances – 2 weeks holiday	en janvier /février – in January /Feb à Noël /Pâques – at Christmas / Easter

Tu as passé des bonnes vaccances?

Pendant les vacances During the holidays	J'ai joué au tennis J'ai mangé des glaces J'ai retrouvé mes amis J'ai écouté de la musique J'ai acheté des baskets J'ai regardé des clips vidéo	*I played tennis* *I ate ice creams* *I met my friends* *I listened to music* *I bought some trainers* *I watched video clips*	et	j'ai nagé dans la mer J'ai fait de la voile J'ai vu des dauphins	*I swam in the sea* *I went sailing* *I saw dolphins*

Tu es allé(e) où?

Je suis allé(e) I went Nous sommes allés(e)s We went	en Espagne /France/ Grèce au Maroc aux États-Unis	et	On a / Nous avons voyagé... en avion / en bateau en bus / en car en train / en voiture	*We travelled...* *by plane / by boat* *by bus / by coach* *by train / by car*	et	J'ai bu un coca au café J'ai pris beaucoup de photos J'ai vu un spectacle J'ai fait une balade en bateau	*I drank a cola in the café* *I took lots of photos* *I saw a show* *I went on a boat ride*

Quel désastre!

J'ai oublié mon passeport J'ai cassé mon portable J'ai perdu mon porte-monnaie	*I forgot my passport* *I broke my phone* *I lost my purse*	et	Je suis tombé sur la plage Je suis resté(e) au lit	*I fell over on the beach* *I stayed in bed*	et aussi	On est arrivé(e)s en retard en train / en voiture	*we arrived late* *by train / by car*	Quel désastre! Quelle horreur!	*What a disaster!* *How horrible!*

French

Year 8 Half-Term 2 French Knowledge Organiser

Unit 2: J'adore les fêtes

Unit 5- Mon voyage extraordinaire!

Normalement, pendant les vacances...	*normally, during the holidays...*
je vais en colo	*I go to a holiday camp*
je nage dans la piscine	*I swim in the pool*
je fais du sport	*I do sport*
je mange des hamburger-frites	*I eat burgers and chips*
Mais l'année dernière...	*but last year...*
j'ai gagné un concours	*I won a competition*

Point de départ

Noël	*Christmas*
Pâques	*Easter*
le 14 juillet	*Bastille Day*
le Nouvel An	*New Year's Day*
la Toussaint	*All Saints' Day*
la Saint-Valentin	*Valentine's Day*
l'Aïd	*Eid*
mon anniversaire	*my birthday*
Quelle est ta fête préférée?	*What's your favourite festival?*
j'adore ...	*I love ...*
j'aime (beaucoup) ...	*I (really) like ...*
je préfère ...	*I prefer ...*
je n'aime pas tellement ...	*I don't particularly like ...*
je n'aime pas ...	*I don't like ...*
je n'aime pas du tout ...	*I really don't like ...*
Je déteste ...	*I hate ...*
manger des œufs en chocolat.	*eating chocolate eggs.*
danser et chanter.	*dancing and singing.*
choisir des cadeaux.	*choosing presents.*
rendre visite à mes cousins.	*visiting my cousins.*
faire une soirée pyjama.	*having a sleepover.*
C'est ...	*It is ...*
marrant / ennuyeux.	*fun, funny / boring.*
bête.	*silly.*
trop militaire.	*too militaristic.*
trop commercial.	*too commercialised.*

Unité 1 Quelle est ta fête préférée?

je porte un masque	*I wear a mask*
je retrouve mes copains	*I meet my friends*
je regarde la parade	*I watch the parade*
je finis mes devoirs	*I finish my homework*
je choisis des vêtements ...	*I choose ... clothes*
j'attends la fête avec impatience	*I am looking forward to the festival*
je rends visite à ...	*I visit ...*
j'entends la musique	*I hear (the) music*
les spectateurs	*spectators*
chaque année	*every year*
le matin	*(in) the morning*
l'après-midi	*(in) the afternoon*
le soir	*(in) the evening*
une parade / un défilé	*a parade*
un groupe de gens / filles / garçons / musiciens / d'enfants	*a group of people / girls / boys / musicians / children*
Ils/Elles sont ...	*They are ...*
dans la rue. / en ville.	*in the street. / in town.*
Ils/Elles ...	*They ...*
marchent / applaudissent	*are walking / clapping*
dansent	*dancing*
jouent d'un instrument.	*playing an instrument.*
Ils/Elles portent des vêtements ...	*They are wearing ... clothes.*
traditionnels / colorés / bizarres / incroyables	*traditional / colourful / strange / amazing*
Ils/Elles portent des drapeaux.	*They are holding flags.*

Unité 4 Tu vas faire un voyage scolaire?

Qu'est-ce que tu vas faire?	*What are you going to do?*
je vais ...	*I am going ...*
aller en Alsace	*to go to Alsace*
visiter les marchés de Noël	*to visit the Christmas markets*
choisir des cadeaux	*to choose presents*
admirer les maisons illuminées	*to admire the illuminated houses*
écouter des chorales	*to listen to some choirs*
goûter du pain d'épices	*to try gingerbread*
acheter une boule de Noël	*to buy a Christmas bauble*
manger une tarte flambée / de la choucroute	*to eat a pizza-like tart / sauerkraut*
boire un jus de pomme chaud	*to drink a hot apple juice*

Phonics!	
Nasel sounds	– en/an/em, un/in *tellement / manger novembre / vingt-et-un*
silent final *e*	*je porte / je regarde*

French

Year 8 Half-Term 2 French Knowledge Organiser

Unit 2: J'adore les fêtes

Mon voyage extraordinaire

Normalment - normally Pendant les vacances – On holiday à Noël – At Christmas à Pâques – At Easter	je vais en France – I go to France je vais en colo – I go to a holiday camp je nage dans la piscine – I swim in the pool je mange dans un restaurant – i eat in a restaurant je fais du sport – I do sport	à la campagne – in the countryside au bord de la mer – at the coast avec ma famille / mes amis with my family / friends	et c'est *and it is*	nul – rubbish sympa - good cool – cool ennuyeux - boring super – great

Quelle est ta fête préférée?

J'adore J'aime Je n'aime pas Je déteste Je préfère 	Noel Paques le 14 juillet le nouvel an la Toussaint la Saint-valentin Eid mon anniversaire la chandeleur	car c'est	marrant trop militaire ennuyeux bête trop commercial amusant Sympa nul	…	Le matin L'après-midi Le soir Chaque année	je porte un masque. je retrouve mes copains. je regarde la parade. je choisis des vêtements. je rends visite à…… j'entends la musique. je mange des œufs en chocolat. je reçois/choisis des cadeaux.	J'adore J'aime Je n'aime pas Je déteste Je préfère	danser manger du chocolat acheter des cadeaux aller chez ma mère/mes cousins faire une soirée pyjama  

Qu'est ce que tu as mangé comme specialité?

A Pâques Pour mon anniversaire A Noel	je suis allé(e) à _. (place name).	J'ai mangé On a mangé Nous avons mangé J'ai bu On a bu	une crêpe, des moules-frites, une quiche lorraine, de la bouillabaisse, un jus d'orange, un coca,	une spécialité un plat typique	du nord du sud de l'est de l'ouest du nord-est du sud-ouest	de la France. de la Guadeloupe.	C'était	vraiment un peu trop	délicieux léger sucré salé savoureux	car	j'adore le chocolat. j'aime les fruits de mer.

Qu'est-ce que tu vas faire à…..?

Le (date) (month) Demain La semaine prochaine	on va aller à___ (place name)	en train en voiture en car en avion	Je vais	goûter		aussi	je vais acheter	des cadeaux des souvenirs une boule de Noel du chocolat

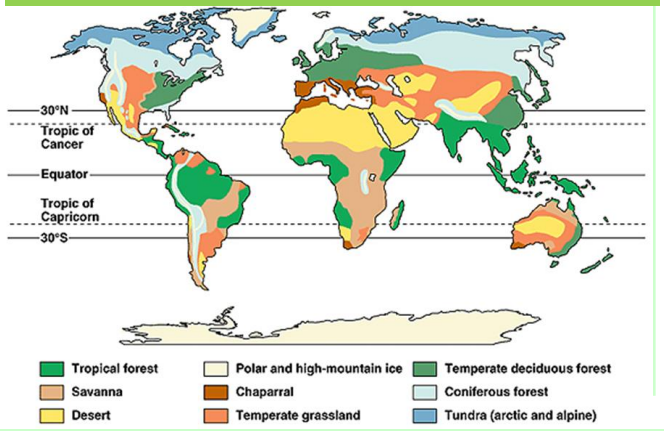
French

Year 8 - Rainforests

Biomes: A large naturally occurring community of flora (plants) and fauna (animals) occupying a major habitat.

Biome	Key Characteristics
Tropical Rainforests	•Along equator (Asia, Africa / South America). •6% of earth's surface. •25°C – 30°C and over 250mm rain per month.
Tropical Grasslands (Savanna)	•Between equator and tropics. •20 – 30°C and between 500 - 1500 mm of rain per year. •Wet and dry seasons.
Deserts	•Tropics (Sahara and Australia). •Over 30°C and less than 300 mmm per year rain. •20% of land's surface.
Temperate Deciduous forests	•Higher latitudes (W Europe, N America, New Zealand). •5 – 20°C and between 500 – 1500 mm rain per year. •4 distinct seasons. •Lose leaves in the winter to cope with the cold.
Coniferous forest (Taiga)	•60°N (Scandinavia / Canada). •Cone bearing evergreen trees. •No sunlight for part of the year.
Tundra	•Above 60°N (Arctic Circle). •Less than 10°C and less than 500mm per year rain. •Cold, icy and dry means 2 month growing season.

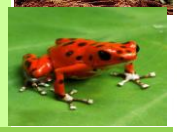
Distribution of Biomes



Tropical rainforests are located along or close to the equator. The lie between the Tropics of Cancer and Capricorn. The largest is the Amazon in South America.

Tropical Rainforest – Animal adaptations

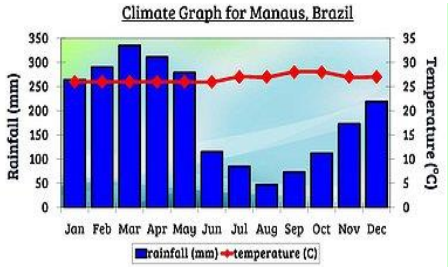
- Jaguars have spotted fur. This camouflages them in the shaded forest floor.
- Parrots have strong, sharp beaks to help them crack open nuts.
- Monkeys have long prehensile tails to swing easily through the trees.
- Poison dart frogs are a bright colour to warn predators away.



Tropical Rainforest – Plant adaptations

- Competition for light causes trees to grow fast, tall and straight.
- Buttress roots support the tall trees due to the shallow nature of the root system underground.
- Plants on the forest floor are shade tolerant and able to cope in the darker conditions.
- Epiphytes grow high up on the branches of trees to gain access to the light.
- Lianas wrap themselves around other trees to gain access to light.
- Plants have drip tips and waxy surfaces to allow water to drip off, stopping the leaf moulding or snapping with the weight of water.

Rainforest Climate



Rainforests experience high rainfall (at least over 2000m a year) and steady, warm temperatures (around 28°C) every day.

Climate graphs show Precipitation and Temperature.

Effects of deforestation

Economic development
+Provides jobs for local people
+Boosts local economy
+More taxes are paid to help country develop
- Destroys resources in the long term.
- Livelihoods of locals destroyed e.g. Rubber tappers.
- Mercury from gold mining poisons fish.

Contribution to climate change
- Trees cut down change the water cycle and make it drier.
- Rainforests are the lungs of the earth and so when deforested there is more carbon dioxide in the air and less oxygen.
- Burning also releases carbon dioxide into the air (Greenhouse effect).

Soil erosion
- Land left unprotected from heavy rain leads to landslides and flooding.
- Nutrients are washed away decreasing nutrients in the soil.

Others
- Loss of biodiversity
- Loss of indigenous tribes & knowledge
- Conflicts between developers and indigenous people.

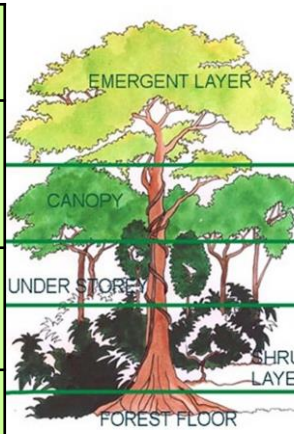
Tropical Rainforest – Layers of the rainforest

Emergent layer
Tallest trees – over 40m. Lots of sunlight here. Eagles, Monkeys, Bats

Canopy
Primary layer of forest. 30-45m. Lots of leaf cover creating dense canopy, blocking sun from lower layers. Food is abundant for animals here e.g. birds, monkeys, sloths, snakes, frogs.

Understory
Low light conditions. Plants grow large leaves. Rarely grow taller than 4m. Birds, butterflies, frogs, snakes and insects.

Shrub layer/Forest floor
Very little light, so very few plants grow. Ground is covered with fallen leaves and rotting branches. Jaguars, Leopards, Tigers, Gorillas and insects.



Causes of deforestation (cutting down and removal of trees by humans)

Cattle ranching	Responsible for 63% of Amazon deforestation. Clear trees to provide space for cattle to graze. Need to move regularly due to lack of nutrients in soil.
Commercial farming	Farming crops such as Soy or Palm plantations for palm oil. Palm Oil plantations are the biggest cause of deforestation in Indonesia.
Logging	The business of cutting down trees and transporting the logs to sawmills. Hard woods like Teak and Mahogany are worth the most.
Mining	The removal of minerals from underground e.g. Gold, iron ore
Subsistence farming	A type of agriculture producing food and materials for the benefit only of the farmer and his family or community. Small scale, often slash and burn.
Dams	Dams have been built and large areas of rainforest destroyed by flooding to provide hydro-electric power (HEP). 90% of Brazils energy created by HEP.
Roads	The 4000km long Trans Amazonia Highway built 1970s. Opened up rainforest, but allowed loggers in.

Managing Rainforests Sustainably

Sustainable Development -Meets the needs of the current population without compromising the needs of future generations.

- **Afforestation** – Plant more trees once you've cut some down.
- **Selective logging** - Only chop down fully grown trees.
- **Education and conservation** - WWF (NGO) educate and train conservation workers.
- **Ecotourism** – Small scale, local guides and food. Environmentally friendly activities. Minimises damage to the environment & benefits locals. E.g. Yachana lodge
- **International agreements**. International Tropical Trade Agreement restricts trade in hard woods.

Key terms

Globalisation Globalisation is how the world is becoming interconnected and countries are becoming more interdependent.

Interdependent- When 2 countries are dependent on one another

HIC : High Income Country (rich)
NEE : Newly Emerging Economies e.g. India/China.
LIC : Low Income Country (poor)

Standard of living : the economic level of a person's daily life.

Quality of life :is a social measure of well being e.g. Life expectancy or Literacy Rates.

TNC- Tran's national corporation- TNCs or multinational corporations (MNCs) are companies that operate in more than one country

Fast fashion – Cheap clothing produced rapidly by mass-market retailers in response to the latest trends

Why has globalisation increased?

- Improved transport
- Invention of the internet
- Countries becoming more developed
- Increase in large companies

Apple iPhone example of Globalisation:

Designed	Designed in SILICON VALLEY California
Assembled	All components put together in China.
Gyroscope	This part allows your to change the display from vertical to horizontal and is made in Europe.
Minerals used in lots of the components	E.g. Coltan and cobalt come from areas all over the world, including China.
Memory cards	Come from Korea and Taiwan

Nike T shirt chain of production

The chain of production is the journey a t-shirt takes from plant to your house

1.) Nike designs T-shirt in Nike world HQ in Oregon USA
2.) Farmers grow cotton in India, perfect location due to climatic conditions
3.) Cotton sent to mill to be woven into cloth (India)
4.) Cloth sent to factory in Indonesia to be made into T-shirt (labels added). These are often sweatshops with long working hours and poor working conditions
5.) Transported across ocean in container ship, all over the world
6.) Taken to shops to be put on sale in the places such as the UK
7.) Bought by consumer

Nike Cotton Farmers in India

Cotton is the most important of natural fibres, accounting for almost half of all textile in the world. Cotton is a plant which is grown in more than 80 countries around the world. Nike gets its cotton from India.

Most cotton farmers in India live in poverty. The cotton farmers life revolves around the price they can sell their cotton. When cotton prices are low, then they struggle, when it is high, they do slightly better. Worldwide cotton prices are going down as more and more countries are starting to produce it. Also, less cotton is being grown by farmers due to climate change.

Nike in Indonesia

The Nike world HQ is located in Oregon, USA. Nike operates in more than 160 countries. It has nearly 1 million employees worldwide. Many of the factories are located in the Indonesian capital of Jakarta.

	Positives	Negatives
Economic (money and jobs)	Factory workers have a job. Workers in the Nike HQ and sports people get paid very well.	$1.25 an hour is not seen as enough money to maintain a good QOL.
Social (peoples lives)	Provides jobs therefore reduced unemployment in many LIC countries. Nike improves infrastructure, so local towns benefit.	Living conditions of workers are poor, housing is basic, lacks sanitation. Children often cant go to school as workers cant afford it.
Environmental (surrounding environment)	The environment around Nikes HQ is well looked after.	Nike burn left over shoe rubber releasing toxic fumes which harms peoples QOL as children get lung diseases.

TNC's

Transnational corporations
TNCs or multinational corporations (MNCs) are companies that operate in more than one country. They often have factories in countries that are not as economically developed because **labour** is cheaper. Offices and headquarters tend to be located in the more developed world. Unilever, McDonalds and Apple are all examples of TNCs.

Advantages	Disadvantages
• Creation of jobs • Stable income and more reliable than farming • Improved education and skills • Investment in infra-structure, e.g. new roads - helps locals as well as the TNC • A better developed economic base for the country	• Fewer workers employed, considering the scale of investment • Poorer working conditions • Damage to the environment by ignoring local laws • Profits going to companies overseas rather than locals • Little reinvestment in the local area • Factories are often footloose and jobs insecure. If labour costs increase, the company may move elsewhere • natural resources being over-exploited

Year 8: Globalisation and fashion industry

Winners of the Fashion industry	Losers of the fashion industry
Fashion shops/labels E.g., Nike Charge high amounts for their products, but pay workers in LIC's small amounts of money which gives them big profits.	**Cotton Farmers** Work long hours, 6 days a week. Earn 7.5p an hour. Work in harsh, hot conditions. Suffer from heat exhaustion, allergies and respiratory problems.
Sports people Get paid a lot of money to wear branded clothes. E.g. Ronaldo signed a $1billion lifetime contract.	**Factory workers** Earn $1.25 per hour, not enough to have a decent QOL. Living conditions are poor, housing is basic, lacks sanitation. Children often cant go to school as workers cant afford it.
Consumers Get products easily which are well made. Fast fashion allows consumers to keep up with the trends in a cheap manner.	**Consumers** Paying a lot for products which didn't cost much to make, and have been made in sweatshops.
Phil Knight (Ex CEO of Nike) Worth $44 billion. 26th Richest man in the world	

Year 8 Half-Term 1 German Knowledge Organiser

Unit 1: "Ich" – Key Vocabulary, Phonics, and Grammar

1 - Hallo!	*Meeting and greeting*
Wie heißt du?	*What's your name?*
Ich heiße ...	*My name is ...*
Hallo!	*Hello!/Hi!*
Guten Tag!	*Hello!*
Wie geht's?	*How are you?*
Gut, danke. Und dir?	*Fine, thanks. And you?*
Nicht schlecht.	*Not bad.*
Tschüs!	*Bye!*
Auf Wiedersehen!	*Goodbye!*

2 - Die Zahlen 1–19 *Numbers 1–19*	
1. eins	10. zehn
2. zwei	11. elf
3. drei	12. zwölf
4. vier	13. dreizehn
5. fünf	14. vierzehn
6. sechs	15. fünfzehn
7. sieben	16. sechzehn
8. acht	17. siebzehn
9. neun	18. achtzehn
	19. neunzehn

3 - Wo wohnst du?	*Where do you live?*
Ich wohne in ...	*I live in ...*
Er/Sie/Es wohnt in ...	*He/She/It lives in ...*
...England	*England*
...Irland	*Ireland*
...Nordirland	*Northern Ireland*
...Schottland	*Scotland*
...Wales	*Wales*
...Deutschland	*Germany*
...Österreich	*Austria*
...der Schweiz	*Switzerland*

4 - Wie bist du?	What are you like?
Ich bin ...	I am ...
Er/Sie ist ...	He/She is ...
faul	lazy
freundlich	friendly
intelligent	intelligent
kreativ	creative
launisch	moody
laut	loud
lustig	funny
musikalisch	musical
sportlich	sporty

Key verb!	
sein	***to be***
ich bin	*I am*
du bist	*you are*
er ist / sie ist / es ist	*he is / she is / it is*

Wie alt bist du?	*How old are you?*
Ich bin ... Jahre alt.	*I am ... years old.*
Wie alt ist (Julia)?	*How old is (Julia)*

Fragewörter	*Question words*
Wie?	*How?*
Was?	*What?*
Wo?	*Where?*
Woher?	*Where ... from?*
Wer?	*Who?*

5 - Lieblingssachen	*Favourite things*
Mein Lieblingssport ist ...	*My favourite sport is ...*
Mein Lieblingsmonat ist ...	*My favourite month is ...*
Meine Lieblingsmusik ist ...	*My favourite music is ...*
Meine Lieblingszahl ist ...	*My favourite number is ...*
Meine Lieblingssendung ist ...	*My favourite programme is ...*
Meine Lieblingsfußballmannschaft ist ...	*My favourite football team is...*
Mein Lieblingsspiel ist ...	*My favourite game is ...*
Mein Lieblingsland ist ...	*My favourite country is ...*
Mein Lieblingsauto ist ...	*My favourite car is ...*
Was ist dein Lieblingssport?	*What's your favourite sport?*
Was ist deine Lieblingszahl?	*What's your favourite number?*
Was ist dein Lieblingsland?	*What's your favourite country?*

Phonics!	
ß (ss)	*ich hei**ß**e*
z (ts)	***z**wei*
ei (eye)	*dr**ei** / **ei**ns*
ie (ee)	*s**ie**ben / v**ie**r*
w (V)	*ich **w**ohne*
ch (Hu**gh** vs. lo**ch**)	*freundli**ch** vs. au**ch***
e (eh)	*Schlan**g**e*

Key Vocabulary!	
und	*and*
(und) auch	*(and) also*
aber	*but*
sehr	*very*
ziemlich	*quite*
nicht	*not*
Was denkst du?	*What do you think?*
Ich denke, ...	*I think ...*
Ich auch!	*Me too!*
Ich nicht!	*Not me!*
Was? Du spinnst!	*What? You're joking!*

German

Year 8 Half-Term 1 German Knowledge Organiser

Unit 1: "Ich" – Key Questions and Answers

Wie geht's? – How's it going?

Mir geht's...	...prima/super/fantastisch/toll	*great*
It's going...	...gut	*well*
	...ok/nicht schlecht	*okay/not bad*
	...nicht so gut	*not so good*
	...schlecht	*bad*

Wie heißt du? – What are you called?

Ich heiße... [Name].	Und du?
I am called... [name].	*And you?*

Wie alt bist du? – How old are you?

Ich bin ...	11 = elf	Jahre alt.
I am ...	12 = zwölf	*years old.*

Wo wohnst du? – Where do you live?

Ich wohne in ...	... England
I live in ...	... Manchester
	... Warrington
	... Lymm

Wann hast du Geburtstag? – When is your birthday?

Ich habe am ... Geburtstag.
My birthday is on the ...

1. = ersten	17. = siebzehnten	Januar	
2. = zweiten	18. = achtzehnten	Februar	
3. = dritten	19. = neunzehnten	März	
4. = vierten	20. = zwanzigsten	April	
5. = fünften	21. = einundzwanzigsten	Mai	
6. =sechsten	22. = zweiundzwanzigsten	Juni	
7. = siebten	23. = dreiundzwanzigsten	Juli	
8. = achten	24. = vierundzwanzigsten	August	
9. = neunten	25. = fünfundzwanzigsten	September	
10. = zehnten	26. = sechsundzwanzigsten	October	
11. = elften	27. = siebenundzwanzigsten	November	
12. = zwölften	28. = achtundzwanzigsten	Dezember	
13. = dreizehnten	29. = neunundzwanzigsten		
14. = vierzehnten	30. = dreißigsten		
15. = fünfzehnten			
16. = sechzehnten			

Wie bist du? – What are you like?

Ich bin ...	sehr	*very*	faul	*lazy*
I am ...	ziemlich	*quite*	freundlich	*friendly*
	wirklich	*really*	intelligent	*intelligent*
	nicht	*not*	kreativ	*creative*
			launisch	*moody*
			laut	*loud*
			lustig	*funny*
			musikalisch	*musical*
			sportlich	*sporty*

Was ist dein Lieblings...? – What is your favourite...?

Mein Lieblings... ist ...	Mein Lieblingsauto ist Ferrari.
My favourite ... is ...	*My favourite car is Ferrari.*

German

Year 8 Half-Term 2 German Knowledge Organiser

Unit 2: Meine Familie – Key Vocabulary, Phonics, and Grammar

1- Haustiere	*Pets*
Hast du ein Haustier?	*Have you got a pet?*
Ich habe ...	*I have ...*
einen Goldfisch	*a goldfish*
einen Hamster	*a hamster*
einen Hund	*a dog*
ein Kaninchen	*a rabbit*
eine Katze	*a cat*
eine Maus	*a mouse*
ein Meerschweinchen	*a guinea pig*
ein Pferd	*a horse*
eine Schlange	*a snake*
einen Wellensittich	*a budgie*
kein Haustier	*no pet*

Nouns
Nouns are put into three groups in German – masculine, feminine and neuter.

2 - Eigenschaften	*Qualities*
Wie ist er/sie/es?	*What is he/she/it like?*
Er/Sie/Es ist ...	*He/She/It is ...*
dick/schlank	*fat/thin*
frech/niedlich	*cheeky/cute*
gemein/süß	*mean/sweet*
groß/klein	*big/small*
kräftig	*strong*
schlau	*cunning*
(super)lustig	*(really) funny*
Er/Sie/Es kann ...	*He/She/It can ...*
Italienisch sprechen	*speak Italian*
fliegen	*fly*
Flöte/Fußball/Wii spielen	*play the flute/football/on the Wii*
(schnell) laufen	*run (fast)*
lesen	*read*
Rad fahren	*ride a bike*
schwimmen	*swim*
singen	*sing*
springen	*jump*
tanzen	*dance*

Modal verbs
This kind of verb goes in second place and sends the other verb to the end in the *infinitive*.
e.g.
Ich **kann** Golf *spielen*.

3 - Die Zahlen 20-100	*Numbers 20-100*
zwanzig	*twenty*
dreißig	*thirty*
vierzig	*forty*
fünfzig	*fifty*
sechzig	*sixty*
siebzig	*seventy*
achtzig	*eighty*
neunzig	*ninety*
hundert	*hundred*
einundzwanzig	*twenty-one*
zweiundzwanzig	*twenty-two*

4 - Meine Familie	*My family*
Es gibt ... Personen in meiner Familie.	*There are ... people in my family.*
meine Mutter	*my mother*
mein Vater	*my father*
mein Bruder	*my brother*
mein Stiefbruder/Halbbruder	*my stepbrother/ half-brother*
meine Schwester	*my sister*
meine Stiefschwester/Halbschwester	*my stepsister/half-sister*
meine Eltern	*my parents*
meine Großeltern	*my grandparents*
Hast du Geschwister?	*Have you any brothers and sisters?*
Ich habe zwei Brüder.	*I have two brothers.*
Ich habe drei Schwestern.	*I have three sisters.*
Ich bin Einzelkind.	*I am an only child.*
Ich habe keine Geschwister.	*I have no brothers and sisters.*

Key Vocabulary!	
und	*and*
(und) auch	*(and) also*
aber	*but*
sehr	*very*
ziemlich	*quite*
nicht	*not*

Phonics!	
sch (shh)	***Sch**lange*
long u (oo)	*sup**er** / g**u**t / Sch**u**le*
short u	*l**u**stig / M**u**tter*
ü	*f**ü**nfzig / f**ü**nfzehn*
j	***J**anuar / **J**uli*

Key verb! (This is a *modal* verb)	
können	***to be able to***
ich kannt	*I can*
du kannst	*you can*
er kann / sie kann / es kann	*he can / she can / it can*

German

Year 8 Half-Term 2 German Knowledge Organiser

Unit 2: Meine Familie – Key Questions and Answers

5 - Die Farben	*Colours*
schwarz	*black*
weiß	*white*
grau	*grey*
braun	*brown*
rot	*red*
orange	*orange*
gelb	*yellow*
grün	*green*
blau	*blue*
indigoblau	*indigo*
violett	*violet*
lila	*purple*
rosa	*pink*
bunt	*brightly coloured*
hellblau/dunkelblau	*light blue/dark blue*

6 - Haare und Augen	*Hair and eyes*
Er/Sie hat …	*He/She has …*
schwarze/braune/blonde/rote Haare	*black/brown/blond/red hair*
kurze/lange/mittellange Haare	*short/long/mid-length hair*
blaue/braune/grüne/graue Augen	*blue/brown/green/grey eyes*

Key verbs!	
sein	***to be***
ich bin	*I am*
du bist	*you are*
er ist / sie ist / es ist	*he is / she is / it is*
haben	***to have***
ich habe	*I have*
du hast	*you have*
er hat/ sie hat / es hat	*he has/ she has/ it has*

Beschrieb deine Famile – Describe your family.

In meiner Familie gibt es *In my family there are*	zwei/ drei/ vier/ fünf/ sechs *two/ three/ four/ five/ six*	Personen. *people.*

Hast du ein Haustier? – Have you got a pet?

Ja, ich habe … *Yes, I have …*	**einen** Hund **ein** Kaninchen **eine** Katze	*a dog* *a rabbit* *a cat*
Nein, ich habe … *No, I have …*	**k**ein Haustier. *no pet.*	

Hast du Geschwister? – Do you have siblings?

Ja, ich habe … *Yes, I have …*	**einen** Bruder / zwei Br**ü**der. **eine** Schwester / zwei Schwester**n**.
Nein, ich habe … *No, I have …*	**k**eine Geschwister. Haustier. *no siblings*

Beschreib dich/deinen Vater/deine Mutter – describe yourself/your father/your mother

Ich bin … *I am …*	groß mittelgroß klein schlank dick	*tall* *medium height* *small* *slim* *fat*	und *and*	intelligent. doof. laut. schüchtern. sportlich. musikalisch.	*intelligent.* *silly.* *loud.* *shy.* *sporty.* *musical.*	Ich habe … *I have …*	schwarze braune blonde rote kurze lange mittellange	*black* *brown* *blond* *red* *short* *long* *midlength*	Haare und *hair and*	blaue braune grüne *graue*	*blue* *brown* *green* grey	Augen. *eyes.*
Sie ist… *She is…*						Sie hat… *She has…*					
Er ist… *Er ist…*						Er hat… *Er has…*					

German

Year 8: Unit 1: Why would a country kill their king?

The actions of James I and Charles I angered parliament, leading to the Civil War. Parliament won due to its New Model Army and executed the king in 1649.

The role of religion	Charles made Catholic-style changes to the Church, upsetting Puritans and angering the Scots.
Charles and parliament	Charles needed money, forcing him to call parliament. They refused and the war began.
Roundheads and Cavaliers	England was divided into Parliamentarians and Royalists, fighting over how the country should be run.
Parliament's victory	Parliament created a New Model Army, which had the support and discipline to defeat the Royalists.
The trial and execution of the king	The king was imprisoned, put on trial and executed by leading Parliamentarians.
England becomes a 'Republic'	Cromwell became the 'Lord Protector' and enforced Puritan rule. For the next 11 years, and for the only time in its history, England was a Republic.

Chronology: what happened on these dates?

1614	James I argues with parliament and dismisses it for seven years.
1640	Parliament is recalled after 11 years and argues with Charles.
1642	Unable to arrest MPs after barging into ParliamentCharles raises his standard and the Civil War begins.
1643	Royalists won the Battle of Roundway Down
1645	Royalists lose the Battle of Naseby and the war ends soon after.

Who were these people? What were these events?

Charles I	A king who wanted to rule as an absolutist, but was stopped and executed by parliament.
William Laud	The Archbishop of Canterbury who introduced 'High Church' reforms.
John Pym	A leading MP who led a campaign against Charles I in parliament.
Oliver Cromwell	A cavalry officer in the New Model Army. His power grew due to his success in the war.
The Prayer Book Rebellion (1637)	A rebellion in Scotland caused by the introduction of the new prayer book.
Henrietta Maria	Charles married a catholic French Princess in 1625, people feared her influence over the king.
Trial of Charles I (1649)	A trial held by Parliamentarians, which led to the king's execution. Charles was accused of treason.

Vocabulary

Absolutist	Someone who rules with absolute power.
High Church	A Protestant Church with some Catholic practices.
Puritan	A Protestant Church with no Catholic influences.
Grand Remonstrance	A list of criticisms of Charles I from parliament.
Court of Star Chamber	Charles attempted to use what he believed was his God-given right to rule. It became a substitute government, allowing him to rule without parliament.
Roundhead	A nickname for the supporters of parliament.
New Model Army	A new army, set up by the Parliamentarians, to win the war.
Cavalier	A nickname for the supporters of Charles I.
Short Parliament	Charles recalled parliament after 11 years but dissolved parliament after 3 weeks.
Long Parliament	Charles was forced to recall parliament again for help in war with Scotland.
Ship tax	A tax usually used in war time paid by those on the coast for protection.
Arsenal	A collection/store of weapons.

Why did the Civil War break out?	
The role of religion - the rise of the Puritans in the 17th century	The Reformation had made the Church of England **(Protestantism) the official religion**. **Puritans thought** the **Church of England** was still **too Catholic**. They believed individuals should be able to have a private relationship with God without priests, decorations such as stain glass were distractions and churches should be plain looking.
Charles's religious views	**Charles belonged to the 'High Church', a form of Protestantism closer to Catholicism** and married a French Catholic Princess. Charles introduced **William Laud** as Archbishop of Canterbury; he made a new prayer book. **This new prayer book angered Puritans** as it contained some catholic ideas. Charles had 3 Puritans mutilated (had their ears cut off) in public for criticising the reforms.
Charles's relationship with parliament	In **1629 Charles argued with parliament about his religious views and dismissed them, ruling without them for 11 years** known as **'The Personal Rule'.** Charles expanded **'ship tax'** in peacetime to raise money without asking Parliament's permission. Anyone who refused to pay were imprisoned. Many MPs were furious. **Irish Rebellion: In 1641, Irish Catholics rose up against English rule** after the Reformation had forced them to become protestants. **Charles wanted to recall parliament to ask for money** to send an army to Ireland. **Parliament refused** and passed **'the Grand Remonstrance'.**
Tensions with Scotland	**Charles tried to introduce the new English prayer book into Scotland**, leading to war. **Charles's army** was **defeated by the Scots. The Short Parliament:** Charles recalled parliament after 11 years to pay for the war with Scotland. MP John Pym criticized Charles in a 2 hour long speech. Furious, Charles dissolved parliament after 3 weeks. When the **situation worsened with Scotland**, **he recalled Parliament** during **the 'Long Parliament'.**
The outbreak of war	**Charles ordered the MPs responsible for the Grand Remonstrance be handed over**—they refused. Charles arrived at the House of Commons with 300 troops and tried to seize them but they had fled. Charles travelled to Nottingham and **raised his royal standard to start the Civil War.**

Why did Parliament win the Civil War?	
The Battle of Naseby (14th June 1645)	The Royalists began well when the cavalry, successfully charged at the Roundheads. However, their mistake was to charge for the Roundhead's baggage train which contained their supplies and treasure. Meanwhile, the Royalist cavalry attacked but **Cromwell's highly trained and well-disciplined army stood their ground. Cromwell** seized his chance and **launched an attack on the Royalist infantry**. The panicked Royalists collapsed and surrendered. **1000 Royalist soldiers were killed and 4500 taken prisoner.** Charles's army was almost entirely destroyed.
The New Model Army	Parliamentarians gave Oliver Cromwell the job of training a new set of troops. This was **England's first professional army** and it was called **'The New Model Army'.** The **troops lived by a very strict set of rules**. Officer positions were filled with men who had shown their talent on the Battlefield. **Criticism of Cromwell or Parliament carried the death penalty,** no man was to swear against God, if any man fled, he would be killed. **Cavalry:** attacked the weak points of the enemy, wore light armour and carried swords with pistols. **Infantry:** These included pikemen and musketeers. Pikeman's pikes were very effective against cavalry. Muskets were devastating at close range. **Artillery:** They were the heavy guns and used canons. They could demoralize the enemy and punch holes in the infantry. **Leadership:** Lord Fairfax and Oliver Cromwell trained and led the NMA to decisive battles e.g Naseby and Newbury. **Weapons:** Parliament controlled the royal arsenal and the navy so Charles had to import weapons.
1789-94 The French Revolution	**England were not the only country to kill their king**. In 1789 King Louis XVI of France was executed due to similar reasons as Charles I. **Louis was an absolutist and many wanted to reduce his power.** France became so short of money they needed to agree to **new taxes**. Both Louis and Charles had **unpopular wives** contributing to their downfall. Both countries **became republics** following the executions. There were some differences: religion impacted the executions in different ways and the **English Civil War and French Revolution had different long-term causes and consequences.**

Year 8: Unit 2: The Industrial Revolution

Who were important individuals at this time?

Edward Jenner	**Edward Jenner** was the first doctor to vaccinate people against smallpox; he was responsible for developing the world's first vaccine.
John Snow	**John Snow** was an English physician and a leader in the development of anaesthesia and medical hygiene. He made the link between contaminated water and the spread of cholera.
Robert Owen	**Robert Owen** was a factory owner and prominent socialist who attempted to create ideal communities to benefit workers and eliminate poverty.

The Industrial Revolution – Timeline

Year	Event
1712	Thomas **Newcomen** designs the first steam engine
1750	Britain is mainly an agricultural nation, with 80% of the population living in the countryside
Mid-1750s	New inventions make it possible for more work to be completed quicker, meaning goods are produced more quickly and faster
1764	James **Hargreaves** invents the '**Spinning Jenny**' that can spin eight pieces of thread at once
1769	Richard **Arkwright** invents a machine that can spin several strands of thread at one time, using water
1775	Arkwright opens **Cromford Mill,** with 800 employees
1776	James **Watt** improves and develops Newcomen's steam engine, allowing large wheels to be spun without the need for human labour
1779	Samuel **Crompton** invents a new spinning frame
1785	A steam engine is combined with Crompton's spinning frame to develop a machine that produces cotton more quickly
1800	Britain has 900 cotton mills
1800	15 million tonnes of coal produced by Britain
1804	Richard **Trevithick** builds the first functioning steam train which travels at less than three miles per hour
1820s	Britain dominates the cotton trade and 62% of produce they export is cotton
1829	George **Stephenson** develops a faster and more effective steam train
1840s	20,000 children work in coal mines; the government begin to take measures to improve the lives of children working within the mines (i.e. **Mines Act 1842**)
1851	Manchester's population is 303,000
1900	Around 80% of Britain's population now live in urban areas

Why did the population rise during the Industrial Revolution?

Births went up because:

- There were more trained midwives to look after pregnant women and newborn babies.
- People were eating a more varied diet.
- People were marrying younger so had more time to have children.
- Children could work in the factories and bring in a wage.

Deaths went down because:

- Soap became less expensive so people could wash themselves and their clothes.
- Alcohol became more expensive so people drank less.
- Antiseptics and anaesthetics were used by doctors to prevent people dying during operations.
- More people could read so we able to learn about staying healthy.
- Cotton fabric was used more than wool fabric which was easier to wash and dry.
- Vaccinations were discovered by Edward Jenner in 1796.
- Councils started to make improvements to peoples living conditions.

KEY INFORMATION – What was it like to work in a factory?	
Working hours	Normal shifts were usually 12-14 hours a day, with extra time required during busy periods. Workers were often required to clean their machines during their mealtimes.
Low wages	A typical wage for male workers was about 15 shillings (75p) a week, but women and children were paid much less, with women earning seven shillings (35p) and children three shillings (15p). For this reason, employers preferred to employ women and children. Many men were sacked when they reached adulthood; then they had to be supported by their wives and children.
Poor treatment of workers	There was frequent "strapping" (hitting with a leather strap). Other punishments included hanging iron weights around children's necksand dowsing them in water butts to keep them awake. Fierce systems of fines: these were imposed for talking or whistling, leaving the room without permission, or having a little dirt on a machine. It was claimed that employers altered the time on the clocks to make their workers late so that they could fine them. Some employers demanded that their overseers raise a minimum amount each week from fines.
Impact on workers health	Factory owners forced children to crawl into dangerous, unguarded machinery led to many accidents. Workers limbs could get trapped in machinery or children could be crushed against by the moving parts of the machinery. Up to 40 per cent of accident cases at Manchester Infirmary in 1833 were factory accidents. Cotton thread had to be spun in damp, warm conditions. Going straight out into the cold night air led to many cases of pneumonia. The air was full of dust, which led to chest and lung diseases and loud noise made by machines damaged workers' hearing.

KEY INFORMATION – What were living condition like?	
Pollution	Coal was used to heat houses, cook food and heat water to produce steam to power machines in factories. The burning of coal created smoke, which led to terrible pollution in the cities
Overcrowding	Due to large numbers of people moving to the cities, there were not enough houses for all these people to live in. Low wages and high rents caused families to live in as small a space as possible. Sometimes whole families lived in one room.
Disease	Typhus, typhoid, tuberculosis and cholera all existed in the cities of England. Cholera reached England for the first time in 1830, and there were further major epidemics in 1832 and 1848. Overcrowding, housing of a low standard and poor quality water supplies all helped spread disease
Sanitation	Gutters were filled with litter and the streets were covered in horse manure, collected by boys to sell to farmers. Human waste was discharged directly into the sewers, which flowed straight into rivers. In London, Parliament had to stop work because the smell from the Thames became too much. Lack of fresh water: people could get water from a variety of places, such as streams, wells and stand pipes, but this water was often polluted by human waste
Housing	Houses were built very close together so there was little light or fresh air inside them. They did not have running water and people found it difficult to keep clean. Houses often suffered from damp due to their thin walls and roofs made out of cheap materials. Many households had to share a single outside toilet that was little more than a hole in the ground.

Staying Safe Online

	Key vocabulary	Definition
1	E-safety	Internet safety or online safety is trying to be safe on the internet
2	Cyber bullying	Is the use of electronic communication to bully a person, typically by sending messages of an intimidating or threatening nature.
3	Animated banner	Banner that moves between text and pictures.
4	Social networking	Social networking is the use of internet-based social media programs to make connections with friends, family, classmates, customers and clients.
5	Annotate	Label the diagram or print screens saying what each part is and why you have chose that design.
6	Visualisation diagram	Diagram/plan of the product you are designing.
7	Biased	Holding an opinion that often unfairly supports one argument, eg a football fan thinking that a referee's decision was wrong because it went against their team.
8	Mobile applications	Applications designed to run on mobile devices. These can be used for creating documents, taking pictures, listening to music, playing games or finding directions
9	Unauthorised access	Using a computer system without permission.
10	File	An object on a computer that stores data, information, settings, or commands used with a computer program.
11	Folder	A way to organise computer files. A folder is a storage space that many files can be placed into to group them together and organise the computer.
12	Email	Electronic mail - a method of exchanging messages between people using electronics and email addresses.
13	Security	Protecting yourself when using something that could be harmful or dangerous to you.
14	Report	A written account or an alert of an event or situation that can be used to seek help.
15	Child line	A 24 hour counselling service for children and young people where they can get help and advice on a range of issues
16	CEOP	Child exploitation and online protection centre.
17	Downloading	Transferring data from one device or network to another.
18	Internet	A communications system that connects computers and databases all around the world.

Cyber bullying means to try to hurt someone's feelings by using technology s the internet, email, chatrooms and texting.

Dealing with bullying:

- **Don't give out personal information** in chatrooms, social websites, blogs, etc.
- **Don't tell anyone, even your best friends, your passwords**. They might be your best friend now, but what if you have an argument. They might log into your account and post really mean things and make it look like it was you.
- **Don't' respond** - If you receive any mean or threatening messages in the chatroom, text or email, don't ever respond. You might be tempted to delete the message but don't. Save it and show an adult - you might need the message to use as evidence against the person who sent it.
- **Contact the website** - If you find mean things have been said about you on a website, for example, Facebook, you can ask to have the comments removed. The same is true if you find out that photographs or videos have been posted without your permission.
- **Tell someone**
- Don't suffer in silence. If you are being bullied then tell your parents. If you don't feel that you can talk to them then tell a teacher or an adult that you trust. You mustn't keep it to yourself because if you do, the bully has got exactly what they want.

CLICK CEOP
Internet Safety

THINK U KNOW .co.uk

E-safety Rules

- Never give out your password – this doesn't matter who asks!
- Don't give out your contact details
- Don't download any software without permissions!
- Respect people's privacy
- Copying and pasting could be breaking the copyright law – make sure you always reference where you got that information from!

Chatrooms: The main reason that your parents and teachers worry about you using chatrooms is because you can't always tell who you are talking to. Most of the time, someone you chat to will be genuine. You can have a conversation with them, have a laugh, tell each other about things and over time build up a real friendship.

But, you do need to be aware that not everyone in a chatroom is really who they say they are.

Saying safe in chatrooms:

- Tell your parents if you are planning to use a chatroom.
- Use a nickname, so your real identity remains protected.
- Never give out personal details!
- Never send your picture to anyone!
- Always stay in the public chatroom
- Don't meet up in real life – if you do really want to arrange to meet someone always take a responsible adult.
- This shouldn't be a problem because you won't give anyone your email address, will you? But, if for some reason you did give it out and you find someone is sending you emails with mean or rude pictures, don't open them and tell your parents immediately

Project Life Cycle

1.1 The phases of the project life cycle and the tasks carried out in each phase

The four Phases are;

⇒ Initiation

⇒ Planning

⇒ Execution

⇒ Evaluation

There are many advantages of following a project life cycle, for example

- Proves a structured approach
- There are defined inputs and outputs for each phase
- Allows project manager to monitor the progress of the project

1.3 The inputs and outputs of each phase

An advantage of following the project life cycle is that each phase has clearly defined inputs and outputs

- User requirements
- User constraints
- Feasibility Study
- Legislations implications
- Phase Review
- Project Plan
- Test Plan
- Final evaluation report

1.2 The interaction and iteration between the phases of the project life cycle

Each phase of the project life cycle interacts with the phase before and after it.

If a phase is not completed it is not possible to move onto the next phase.

1.4 Initial project considerations

One of the tasks to complete during the initiation phase is to set objectives for the project. The main types of objectives are:

- SMART goals
- User requirements
- Success criteria
- Constrains and limitations
- Mitigation of risk

1.5 Planning tools and the software types used to develop project plans

During the planning phase, the project manager will use planning tools to create documentation to help during the creation of the project.

Planning tools include:

- Gantt Charts
- PERT (Project Evaluation and Review Technique)
- Critical path
- Visualisation diagrams
- Flow Charts
- Mind Maps
- Task lists

Website Architecture

myfirstwebpage - Extension.html

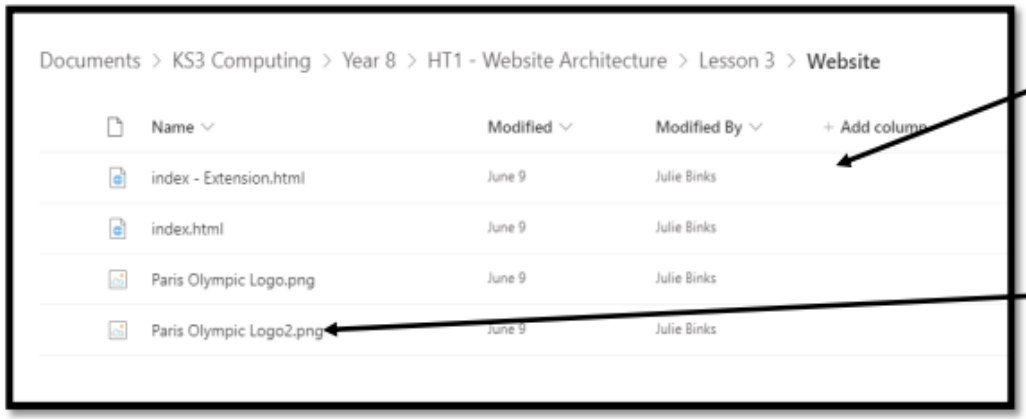
```
1  <html>
2  <head>
3   <title>My first web page!</title>
4  </head>
5  <body bgcolor="yellow" text="blue">
6  <font face="times new roman" size="4">
7  <body>
8   <h1>Bob Smith</h1>
9  <p>I am Bob and I am 12 years old. I am a student at Great Sankey High School.
10  My favourite subject is Computing!</p>
11
12  <h2>Hobbies</h2>
13  <img src="computer.gif" width="200" height="150">
14 <ol>
15  <li>Computer games</li>
16  <li>Watching Netflix</li>
17  <li>Going to the cinema</li>
18  <li>Playing rugby</li>
19  </ol>
20  </body>
21  </html>
```

All websites must have <html> at the very start and </html> at the very end

The <title> tags names the website on the tabs at the top of the screen.

Everything inside <body> </body> appears on the website page

Note the spelling of colour is different when coding



Folder Structure

When creating websites you need to have all your webpages and images saved into the one folder.

Look at the example here

The file format of the images can be seen here as well. These images are both .png files

Computing

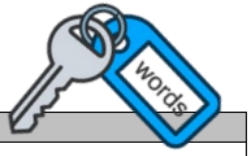
Website Architecture

Task	Tag
Alignment	your text
Background colour	<body bgcolor="blue">
Background image	<body background="books.jpg">
Bold	your text
Bullet point list or unordered list	 - Your item 1 - Your item 2
Centre	your text
Headings (H1 is the biggest size and H6 is the smallest)	your text
Horizontal rule (draws a line across the page to separate sections)	<hr />
Hyperlink to another website	BBC website
Hyperlink to another page in your website	My hobbies page
Image	
Italic	your text
Line break (new line)	
Numbered list or ordered list	 - Your item 1 - Your item 2
Paragraph	your text
Paragraph (left align)	your text
Underline	<u>your text</u>

Useful Website

https://www.w3schools.com/html/

Key Vocabulary



	Key Vocabulary	Definition
1	**Tags**	A set of characteristics that determine the formatting command on a web page
2	**HTML**	Hyper Text Markup Language is the code used to write websites
3	**URL**	Uniform Resource Locator is a unique identifier used to locate a resource on the Internet
4	**Web Browser**	an application program that provides a way to look at and interact with all the information on the World Wide Web . E.g Chrome, Firefox
5	**Code**	the set of instructions, or a system of rules, written in a particular programming language
6	**Notepad ++**	a free and open-source text and source code editor for use with Microsoft Windows
7	**Initiation**	the first stage of the project lifecycle. The project team is formed in this phase, and a project manager is appointed
8	**Planning**	It helps define each phase's tasks, results, and allocated time for the project
9	**Execution**	the stage of the project where everything your team has planned is put into action
10	**Evaluation**	making an assessment of an ongoing or completed project
11	**Gantt Chart**	a graphical representation of activity against time
12	**Success Criteria**	the standards by which the project will be judged at the end to decide whether or not it has been successful
13	**SMART Goals**	SMART goals stands for Specific, Measurable, Achievable, Relevant, and Time-Bound

Expand and Simplify:

$$(3x-7)(5x-2)$$

$$= 15x^2 - 6x - 35x + 14$$
$$= \mathbf{15x^2 - 41x + 14}$$

$$(2x+9)^2$$
$$= (2x+9)(2x+9)$$

$$= 4x^2 + 18x + 18x + 81$$
$$= \mathbf{4x^2 + 36x + 81}$$

$$(5x+7)(5x-7)$$

$$= 25x^2 - 35x + 35x - 49$$
$$= \mathbf{25x^2 - 49}$$

Above is an example of DOTS **(Difference of Two Squares)**

$$5x(2x+1)(4x-9)$$

$$= 5x(8x^2 - 18x + 4x - 9)$$
$$= 5x(8x^2 - 14x - 9)$$
$$= \mathbf{40x^3 - 70x - 45x}$$

Triple Brackets

To expand triple brackets, expand any 2 sets of the brackets, simplify and multiply by the 3rd and simplify again

$$(2x-1)(3x+2)(4x-7)$$
$$= (6x^2 + 4x - 3x - 2)(4x-7)$$
$$= (6x^2 + x - 2)(4x-7)$$
$$= 24x^3 - 42x^2 + 4x^2 - 8x - 7x + 14$$
$$= \mathbf{24x^3 - 38x^2 - 15x + 14}$$

Factorise:

$$-10x - 35 = -5(2x+7)$$
$$4x^2 + \frac{3}{2}x = \frac{1}{2}x(8x+3)$$

You can also take out negatives and fractions as factors!

8

Core & Extension

Half-Term 1

Factorising Quadratic Expressions

$$x^2 - x - 72$$
$$x^2 - 1x - 72$$

We require 2 numbers that **add to make the coefficient of x (-1)** and **multiply to make the constant term (-72).** The two numbers are -9 and 8. We then factorise the quadratic:

$$(x-9)(x+8)$$

$$x^2 - 25$$
$$x^2 + 0x - 25$$

We require 2 numbers that **add to make the coefficient of x (0)** and **multiply to make the constant term (-25).** The two numbers are $+5$ and -5. We then factorise the quadratic:

$$(x+5)(x-5)$$

Compound Interest:

£2000 is paid into an account that pays 4.8% compound interest per annum (pa). The amount in the account after 3 years is:

$$£2000 \times 1.048^3 = £2302.05 (2dp)$$

Simple Interest:

£2000 is paid into an account that pays 5% simple interest per annum (pa). The amount in the account after 3 years is:

$$£2000 + (2000 \times 0.05 \times 3) = £2300$$

Reverse Percentages:

A Football shirt is reduced by 17%. It now costs £51.66. The original cost was:

$$\mathbf{51.46 \div 0.83 = £62}$$

A House increases in price by 16%. It is now worth £162,400. The original price was:

$$\mathbf{162400 \div 1.16 = £140,000}$$

Adding and Subtracting Algebraic Fractions

Look for a common denominator (the easiest way is to multiply the two denominators. Find equivalent fractions and then add/subtract

$$\frac{4}{3a} + \frac{5}{8b} = \frac{32}{24ab} + \frac{15}{24ab} = \frac{37}{24ab}$$

$$\frac{4}{x-2} - \frac{5}{2x+1} = \frac{4(2x+1)}{(x-2)(2x-1)} - \frac{5(x-2)}{(x-2)(2x-1)} = \frac{4(2x+1) - 5(x-2)}{(x-2)(2x-1)} = \frac{3x+14}{(x-2)(2x-1)}$$

Maths

Algebraic Terminology:

Expression (No Equals)

$4x + 5y, 2x - 5, 7x(3x - 7)$ *etc.*

Equation (Has an = and can be SOLVED)

$4x - 7 = 15, 4(3x + 1) = 7$ *etc.*

Identity (True for every value)

$4(x - 2) \equiv 4x - 8$ *etc.*

Formula (Can be used to work something out)

$y = 3x - 1, Area = \pi r^2, V = b^3$ *etc.*

Inequality (True for a RANGE of values)

$4x - 1 < 11, 5x + 2 \geq 17$ *etc.*

Substitution:

Find the value of $3x + 5y$, when $x = 6$ and $y = -1$.

$$(3 \times 6) + (5 \times -1)$$
$$= 18 + -5$$
$$= 18 - 5$$
$$= \mathbf{13}$$

If $y = 6x - 13$, find the value of y when $x = 1.5$.

$$y = (6 \times 1.5) - 13$$
$$y = 9 - 13$$
$$\mathbf{y = -4}$$

Cube Numbers

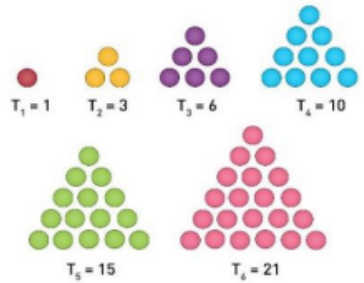
$1^3 = 1 \times 1 \times 1 = 1$

$2^3 = 2 \times 2 \times 2 = 8$

$3^3 = 3 \times 3 \times 3 = 27$

$4^3 = 4 \times 4 \times 4 = 64$

Triangular Numbers



Reciprocal:

To find the Reciprocal of a number, you simply need to "flip" it

Reciprocal of 2 $= \frac{1}{2}$

Reciprocal of $\frac{3}{5} = \frac{5}{3}$

Reciprocal of $\frac{1}{4} = \mathbf{4}$

Expanding Brackets:

$3(2x - 7) = 6x - 42$

$4x(5x + 7y - 3z^2) = 20x^2 + 28xy - 12xz^2$

Writing and Simplifying Expressions

John is x years old. Tom is 4 years older than John. Adam is 5 years younger than John and Carl is 3 times as old as Tom. The sum of their ages is:

$$x + x + 4 + x - 5 + 3(x + 4)$$
$$= x + x + 4 + x - 5 + 3x + 12 = \mathbf{6x + 11}$$

Factorising:

$10x - 25 = 5(2x - 5)$

$x^2 - 40x = x(x - 40)$

$16x^2y + 24xy^2 = 8xy(2x + 3y)$

Remember to check your answers by expanding the brackets!

Adding and Subtracting Mixed Numbers

$2\frac{2}{3} + 3\frac{1}{7} = \frac{8}{3} + \frac{22}{7}$

$= \frac{56}{21} + \frac{66}{21} = \frac{122}{21} = 5\frac{17}{21}$

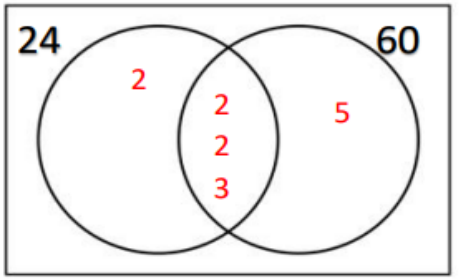
$2\frac{1}{5} - 1\frac{3}{4} = \frac{11}{5} - \frac{7}{4}$

$= \frac{44}{20} - \frac{35}{20} = \frac{9}{20}$

1.) Write both fractions as improper fractions
2.) Find the common denominator
3.) Write equivalent fractions
4.) Add/Subtract the numerators

Prime Factor Decomposition

$24 = 2^3 \times 3$ and $60 = 2^2 \times 3 \times 5$



HCF is the product of numbers in the overlapping section

$HCF = 2 \times 2 \times 3 = 12$

LCM is the product of **ALL** numbers

$LCM = 2 \times 2 \times 2 \times 3 \times 5 = 120$

Multiplying and Dividing Mixed Numbers

$2\frac{2}{3} \times 3\frac{1}{7} = \frac{8}{3} \times \frac{22}{7} = \frac{176}{21} = 8\frac{8}{21}$

Multiply the Numerators and Denominators together!

$2\frac{1}{5} \div 1\frac{3}{4} = \frac{11}{5} \div \frac{7}{4} = \frac{11}{5} \times \frac{4}{7} = \frac{44}{35} = 1\frac{9}{35}$

To divide, use KFC (Keep First, Flip Second and Change to a x)

8

Core & Support

Half-Term 1

Averages from Grouped Frequency Tables:

$Height, h\ (cm)$	$Freq$	$Midpoint, m$	$m \times Freq.$
$0 < h \leq 10$	15	5	$5 \times 15 = 75$
$10 < h \leq 20$	37	15	$15 \times 37 = 555$
$20 < h \leq 30$	26	25	$25 \times 26 = 650$
$30 < h \leq 40$	22	35	$35 \times 22 = 770$
Total	**100**		**2050**

Estimate for the Mean = $\frac{2050}{100} = 20.5$cm

Using midpoints gives us an estimate as exact values are unknown

Modal Class = $10 < h \leq 20$

(The category with the biggest frequency!)

Class in which the Median lies: The median is the $\left(\frac{n+1}{2}\right)^{th}$ Value. There are 20 people, so the median is the $\left(\frac{100+1}{2}\right)^{th} = 55.5^{th}$ Value. The median is therefore in the $20 < h \leq 30$ category!

Upper and Lower Bounds:

15 (Nearest Integer)

Lower Bound = 14.5

Upper Bound = 15.5

$14.5 \leq 15 < 15.5$ **(This is known as the Error Interval)**

20.9 (3sf)

LB = 20.85 and UB = 20.95

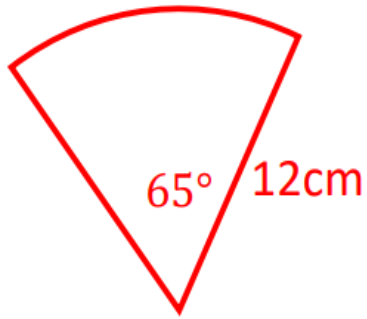
$20.85 \leq 20.9 < 20.95$ **(This is the Error Interval)**

Sectors:

$$Arc\ Length = \frac{\theta}{360} \times \pi d$$

$$Area\ of\ a\ Sector = \frac{\theta}{360} \times \pi r^2$$

Where: θ is the angle and r is the radius



$\theta = 65°, r = 12, d = 24$

$$Arc\ Length = \frac{\theta}{360} \times \pi d$$

$$Arc\ Length = \frac{65}{360} \times \pi \times 24$$

$$Arc\ Length = 13.6cm(1dp)$$

$$Area\ of\ Sector = \frac{\theta}{360} \times \pi r^2$$

$$Area\ of\ Sector = \frac{65}{360} \times \pi \times 12^2$$

$$Area\ of\ Sector = 81.7cm^2(1dp)$$

Applying Upper and Lower Bounds:

A square has side 4.2cm correct to 1dp.

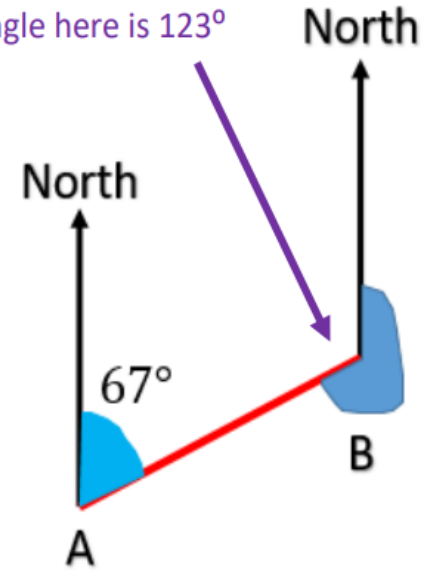
The **Maximum** Perimeter is given by: $4.25 \times 4 = 9cm$

The **Minimum** Area is given by: $4.15 \times 4.15 = 17.2225cm^2$

Bearings:

- 3 Figures
- Measure from North (000°)
- Measure Clockwise

Co-Interior Angles add up to 180°. The angle here is 123°



The bearing of **B from A is 067°**. The bearing of **A from B is 247°**

8

Core & Extension

Half-term 2

Maths

Percentage of Amounts without a Calculator:

$47\%\ of\ £120$

$10\% = £12 \Rightarrow 40\% = £12 \times 4 = £48$

$1\% = £1.20 \Rightarrow 7\% = £1.20 \times 7 = £8.40$

Add these two answers together to get 47%:

$£48 + £8.40 = 56.40$

Percentage Increase without a calculator

1.) *Increase* £48 *by* 13%

$13\%\ of\ £48 = £6.24$

2.) *To increase, ADD on the* £6.24.

$New\ Amount = £48 + £6.24 = £54.24$

Percentage Decrease without a calculator

1.) *Decrease* £48 *by* 13%

$13\%\ of\ £48 = £6.24$

2.) *To decrease, SUBTRACT the* £6.24.

$New\ Amount = £48 - £6.24 = £41.76$

Percentage of Amounts with a Calculator:

$47\%\ of\ £120$

$47\% \times 120 = £56.40$

To use the Percentage Button on your calculator, press **SHIFT** and then the **(** button.

Percentage Decrease with a Calculator:

Decrease £48 *by* 13%

$100\% - 13\% = 67\%$

$67\% \times £48 = £41.76$

Percentage Increase with a Calculator:

Increase £48 *by* 13%

$100\% + 13\% = 113\%$

$113\% \times £48 = £54.24$

Calculating Percentage Change:

$$Percentage\ Change = \frac{Difference}{Original} \times 100$$

A new car is valued at a price of £17000. 4 years later it is valued at £9450.

The Percentage Change is:

$$\frac{17000 - 9450}{17000} \times 100 = 44.4\%(1dp)$$

The car has lost 55.6% of its original value

Dividing by a Decimal:

Make the number we are dividing by an **INTEGER**

$\times 100$ ↻ $0.246 \div 0.02$ ↺ $\times 100$

$24.6 \div 2$

$$2\overline{)24.6} = 12.3$$

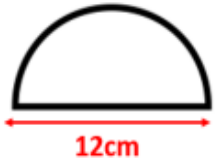
$\times 10$ ↻ $1.738 \div 0.5$ ↺ $\times 10$

$17.38 \div 5$

$$5\overline{)17.380} = 3.476$$

Remember that if you divide by a number between 0 and 1 your answer will be bigger!

Area and Perimeter of Part Circles:



Radius = 6cm

Diameter = 12cm

$$Area = \frac{\pi r^2}{2} = \frac{\pi \times 6^2}{2} = \frac{36\pi}{2} = 18\pi\ cm^2$$

$$= 56.5cm^2(1dp)$$

Perimeter = Curved Edge + Straight Edge

$$Curved\ Edge = \frac{\pi d}{2} = \frac{\pi \times 12}{2} = 6\pi\ cm$$

$$= 18.8cm\ (1dp)$$

$Perimeter = 12 + 18.8 = 30.8cm\ (1dp)$

Areas of 2D Shapes:

$Rectangle = base \times perpendicular\ height$

$Triangle = \frac{base \times perpendicular\ height}{2}$

$Parallelogram = \frac{base \times perpendicular\ height}{2}$

$Trapezium = \frac{(a+b) \times h}{2}$

Circles

$Area = \pi r^2$

$Circumference = \pi d$

8

Core & Support

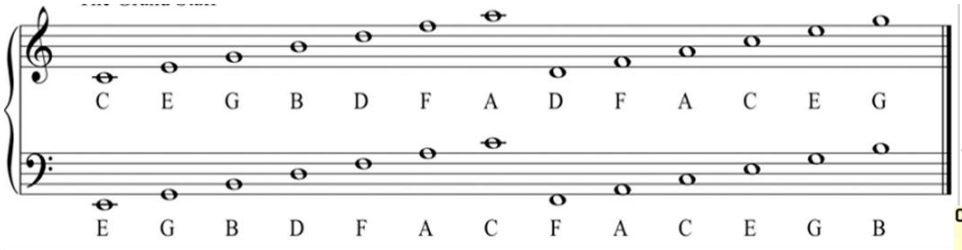
Half-term 2

Maths

Y8 Music HT1 & 2 – Harmony, Structure

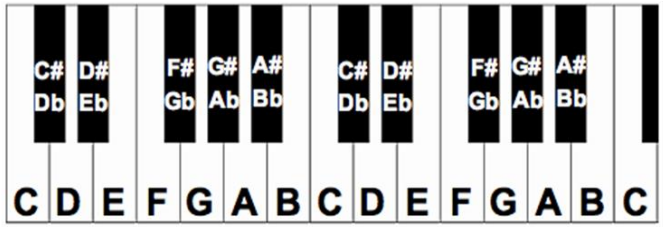
HT1&2 – Harmony

Treble and Bass clef notation

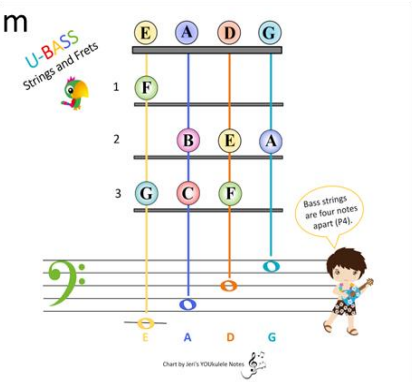


Piano keyboard diagram

C is to the left of the 2 black keys



Bass Guitar Fret Board Diagram

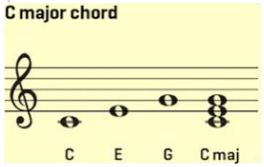


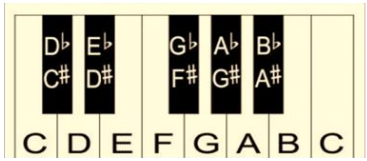
Y8 Music HT1 & 2 – Harmony, Structure

HT2 – Harmony , Structure

Chords

The C major triad





Root note

Use the simple formula of
play the root note, miss one, play note, miss one, play note

12 Bar Blues Structure

C	C	C	C
F	F	C	C
G	F	C	G

This structure repeats all the way through the Blues track

Why does evil exist?
Religion, Philosophy & Ethics

Key Terms	Definition
Moral Evil	**Suffering caused by mankind e.g. murder.**
Natural Evil	**Suffering caused by nature is e.g. suffering caused by earthquakes.**
The Problem of Evil	**The idea that if God existed then there would be no evil in the world. God's characteristics do not fit with a world with evil in it.**
Evidential Problem of Evil	Hume's argument that the evidence of evil in the world is so great that it cannot be explained away, it proves God does not exist.
Inconsistent Triad	The argument which shows God, cannot be both omnipotent (all-powerful) and omnibenevolent (all-loving) while evil exists – this undermines God's existence.
Free Will	The power of acting freely without force.
Theodicy	An explanation for why God would allow evil in the world.

Quotes

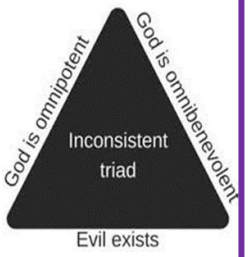
'God is omnipotent: God is wholly good, and yet evil exists. There must be some contradiction between these three propositions' John Mackie (Atheist)

"the world is seen, instead, as a place of soul making" John Hick (Christian)

"Why should I respect a capricious… God that creates a world that is so full of injustice and pain?" Stephen Fry (Humanist)

A wise man proportions his belief to the evidence' David Hume (Atheist)

Hume (1711 – 1776)



The problem of evil is demonstrated by the **inconsistent triad.** It is inconsistent to believe in an all-loving and all-powerful God that created a world with evil in it.

The Problem of Evil : John Mackie & Humanists

- **Natural evil is** suffering caused by nature e.g. homes destroyed by an earthquake
- **Moral evil is** suffering caused by mankind e.g. murder

The problem of evil is the idea that if God existed then there should be no evil in the world. God is meant to be all loving (benevolent) but He created a world and allowed evil to exist. He is meant to be all-powerful, yet He does not stop evil from happening and He is meant to be all-knowing yet he created the world knowing there would be evil and suffering in it.

Mackie agreed with the inconsistent triad and went on to suggest God cannot exist because…

- We don't need evil to appreciate good as good and evil are not truly opposite. Even if we did we don't need as much suffering as we have in the world.
- The purpose of suffering cannot be to help us become better people because God could make us perfect if he wanted to

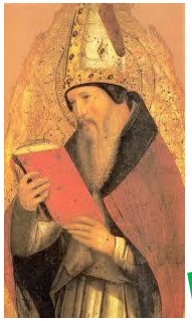
Humanists do not believe in God but place great importance on human life, when considering evil and suffering, they do not believe it is a punishment or a test because they do not believe in God. Evil is caused by humans and nature along.

David Hume (Scottish philosopher from 18th Century) was an atheist. He believed that if God was all powerful, all knowing and all loving then there wouldn't be evil in the world therefore either God doesn't exist or He isn't worthy of worship – this he called the 'inconsistent triad'. He criticised the nature of God in two arguments…

- Evidential Existence: Hume uses the analogy of a falling down house to show how religious people react to the flaws in the world. Leaking roof – that's to stop fires! No door – that's to let in fresh air! Religious people do the same, they see the vast amount of evil in the world and try to explain it away – it doesn't make sense, the amount of evidence for evil outweighs the 'excuses.
- Prior Probability: Hume asks the question 'If a stranger came to our planet – would they think it was a good design?' he suggests that as per prior probability if a stranger came to our world they would easily conclude that the world is a poor design – therefore questioning the power and nature of God

How can people who believe in God explain evil in the world?

- **Evil and suffering may be a test from God.** The Bible gives examples of when people are tested such as the story of Job whose faith was tested by God. God it therefore to blame for evil but with the purpose of seeing who deserves to go to heaven.
- **Evil is the result of freewill.** God created mankind with freewill allowing for moral evil. Natural evil is a punishment or the natural 'going wrong' of the world as a response to the misuse of freewill. Humans, not God, are to blame for evil.
- **Evil is necessary to grow our souls.** God created evil so we can learn from suffering and become better people. For example, we need to experience fear to develop courage. God is the cause of evil but for a good reason and there will be no evil or suffering in the afterlife.
- **We do not know why there is evil or suffering in the world but we should trust that God**, being all-loving and all-powerful would stop it if there wasn't a good reason.



Augustine of Hippo (354-430)

Criticism - if our actions are predetermined by a God, then humans cannot be held responsible for their actions. Similarly, if God knows humans cause suffering and doesn't stop it He cannot be all-loving.

Free Will Theodicy

The 'free will defense' is the idea that God is not the cause of evil and suffering but it is the result of human freewill.

Christianity

- St Augustine, 5th century Christian philosopher, believed that humans have been given complete free will as a gift from God and it is such freewill that leads to suffering. Because the Bible says everything God created is "good" and because God is wholly good, God could not create evil. Evil is a privation (a lack of) good when mankind steps away from God.
- Augustine went on to explain that natural evil is caused by humans too; Adam and Eve were told not to eat the apple but they did and this first (original) sin means humans rejected God and cannot live in the Garden of Eden so live in an world they have corrupted with sin.

Islam

- Consequences of the misuse of freewill include being judged by God and spending eternity in hell. However evil and suffering can help prepare us for the afterlife and enable us to become better people, according to Christianity.

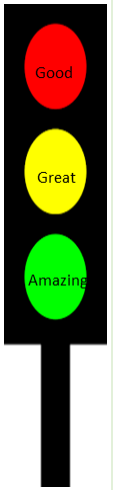
Soul Making Theodicy

St Irenaeus argued that evil exists due to the deliberate action of God who wanted his creation to develop the qualities that would make them spiritually perfect.

He pointed out that **the Bible (Genesis 1) says God created the world and "it was good";** he suggests that the quote God created the world with room for improvement. We can learn from evil and suffering to become better "children of God".

John Hick, a more recent philosopher, supported this idea when he stated "the world is seen, instead, as a place of soul making". By experiencing suffering and overcoming it, keeping our faith and learning from it we can become children of God.

St Irenaeus (130 – 202 AD)



Criticism - this theodicy doesn't explain why some humans suffer more than others.

Independent work

- Create flash cards for the key terms

- Create a knowledge poster summarising the topic; what the problem of evil is and different views on it

- Answer these questions in fully explained sentences. Imagine they are exam questions, write in as much detail as you can

A. What is moral and natural evil?
B. How does evil disprove the existence of God?
C. How do religious people, like Christians, explain why there is evil in the world?
D. Do you think evil is proof God doesn't exist?

TIF: Turn your above answers into PEE answers

What does justice look like?
Religion, Philosophy & Ethics

Key Terms	Definition
Justice	is the **upholding of what is fair and right**
Capital Punishment	**the death penalty for a crime or offence**
Shari'ah Law	Sharia means 'straight path'. This is the **law of Islam which sets out a code for how to live.** It is based on the Qur'an and Prophet Mohammad's practice (recorded in the Sunnah)
Stewardship	is **caring for the environment** for the benefit of future generations
Quality of Life	is the **standard of health, comfort and happiness** a person has
Zakat	is the Islamic (Muslim) duty to give a minimum of **2.5% of their wealth each year, to charity**. This is the second pillar of Islam
Less Economically Developed Country	are **countries where people are paid a low-income** and don't have the opportunities or infrastructure wealthier countries have

Quotes

"An eye for an eye" Exodus (Bible)

"Forgive seventy times seven" Mathew 18 (Bible)

"whoever believes in Allah and the last day should not hurt his neighbor" (Qur'an)

"I believe in justice and truth, without which there would be no basis for human hope" 14th Dalai Lama (Buddhist)

Wealth and Poverty

Causes of poverty are more common is less economically developed countries (LEDCs = countries where people are paid a low-income and don't have the opportunities we do). **9.2% of the world (almost 700 million people) live in extreme poverty, on less than £1.50 a day, without enough to eat. 1 in 3 people in the world don't have access to safe drinking water.**

Causes of poverty

- Wars – common in LEDCs & they destroy crops, hospitals, homes & schools leading to poverty

- Unfair trade – people not paid enough in poorer countries so rich countries make all the profits

- Illness – common in LEDCs, people too ill to work so no money to live off or get healthcare

- Lack of Education – in LEDCs fewer children are educated so less chance of getting out of poverty

CAFOD Just one world

Religious charities such as CAFOD (Catholic Agency for Overseas Development) are trying to reduce poverty through…

Long-term plans to help people become self-supporting e.g., CAFOD has set up a scheme in Brazil to help homeless children get an education & skills to earn a living.

Disaster & Emergency aid includes sending food, water, shelter & medicine e.g. to refugees fleeing Ukraine

Raising Awareness, 5% of CAFOD budget spent on educating people in Churches & school etc., about ending poverty

Speaking out for people too poor to fight for their rights

Stewardship

Stewardship is caring for the environment for future generations.

People can look after the environment by; recycling to **reduce waste, using public transport to reduce CO2 emissions that pollute our air**, campaign for more renewable energy use (e.g., wind energy) to prevent global warming from worsening. This is important because 50% of all natural disasters between 1970 and 2019 have been caused by climate change, so preventing global warming will save lives. **Jews, Muslims and Christians** all believe God created the earth and gave it to humans as a gift to look after ("have dominion over the land" as written in Genesis). They believe it is therefore their duty to look after it and doing so is a way of showing love and respect to God as well as their neighbor.

Humanists do not believe in God but believe stewardship is important…

- Quality of life and happiness are important, and we can improve them by protecting our environment
- It makes sense, for the protection of the human race, to preserve our environment and not waste resources
- We may use methods such as population control to stop people having too many babies in a world that already has too many lives destroying the planet

Some atheists may believe it isn't our duty to look after the environment but instead the government and large organisations who do the most damage.

JUSTICE

Why is justice important to Buddhists?

- Buddhist believe in karma which means their actions impact if their future life or lives will be happy or full of suffering.
- Buddhists believe that we should be compassionate and help someone reform their life when they have misused their freewill and causes dukkha (suffering).

Why is justice important in Islam?

- The Qur'an says, "be persistently standing firm in justice" Surah 4
- Muslims believe they will be judged in the afterlife based on their actions as it is written in the Qur'an.

Why is justice important to Humanists?

- Humanists do not believe in God, judgement or karma. However, the UK Humanist Association believes we can find happiness in this life by helping others do the same – one way to do this is base our decisions on empathy and to seek justice for all.

Why is justice important to Christians?

- The Bible says "hold fast to love and justice" Hosea 12
- Christians believe they will have eternal judgement based on their actions (Parable of the Rich Man & Lazarus).

Death Penalty (Capital Punishment)

Abolished in the UK in 1970 but still happens across the world.

Arguments for the death penalty

Christian view…
- The Old Testament Bible states "an eye for an eye"

Muslim view…
- The Qur'an states that, if clearly proven, then the DP can be used to punish murder, adultery and apostasy (someone working against Islam).
- Muhammed himself sentenced people to death.

Secular (non-religious) view…
- DP may be a deterrent to prevent serious crimes
- Murderers are a threat to society

Arguments against death penalty

Christian view…
- Instead of "an eye for an eye" Jesus said, "turn the other cheek" and "forgive 70x7"

Muslim view…
- Prophet Muhammed said, "whoever believes in Allah and the last day should not hurt his neighbor" (Qur'an)

Secular (non-religious) view…
- Countries without DP have lower murder rates
- DP can't be reversed, what if judge was wrong
- Executed terrorists become martyrs inspiring others to do the same

Law & Punishment

In the UK, law is made by parliament and crimes are judged in courts of law. Punishments are given to those who fail to follow the law. Although the UK laws were once based on Christian teachings, parliament doesn't base decisions on religion anymore.

However, in other countries laws and punishments may be based on religious instructions.

In Islamic countries punishments are based on Shari'ah Law (from the Qur'an). These laws are often considered too strict by modern standards e.g., the punishment for stealing is having one's hand cut off.

Aims of Punishment

Punishments are important for; keeping peace in society, preventing crimes and giving offenders a chance to change their behaviour and make up for their crimes.

The intention behind the punishment is it's aim….

- **Retribution** is often considered as revenge based on the belief that those who have caused suffering should suffer. It is when a punishment is in proportion to the crime e.g., "an eye for an eye" Exodus
- **Deterrence** is a punishment that puts people of future crimes. For example, Shari'ah Law regarding stealing is to have your hand cut off, this is disproportionate to the crime and will deter it from happening.
- **Reform** involves educating criminals, so they don't want to or have to turn to crime again. Many religious people believe this is the most loving form of punishment and thus should be given.

Independent work

- - Create flash cards for the key terms
- - Create a knowledge poster summarising the topic; what justice is, why justice is important in two religions, different types of punishment and which you think is just, arguments for and against the death penalty

- - Answer these questions in fully explained sentences. Imagine they are exam questions, write in as much detail as you can
  - A. Can you be wealthy and be a 'good person'?
  - B. Is stewardship important? Why?
  - C. What does it mean to be 'just' in different religions?
  - D. What is the best aim of punishments?
  - E. Should we have the death penalty in the UK?

TIF: Turn your above answers into PEE answers

Y8 Bio T1- Bioenergetics

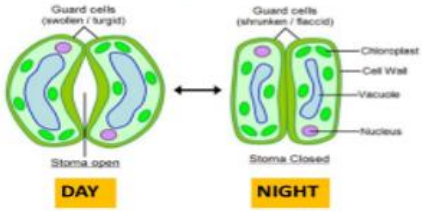
Photosynthesis

- It's a chemical process plants & algae use to make their own food (**glucose**)
- Photosynthesis takes place in the **CHLOROPLASTS** of plant cells.
- Light energy is absorbed by a green pigment called **CHLOROPHYLL**.

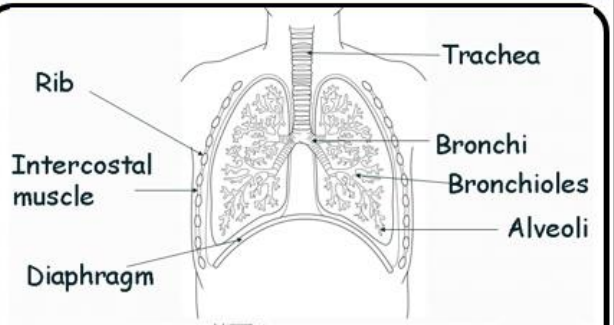
Water + Carbon dioxide —(Light Energy, Chlorophyll)→ Oxygen + Glucose → Starch

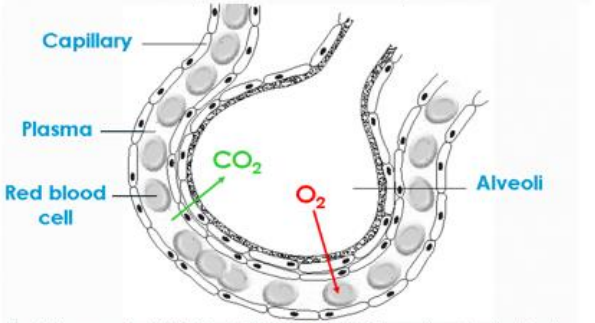
- A leaf is broad and flat to capture lots of sunlight.
- Veins carry water to the leaf and take food from the leaf to the rest of the plant.
- Certain plant cells contain chloroplasts filled with chlorophyll.
- Small holes called stomata in the underside of a leaf allow gases in and out.

When are stomata open and when are they closed?



Changes to the body during exercise:	Why does heart rate increase during exercise:
Heart rate increases	More blood
Stroke volume increases	More glucose & oxygen to muscles
Breathing rate increases	More respiration= more energy
Deeper breaths	More muscle contraction
Sweat	More CO_2 removed
Blood vessels dilate	More lactic acid oxidised





By which process do OXYGEN and CARBON DIOXIDE move from the alveoli to the blood?

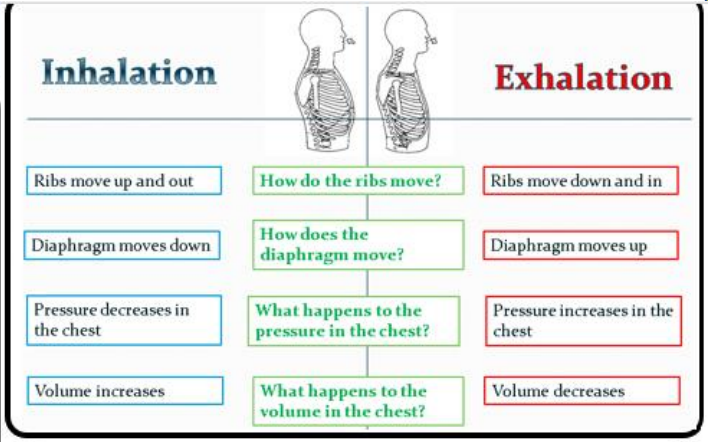
Diffusion/ Gas exchange

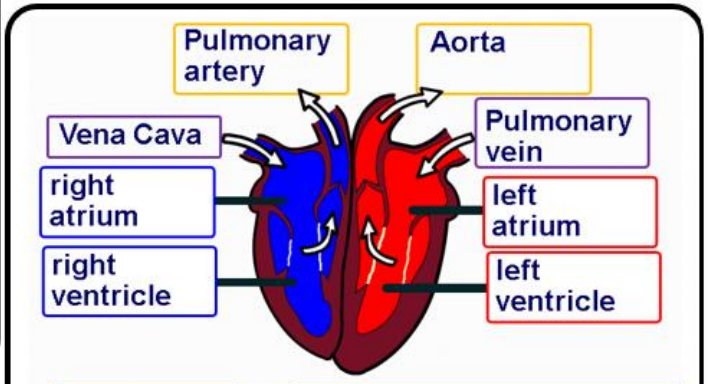
Aerobic respiration is the process of releasing energy.
Aerobic respiration happens in the ***mitochondria***.
We need it for:
Muscle contraction (moving)
Making molecules (growth)
Maintain a warm body temperature

Glucose + Oxygen → Carbon Dioxide + Water + Energy

During exercise, if INSUFFICIENT OXYGEN is reaching the muscles they use anaerobic respiration to obtain energy.
Anaerobic respiration is the INCOMPLETE BREAKDOWN OF GLUCOSE

Glucose → Lactic Acid (+ a little energy)





red blood cell	carries oxygen around the body
white blood cell	engulfs invading pathogens
platelet	plays an important role in blood clotting
plasma	fluid which carries other blood components

artery	vein	capillary
carries blood away from heart	carries blood towards heart	carries blood to and from cells
has thick and elastic walls	contains valves	has thin, permeable walls
carries blood at high pressure	has a large lumen	

Science

Y8 Chem T1- Acids and Alkalis

Hazard warning symbols

Bottles in the laboratory and tankers carrying chemicals on the road all have to carry hazard warning labels to show when there is a chemical hazard. Some of the common warning signs are:

	**Moderate hazard**	Substance is an irritant or is harmful. Not corrosive but will make the skin red or blister. Not as dangerous as toxic.
	**Flammable**	Catches fire easily.
	**Corrosive**	Attacks and destroys living tissues, such as skin and eyes. Attacks metals.
	**Acutely toxic**	Can cause death if swallowed, breathed in or absorbed by skin.
	**Explosive**	Substances that can self-react or detonate easily.

Acids and alkalis

Acids taste sour and are often found in foods, common acids include vinegar and lemon juice. Fizzy drinks, pickles and spicy sauces also contain acids. Stronger acids such as sulphuric and nitric acids can be more dangerous and often they are **corrosive**.

Alkalis feel soapy. They are often used in cleaning products and can also be corrosive. Weak alkalis include soap and toothpaste.

Naming salts

When acids react with metals or metal compounds they make salts. The name of the salt has two parts. The first part is the name of the metal and the second part comes from the type of acid.

Hydro**chloric** acid makes a **chloride**
Nitric acid makes a **nitrate**
Sulfuric acid makes a **sulfate**

Neutralisation

Metal oxides and hydroxides are referred to as **bases**. A **soluble base** (usually a metal hydroxide) is called an **alkali**.

Bases can cancel out acids, making them **neutral.** A base reacts with an acid to form water and a salt. This reaction is called **neutralisation**.

Acid + base → salt + water

For example:

hydrochloric acid + potassium hydroxide → potassium chloride + water

sulfuric acid + copper oxide → copper sulfate + water

We can check to see if neutralisation has occurred using universal indicator. The pH of the solution gets closer to neutral (pH7).

Indicators

Indicators are coloured dyes which often come from plants such as red cabbage and beetroot. They change colours when added to acids and alkalis.

Litmus is an indicator which turns red in acids and blue in alkali. **Red cabbage** indicator is red in acids, purple when neutral and green in alkalis.

Most indicators only tell us if a substance is an acid or alkali, they don't tell us how strong or weak they are. Universal indicator is a mixture of dyes that changes colour gradually telling us the level of acidity or alkalinity of a substance. The colours can be linked to the pH scale.

Metal carbonates and acids

A metal carbonate will also neutralise an acid. This time the products are a salt, carbon dioxide and water.

The general equation is:

acid + metal carbonate → salt + carbon dioxide + water

For example:

Sulfuric acid + copper carbonate → copper sulfate + carbon dioxide + water

We can test for carbon dioxide using limewater. Limewater goes milky if carbon dioxide is bubbled through it.

Metals and acids

Many metals react with acids. Some unreactive metals will only react very slowly with strong acids, some will not react at all. Some metals are more reactive and explode when added to acid.

When a metal reacts with an acid, hydrogen gas is given off. The reaction also
produces a compound called a salt.

metal + acid → salt + hydrogen

For example:

hydrochloric acid + zinc → zinc chloride + hydrogen

We can test for hydrogen by putting a burning splint into a test tube of gas. If hydrogen is present, it will explode with a squeaky 'pop'.

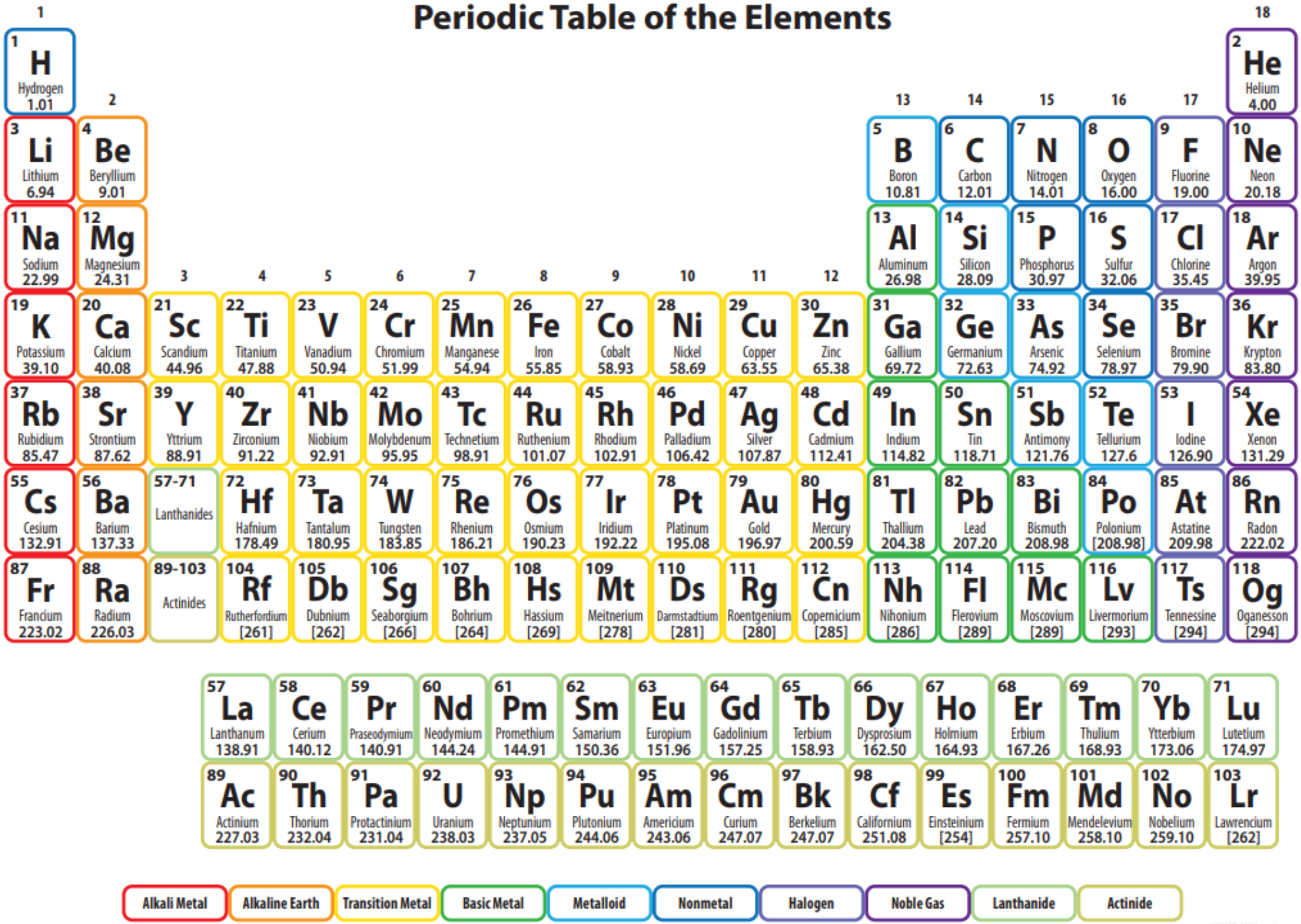
The pH scale

The strengths of acids and alkalis can be measured on the **pH scale**, which runs from 1 to 14. pH numbers **1 to 6** are acids, **7** is neutral, and **8 to 14** are alkalis.

You can find out the pH number using a **universal indicator**, or by using a pH meter.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Strong acid			**Weak acid**			**Neutral**	**Weak alkali**			**Strong alkali**			
red			**orange / yellow**			**green**	**green - blue**			**purple**			

Science

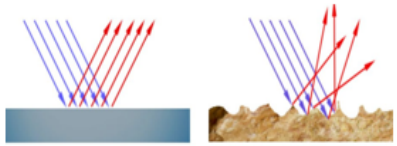

Periodic Table of the Elements
1 H Hydrogen 1.01
2 He Helium 4.00
3 Li Lithium 6.94
4 Be Beryllium 9.01
5 B Boron 10.81
6 C Carbon 12.01
7 N Nitrogen 14.01
8 O Oxygen 16.00
9 F Fluorine 19.00
10 Ne Neon 20.18
11 Na Sodium 22.99
12 Mg Magnesium 24.31
13 Al Aluminum 26.98
14 Si Silicon 28.09
15 P Phosphorus 30.97
16 S Sulfur 32.06
17 Cl Chlorine 35.45
18 Ar Argon 39.95
19 K Potassium 39.10
20 Ca Calcium 40.08
21 Sc Scandium 44.96
22 Ti Titanium 47.88
23 V Vanadium 50.94
24 Cr Chromium 51.99
25 Mn Manganese 54.94
26 Fe Iron 55.85
27 Co Cobalt 58.93
28 Ni Nickel 58.69
29 Cu Copper 63.55
30 Zn Zinc 65.38
31 Ga Gallium 69.72
32 Ge Germanium 72.63
33 As Arsenic 74.92
34 Se Selenium 78.97
35 Br Bromine 79.90
36 Kr Krypton 83.80
37 Rb Rubidium 85.47
38 Sr Strontium 87.62
39 Y Yttrium 88.91
40 Zr Zirconium 91.22
41 Nb Niobium 92.91
42 Mo Molybdenum 95.95
43 Tc Technetium 98.91
44 Ru Ruthenium 101.07
45 Rh Rhodium 102.91
46 Pd Palladium 106.42
47 Ag Silver 107.87
48 Cd Cadmium 112.41
49 In Indium 114.82
50 Sn Tin 118.71
51 Sb Antimony 121.76
52 Te Tellurium 127.6
53 I Iodine 126.90
54 Xe Xenon 131.29
55 Cs Cesium 132.91
56 Ba Barium 137.33
57-71 Lanthanides
72 Hf Hafnium 178.49
73 Ta Tantalum 180.95
74 W Tungsten 183.85
75 Re Rhenium 186.21
76 Os Osmium 190.23
77 Ir Iridium 192.22
78 Pt Platinum 195.08
79 Au Gold 196.97
80 Hg Mercury 200.59
81 Tl Thallium 204.38
82 Pb Lead 207.20
83 Bi Bismuth 208.98
84 Po Polonium [208.98]
85 At Astatine 209.98
86 Rn Radon 222.02
87 Fr Francium 223.02
88 Ra Radium 226.03
89-103 Actinides
104 Rf Rutherfordium [261]
105 Db Dubnium [262]
106 Sg Seaborgium [266]
107 Bh Bohrium [264]
108 Hs Hassium [269]
109 Mt Meitnerium [278]
110 Ds Darmstadtium [281]
111 Rg Roentgenium [280]
112 Cn Copernicium [285]
113 Nh Nihonium [286]
114 Fl Flerovium [289]
115 Mc Moscovium [289]
116 Lv Livermorium [293]
117 Ts Tennessine [294]
118 Og Oganesson [294]
57 La Lanthanum 138.91
58 Ce Cerium 140.12
59 Pr Praseodymium 140.91
60 Nd Neodymium 144.24
61 Pm Promethium 144.91
62 Sm Samarium 150.36
63 Eu Europium 151.96
64 Gd Gadolinium 157.25
65 Tb Terbium 158.93
66 Dy Dysprosium 162.50
67 Ho Holmium 164.93
68 Er Erbium 167.26
69 Tm Thulium 168.93
70 Yb Ytterbium 173.06
71 Lu Lutetium 174.97
89 Ac Actinium 227.03
90 Th Thorium 232.04
91 Pa Protactinium 231.04
92 U Uranium 238.03
93 Np Neptunium 237.05
94 Pu Plutonium 244.06
95 Am Americium 243.06
96 Cm Curium 247.07
97 Bk Berkelium 247.07
98 Cf Californium 251.08
99 Es Einsteinium [254]
100 Fm Fermium 257.10
101 Md Mendelevium 258.10
102 No Nobelium 259.10
103 Lr Lawrencium [262]
Alkali Metal
Alkaline Earth
Transition Metal
Basic Metal
Metalloid
Nonmetal
Halogen
Noble Gas
Lanthanide
Actinide

Y8 Phys T1- Light & sound

Waves can behave in different ways. Two common wave behaviours are reflection and refraction.

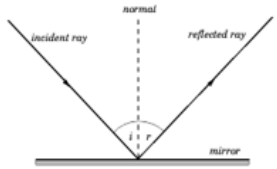
Waves will reflect off surfaces. If a sound wave reflects off a surface, we hear an echo.

We are only able to see non-luminous objects because light reflects off them. Light reflects very uniformly off flat, shiny surfaces (specular reflection). Dull, uneven surfaces reflect the light more unevenly (diffuse reflection).



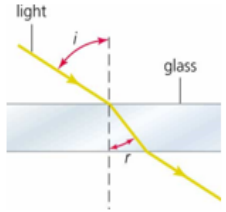
Specular Reflection **Diffuse Reflection**

When light reflects off a surface, the angle of incidence is always equal to the angle of reflection. This is called the law of reflection.

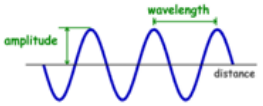


The angles of incidence and reflection are measured from the normal line. This is an imaginary line at 90° to the surface.

Refraction is the way in which light slows down and changes direction as it passes from the air in to a denser substance such as glass. When it goes from air in to glass, it changes direction towards the normal line.



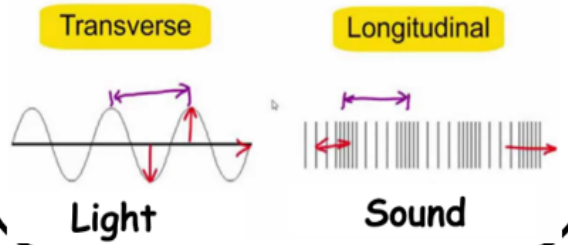
When the light emerges out the other side of the glass, it speeds up and changes direction back away from the normal.



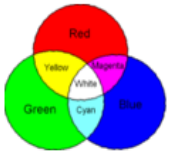
A wave can be described in terms of its wavelength and its amplitude. The wavelength is often measured as the distance between two peaks. The frequency of the wave refers to how many waves pass a point per second. The amplitude is the height of the wave.

Waves can exist either as transverse waves or as longitudinal waves. Transverse waves oscillate at 90° to the direction of travel. Longitudinal waves oscillate in the same direction as the direction of travel.

Light travels as a transverse wave, sound travels as a longitudinal wave.



Colour filters work by only allowing certain colours of light to pass through them. Green filters only let green light through, red filters only red light etc.

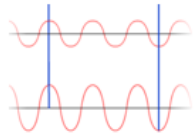


Secondary colours (magenta, yellow and cyan) are made up from two colours. If magenta light is shone on to a red filter, the blue component of magenta is absorbed and red light is transmitted through.

Sound waves occur when there is a disturbance in a solid, liquid or a gas. Sound can not travel through space because it requires particles to travel through.

When a sound is made, the particles bunch up and spread out (called compressions and rarefactions).

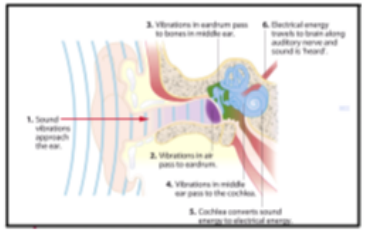
A sound can be described in terms of its loudness or its pitch. The greater the amplitude of the sound wave, the louder it is. The higher the frequency of the sound wave, the higher is its pitch.



These two sound waves, for example, have the same pitch (because their wavelength/frequency is the same). However, the second wave is louder because its amplitude is greater.

Very high pitches (greater than 20,000Hz) are called ultrasound waves. Pitches less than 20Hz are called infrasound waves.

When sound waves enter the ear, they cause the ear drum to vibrate. These vibrations pass to bones in the middle ear and cause them to vibrate also. The bones in the middle ear are connected to the cochlea which vibrates in turn and converts sound energy in to electrical energy.



The electrical energy passes along the auditory nerve to the brain and the brain interprets this as a sound. As people get older, the bones in the middle ear begin to fuse. This means that louder sounds are needed to make them vibrate and explains why people struggle with hearing as they get older. Hearing aids can help people who have hearing problems by amplifying sounds and re-transmitting them. Some hearing aids bypass the auditory canal entirely!

Science

High Frequency words and Phrases

Hay un/a...unos/as ...	There is /are/some...
No hay ningún/a....	There aren't any
¿Tienes .... ?	Do you have...?
Tengo un/a..unos /as..	I have un/a ..unos/as
No tengo ningún/a....	I don't have any...
Es ...	It is
No es...	It isn't
Me gusta + noun ..	I like + noun
No me gusta + noun ..	No me gusta + noun
Me gusta + infinitive ..	I like + infinitive
No me gusta + inf ..	I don't like + inf.
Soy..	I am
No soy...	I am not
Es ...	He/She is
No es....	He/She is not
Voy a	I am going / I go to
No voy a...	I am not going / I don't g to

Qualifiers:	
Bastante	quite
Muy	very
Demasiado	too
Un poco	a little
Completamente	completely
Realmente	really

Connectives :	
también	also
y	and
o	or
¿Dónde?	Where?
con	with
pero	but
sin embargo	however
especialmente	especially
porque	because
¿Por qué ?	why?
si	if
aunque	although

Negatives:	
No	no/not
Nada	nothing
Nunca / jamás	never

Prepositions :	
A	to
Con	with
De	from
Desde	since
Hasta	until
Sin	without

Sequencers:	
Primero	first of all
Después	next
Entonces	then
Al final / Finalmente	at the end / finally

Time expressions :	
Ahora	now
Hoy	today
Esta mañana	this morning
Esta tarde	this afternoon
Esta noche	this evening
Este fin de semana	this weekend
Normalmente	normally
El lunes por la mañana /tarde / noche	Monday morning /afternoon / evening
Los fines de semana	at the weekend
El próximo fin de semana	next weekend
El próximo domimgo	next Sunday
A veces	sometimes
Siempre	always
A menudo	often
Todos los dias	everyday
Cada fin de semana	every week end
Cada semana	every week
Cada lunes /martes	every Monday / Tuesday
Durante	during
Normalmente	normally
El año pasado	last year
El fin de semana pasado	last weekend

Question words:	
¿Qué?	what?
¿Quién?	who?
¿Cuándo?	when?
¿Dónde?	where ?
¿Cómo?	how?
¿Cuántos?	how many ?

Spanish

1.1 El español global

¿De dónde eres?	*Where are you from?*
¿De dónde es?	*Where is he/she from?*
Argentina	*Argentina*
Chile	*Chile*
Colombia	*Colombia*
Cuba	*Cuba*
España	*Spain*
Estados Unidos	*United States*
Guinea Ecuatorial	*Equatorial Guinea*
la Isla de Pascua	*Easter Island*
las Islas Baleares	*Balearic Islands*
las Islas Canarias	*Canary Islands*
las Islas Filipinas	*Philippines*
Perú	*Peru*
República Dominicana	*Dominican Republic*
la capital	*capital*
el destino	*destination*
famoso/a	*famous*
hispanohablante	*Spanish-speaking*
histórico/a	*historic*
el mapa	*map*
el monumento	*monument*
el mundo	*world*
el país	*country*

1.2 ¿Qué tal?

¿Cómo estás?	*How are you?*
¿Qué tal?	*How are you?*
bien	*well*
fantástico/a	*fantastic*
fatal	*awful*
fenomenal	*great, excellent*
mal	*bad/badly*
regular	*so-so*
¿Y tú?	*And you?*
¡hola!	*Hello!*
Buenos días	*Good morning/ day*
Buenas tardes	*Good afternoon*
¡Adiós!	*Goodbye!*
¡Hasta luego! /¡Hasta la vista!	*See you later!*
el alfabeto	*alphabet*
escribir	*to write*
llamarse	*to be called*

1.3 Mi carnet de identidad

¿Cuántos años tienes?	*How old are you?*		
uno	*1*	veintidós	*22*
dos	*2*	veintitrés	*23*
tres	*3*	veinticuatro	*24*
cuatro	*4*		
cinco	*5*	veinticinco	*25*
seis	*6*	veintiséis	*26*
siete	*7*	veintisiete	*27*
ocho	*8*	veintiocho	*28*
nueve	*9*	veintinueve	*29*
diez	*10*	treinta	*30*
once	*11*	treinta y uno	*31*
doce	*12*	el/la amigo/a	*friend*
trece	*13*	el apellido	*surname*
catorce	*14*	el carnet de identidad	*ID card*
quince	*15*	la edad	*age*
dieciséis	*16*	el lugar de nacimiento	*birthplace*
diecisiete	*17*	el nombre	*name*
dieciocho	*18*		
diecinueve	*19*		
veinte	*20*		

1.4 ¡…y que cumplas muchos más!

lunes	*Monday*	junio	*June*
martes	*Tuesday*	julio	*July*
miércoles	*Wednesday*	agosto	*August*
jueves	*Thursday*	septiembre	*September*
viernes	*Friday*	octubre	*October*
sábado	*Saturday*	noviembre	*November*
domingo	*Sunday*	diciembre	*December*
enero	*January*	¿Cuándo es tu cumpleaños?	*When is your birthday?*
febrero	*February*	el año	*year*
marzo	*March*	el cumpleaños	*birthday*
abril	*April*	la fecha	*date*
mayo	*May*	el mes	*month*
		el primero	*the first*
		la semana	*week*
		el uno	*the first*

1.5 Mis preferencias

amarillo/a	*yellow*	verde	*green*
azul	*blue*	detesto	*I detest*
blanco/a	*white*	me encanta	*I love*
claro/a	*light*	me gusta (mucho)	*I like (a lot)*
gris	*grey*	mi color favorito es…	*My favorite colour is…*
marrón	*brown*	no me gusta (nada)	*I don't like (at all)*
morado/a	*purple*	odio	*I hate*
naranja	*orange*	prefiero	*I prefer*
negro/a	*black*		
oscuro/a	*dark*		
rojo/a	*red*		
rosa	*pink*		

1.6 ¡Tod@s a clase!

hay…	*there is…*
el bolígrafo	*pen*
el cuaderno	*exercise book*
el estuche	*pencil case*
la goma	*eraser*
la hoja de papel	*sheet of paper*
el lápiz	*pencil*
el libro	*book/textbook*
la regla	*ruler*
el sacapuntas	*pencil sharpener*
las tijeras	*scissors*

SWAG BAG

además	*furthermore*
o	*or*
pero	*but*
sin embargo	*however*
también	*also*
y	*and*

1.1 El español global

¿De dónde eres?	Soy de	Colombia	Colombia
Where are you from?	I am from	España	Spain
¿De dónde es?	Es de	Argentina	Argentina
Where is he/she from?	He/ she is from	México	Mexico

1.2 ¿Qué tal?

¿Cómo te llamas?	Me llamo……	¿Qué tal / Cómo estás?	Estoy	bien	I am well
What is your name?	My name is ……	How are you?		muy bien	really well
¿Cómo se llama?	Se llama …….			mal	bad
What is his/ her name?	He/ she is called….			muy mal	really bad
				fatal	terrible
				fenomenal	great!

1.3 Mi carnet de identidad

¿Cuántos años tienes?	Tengo - I am (I have)	once (11)		
How old are you	Tienes - You are (you have)	doce (12)		años
¿Cuántos años tiene?	Tiene – he / she is (he/she has)	trece (13)		years old
How old is he/she?		veinte (20)		
		treinta (30)		

1.4 ¡… y que cumplas muchos más!

¿Cuándo es tu cumpleaños?	Mi cumpleaños es el ..	uno (1st)	dos (2nd)		enero	January
When is your birthday?	My birthday is the	cinco (5th)	cuatro (4th)		febrero	February
		quince (15th)	dieciséis (16th)	de	marzo	March
		veinte (20th)	treinta y uno (31st)		mayo …….	May …..

1.5 Mis preferencias

Me encanta	I love	el rojo	(the colour) red
Me gusta (mucho)	I (really) like	el verde	(the colour) green
No me gusta (nada)	I (really) don't like	el amarillo	(the colour) yellow
Odio / detest	I hate	el azul	(the colour) blue
Prefiero	I prefer	el naranja	(the colour) orange

1.6 ¡Tod@s a clase!

¿Tienes un bolígrafo?	En mi mochila	tengo	un cuaderno	an exercise book
Do you have a pen?	In my rucksack	I have	una regla	a ruler
¿Tienes una regla?	En mi estuche		un lápiz	a pencil
Do you have a ruler	In my pencil case	no tengo	dos lapices	2 pencils
		I don't have	cinco gomas	5 rubbers

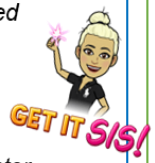
Year 8 Spanish Knowledge Organiser
Unit 2: Mi Burbuja

2.1 ¡Contamos hasta cien!

treinta y dos	*32*
treinta y tres	*33*
treinta y cuatro	*34*
treinta y cinco	*35*
treinta y seis	*36*
treinta y siete	*37*
treinta y ocho	*38*
treinta y nueve	*39*
cuarenta	*40*
cuarenta y uno	*41*
cincuenta	*50*
cincuenta y dos	*52*
sesenta	*60*
sesenta y tres	*63*
setenta	*70*
setenta y seis	*76*
ochenta	*80*
ochenta y cuatro	*84*
noventa	*90*
noventa y cinco	*95*
cien	*100*
el centímetro	*centimetre*
el kilómetro	*kilometre*
el largo	*length*
medir (mido)	*to measure*
el metro	*metre*
el número de teléfono	*telephone number*

2.2 Te presento a mi familia

la abuela	*grandmother*
el abuelo	*grandfather*
los abuelos	*grandparents*
divorciado/a	*divorced*
la edad	*age*
la familia	*family*
los gemelos	*twins*
la hermana	*sister*
la hermanastra	*stepsister*
el hermanastro	*stepbrother*
el hermano	*brother*
los hermanos	*siblings*
la hija única	*only child (daughter)*
el hijo único	*only child (son)*
la madrastra	*stepmother*
la madre	*mother*
mayor	*older*
menor	*younger*
el padrastro	*stepfather*
el padre	*father*
los padres	*parents*
la prima	*cousin (female)*
el primo	*cousin (male)*
la tía	*aunt*
el tío	*uncle*



2.3 Los animales y las mascotas

me gustaría tener	*I would like to have*
no tengo animales	*I don't have any pets*
similar a	*similar to*
tenía	*I used to have*
el caballo	*horse*
la cobaya	*guinea pig*
el conejo	*rabbit*
el gato	*cat*
el pájaro	*bird*
el perro	*dog*
el pez	*fish*
el ratón	*mouse*
la serpiente	*snake*
de colores	*colourful*
enorme	*enormous*
feroz	*ferocious*
grande	*big*
pequeño/a	*small*

2.4 Espejito, espejito…

tener	*to have*
azules	*blue*
marrones	*brown (eyes)*
negro	*black/dark*
los ojos	*eyes*
verdes	*green*
calvo/a	*bald*
castaño	*brown (hair)*
el color	*colour*
corto	*short*
el estilo	*style*
largo	*long*
liso	*straight*
ondulado	*wavy*
pelirrojo	*ginger (hair)*
el pelo	*hair*
rizado	*curly*
rubio	*blond*
la barba	*beard*
el bigote	*moustache*
la boca	*mouth*
la cara	*face*
las gafas	*glasses*
la nariz	*nose*
las pecas	*freckles*

2.5 Las descripciones físicas

ser	*to be*
alto/a	*tall*
bajo/a	*short*
delgado/a	*thin*
feo/a	*ugly*
gordo/a	*fat*
guapo/a	*good-looking*
joven	*young*

mediano/a	*average height*
musculoso/a	*muscular*
viejo/a	*old*
la infanta/ princesa	*princess*
los rasgos físicos	*physical features*
la reina	*queen*
el rey	*king*

2.6 Mi carácter y relaciones

¿Cómo es?	*What is he/she like?*
aburrido/a	*boring*
activo/a	*active*
agresivo/a	*aggressive*
alegre	*happy*
antipático/a	*unfriendly*
arrogante	*arrogant*
divertido/a	*fun*
entusiasta	*enthusiastic*
generoso/a	*generous*
inteligente	*intelligent*
nervioso/a	*nervous*
perezoso/a	*lazy*
rápido/a	*fast*
simpático/a	*nice*
sincero/a	*honest*
tímido/a	*shy*
tonto/a	*silly*
torpe	*clumsy*

Spanish

Year 8 Spanish Knowledge Organiser
Unit 2: Mi Burbuja

2.1 ¡Contamos hasta cien! = Let's count to 100!

La Giralda de Sevilla	mide	noventa y ocho	metros	=	The Giralda in Seville measures 98 metres.
Las torres de la Sagrada Familia en Barcelona	miden	setenta y seis			The towers of the Sagrada Familia in Barcelona measure 76 metres.
El patio central de la Alhambra de Granada	**tiene**	treinta y seis		**de largo.**	The central patio of the Alhambra in Granada measures 36 metres long.

Mi número de teléfono es el 93 62 44 150. = My phone number is 93 62 44 150.

2.2 Te presento a mi familia = Introducing my family

Tengo	un hermano una hermana dos hermanos dos hermanas un hermanastro una hermanastra	mayor. menor. mayores. menores.	=	I have	An older brother. A younger sister. Two older brothers. Two younger sisters. A stepbrother. A stepsister.	Soy	hijo único hija única	=	I am	an only child (boy) an only child (girl)


2.3 Los animales y las mascotas = Animals and pets

Tengo	un perro un gato una cobaya	feroz enorme grande	=	I have	a ferocious dog. an enormous cat. a big guinea pig.	Me gustaría tener Tenía	un caballo. un pájaro. un ratón. una serpiente.	=	I would like to have I used to have	a horse. a bird. a mouse. a snake.

2.4 Espejito, espejito... = Mirror, mirror...

Tengo	los ojos	azules marrones verdes	=	I have	blue brown green	eyes.	Tengo	el pelo	castaño rubio negro	y	corto. largo. liso.	=	I have	short brown long blonde straight black/dark	hair.	Soy pelirrojo/a = I am a redhead Llevo gafas = I wear glasses

2.5 Las descripciones físicas = Physical descriptions

Soy	alto/a bajo/a delgado/a	y	guapo/a. gordo/a. joven.	=	I am	tall short thin	and	good-looking. fat. young.	Mi madre es baja y delgada = My mum is short and thin. Mi padre es viejo y mediano = My dad is old and average height.

2.5 Mi carácter y relaciones = My character and relationships

Soy	activo/a alegre inteligente	y	sincero/a divertido/a simpático/a	aunque soy	aburrido/a. arrogante. tímido/a.	=	I am	active happy intelligent	and	honest fun nice	although I am	boring. arrogant. shy.	Ella es perezosa pero entusiasta = She is lazy but enthusiastic. Él es inteligente pero torpe = he is intelligent but clumsy.

Spanish

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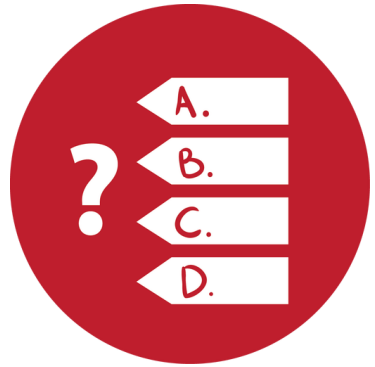

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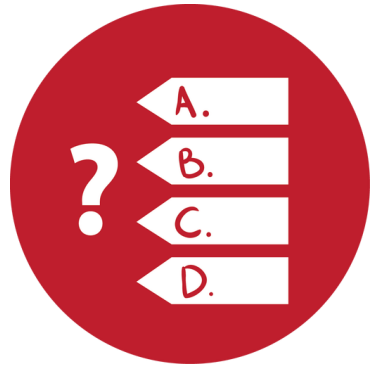

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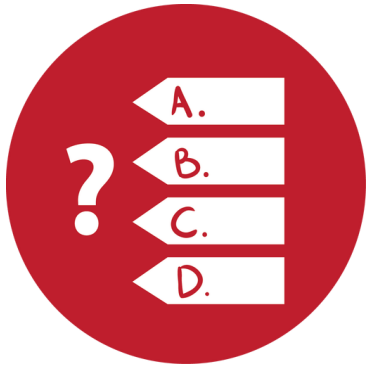

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