LYMM
HIGH SCHOOL

#5

NAME:

Year 8 Knowledge Organisers Spring Term

(Half term 3 and 4)

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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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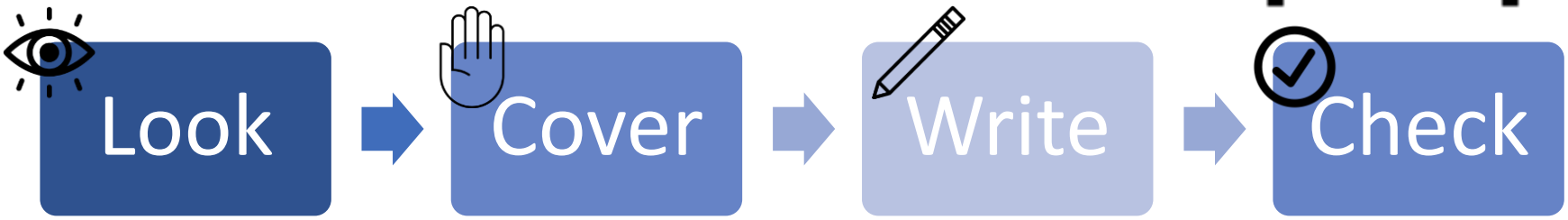
How to use your knowledge organiser:

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	
accelerate (v)	speed up	**Hypothesis (n)**	prediction	**precise (adj)**	exact
arbitrary (adj)	random	**illustrate (v)**	show	**principle (n)**	Belief
assert (v)	state/claim	**implicit (adj)**	Something suggested but not directly said	**proceed (v)**	go ahead
authorise (v)	give permission	**inhibit (v)**	prevent	**pursue (v)**	go after
conceive (v)	think	**innovation (n)**	new invention	**react (v)**	respond
context (n)	setting	**method (n)**	approach	**region (n)**	area
contribute (v)	add to	**modify (v)**	change	**require (v)**	need
denote (v)	stand for	**notion (n)**	idea	**restrict (v)**	limit
distinct (adj)	Different/ separate	**obtain (v)**	get	**shift (v)/(n)**	change
establish (v)	set up	**passive (adj)**	not active	**subsequent (adj)**	coming after
entity (n)	a thing/ a being	**perspective (n)**	viewpoint	**transmit (v)**	Communicate/ send
feasible (adj)	possible	**phenomenon (n)**	Remarkable thing	**verbal (adj)**	spoken
fluctuate (v)	vary/change	**precede (v)**	go before	**verify (v)**	check

YEAR 8 KNOWLEDGE ORGANISER – LITTLE CREATURES

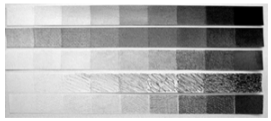
YEAR 8 KNOWLEDGE ORGANISER – LITTLE CREATURES

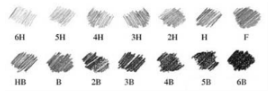
Art

Recording from Observation

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

Secondary source observational drawing: drawing something from a picture.





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.

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?

You must include:

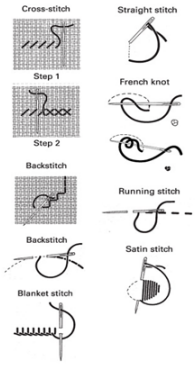
- Artists name (title)
- Imagery of the artists work
- Annotation and your own opinion (facts about the artist as well as analysing the artists work)
- Your own drawings or 'mini studies' of the artists work.
- Consider presentation of your page. Try to make your page reflect the artists style (through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

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

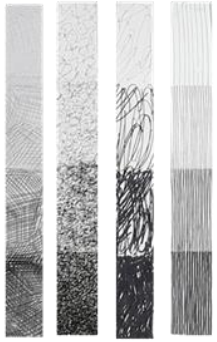
Scan this QR code to find out interesting facts about bugs and insects

YEAR 8 KNOWLEDGE ORGANISER - CULTURES

Recording from Observation

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

Secondary source observational drawing: drawing something from a picture.



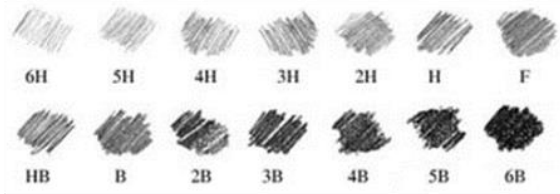
Grades of Pencils

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

H = hard, B = black (soft)

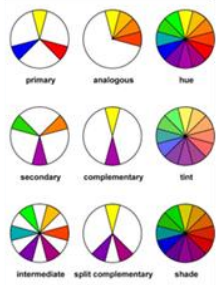
In Art the most useful pencils are B, 2B and 4B.

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



Culture	The ideas, customs, and social behaviour of a particular people or society.
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
Pattern	A series of shapes and lines put together to make a decorative image. Patterns are often inspired by shapes in their environment.
Rangoli	Designed to be symmetrical. They combine straight lines, curved lines and images like flowers and other things from nature. The symmetry of the designs in a symbol of prosperity, growth and luck.

Colour Theory: When mixing and blending colours and creating colour palettes for your work. Do not forget the colour wheel.



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YEAR 8 KNOWLEDGE ORGANISER - CULTURES

Mixed Media	The use of two or more media together.
Annotation	A note by way of explanation or comment added to a text or diagram.
Artistic Independence	Be able to comment on a piece of artwork and understand how that piece of art work has been created. Identifying what materials have been used and the stages of creation.

Steve Wintercroft

https://wintercroft.com/

- . In 2013, he left the surf industry to launch Wintercroft, an environmentally conscious design company specialising in helping people make Masks from waste card.

Iain Macarthur

Iain Macarthur | Animals, Character, Commercial, Food and Drink, Portraiture and Celebrities | JSR Agency

- A illustrator based in South London, known for his mixture of intricate patterns and wildlife elements.
- First ever comic I looked at was the Batman series. Since then I've been obsessed with drawing odd fantasy drawings and anime characters.

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).

When designing a piece of artwork you must:

- Use primary research (drawings/photographs) as starting points.
- Use artists styles to inspire you.
- Be creative with composition.
- Try and test every section of your piece before you create it.

Remember:

Dotted/dash Line = Mountain

Dotted Line = Valley

Diwali (festival of Light)

- Learn more about this by scanning the QR code

Art

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:

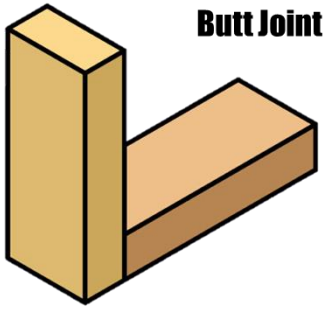
Alloys are mixtures of metal with an element to improve its properties or **aesthetic**. For example brass is a mixture of copper and zinc. Alloys can also be classified as ferrous or non-ferrous.

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

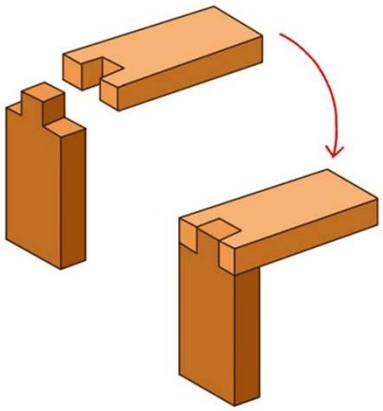
Frame/Box Joints.....

Butt Joint



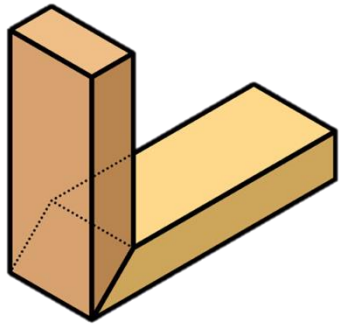
A **butt joint** is a technique in which two pieces of material are joined by simply placing their ends together without any special shaping. A butt joint can be strengthened with dowels, nails and screws.

Comb/Finger Joint



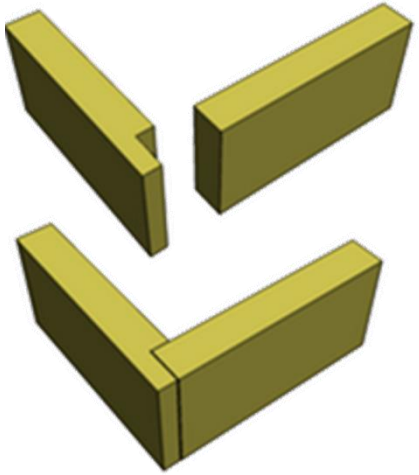
A **finger joint**, also known as a comb joint, is a woodworking joint made by cutting a set of complementary, interlocking profiles in two pieces of wood, which are then glued. The cross-section of the joint resembles the interlocking of fingers between two hands, hence the name "finger joint"

Mitre Joint



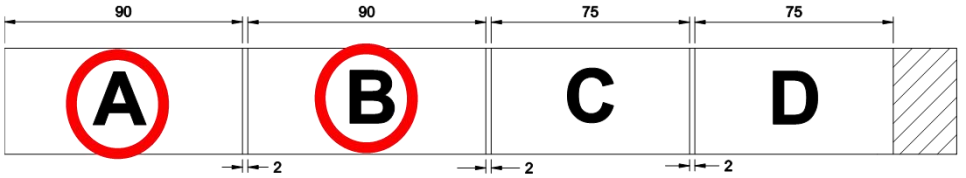
A **mitre joint** is a joint made by cutting each of two parts to be joined, across the main surface, usually at a 45° angle, to form a corner, usually to form a 90° angle, though it can comprise any angle greater than 0 degrees.

Rebate Joint (Half Lap)



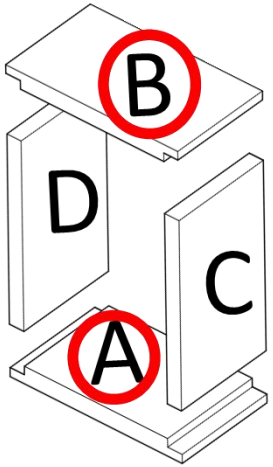
The rebate joint is a very similar to the butt joint but the big difference between the two is that one of the ends of the timber has a groove cut out of it to create much better holding strength.

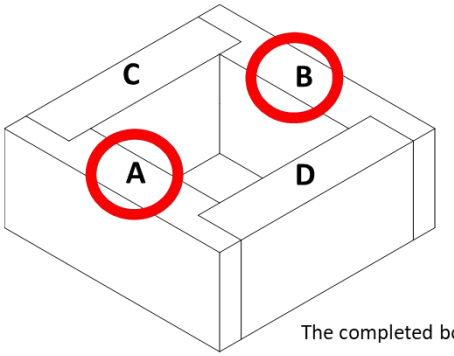
Measurements for Manufacturing the Rebate Joint (Half Lap Joint)



2mm gap should be left for the saw cut

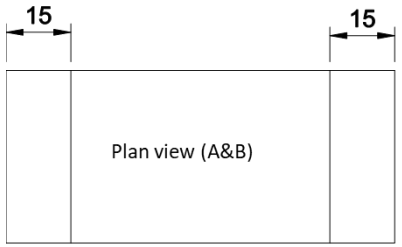
All dimensions in mm

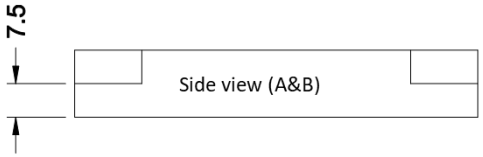




The completed box

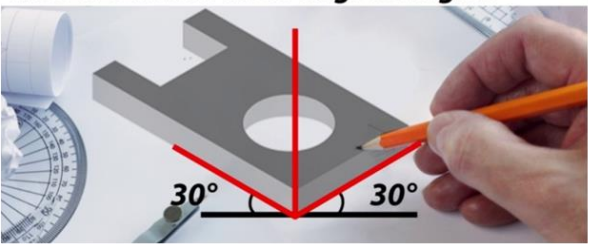
Rebate Joint (Half Lap Joint)



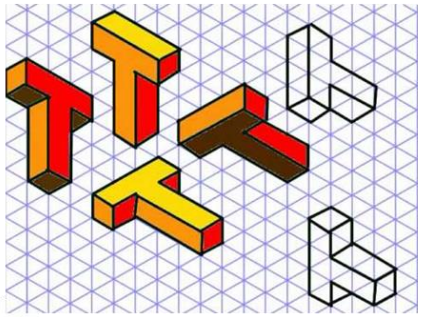


Isometric Drawing.....

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



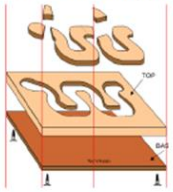
Scan the QR code to learn how to draw simple shapes in isometric.....



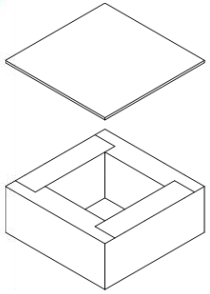
Exploded Isometric.....

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.

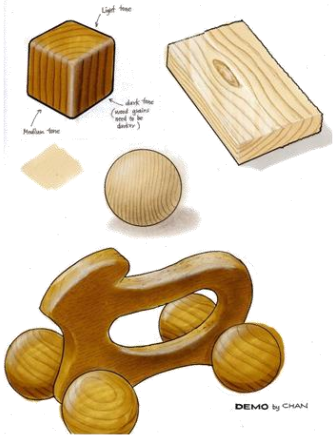


Scan the QR code to learn how to draw simple shapes in exploded isometric.....



This is the box that you will manufacture.

Shading an object to look like wood....

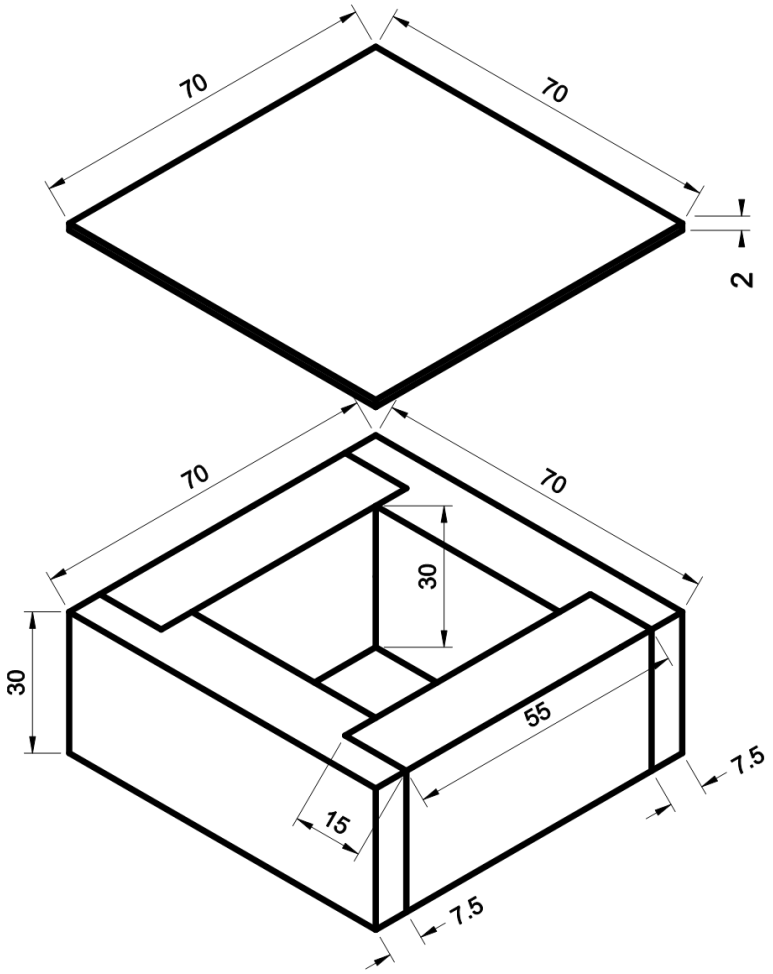


Shading an object to look like metal....

Example of a shaded pewter casting design

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

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

Bench Vice

F Clamp/ Screw Clamp

Bench Hook

Finishing....

Wood

Glass Paper (Wood)

Wood Oil

Plastic & Metal

Emery Cloth

Wet & Dry Paper

Joining....

PVA glue (wood glue)

Examples of moulds

Manufacturing Processes

Stages of Pewter Casting.....

Scan the QR code to learn how to cast metal

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

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

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

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

Cut the pewter ingot into small pieces

Use a metal vice & hack saw.

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

Pour molten pewter into the mould

Manufacturing Processes

CAD/CAM

(Computer Aided Design/Computer Aided Manufacture)

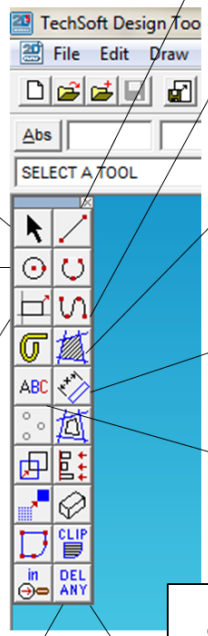
CAD 2D Design.....

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.

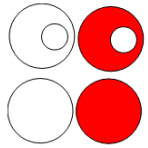
Straight line tool – click to place the start of the line, click to place end of line. Double click to set a specific length.

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.



Island

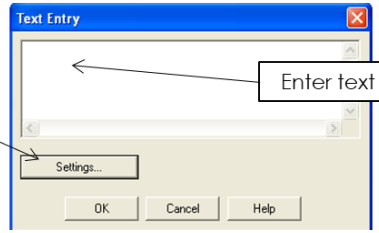
No Island

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.

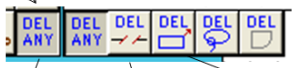
Draw a Rectangle – click to place a corner, and then click to place the opposite corner.

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.....

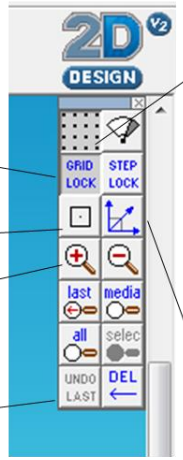
Your grid tools are all located on the left hand side of your screen.

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

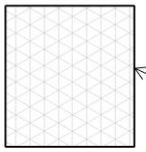
Attach – Use this tool to attach one point directly to another

Zoom in/Out

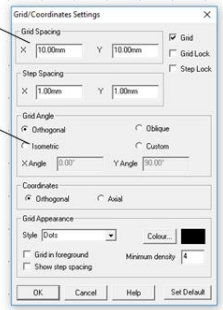
Undo – Undo or Delete your last move.
Remember: You can only undo one last step!



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



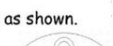
Radial Lock – Allows you to draw straight lines when not attached to the grid.

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.

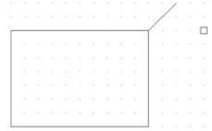


Remember to use the delete part, arc, circle and group functions.

Using the ATTACH TOOL

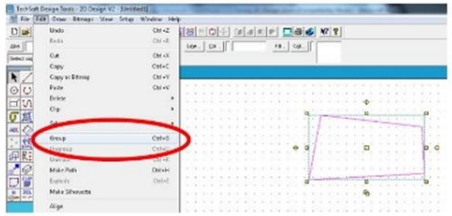
The Attach tool allows you to connect a drawing to a point on the screen.

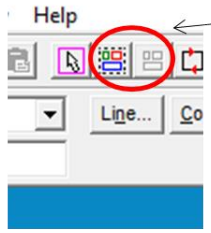
1. Draw a rectangle
2. Press the attach button
3. Press the line button
4. Move near the rectangle and click, the tool will attach your line to the rectangle.



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.





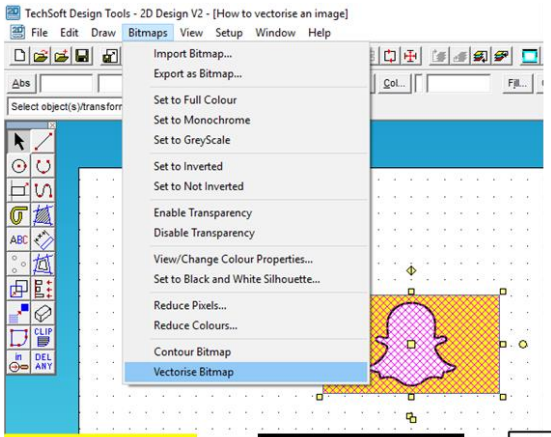
Group – Grouping an object makes it easier to move around and to resize. Use the quick group tool to group and ungroup a collection of objects.

Manufacturing Processes

CAD/CAM

(Computer Aided Design/Computer Aided Manufacture)

How to vectorise an image.....

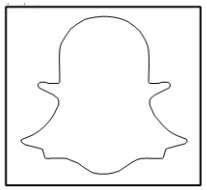


Find an image that you would like to use
To **vectorise**, follow the instructions:

- 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

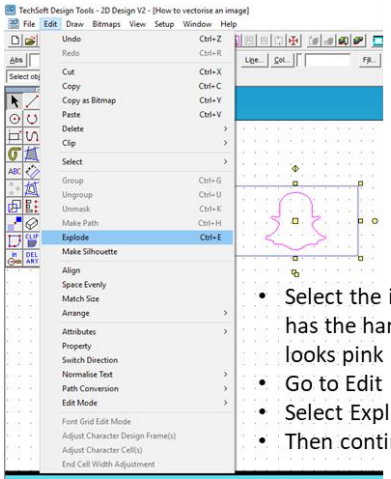
2. Vectorised Image



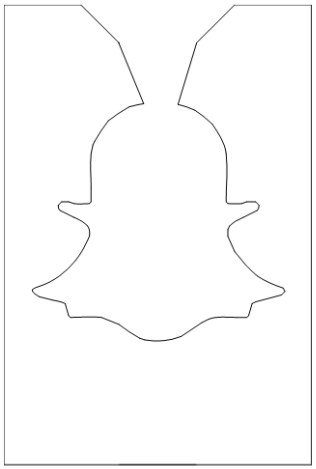
3. Outline Image with no 'fill'

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

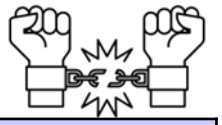


Re-size your image to fit into the template that your teacher has given you. You have successfully drawn the design for your mould.

Design and Technology

Key Terminology	
Rhetoric	The art of speaking or writing persuasively.
Anecdote	A short amusing or interesting story about a real incident or person.
Anaphora	Repetition of a word or expression at the beginning of successive phrases, clauses or sentences for rhetorical effect.
Hypophora	Posing a question to the audience and then answering that question in your speech or writing.
Maxim	A short, pithy statement expressing a general truth or rule of conduct.
Anadiplosis	The repetition of the word from the end of one sentence to the beginning of the next.
Asyndeton	The removal of conjunctions from a list. E.g. “A parson was laboring over the crest of the hill and coming toward them with one hand raised in blessing, greeting, fending flies.”
Polysyndeton	The additions of conjunctions in writing, such as ‘and’, ‘or’, and ‘but’ used in close succession, to suggest your listed ideas have equal importance.
Euphemism	A mild or indirect word or expression substituted for one considered to be too harsh or blunt.
Parallelism	Two or more elements of a sentence (or series of sentences) have the same grammatical structure. These "parallel" elements can be used to intensify the rhythm of language, or to draw a comparison, emphasize, or elaborate on an idea. e.g. “it was the best of times, it was the worst of times”.
Chiasmus	which the grammar of one phrase is inverted in the following phrase, such that two key concepts from the original phrase reappear in the second phrase in inverted order. E.g. "She has all my love; my heart belongs to her,"
Bias	Cause to feel or show inclination or prejudice for or against someone or something.
Subjectivity	The quality of being based on or influenced by personal feelings, tastes, or opinions.
Objectivity	The concept of truth independent from individual subjectivity (bias caused by one's perception, emotions, or imagination).
Satire	The use of humour, irony, exaggeration, or ridicule to expose and criticize people's stupidity or vices.
Irony	The expression of one's meaning by using language that normally signifies the opposite, typically for humorous or emphatic effect.
Activism	The policy or action of using vigorous campaigning to bring about political or social change.

21st Century Teenager



Key ‘Golden’ Themes	
Justice 	Fair or just behaviour or treatment for all. “A concern for justice, peace, and genuine respect for people" Synonyms: fairness, justness, equity, impartiality, objectivity, neutrality, integrity, righteousness, ethics, morals, morality, virtue, principled.
Conflict 	A serious disagreement or argument. Synonyms: contradictory, incompatible, inconsistent, irreconcilable, incongruous, contrary, opposing, discordant, differing, different, divergent, discrepant, varying, disagreeing
Prejudice 	Preconceived opinion that is not based on reason or actual experience. Examples of prejudice: Racism, sexism, ageism, classism, homophobia, religious prejudice, xenophobia.
Power 	The capacity or ability to direct or influence the behaviour of others or the course of events.
Equality 	the state of being equal, especially in status, rights, and opportunities.
Morality 	principles concerning the distinction between right and wrong or good and bad behaviour. Synonyms: ethics, principles, scruples

English

Context

Racism in Sport

The massive increase in the visibility and popularity of sports over the past century, thanks to television, radio and the internet, has intensified the way that fans relate to players as local and national representatives. Athletes become the face of a nation, and many of us pin patriotic hopes, fears and frustrations on them. Research has shown that when visibly diverse teams lose, existing exclusionary and racist nationalist undercurrents rise to the surface, manifesting as denial that players of colour belong to the nation. If the team is not "us", then "we" didn't lose.

Trolling

In internet slang, a troll is a person who posts inflammatory, insincere, digressive, extraneous, or off-topic messages in an online community, with the intent of provoking readers into displaying emotional responses or manipulating others' perception.

Gender Identity

Gender identity is a way to describe how someone feels about their gender. Some people may identify as a boy or a girl, while others may find neither of these terms feel right for them, and identify as neither or somewhere in the middle. Although people often confuse them, gender identity is different from someone's biological sex or assigned gender at birth.

While many people identify with the gender they were assigned at birth, for others gender is more of a spectrum, with lots of different possible identities. Gender expression is how someone chooses to express their gender identity.

Transgender: when someone feels their gender is different from the gender they were assigned at birth.
Non-binary: someone doesn't identify as either male or female. They could identify as both, or neither.
Cisgender: when someone's gender identity is the same as the gender they were assigned at birth.

#BeKind

An online movement started as a reaction to the online abuse and scrutiny suffered by celebrities and which has led, at times, to tragic and untimely death. This movement can also be applied to non-celebrities, and used to transform behaviour at a community level by educating young people to spread kindness.

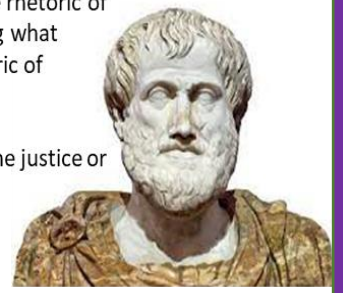
"In a world where you can be anything, be kind,"

Nuclear Weapons

A nuclear weapon (also known as an atom bomb, atomic bomb, nuclear bomb or nuclear warhead, is an explosive device that derives its destructive force from nuclear reactions, either fission or a combination of fission and fusion reactions. A nuclear device no larger than a conventional bomb can devastate an entire city by blast, fire, and radiation. Since they are weapons of mass destruction, the proliferation of nuclear weapons is a focus of international relations policy.

Aristotle - Rhetoric

The 'Art of Rhetoric' is the ability to persuade your audience by exploiting figures of speech and rhetorical techniques. Aristotle identified three kinds of rhetoric - deliberative, judicial, and epideictic.



- Deliberative: focuses on **the future**. It's the rhetoric of politicians debating a new law by imagining what effect it might have, and it's also the rhetoric of activists urging change.
- Judicial: speech or writing that considers the justice or injustice of a certain charge or accusation.
- Epideictic: ceremonial discourse: speech or writing that praises or blames (someone or something).

Aristotle said rhetoric is: "**the faculty of discovering in any particular case all of the available means of persuasion.**"

Key Concepts

Ethos 	The character or emotions of a speaker or writer that are expressed in the attempt to persuade an audience.
Logos 	The means of persuasion by demonstration of logical proof or reasoning that is real or apparent.
Pathos 	The means of persuasion that appeals to the emotions of an audience.

English

YEAR 8 TAINTED LOVE POETRY

Structure and form	Definition
Stanza	A 'verse' in a poem.
Enjambment	A sentence or phrase that runs onto the next line.
Anaphora	When the first word of a stanza is the same across different stanzas.
Juxtaposition	Two ideas/ images placed together for contrasting effect.
Speaker	The narrator, or person in the poem.
Refrain	A phrase, line or group of lines which is repeated throughout a poem.
Quatrain	A 4 line stanza of poetry
Rhyming Couplet	A rhyming pair of successive lines of verse, typically of the same length
Sonnet	A poem composed of 14 lines
Dramatic Monologue	A poem in the form of a speech or narrative by an imagined person, in which the speaker inadvertently reveals aspects of their character while describing a particular situation or series of events

Key Themes		Definition	Synonym
Obsession		The state of being **obsessed** with someone or something.	**Infatuated, fixated**
Jealousy		The state or feeling of being **jealous**.	**Envious, covetous**
Objectification		the action of degrading someone to the status of an object.	**Degrade**
Rejection		The act of dismissing or refusing love.	**Refuse, decline, dismiss**
Power		Having or exerting an influence over someone.	**Authority, command, supremacy**
Control		The power to influence or direct people's behaviour or a relationship	**Abuse, exploit, manipulate**
Unrequited		Love that is **one sided**, and not reciprocated.	**Unanswered, unreciprocated**

Word class	Definition
Verb	A **verb** is a word or set of words that shows action (*runs, is going, has been painting*); feeling (*loves, envies*); or state of being (*am, are, is, have been, was, seem*)..
Adverb	An adverb labels how, when or where something happens (and they often end in '–ly').
Noun	Nouns are names, places and things; they also signify imagined things like 'a ghost'; and ideas or concepts, such as 'love', 'guilt' or 'fate'.
Pronoun	Words used instead of a noun i.e. 'he', 'she', 'they', 'it'.
Adjective	An adjective is a describing word or phrase that adds qualities to a noun. It normally comes before a noun, or after verbs like 'am', 'is', 'was', 'appears' or 'seems'.
Preposition	Prepositions are short words and phrases that giveinformation about place, time and manner
Intensifier	A word, especially an adverb or adjective, that has littlemeaning itself but is used to add emphasis to anotheradjective, verb, or adverb.
Minimiser	A word that is used to make another adjective, verb or adverb sound lesser.

Poetic Techniques	Definition
Symbolism	When an object represents an idea that is much deeper and more significant.
Personification	Describing an inanimate object as having human feelings.
Metaphor	A descriptive technique that names a person, thing or action as something else.
Simile	A descriptive technique that compares one thing with another, usually using 'as' or 'like'.
Listing	When the writer includes several words/ phrases/ ideas, one after the other.
Repetition	When a word/ phrase is noticeably repeated throughout a sentence/ paragraph/ whole text.
Imagery	A technique in which the author appeals to the senses i.e. seeing, hearing, touching.
Conceit	A fanciful metaphor, especially a highly elaborate or extended metaphor in which an unlikely, far-fetched, or strained comparison is made between two things.
Extended Metaphor	A metaphor that is extended throughout a poem.
Semantic Field	A set of semantically or thematically linked words.
Alliteration	The occurrence of the same letter or sound at the beginning of adjacent or closely connected words
Plosive alliteration	The alliteration of 'explosive' letters: B, D, P, T
Sibilance	The alliteration of the letter S to produce a hissing sound.
Pathetic Fallacy	The use of weather imagery that reflects the mood of the poem.
Assonance	The repetition of the sound of a vowel in adjacent words.

English

Petrarch

1304-1374 – Early Renaissance
Scholar and poet of early Renaissance Italy, and one of the earliest humanists. His collections of poems addressed to Laura, an idealized beloved, contributed to the lyrical poetry of the Renaissance period. He is credited with the creation of the Petrarchan Sonnet – a 14 line poem divided into octave (first 8 lines) and sestet (final 6 lines), with a Volta (change) between.

Shakespeare

1564-1616 – Renaissance Period (Elizabethan and Jacobean)
English playwright, poet and actor. He is widely regarded as the greatest writer in the English Language. Alongside many plays, Shakespeare composed 154 sonnets and is credited with the creation of the Shakespearean Sonnet – a 14 line poem that is made up of 12 lines of verse followed by a rhyming couplet.

Behn

1640-1689 – Renaissance
After Behn's husband died and she was left in poverty (put into debtors prison because of money borrowed that she was unable to pay back) Behn vowed never to be financially dependent again and began to write in order to achieve financial security. Her contemporary reputation was founded primarily on her "scandalous" plays, which she claimed would not have been criticized for impropriety had a man written them.

Byron

1788-1825 – Romanticism
British Romantic poet and satirist whose poetry and personality captured the imagination of Europe. As a leader of the Romantic Era's poetic revolution, he led demands and calls for freedom for the people oppressed by the Industrialisation of England, particularly those of the lower echelons who were silenced by government control.

Browning

1812-1889 – The Victorian Era
Browning established himself as a celebrated poet through the form of dramatic monologue – a style of poem in the form of a speech or story-like narrative by an imagined person. In his later life he became thought of as a Victorian sage—widely regarded for his knowledge and his explorations of philosophical questions of great resonance in Victorian life.

Plath

1932-1963 – Modern Era
One of the most dynamic and admired 'confessional' poets of the 20th century who attempted to catalogue despair, violent emotion, and obsession. Oates described Plath as "one of the most celebrated and controversial of postwar poets." Intensely autobiographical, Plath's poems explore her own mental anguish, her turbulent marriage, and unresolved conflicts. She was a woman driven to madness by patriarchal control and expectations of her.

Duffy

1955 - onwards – Post-Modern Era
Duffy is best known for writing love poems that often take the form of monologues. typically "spoken in the voices of the urban disaffected, people on the margins of society who harbour resentments and grudges against the world." Duffy's poetry is considered powerfully feminist. She became Poet Laureate in 2009.

Wetzesteon

1967 - 2009 – Post-Modern Era
Celebrated as a hard-edged yet graceful poet whose poems are rich with feeling yet unsentimental. Exploring emotions such as anger, melancholy, hope, and comic throughout, they explore the sensibilities of women as they fall in and out of love.

Young

1970 - onwards – Post-Modern Era
Young is considered as a profound and elegant poet, with mastery of the song-like qualities of poetry.

His poetry has been celebrated as 'compelling' and 'authentic'.

Important periods in literary history.

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

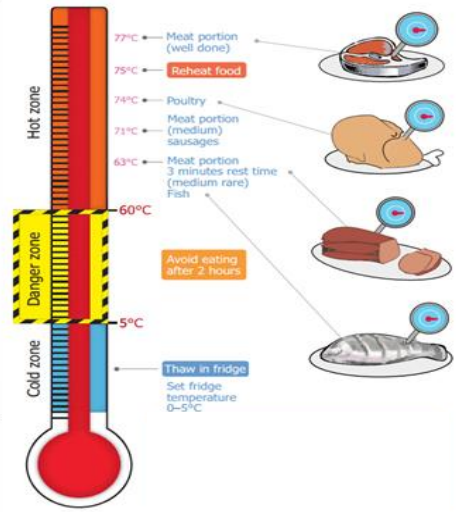
When Using The Cooker:

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



Food Technology

2. Commodities - Meat, Poultry,

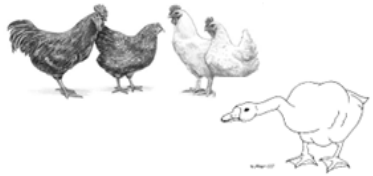
MEAT Meat is an important food commodity which provides nutrients essential for health. It is the muscle tissues of dead animals and birds are classified as meat and poultry, whereas the edible internal organs are called Offal. Game refers to wild animals

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	

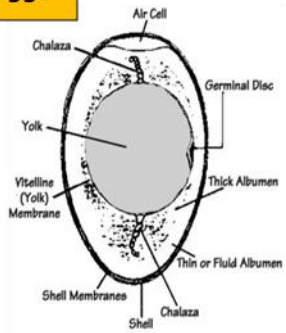
Ways of preserving fish. Salting - If enough salt is used, then the fish may keep for up to a year.
Smoking - Fish can be smoked using different techniques. Hot smoked fish are moist, lightly salted and fully cooked. They can be eaten without further cooking. Cold smoked fish are generally saltier in 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.

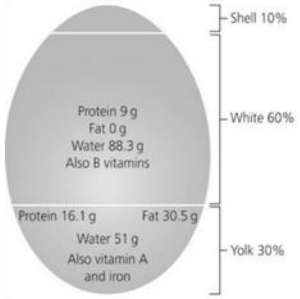
Food Technology

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.

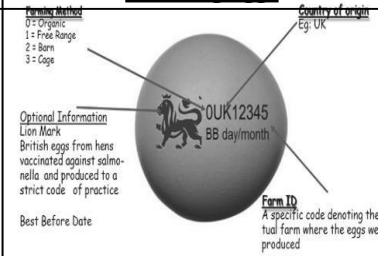
Grade C: The lowest egg grade, these are used in the production of processed egg products only. They are not sold in retail stores Yolk is flattened and may be oblong in shape; white is thin and watery. Shell may be cracked and/or stained

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.

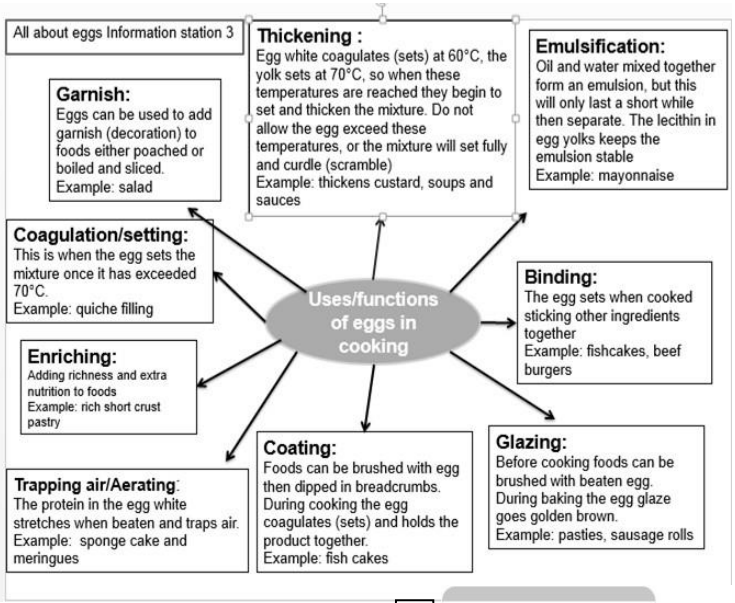
Eggs stay in good condition if stored correctly for two to three weeks. Eggs cannot be frozen whole but the whites and yolks can be frozen separately in containers. Always use eggs by the best before date. Eggs can be preserved by pickling.

Labelling Eggs



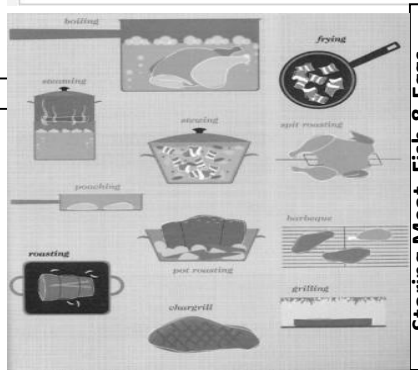
Cooking methods for Meat, Fish & Eggs

Functions of eggs

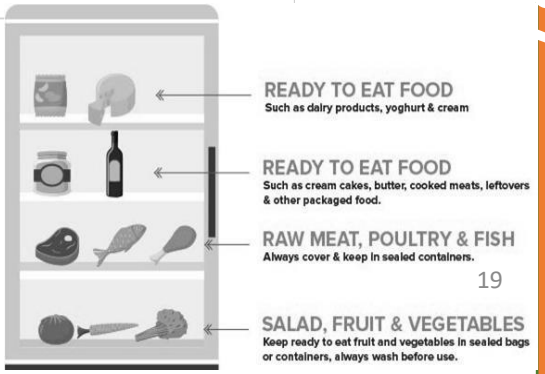


Sizing Eggs

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



Storing Meat, Fish & Eggs



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

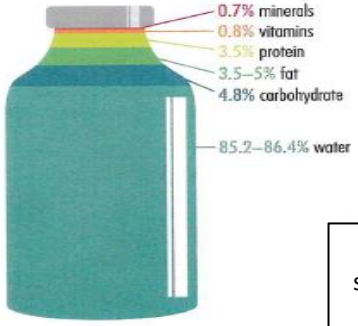
Animal Welfare
There are symbols on packaging to show that meat and poultry have met welfare standards. Animal welfare refers to the well- being of animals and covers areas such as the animals' access to fresh water and a diet to maintain full health. It also gives assurance that animals are reared free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

5. Commodities – Milk

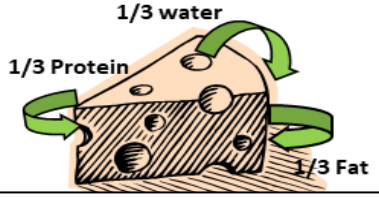
Milk is an important food commodity which provides nutrients essential for health. Milk is considered nature's most perfect food. A variety of different foods can be made from milk.
Milk is a pale liquid produced by the mammary glands of mammals. It is the primary source of nutrition for infant mammals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

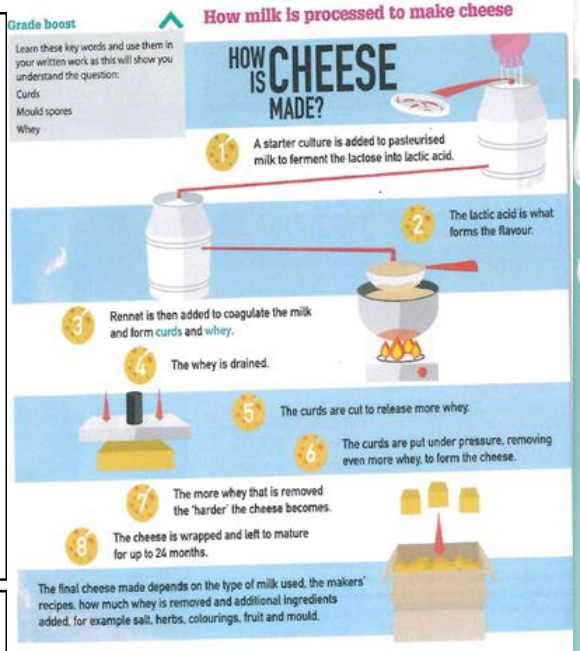
Ways to preserve milk - Heat treatments Pasteurised A mild heat treatment. It only kills pathogenic bacteria to make it safe to drink. It extends the shelf life. It needs to be kept chilled. There is no change in flavour or nutritional value. The fat (cream) rises to the top.

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

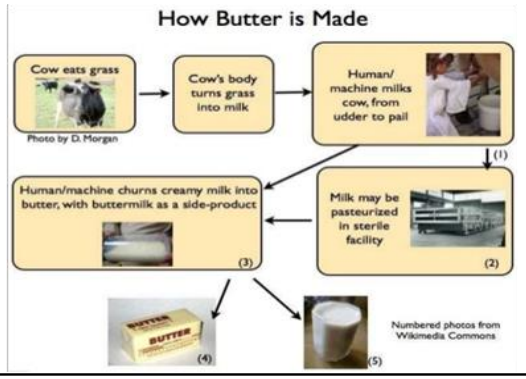
- Some soft cheeses are left to ripen such as Brie and Camembert
- Cottage cheese has a bacteria added to it that makes it clump together in lumps
- Ricotta is a soft whey cheese - low in fat
- Moulds grow on the outside and help to soften the curds inside

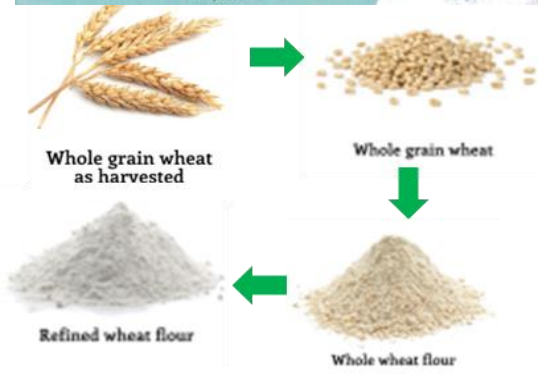
Semi- hard cheeses are 'pressed' cheeses - but not pressed as much as hard cheeses! are examples

- 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.

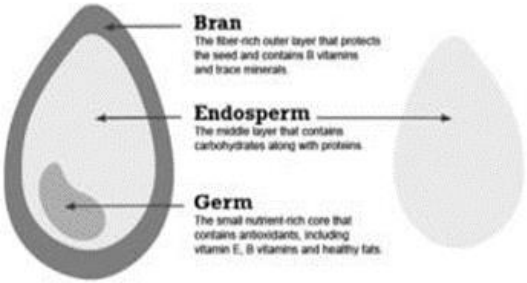
Bread is a staple food in much of the world. It is made from strong flour, yeast, salt and water. Fat is often added to extend the shelf life of bread. Sugar is added for sweetness and to add colour.

6. Commodities – Dairy Produce

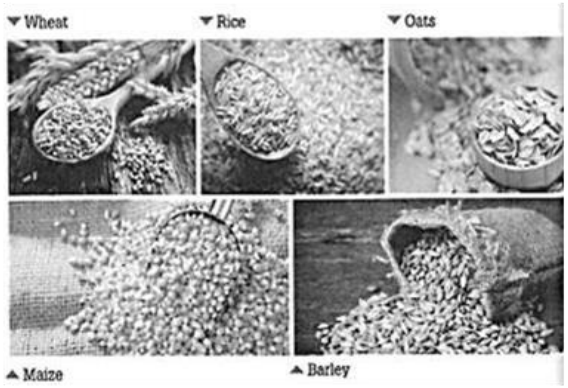
7. Commodities: Cereals

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 3 French Knowledge Organiser

Unit 3: À loisir

French

Point de départ

Ma célébrité préférée est …	*My favourite celebrity is …*
Il/Elle est / n'est pas …	*He/She is / is not …*
arrogant(e).	*arrogant.*
intelligent(e).	*intelligent.*
laid(e).	*ugly.*
méchant(e).	*nasty.*
bête.	*stupid.*
drôle.	*funny.*
égoïste.	*selfish.*
modeste.	*modest.*
sérieux/sérieuse.	*serious.*
généreux/généreuse.	*generous.*
paresseux/paresseuse.	*lazy.*
travailleur/travailleuse.	*hard-working.*
beau/belle.	*good-looking.*
gentil/gentille.	*kind.*
Il/Elle a beaucoup de talent.	*He/She has lots of talent.*
Il/Elle fait beaucoup de choses les bonnes causes.	*He/She does a lot for charity.*
C'est mon chanteur / ma préféré(e).	*He/She is my favourite singer.*
C'est un(e) de mes acteurs / préféré(e)s.	*He/She is one of my favourite actors/actresses.*
J'aime / Je n'aime pas …	*I like / I don't like …*
les comédies	*comedies*
les dessins animés	*cartoons*
les documentaires	*documentaries*
les feuilletons	*soaps*
les infos	*the news*
les jeux (télévisés)	*gameshows*
les séries (policières)	*(police) series*
les émissions de … cuisine/musique/sport/science-fiction/télé-réalité	*cookery/music/sport/science fiction/reality… programmes*
parce qu'ils/elles sont …	*because they are …*
ridicules.	*ridiculous.*
divertissant(e)s.	*entertaining.*
intéressant(e)s.	*interesting.*
passionnant(e)s.	*exciting.*
plein(e)s d'action.	*full of action.*
ennuyeux/ennuyeuses.	*boring.*
nuls/nulles.	*rubbish.*
marrant(e)s.	*funny.*
bêtes.	*stupid.*

Bonne année!

Je joue sur mon portable.	*I play on my phone.*
Je finis mes devoirs à la récré.	*I finish my homework at break.*
Je n'aide pas mes parents.	*I don't help my parents.*
Je fais la grasse matinée.	*I have a lie-in.*
Je ne suis pas sympa avec …	*I am not kind to …*
Je vais …	*I am going …*
aller au marché.	*to go to the market.*
aider dans le jardin.	*to help in the garden.*
être patient(e) avec …	*to be patient with …*
faire du sport.	*to do sport.*
laisser mon smartphone dans ma chambre.	*to leave my smartphone in my room.*
finir mes devoirs le soir.	*to finish my homework in the evening.*

Phonics!

Pronouncing cognates	*gentil**le**,* arrogant intelligent
tion and ssion	*fic**tion**, pas**sion**nant*
qu	***qu**el, **qu**oi*

Ma vie numérique

Je regarde la télé …	*I watch TV …*
avant les cours.	*before lessons.*
tous les soirs.	*every evening.*
le weekend.	*at the weekend.*
dans le salon.	*in the living room.*
dans le bus.	*on the bus.*
dans ma chambre.	*in my bedroom.*
avec ma famille.	*with my family.*
seul(e).	*alone.*
Je regarde …	*I watch …*
des chaînes sur YouTube	*YouTube channels*
à la demande, sur Netflix	*on demand, on Netflix*
sur mon smartphone	*on my smartphone*
sur mon ordinateur	*on my computer*
sur ma tablette	*on my tablet*
C'est facile.	*It's easy.*
C'est varié.	*It's varied.*
Ce n'est pas cher.	*It's not expensive.*
J'écoute de la musique en streaming.	*I stream music.*
Je télécharge des chansons.	*I download songs.*
Je crée des playlists.	*I create playlists.*
Je joue sur ma Xbox.	*I play on my Xbox.*
J'achète des jeux et je joue en ligne.	*I buy games and play online.*

On va au ciné?

Je vais au cinéma.	*I'm going to the cinema.*
Tu viens?	*Are you coming?*
Ça dépend. Qu'est-ce que tu vas voir?	*It depends. What are you going to see?*
Je vais regarder …	*I'm going to see …*
une comédie	*a comedy*
un film d'animation	*an animated film*
un film romantique	*a romantic film*
un film d'action	*an action film*
un film d'horreur	*a horror film*
un film de science-fiction	*a sci-fi film*
un film de super-héros	*a superhero film*
Il y a une séance à 14h.	*There's a screening at 2 pm.*
Bonne idée! Je veux bien.	*Good idea! I'd like to.*
Tu rigoles!	*You're kidding!*
Je n'ai pas envie.	*I don't want to.*
Désolé(e). Je ne peux pas ce	*Sorry. I can't this evening.*
Rendez-vous où et à quelle	*Where and when shall we*
Chez moi. / Chez toi.	*At my house. / At your*
À 19h.	*At 7 pm.*
À plus.	*See you later.*
À demain.	*See you tomorrow.*
À samedi.	*See you on Saturday.*
Je peux vous aider?	*Can I help you?*
Je voudrais trois billets pour	*I'd like three tickets for …*
Deux adultes et un enfant.	*Two adults and one child.*
Ça fait combien?	*How much is it?*
C'est quelle salle?	*Which screen?*

Quels sont tes loisirs?

Je bavarde / Je parle avec mes copains.	*I chat / I talk to my friends.*
Je fais du cyclisme.	*I go cycling.*
Je fais du vélo.	*I go cycling.*
Je lis.	*I read.*
Je fais de la lecture.	*I read.*
Je nage.	*I swim. / I go swimming.*
Je fais de la natation.	*I swim. / I go swimming.*
Je ne lis pas beaucoup.	*I don't read much.*
Je ne joue jamais à des jeux vidéos.	*I never play video games.*
Je ne fais rien.	*I don't do anything.*

Tu as fait des achats?

Je suis allé(e) au centre commercial.	*I went to the shopping centre.*
J'ai fait les magasins.	*I went shopping.*
J'ai fait des achats.	*I went shopping.*
J'ai lu une annonce pour les soldes.	*I read an advert for the sales.*
J'ai fait une balade.	*I went for a walk.*
J'ai fait une promenade.	*I went for a walk.*
J'ai attendu une demi-heure.	*I waited half an hour.*
J'ai depensé trop d'argent.	*I spent too much money.*
J'ai découvert un café.	*I discovered a café.*
J'ai essayé plein de vêtements.	*I tried on lots of clothes.*

Year 8 Half-Term 3 French Knowledge Organiser
Unit 3: À loisir

Bonne année!

Je joue sur mon portable. Je n'aide pas mes parents.	L'année prochaine je vais	aider dans le jardin. faire du sport.	

Point de départ

Ma célébrité préférée est – My favourite singer is Il/ elle est / n'est pas - he she is / in't	arrogant(e). intelligent(e). laid(e). méchant(e).	*arrogant.* *intelligent.* *ugly.* *nasty.*	C'est mon chanteur / ma préféré(e). C'est un(e) de mes acteurs / préféré(e)s.	*He/She is my favourite singer.* *He/She is one of my favourite actors/actresses.*	car	Il/Elle a beaucoup de talent. Il/Elle fait beaucoup de choses les bonnes causes.	*He/She has lots of talent.* *He/She does a lot for charity.*

Ma vie numérique

Je regarde la télé	avant les cours. tous les soirs. le weekend. dans le salon. dans le bus. dans ma chambre. avec ma famille. seul(e).	*before lessons.* *every evening.* *at the weekend.* *in the living room.* *on the bus.* *in my bedroom.* *with my family.* *alone.*	Je regarde la télé	des chaînes sur YouTube à la demande, sur Netflix	*YouTube channels* *on demand, on Netflix*	et	Je télécharge des chansons. Je crée des playlists. Je joue sur ma Xbox. J'achète des jeux et je joue en ligne.	*I download songs.* *I create playlists.* *I play on my Xbox.* *I buy games and play online.*

On va au ciné?

Je vais au cinéma – I'm going to the cinema	et je vais regarder	une comédie un film d'animation un film romantique un film d'action un film d'horreur	*a comedy* *an animated film* *a romantic film* *an action film* *a horror film*	à 19 heures – at 7pm à dix heaures – at 10am à midi – at midday	Je voudrais trois billets, deux adultes ey un enfant – I would like 3 tickets, 2 adults and one child

Quels sont tes loisirs?

Normalment	Je bavarde / Je parle avec mes copains.	*I chat / I talk to my friends.*	Je fais du vélo. Je lis. Je fais de la lecture. Je nage.	*I go cycling.* *I read.* *I read.* *I swim. / I go swimming.*	mais	Je ne lis pas beaucoup. Je ne joue jamais à des jeux vidéos.	*I don't read much.* *I never play video games.*

Tu as fait des achats?

Je suis allé(e) au centre commercial – I went to the shopping centre	et	J'ai fait les magasins. J'ai fait des achats.	*I went shopping.* *I went shopping.*	et aussi and also	J'ai depensé trop d'argent. J'ai découvert un café. J'ai essayé plein de vêtements.	*I spent too much money.* *I discovered a café.* *I tried on lots of clothes.*	

French

Year 8 Half-Term 4 French Knowledge Organiser

Unit 4: Le monde est petit

1- Normalement, hier et demain
Normally, yesterday and tomorrow

Normalement, …	*Normally, …*
j'écoute de la musique.	*I listen to music.*
je lis des BD.	*I read comics.*
nous jouons en ligne.	*we play online.*
Le weekend dernier, …	*Last weekend, …*
je suis allé(e) …	*I went…*
j'ai choisi …	*I chose …*
j'ai mangé …	*I ate …*
Le weekend prochain, …	*Next weekend, …*
je vais visiter ...	*I am going to visit …*
on va prendre	*we are going to take ...*
on va manger …	*we are going to eat …*

2 - Où habites-tu? – *Where do you live?*

J'habite …	*I live …*
dans un village.	*in a village.*
dans une ville.	*in a town.*
dans une grande ville.	*in a city.*
à la campagne.	*in the country.*
à la montagne.	*in the mountains.*
au bord de la mer.	*at the seaside.*
sur une île.	*on an island.*
dans le désert.	*in the desert.*
en France.	*in France.*
en Suisse.	*in Switzerland.*
au Maroc.	*in Morocco.*
aux Antilles.	*in the French Caribbean.*

3 - Quel temps fait-il? – *What's the weather like?*

Il fait beau.	*The weather's fine.*
Il fait mauvais.	*The weather's bad.*
Il fait chaud.	*It's hot.*
Il fait froid.	*It's cold.*
Il y a du soleil.	*It's sunny.*
Il y a du vent.	*It's windy.*
Il y a du brouillard.	*It's foggy.*
Il y a des orages.	*It's stormy.*
Il pleut.	*It's raining. / It rains.*
Il neige.	*It's snowing. / It snows.*

Make sure you know how to use different types of verbs in all three tenses.

	infinitive	present tense	perfect tense	near future tense
regular –*er* verbs	(e.g.) *jouer* (to play)	*je joue*	*j'ai joué*	*je vais jouer*
key irregular verbs	*boire* (to drink)	*je bois*	*j'ai bu*	*je vais boire*
	faire (to do / make)	*je fais*	*j'ai fait*	*je vais faire*
	prendre (to take)	*je prends*	*j'ai pris*	*je vais prendre*
	aller (to go)	*je vais*	*je suis allé(e)** *on est allé(e)s**	*je vais aller*

*Remember, some verbs take ***être***, not ***avoir***, in the perfect tense, and the past participle must agree with the subject.

Phonics!	
-gn	*campa**gne**, monta**gne***
-eu -ou	*je p**eux*** *nous p**ouvons***

4 – C'est comment en été ? – *What's it like in summer?*

C'est comment en hiver ?
What's it like in winter?

C'est …	*It's …*
amusant	*fun*
tranquille / calme	*peaceful / quiet*
ennuyeux / animé	*boring / lively*
nul / génial / joli	*awful / great / pretty*
très	*very*
trop	*too*

5 – Il y a un jardin public dans ta région? – *Is there a park in your region?*

Dans ma région, il y a	*In my region, there is / are*
un appartement	*a flat*
un bâtiment	*a building*
un champ	*a field*
un jardin public	*a park*
un lac	*a lake*
un magasin	*a shop*
une forêt	*a forest*
une montagne	*a mountain*
une plage	*a beach*
une rivière	*a river*
un(e) touriste	*a tourist*
beaucoup de	*lots of*
plein de	*plenty of*
peu de	*little, not many*
trop de	*too much / too many*

French

Year 8 Half-Term 4 French Knowledge Organiser

Unit 4: Le monde est petit

6 - Qu'est ce que tu peux faire là? – *What can you do there?*

On peut …	You / People can …
manger des crêpes.	eat pancakes.
visiter les monuments historiques.	visit historic monuments.
visiter des grottes.	visit caves.
aller au cinéma.	go to the cinema.
aller à la plage.	go to the beach.
aller en ville.	go to town.
faire les magasins.	go shopping.
faire du canoë-kayak.	go canoeing.
faire des randonnées.	go for walks.
faire du ski.	go skiing.
cultiver le coton	to grow cotton
travailler dans les champs.	to work in the fields
acheter des animaux	to buy animals
aller à l'école	to go to school
vendre des légumes	to sell vegetables

7 - Qu'est-ce qu'on doit faire pour aider à la maison?
What can we/people do to help at home?

On doit …	*We / People must …*
Je dois …	*I must …*
Ma sœur / Mon frère doit …	*My sister / My brother must …*
garder ma sœur.	*look after my sister.*
garder mon frère.	*look after my brother.*
ranger ma chambre.	*tidy my room.*
rapporter l'eau.	*collect the water.*
laver la voiture.	*wash the car.*
faire la cuisine.	*do the cooking.*
faire la vaisselle.	*do the washing-up.*
faire la lessive.	*do the washing.*
nourrir les animaux.	*feed the animals.*
son frère / sa sœur	*his/her brother / his/her sister*
On ne doit pas …	*We / People must not …*
polluer l'eau.	*pollute the water.*

Elle est comment, ta région?

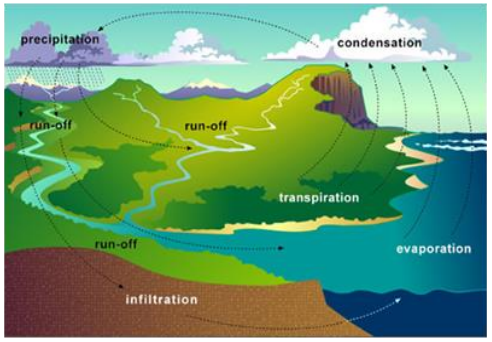
Ma région, c'est	très trop	amusant. tranquille. calme. ennuyeux.	Il y a	un jardin public un magasin une forêt une plage	et on peut	faire les magasins. faire du canoë-kayak. faire des randonnées. visiter des grottes.

Qu'est-ce qu'on doit faire pour aider à la maison?

On doit	faire la cuisine. faire la vaisselle.	Je dois	garder ma sœur ranger ma chambre	mais et	mon frère doit	nourrir les animaux. faire la lessive. laver la voiture.

French

Geography



Water Cycle Key Terms

Precipitation	Moisture falling from clouds as rain, snow sleet or hail.
Interception	Vegetation prevents water reaching the ground.
Surface Runoff	Water flowing over the surface of the land into rivers
Infiltration	Water absorbed into the soil from the ground.
Transpiration	Water lost through leaves of plants.

Drainage basin Key Terms

Drainage basin	An area of land drained by a river and its tributaries.
Watershed	The area of high land forming the edge (boundary) of the drainage basin
Source	Where the river begins.
Tributary	A small river or stream that joins a larger river.
Confluence	The point at which two rivers meet.
Mouth	Where a river meets the sea.

Types of Erosion

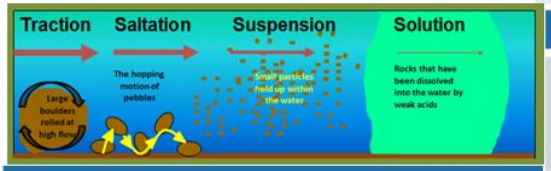
The break down of rocks by the power of the river water

Attrition	Rocks that bash together to become smooth/smaller.
Solution	A chemical reaction that dissolves rocks.
Abrasion	Rocks scrape against the banks and bed of a river.
Hydraulic Action	Water enters cracks in the river bank, air compresses, causing the crack to expand.

Types of Transportation

A natural process by which eroded material is carried/transported.

Solution	Minerals dissolve in water and are carried along.
Suspension	Small sediment is carried along in the flow of the water.
Saltation	Pebbles that bounce along the river bed.
Traction	Boulders that roll along a river bed by the force of the flowing water.



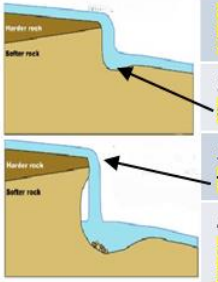
What is Deposition?

When the river loses energy, it drops the rock particles and pebbles it has been carrying. This is called deposition. Heaviest material is deposited first.

Upper Course of a River

Near the source, the river flows over steep gradient from the hill/mountains. This gives the river a lot of energy, so it will erode the riverbed vertically to form narrow V shaped valleys.

Formation of a Waterfall



1) River flows over alternative types of rocks.

2) River erodes soft rock faster creating a step.

3) Further hydraulic action and abrasion form a plunge pool beneath.

4) Hard rock above is undercut, becomes unsupported, so collapses providing more material for erosion.

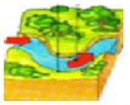
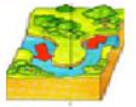
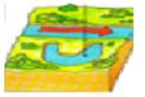
River Management Schemes

Soft Engineering	Hard Engineering
Afforestation – plant trees to soak up rainwater, reduces flood risk. **Flood Barriers** put in place when warning raised. **Managed Flooding** – naturally let areas flood, protect buildings	**Straightening Channel** – increases velocity to remove flood water. **Artificial Levees** – heightens river so flood water is contained. **Deepening or widening river** to increase capacity for a flood.

Middle Course of a River

The gradient gets gentler. The river starts to speed up. The river erodes laterally making it wider.

Formation of Ox-bow Lakes

Step 1	Step 2
 Erosion of outer bank forms river cliff. Deposition inner bank forms slip off slope.	 Further hydraulic action and abrasion of outer banks, neck gets smaller.
Step 3	**Step 4**
 Erosion breaks through neck, normally during a flood, so river takes the fastest route, redirecting flow	 Deposition on the outer edges of the channel cuts off the meander leaving an oxbow lake.

Lower Course of a River

Near the river's mouth, the river widens further and becomes flatter. Material transported is deposited at the sides of the river, or when it meets the sea.

Formation of Floodplains and levees

When a river floods, fine silt/alluvium is deposited on the valley floor. Closer to the river's banks, the heavier materials build up to form natural levees.

- ✓ Nutrient rich soil makes it ideal for farming.
- ✓ Flat land for building houses.

Case Study - Boscastle flood August 16th 2004

Boscastle is a small village in Cornwall. It has a permanent population of under 1000. 90% of jobs in the village are linked to tourism.

Effects of flood - 100 homes and 25 businesses damaged. 75 cars and 8 boats washed away. 150 people had to be rescued. Damage cost £15 million.

Causes of flood - 5 hours of heavy rain (3 inches in 1 hour), Impermeable rock, steep valley sides, thin soils limit vegetation. Buildings narrowing river channel. Narrow bridges trapped debris.

Responses to flood - Scheme cost £4.6 million. Beds of rivers lowered by 6 ft . Bridges widened. Car park raised by 5m. Trees removed from near river.

Physical and Human Causes of Flooding.

***Physical:* Prolong & heavy rainfall**
Long periods of rain causes soil to become saturated leading runoff.

***Physical:* Geology**
Impermeable rocks causes surface runoff to increase river discharge.

***Physical:* Relief**
Steep-sided valleys channels water to flow quickly into rivers causing greater discharge.

***Human:* Land Use**
Tarmac and concrete are impermeable. This prevents infiltration & causes surface runoff.

Year 8 Half-Term 3 German Knowledge Organiser

Unit 3: Meine Hobbys

1 - Bist du sportlich?	*Are you sporty?*
Ich bin ... sportlich.	*I am ... sporty.*
sehr/ziemlich/nicht sehr	*very/quite/not very*
Was spielst du?	*What do you play?*
Ich spiele …	*I play ...*
Ich spiele gern ...	*I like playing ...*
Ich spiele ziemlich gern ...	*I quite like playing ...*
Ich spiele nicht gern …	*I don't like playing ...*
Badminton	*badminton*
Basketball	*basketball*
Eishockey	*ice hockey*
Fußball	*football*
Handball	*handball*
Tennis	*tennis*
Tischtennis	*table tennis*
Volleyball	*volleyball*
Wasserball	*water polo*

2 - Was machst du gern?	*What do you like doing?*
Was machst du gern?	*What do you like doing?*
Ich fahre Rad.	*I ride my bike.*
Ich fahre Skateboard.	*I go skateboarding.*
Ich fahre Ski.	*I ski.*
Ich fahre Snowboard.	*I snowboard.*
Ich lese.	*I read.*
Ich mache Judo.	*I do judo.*
Ich mache Karate.	*I do karate.*
Ich reite.	*I go horse riding.*
Ich schwimme.	*I swim.*
Ich sehe fern.	*I watch TV.*
Ich spiele Gitarre.	*I play the guitar.*
Ich tanze.	*I dance.*

3 - Wie findest du das?	*What do you think of it?*
Ich finde es …	I think it's …
Es ist …	It's …
irre	amazing
super	super
toll	great
cool	cool
gut	good
nicht schlecht	not bad
okay	okay
langweilig	boring
nervig	annoying
stinklangweilig	deadly boring
furchtbar	awful

4 - Wie oft?	*How often?*
(sehr/ziemlich/nicht so) oft	*(very/quite/not so) often*
einmal/zweimal/dreimal pro Woche/pro Monat	*once/twice/three times a week/a month*
jeden Tag	*every day*
jeden Morgen	*every morning*
manchmal	*sometimes*
immer	*always*
nie	*never*

Phonics!	
sp	***sp**iele*
er/ehr/ä	*fä**hr**t, ge**r**n*
st	**st**inklangweilig

Wann?	*When?*
am Wochenende	*at the weekend*
am Abend	*in the evening*
heute	*today*
morgen	*tomorrow*
am Montag	*on Monday*
nächste Woche	*next week*
in zwei Wochen	*in two weeks*

5 - Was machst du in deiner Freizeit?	*What do you do in your free time?*
Ich chille.	*I chill.*
Ich esse Pizza oder Hamburger.	*I eat pizza or hamburgers.*
Ich gehe einkaufen.	*I go shopping.*
Ich gehe ins Kino.	*I go to the cinema.*
Ich gehe in den Park.	*I go to the park.*
Ich gehe in die Stadt.	*I go into town.*
Ich höre Musik.	*I listen to music.*
Ich mache Sport.	*I do sport.*
Ich spiele Xbox oder Wii.	*I play Xbox or on the Wii.*

German

Year 8 Half-Term 3 German Knowledge Organiser

Unit 3: Meine Hobbys

Bist du sportlich? Are you sporty?	Ich bin… I am…	ziemlich / sehr / nicht / gar nicht quite / very / not / not at all	sportlich. sporty.
Was spielst du gern? What do you like to play?	Ich spiele … I play …		Fußball / Tennis / Xbox. football / tennis / Xbox.
Was machst du gern? What do you like to do?	Ich gehe… I go..	gern / sehr gern / nicht gern gladly / very gladly / not gladly / not at all gladly	einkaufen. – shopping in den Park. ins Kino.
	Ich mache.. I do ..		Karate. Sport. Judo.
Wie oft?	Jeden Tag Every day Manchmal Sometimes Am Wochenende At the weekend	chatte ich mit Freunden auf Snapchat. I chat with friends on Snapchat. lade ich Musik herunter. I download music. lade ich Fotos hoch. I upload photos. telefoniere ich mache ich	mit Freunden. mit meiner besten Freundin. (feminine) mit meinem besten Freund. (masculine) ziemlich viel (quite a lot) nicht viel (not a lot) auf meinem Handy. auf meinem Computer.

German

Year 8 Half-Term 5 German Knowledge Organiser

Unit 4: Schule ist klasse!

Schulfächer	***School subjects***
Deutsch	*German*
Englisch	*English*
Erdkunde	*geography*
Geschichte	*history*
Informatik	*ICT*
Kunst	*art*
Mathe	*maths*
Musik	*music*
Naturwissenschaften	*science*
Sport	*sport/PE*
Technik	*technology*
Theater	*drama*

Die Zeit	***Time***
Wann?	*When?*
Um wie viel Uhr?	*At what time?*
Um 8:30 Uhr (acht Uhr dreißig).	*At 8.30.*
Wie viel Uhr ist es?	*What time is it?*
Es ist 9:50 Uhr (neun Uhr fünfzig).	*It's 9.50.*
in der ersten Stunde	*in the first lesson*
vor der Pause	*before break*
nach der Mittagspause	*after the lunch break*

Meinungen	***Opinions***
mein Lieblingsfach ist …	*my favourite subject is …*
ich mag … (sehr)	*I like … (a lot)*
ich liebe	*I love*
ich mag … nicht	*I don't like …*
ich hasse	*I hate*
gut	*good*
toll	*great*
furchtbar	*awful*
einfach	*easy*
schwierig	*difficult*
interessant	*interesting*
langweilig	*boring*
nützlich	*useful*
nutzlos	*useless*
faszinierend	*fascinating*
nervig	*irritating*
supercool	*really cool*
stinklangweilig	*dead boring*

Eigenschaften	***Characteristics***
Er/Sie ist …	*He/She is …*
alt	*old*
fair	*fair*
freundlich	*friendly*
jung	*young*
launisch	*moody*
lustig	*funny*
nervig	*annoying*
streng	*strict*
unpünktlich	*unpunctual*

Die Wochentage	***The days of the week***
Montag (Mo.)	*Monday*
Dienstag (Di.)	*Tuesday*
Mittwoch (Mi.)	*Wednesday*
Donnerstag (Do.)	*Thursday*
Freitag (Fr.)	*Friday*
Samstag (Sa.)	*Saturday*
Sonntag (So.)	*Sunday*

Was hast du am Montag?	*What do you have on Monday?*
A m Dienstag habe ich …	*I have … on Tuesday*
Am Sonntag haben wir keine Schule.	*We have no school on Sunday.*

In der Schule	***In school***
die Lehrerin(-nen)	*teacher(s) (female)*
die Deutschlehrerin(-nen)	*German teacher(s) (female)*
der Lehrer(-)	*teacher(s) (male)*
der Sportlehrer(-)	*sports teacher(s) (male)*
Was gibt es?	*What is there?*
Es gibt einen/eine/ein …	*There is a …*
Es gibt viele …	*There are lots of …*
das Klassenzimmer(-)	*classroom(s)*
der Tisch(-e)	*table(s)*
der Stuhl(-¨e)	*chair(s)*
der Computer(-)	*computer(s)*
das Whiteboard(-s)	*whiteboard(s)*
das Poster(-)	*poster(s)*
das Fenster(-)	*window(s)*
die Wand(-¨e)	*wall(s)*
die Tür(-en)	*door(s)*
der Korridor(-e)	*corridor(s)*

Wo ist das?	***Where is it?***
in der Schule	*in the school*
im Klassenzimmer	*in the classroom*
im Korridor	*in the corridor*
an der Wand	*on the wall*
am Fenster	*by the window*
am Tisch	*at the table*
auf dem Tisch	*on the table*
neben der Tür	*near/next to the door*

German

Year 8 Half-Term 5 German Knowledge Organiser

Unit 4: Schule ist klasse!

Mein Lieblingsfach ist (My favourite subject is) Ich liebe (I love) Ich hasse (I hate) Ich mag (nicht) (I like / don't like)	Englisch / Mathe / Kunst / Deutsch / Sport (English / Maths / Art / German / PE	weil es…ist (because it is…)	interessant (interesting) langweilig (boring) nützlich (useful) nutzlos (useless) Faszinierend (fascinating) Cool (cool)
Am Montag (on Mondays) In der ersten Stunde (in the first lesson) In der zweiten Stunde (in the second lesson) Nachmittags (In the afternoon) Um 8 Uhr 15 (At 8.15)	habe ich (I have) haben wir (we have)	Mathe (Maths) Naturwissenschaften (Science)	Ich finde es (I find it) Es ist (it is) okay cool toll (great) nervig (annoying)
Mein Englischlehrer heist (My English teacher is called) Er ist (he is) Sie ist (she is)	Herr… . / Frau…. (Mr / Mrs)	sehr (very) ziemlich (quite) wirklich (really) nicht (not)	lustig (funny) freundlich (friendly) intelligent (clever) streng (strict) launisch (moody) nett (kind)
Es gibt (There is / are)	einen Tisch (a table) ein Whiteboard ein Fenster (a window) Posters	in dem Klassenzimmer	
Mein Traumschule hat (My dream school has)	keine Hausaufgaben (no homework) viele Computer (lots of computers) viele Sportsfelder (lots of sports fields)	Es ist (it is)	fantastisch (fantastic) toll (great) super perfekt (perfect)

German

Key topics

The origins of the British Empire: More than one-quarter of all countries in today's world were once ruled by Britain. By the mid-16th century, Spain controlled a large territory in the Americas, making Spain very rich. **English monarchs saw this success** and wanted to imitate it. **Sir Walter Raleigh** established a colony on the Atlantic coast of America, he named it **Virginia**, after Elizabeth I, the 'Virgin Queen'. In many ways this was the **beginning of the British Empire**. The Empire can be described as having many advantages and disadvantages. For example the British helped many colonies **develop education, technology and democracy**, but they often ruled using force and ideologies that suggested Europeans were superior to other cultures, **repressing languages and traditions.**

English colonies in America: During the Stuart period **(1603-1714) exploration of the 'New World' had begun,** which meant the expansion of Britain in North America. America was 'discovered' by Christopher Columbus, but there were already people living in America. Upon 'discovery' of the 'New World' France, Spain and Britain contended for the land. **The first successful English colony was 'Jamestown', founded in 1607**, set up by members of the Virginia Company, they discovered tobacco grew very well there. A number of groups became colonists for varying reasons. The Virginia company were **motivated by trade**, Indentured Labourers moved to **gain jobs and land**, and The Pilgrim Fathers wanted to **practise their Puritan faith more freely**.

Key terms

Annexed	*Territory taken over without the owner's permission*
Cash crop	*Crops grown and sold for profit rather than grown as food for local people*
Colony	*A country or area under the full or partial control of another country*
Commonwealth	*A group of countries that were previously part of the British Empire e.g. New Zealand and Australia*
Empire	*An extensive group of states or countries ruled over by a single monarch, or a 'sovereign' state – **NOT** cultural/racial superiority*
Garrison	*A base for soldiers*
Governor	*A person responsible for ruling a British colony on behalf of the monarchy*
Industry	*Economic activity, processing raw materials and manufacturing goods in factories*
Monopolies	*The exclusive possession or control of supply or trade*
Mutiny	*A revolt by the military*
New World	*A name given to the Americas during colonisation*
Piracy	*The practice of attacking and robbing ships at sea*
Plunder	*To steal goods by force*
Privateer	*A naval captain who has permission from their government to attack and rob the ships of another country*
Puppet ruler	*An official ruler who has little political power because they are controlled by someone else*
Raj	*Indian word meaning 'ruler', often used to describe when the British government ruled India*
Rebellion	*Resisting authority or control, often armed resistance to a government or leader*
Sepoy	*An Indian soldier serving under British orders*
Smuggler	*Someone who trades goods illegally*
Tariff	*A tax paid on goods that are imported*

History

Pirates and the Caribbean: Spain controlled much of the Caribbean, their ships carrying riches from the Americas to Spain would pass through the Caribbean. **The British government and British pirates wanted a share in these riches**, so they used Jamaica as a base to seize Spanish ships. The Royal Navy did not have enough ships, so **Pirate Henry Morgan was recruited to help**. British governor of Jamaica, Thomas Modyford gave Morgan a license to attack, making him a Privateer. Morgan became very wealthy and was knighted in 1674 by Charles II for his services. **Sugar and tobacco was in high demand in Europe**. Britain increased its Navy and introduced **Monopolies and Navigation Acts**, ensuring colonies could only trade with Britain, this helped control of profits. The act led to an **increase in smugglers**. Pirates began to be a problem in the 18thC due to smuggling and disrupting trade.

Eighteenth-century gains and losses: Between 1652 and 1674, Britain fought three wars against the Dutch, this ended in 1688 with the Glorious Revolution when William of Orange became king in England. **By 1756 the 'Seven Years War' began**, against the Spanish and the French, it resulted in a huge expansion of the British Empire. **The Empire grew due to military and economic success.** Increased trade and growth of industry in Britain led to larger trade companies and a bigger military. **Due to the cost of the Seven Years War, Britain introduced new taxes in the Americas, Americans began protests, by 1775, there was conflict.** The 13 colonies joined together to form the United States of America and in 1783, they won independence. **The loss of the 13 colonies was a major blow to the British, they started to turn their attention East.**

How and why Britain came to control India: Historically 'India' was used to describe the land between the Himalayan mountains and the Indian Ocean. Today this land is **India, Pakistan, Bangladesh and Sri Lanka,** when we refer to India in this topic, **we are referring to all of these places.** In the early 1500s India was lots of little states in the 1520s The Mughal Empire expanded. The Mughals were Muslim rulers from Afghanistan. **Mughal power grew along with strong culture, art, architecture, literature, mosques and imposing forts.** At its height it ruled almost all modern India. Mughal rulers encouraged trade with Europe, the **Dutch, French and British began to arrive, keen to get Indian spices and textiles.** The Mughal Empire began to decline under the rule of Emperor Aurangzeb (1618-1707). India became divided again. **British expansion in India began with control of law, taxes and industry by the East India Company in 1600.**

Causes of the Indian Rebellion: From the mid 18th C, British **power in India grew enormously, led by the East India Company.** Robert Clive (1725-74) and Lord Richard Wellesley (1760-1842) **led military campaigns** to expand British rule in India. By the 1850s the EIC ruled 2million squared kilometres of India. Large numbers of **sepoys** were employed. **In 1857, they mutinied, and this turned into full scale rebellion.** Resentment of British rule had been caused by **unfair pay, disrespect of culture, tax, food shortages and domination of trade.**

Consequences of the Indian Rebellion: British forces fought against the rebels, storming Delhi. It took months to regain control. **The British used significant force on the rebels.** They sent warnings to others, **lining roads with hung rebels and blowing up others with cannons.** Some British supported these actions, but for many it caused outrage. **The EIC could not be trusted to rule**, in 1858, Parliament passed the Government of India Act, giving the **British crown/government control, the British Raj began.**

Impact of British rule in India: The impact of British rule was significant in many parts of society. **¼ of British exports were sent to India**, Britain destroyed India's textile industry, **imported coal and precious stones from India.** Britain also built 24,000 miles of railway and **introduced tariffs on non-British goods.** Dams were built and irrigation provided, many cash-crops were grown and **between 1770 and 1900, 25 million are estimated to have died from famine.** No Indian had the right to vote and few helped govern their own country. The British needed a large army to govern India and they often **favoured higher castes when it came to jobs in the army and government.** English became the official language in government. **Many British saw Indian culture inferior.** Houses and schools were modelled on British ones and sports such as cricket were introduced.

Interpretations of the British Empire: There has been great **debate about whether the British Empire was a good or bad thing.** Many factors influence people's opinions of empire.

History

Networks

Internet	A collection of inter connected networks and devices that communicate and send data between each other
DNS	Domain Name Server. Remembering **www.google.co.uk** is easier than remembering **173.194.34.95. Converts from number to address**
IP Address	Like every front door in the world, every computer in the world has a separate, unique address
URL	Uniform Resource Locator. A URL is a web address. All web addresses are unique
HTTP	**HyperText Transfer Protocol.** A protocol is a set of rules HTTP defines the rules used by web browsers and servers to exchange information
Data Packets	Data transmitted over the Internet is broken down into smaller chunks or packets to be sent
Bandwidth	The amount of data that can be carried at a time
WAN	Wide Area Network: Cover a large geographical area (eg Bank, Hospitals)
LAN	Cover a small geographical area (a home network or a school)
NIC	Network Interface Card. Can be wired or wireless, Needed to connect to Internet
Buffering	The delay whilst the internet downloads data needed (usually during streaming)

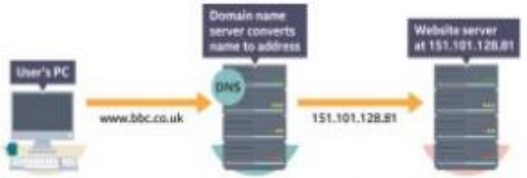
What is a network?

A network is two or more computers (or other electronic devices) that are **connected together**, usually by cables or Wi-Fi.

Some computer networks will have a server. A server is a powerful computer that often acts as a central hub for services in a network, eg emails, internet access and file storage. Each computer connected to a server is called a client.

Key Learning that will take place in this unit

- Understanding how the internet works
- Understand the use of Networks
- Be able to describe different types of networks
- Identify different types of networks.



IP Address to Domain Name Server to Uniform Resource Locator

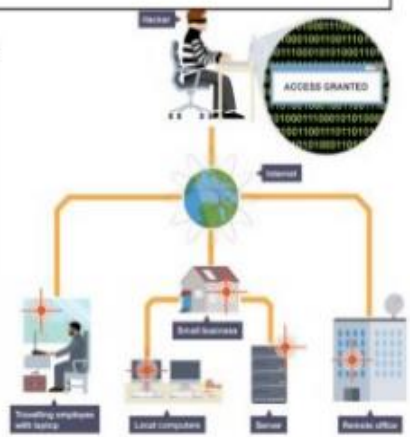
When we type in www.google.co.uk we are typing in the **URL (Uniform Resource Locator)** – this is easy to remember!

What we are actually connecting to, is Google's **IP Address** where the website is stored and this is a series of numbers, **173.194.34.95** – harder to remember!

The system that converts the IP Address (**173.194.34.95**) to www.google.co.uk is known as the Domain Name Server

What problems can occur with a network?

If we connect computers or devices together in a network we can expose ourselves to some problems. If the network breaks, this can make a number of tasks it is used for quite difficult. For example, it might not be possible to share photographs and opinions with friends.
If computers and devices are networked together, we can expose ourselves to hackers and viruses. Most viruses are spread over a network and most hackers use a network to access other people's computers. Without a network connection, a hacker would have to physically get to your computer.



Networks

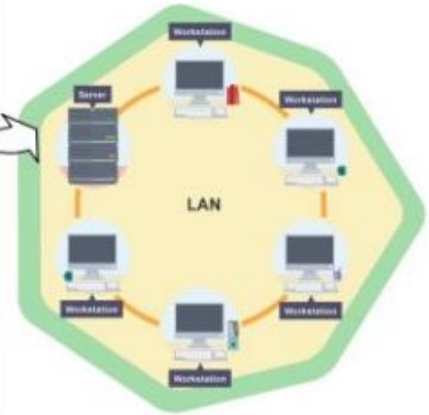
Types of Networks

There are two main types of networks: **LAN** and **WAN**

Local area network (LAN)

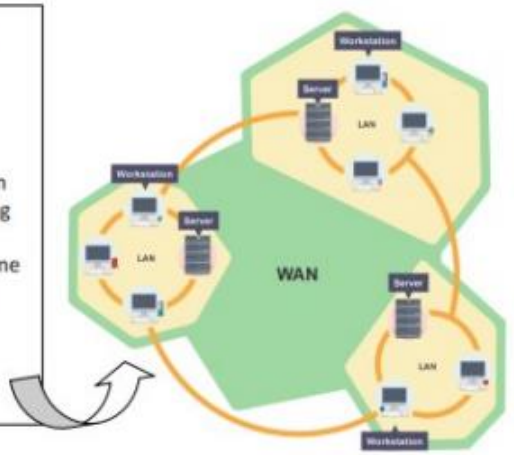
A **local area network** is when computers or devices are connected together over a **small geographical area**, such as within a home, a building or one site. A LAN can be created to share data or hardware such as a printer, or to share an internet connection.

A computer that is not connected to a network is called a **standalone computer**



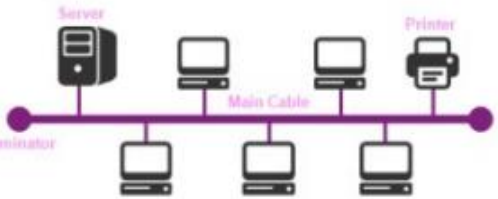
Wide area network (WAN)

A **wide area network** is when computers or devices are connected together over a **large geographical area**. For example, a company with an office in London and another in Beijing would use a WAN to allow the employees to share one network. Some companies will connect a number of LANs in different areas together to create a WAN. The biggest WAN we know is the internet.

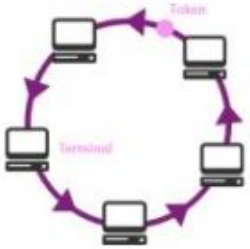


Within this, there are then 3 subtypes of networks which are shown below

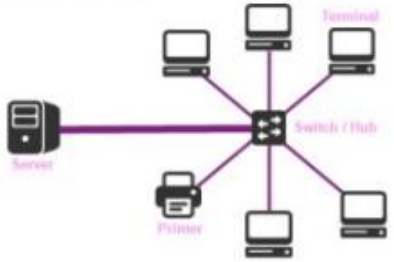
Bus network



Ring network

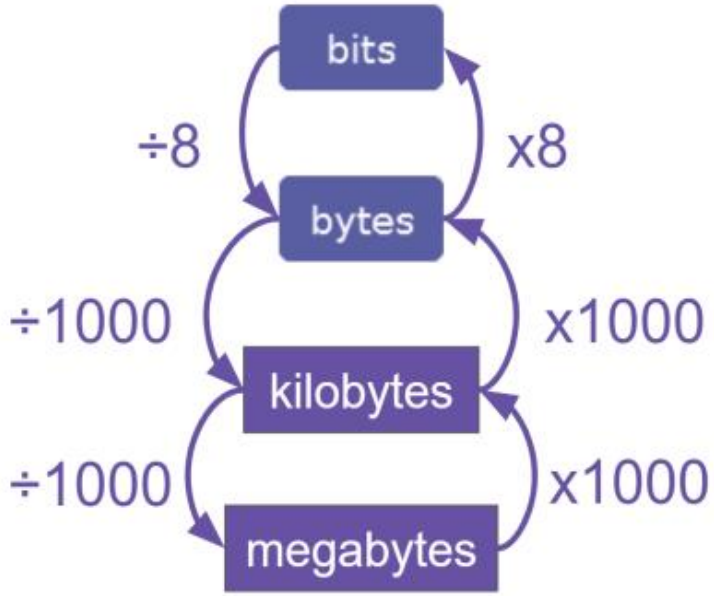


Star network



Notes

Data Representation



How to convert between units of data

In binary, 8 bits (individual 1s and 0s) make up a byte. The prefixes kilo-, mega-, giga-, tera-, … are used to express increasingly large quantities of bytes.

1 kilobyte = 1000 bytes

1 megabytes = 1000 kilobytes

1 gigabyte = 1000 megabytes

1 terabyte = 1000 gigabytes

ASCII TABLE

Decimal	Hexadecimal	Binary	Octal	Char
000	00	0000000	000	[NULL]
001	01	0000001	001	[START OF HEADING]
002	02	0000010	002	[START OF TEXT]
003	03	0000011	003	[END OF TEXT]
004	04	0000100	004	[END OF TRANSMISSION]
005	05	0000101	005	[ENQUIRY]
006	06	0000110	006	[ACKNOWLEDGE]
007	07	0000111	007	[BELL]
008	08	0001000	010	[BACKSPACE]
009	09	0001001	011	[HORIZONTAL TAB]
010	0A	0001010	012	[LINE FEED]
011	0B	0001011	013	[VERTICAL TAB]
012	0C	0001100	014	[FORM FEED]
013	0D	0001101	015	[CARRIAGE RETURN]
014	0E	0001110	016	[SHIFT OUT]
015	0F	0001111	017	[SHIFT IN]
016	10	0010000	020	[DATA LINK ESCAPE]
017	11	0010001	021	[DEVICE CONTROL 1]
018	12	0010010	022	[DEVICE CONTROL 2]
019	13	0010011	023	[DEVICE CONTROL 3]
020	14	0010100	024	[DEVICE CONTROL 4]
021	15	0010101	025	[NEGATIVE ACKNOWLEDGE]
022	16	0010110	026	[SYNCHRONOUS IDLE]
023	17	0010111	027	[ENG OF TRANS. BLOCK]
024	18	0011000	030	[CANCEL]
025	19	0011001	031	[END OF MEDIUM]
026	1A	0011010	032	[SUBSTITUTE]
027	1B	0011011	033	[ESCAPE]
028	1C	0011100	034	[FILE SEPARATOR]
029	1D	0011101	035	[GROUP SEPARATOR]
030	1E	0011110	036	[RECORD SEPARATOR]
031	1F	0011111	037	[UNIT SEPARATOR]
032	20	0100000	040	[SPACE]
033	21	0100001	041	!
034	22	0100010	042	"
035	23	0100011	043	#
036	24	0100100	044	$
037	25	0100101	045	%
038	26	0100110	046	&
039	27	0100111	047	'
040	28	0101000	050	(
041	29	0101001	051	)
042	2A	0101010	052	*
043	2B	0101011	053	+
044	2C	0101100	054	,
045	2D	0101101	055	-
046	2E	0101110	056	.
047	2F	0101111	057	/
048	30	0110000	060	0
049	31	0110001	061	1
050	32	0110010	062	2
051	33	0110011	063	3
052	34	0110100	064	4
053	35	0110101	065	5
054	36	0110110	066	6
055	37	0110111	067	7
056	38	0111000	070	8
057	39	0111001	071	9
058	3A	0111010	072	:
059	3B	0111011	073	;
060	3C	0111100	074	<
061	3D	0111101	075	=
062	3E	0111110	076	>
063	3F	0111111	077	?
064	40	1000000	100	@
065	41	1000001	101	A
066	42	1000010	102	B
067	43	1000011	103	C
068	44	1000100	104	D
069	45	1000101	105	E
070	46	1000110	106	F
071	47	1000111	107	G
072	48	1001000	110	H
073	49	1001001	111	I
074	4A	1001010	112	J
075	4B	1001011	113	K
076	4C	1001100	114	L
077	4D	1001101	115	M
078	4E	1001110	116	N
079	4F	1001111	117	O
080	50	1010000	120	P
081	51	1010001	121	Q
082	52	1010010	122	R
083	53	1010011	123	S
084	54	1010100	124	T
085	55	1010101	125	U
086	56	1010110	126	V
087	57	1010111	127	W
088	58	1011000	130	X
089	59	1011001	131	Y
090	5A	1011010	132	Z
091	5B	1011011	133	[
092	5C	1011100	134	\
093	5D	1011101	135	]
094	5E	1011110	136	^
095	5F	1011111	137	_
096	60	1100000	140	`
097	61	1100001	141	a
098	62	1100010	142	b
099	63	1100011	143	c
100	64	1100100	144	d
101	65	1100101	145	e
102	66	1100110	146	f
103	67	1100111	147	g
104	68	1101000	150	h
105	69	1101001	151	i
106	6A	1101010	152	j
107	6B	1101011	153	k
108	6C	1101100	154	l
109	6D	1101101	155	m
110	6E	1101110	156	n
111	6F	1101111	157	o
112	70	1110000	160	p
113	71	1110001	161	q
114	72	1110010	162	r
115	73	1110011	163	s
116	74	1110100	164	t
117	75	1110101	165	u
118	76	1110110	166	v
119	77	1110111	167	w
120	78	1111000	170	x
121	79	1111001	171	y
122	7A	1111010	172	z
123	7B	1111011	173	{
124	7C	1111100	174	|
125	7D	1111101	175	}
126	7E	1111110	176	~
127	7F	1111111	177	[DEL]

ASCII conversion table - shows characters and their corresponding character codes

Character sets, such as ASCII and Unicode, are used in computers to represent symbols such as letters, numbers and punctuation marks in binary.

For example, in 8 bit ASCII, LYMM HICH SCHOOL would be represented as 01001100 01011001 01001101 01001101 00100000 01001000 01001001 01000111 01001000 00100000 01010011 01000011 01001000 01001111 01001111 01001100 00001010

Data Representation

Converting denary (base 10) to binary (base 2)

Converting 30 to binary

Step 1: Write down the binary placeholders.

32	16	8	4	2	1

Step 2: Find the largest placeholder that is less than or equal to the denary number. Write a 1 underneath this placeholder.

32	16	8	4	2	1
	1				

Step 3: Subtract placeholder from the original number

30-16 = 14

Step 4: Repeat this process with the result until you're left with 0

32	16	8	4	2	1
	1	1			

14-8 = 6

32	16	8	4	2	1
	1	1	1		

6-4 = 2

Converting binary (base 2) to denary (base 10)

Converting 100101 to denary

Step 1: Write the placeholders over your binary number (start on the right):

32	16	8	4	2	1
1	0	0	1	0	1

Step 2: List all the placeholders with 1 underneath:

- 32
- 4
- 1

Step 3: Add up your list

32+4+1 = 37

Converting denary (base 10) to binary (base 2) - continued

32	16	8	4	2	1
	1	1	1	1	

2-2 = 0

Step 5: Fill in the remaining placeholders with 0s

32	16	8	4	2	1
0	1	1	1	1	0

Therefore 30 in base 2 is **011110**

Hexadecimal numbers

Hexadecimal uses the same first ten digits (0-9) as denary. It then has six more digits (A-F) to represent the numbers 10-16.

Hexadecimal numbers are often used because they're easier for humans to work with.

Hexadecimal numbers take up the same amount of storage space as binary numbers because they're stored as binary in memory.

Converting binary to hexadecimal

Converting the 8-bit binary number 10011100 into hexadecimal:

Step 1: Split the binary number into two four-bit nibbles

8	4	2	1
1	0	0	1

8	4	2	1
1	1	0	0

Step 2: Calculate the value of each nibble in binary

8+1 = 9

8+4 = 12

Step 3: Translate these values into hexadecimal

9 → 9

12 → C

Step 4: Write down the final hexadecimal number

9C

Converting denary to hexadecimal

Step 1: Convert the denary number to binary using the method above

Step 2: Use the method on the left to convert the binary number to hexadecimal

Converting hexadecimal to binary

Converting 4E to binary

Step 1: Convert each hexadecimal digit to decimal

4 → 4

E → 14

Step 2: Convert each denary number to a four-bit binary nibble

4 → 0100

14 → 1110

Step 3: Write down the final binary number

01001110

Data Representation

Bitmap images

Bitmap images use a grid of pixels, each with an assigned colour, to represent an image.

00	00	00	00	00
00	11	11	11	00
00	11	11	11	00
00	00	10	00	00
00	00	10	00	00
01	01	01	01	01

A bitmap image with a colour depth of 2 bits and a resolution of 5x6

Vector graphics

An alternative method of presenting images is using vector graphics which works by describing the shapes in the image mathematically. To view the image, a program that can interpret the image code must be used.

```
<circle  cx="24" cy="21.5" r="69" class="face"/>
<ellipse cx="24" cy="5.5" rx="6" ry="1.5" class="shine"/>
<ellipse cx="24" cy="45.5" rx="16" ry="1.5" class="shadow"/>
<circle  cx="24" cy="21.5" r="20" class="circle"/>
<ellipse cx="36" cy="26.5" rx="2.5" ry="1.5" class="cheeks"/>
<ellipse cx="12" cy="26.5" rx="2.5" ry="1.5" class="cheeks"/>
```

Part of the code for a vector graphic image

Lossy compression

Lossy compression is typically used on data such as images and video. This is because some data about an image of video is lost, although it will reduce the quality of the image or video the viewer can still see/view the image.

Lossless compression

Lossless compression is used when it is critical that, when the data is uncompressed, the original data can be reconstructed. This type of compression is often used to compress text so that all the letters in the text can be reconstructed and the text can be understood.

If lossy compression was used on a text file containing a program, the program would no longer work because characters would be removed by the compression algorithm.

```
plnets  ['Jpir', 'Sturn'
           'Uns', 'Nptne', 'Vnus',
           'Mas', 'Mry', 'Eah']
sies 110, 95, 00, 30, 95, 5, 8, 10]
fr i n rage(le(plnets)):
    prit(planes[i], sizei] % the se f Eth.")
```

This is what a Python program might look like if you tried to apply lossy compression to it

	Key Vocabulary	Definition
1	Binary	A number system that contains two symbols, 0 and 1. Also known as base 2
2	Denary	The number system most commonly used by people. It contains 10 unique digits 0 to 9. Also known as decimal or base 10
3	Hexadecimal	A number system that contains sixteen symbols, 0-9 and A-F. Also known as base 16
4	Place value / placeholder	The value of the place, or position, of a digit in a number
5	Character set	A mapping of keyboard characters to numbers used to represent those keyboard characters in a computer system
6	ASCII	American Standard Code for Information Interchange. A 7-bit character set for representing English keyboard characters.
7	Pixel	The smallest identifiable area of an image or computer screen
8	Bit	A single symbol in a binary number. Either 1 or 0
9	Bit pattern	Any sequence or more than one bit
10	Nibble	A bit pattern which is four bits long
11	Byte	A bit pattern with which is eight bits long
12	Kilobyte	1000 bytes
13	Megabyte	1000 kilobytes
14	Resolution	The number of pixels in an image
15	Colour depth	The number of bits used to store each pixel
16	Bitmap	A digital image made up of a grid of pixels
17	Vector graphic	A digital image made up of lines and shapes described using mathematics
18	Compression	Reducing the amount of storage needed to represent a file
19	Lossy compression	Information is lost during the compression of a file
20	Lossless compression	No information is lost during the compression of the file
21	MIDI	Musical Instrument Digital Interface. A way to connect devices that make and control sound
22	Metadata	Data that provides information about other data. For example, the file size of an image is considered part of the image metadata

Year 8
Core & Support
Half-term 3

Maths

Averages and Range

Mode: The most common item

Median: The middle item after the data has been ordered.

Mean: Add up and divide by how many pieces of data

Range: Largest Value – Smallest

The range is not an average. It is a **MEASURE OF SPREAD**

Ratio:

Tom has 24 Xbox games and 38 PS4 games. The ratio of PS4 games to Xbox games is:

$$PS4 : Xbox$$

$$38 : 24 \quad (\div 2)$$

$$19 : 12 \quad (\div 2)$$

There are 62 games altogether so,

$\frac{38}{62} = \frac{19}{31}$ of the games are PS4 games.

Ratio

Billy and James have some sweets in the ratio **9:2**. Billy has **35 more** sweets than James. How many sweets are there altogether?

Billy has 7 more parts than James.

$$1\ Part = 35 \div 7 = 5.$$

$$2\ Parts = 2 \times 5 = 10$$

$$9\ Parts = 9 \times 5 = 45$$

Total Number of sweets

$$= 5 + 10 = 45$$

Dividing into a Ratio:

$$Share\ £480\ in\ the\ ratio\ 3:5:4$$

$$3 + 5 + 4 = 12$$

$$1\ Part = £480 \div 12 = £40$$

$$3\ Parts = £40 \times 3 = £120$$

$$5\ Parts = £40 \times 5 = £200$$

$$4\ Parts = £40 \times 4 = £160$$

$$£120 : £200 : £160$$

Recipes and Proportion:

8 People:

400g Pasta

2 Tins Chopped Tomatoes

1 Onion

4tbsp Tomato Puree

To find the recipe for 6 people, divide each amount by 8 and then multiply by 6:

6 People:

$$(400 \div 8) \times 6 = 300g\ Pasta$$

$$(2 \div 8) \times 6 = 1.5\ Tins\ Tomato$$

$$(1 \div 8) \times 6 = \frac{3}{4} Onion$$

$$(4 \div 8) \times 6 = 3tbsp\ Puree$$

Sample Space Diagrams

We use sample space diagrams to list all outcomes when carrying out two probability experiments at the same time

Player 1 \ Player 2	Rock	Paper	Scissors
Rock	RR	RP	RS
Paper	PR	PP	PS
Scissors	SR	SP	SS

$$P(Scissors) = \frac{3}{9} = \frac{1}{3}$$

+	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

$$P(Prime) = \frac{15}{36} = \frac{5}{12}$$

Solving Linear Equations

To solve Linear Equations, use the **balancing method**

$$4(2x - 1) = 36$$

Expand the brackets

$$8x - 4 = 36$$

$$(+4) \qquad (+4)$$

$$8x = 40$$

$$(\div 8) \qquad (\div 8)$$

$$x = 5$$

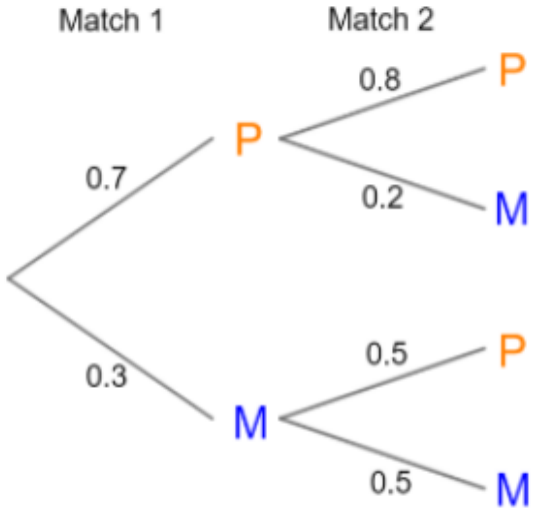
The solution is $x = 5$

AND/OR Rules

Independent: 2 events that do not affect each outcome
Mutually Exclusive: 2 events that cannot happen at the same time.

For Independent Events: $P(A \text{ and } B) = P(A) \times P(B)$
For Mutually Exclusive Events: $P(A \text{ or } B) = P(A) + P(B)$

Tree Diagrams



P(Peter wins both Games) $= 0.7 \times 0.8 = \mathbf{0.56}$

P(Mike wins both Games) $= 0.3 \times 0.5 = \mathbf{0.15}$

P(Peter wins exactly 1 game) = PM or MP
$= (0.7 \times 0.2) + (0.3 \times 0.5) = 0.14 + 0.15 = \mathbf{0.29}$

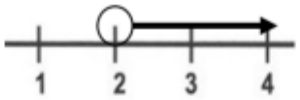
P(Peter wins at least 1 game) = 1 − P(Peter wins no games)
$= 1 - (0.3 \times 0.5) = 1 - 0.15 = \mathbf{0.85}$

Solving Linear Inequalities:

Inequalities giver use a **RANGE OF SOLUTIONS**. To solve we use the balancing method!

$18 - 7x < 6x - 8$
Add $7x$ from both sides as it is the smallest
$(+7x) \qquad (+7x)$
$18 < 13x - 8$
$(+8) \qquad (+8)$
$26 < 13x$
$(\div 13) \qquad (\div 13)$
Solution: $x > 2$

We can represent our solutions on a number line



$2 < \frac{x}{3} + 1 \leq 3$
$(-1) \quad (-1) \quad (-1)$
$1 < \frac{x}{3} \leq 2$
$(\times 3) \quad (\times 3) \quad (\times 3)$
Solution: $3 < x \leq 6$

Integers that satisfy this inequality are: 4, 5, 6

Solving Linear Equations:

Linear Equations can have fractional and negative solutions!

$18 - 7x = 3(2x - 8)$
Expand the brackets
$18 - 7x = 6x - 24$
Add $7x$ from both sides as it is the smallest
$(+7x) \qquad (+7x)$
$18 = 13x - 24$
$(+24) \qquad (+24)$
$42 = 13x$
$(\div 13) \qquad (\div 13)$
Solution: $x = \frac{42}{13}$

$\frac{3x + 8}{2} = 1$
$(\times 2) \qquad (\times 2)$
$3x + 8 = 2$
$(-8) \qquad (-8)$
$3x = -6$
$(\div 3) \qquad (\div 3)$
Solution: $x = -2$

$\frac{5x - 3}{4} = \frac{2x + 9}{3}$
Multiply both sides by 12 as it is the LCM of 4 and 3
$\frac{12(5x - 3)}{4} = \frac{12(2x + 9)}{3}$
12÷4=3 and 12÷3=4
$3(5x - 3) = 4(2x + 9)$

Expand the brackets
$15x - 9 = 8x + 36$
$(-8x) \qquad (-8x)$
$7x - 9 = 36$
$(+9) \qquad (+9)$
$7x = 45$
$(\div 7) \qquad (\div 7)$
Solution: $x = \frac{45}{7}$

Remember to simplify your fractions if you can!

Inverse Proportion

3 Pipes take 60mins to water a field. 1 Pipe will take 180mins to water the same field. Therefore, 10pipes will take 18mins

Year 8 - Core & Extension

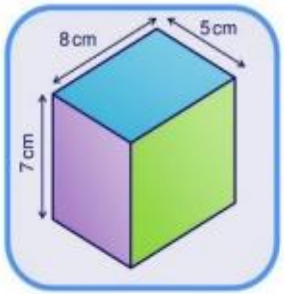
Half-term 3

Maths

Surface Area:

The surface area of a 3D shape is the

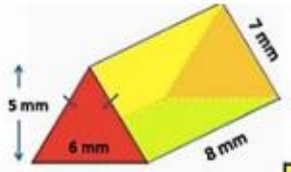
TOTAL AREA OF ALL FACES.



So the total surface area =

- $2 \times 40\text{cm}^2$ Top and bottom
- $+ 2 \times 35\text{cm}^2$ Front and back
- $+ 2 \times 56\text{cm}^2$ Left and right side

$= 80 + 70 + 112 = 262\text{cm}^2$

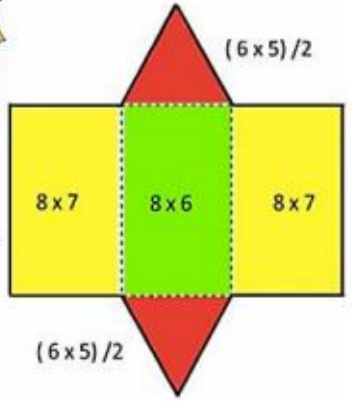


The "Total Surface Area" =

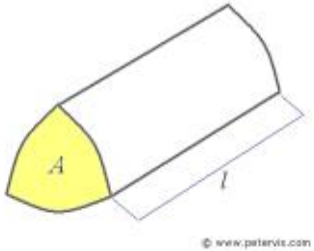
$2 \times (6 \times 5)/2$: Two Reds
$+ 2 \times (8 \times 7)$: Two Yellows
$+ 1 \times (8 \times 6)$: One Green

$= 2x15 + 2x56 + 1x48$

$= 190\text{ mm}^2$ ✓



Volume of Prisms:



$Volume = Cross\ Sectional\ Area \times Length$

Area Formulae:

$$Area\ of\ Rectangle = b \times h$$

$$Area\ of\ Triangle = \frac{b \times h}{2}$$

$$Area\ of\ Parallelogram = b \times h$$

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

$$Area\ of\ Circle = \pi r^2$$

Pie Charts:

Subject	Frequency	$Angle = Magic\ Number \times Freq.$
Maths	12	$18 \times 12 = 216°$
English	3	$18 \times 3 = 54°$
Science	2	$18 \times 2 = 36°$
PE	1	$18 \times 1 = 18°$
	Total = 20	

$Degreees\ Per\ Person = 360 \div Total\ Freqency$

$= 360 \div 20 = 18$

Year 8
Core & Support
Half-term 4

Standard Index Form:

Must be written in the form: $A \times 10^n$, where
$1 \leq A < 10$ and n is an integer
$2835000 = 2.835 \times 10^6$
$0.00065 = 6.5 \times 10^{-4}$

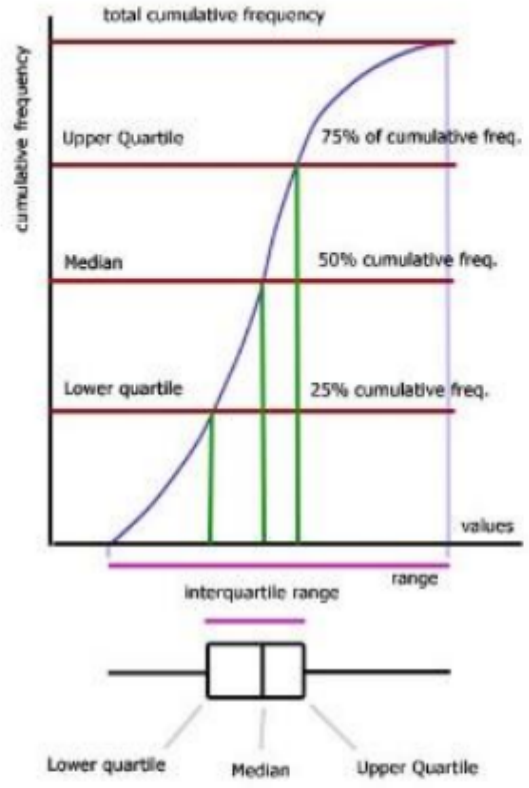
Types of Data

Qualitative Data (Categorical Data): Eye Colour, Favourite Colour etc.

Quantitative Data (Numerical Data) can be split into Discrete and Continuous
Discrete Data: Data can only take specific values (Number of bedrooms in house etc.)
Continuous Data: data that can take any value (Height, Weight etc.)

Maths

Cumulative Frequency and Box Plots



Plot the cumulative frequency against the **upper limit of each class and join to make a smooth S-shaped curve**

Index Laws:

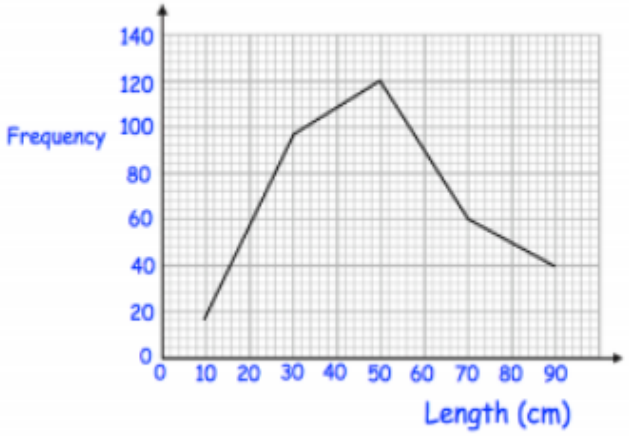
$m^a \times m^b = m^{a+b}$, $x^a \div x^b = x^{a-b}$,
$(t^a)^b = t^{ab}$, $b^0 = 1$

Negative and Fractional Indices

$$x^{-n} = \frac{1}{x^n}$$
$$x^{\frac{1}{n}} = \sqrt[n]{x}$$

Frequency Polygons

The frequency polygon shows the length of 330 river eels.



Plot the frequency against the midpoints of each class

Surface Area Formulae

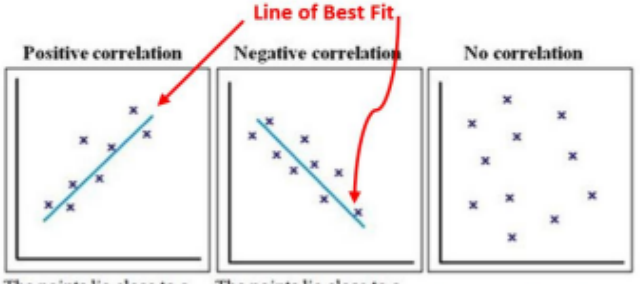
$$Surface\ Area\ of\ Cylinder = 2\pi r^2 + 2\pi rh$$

$$Surface\ Area\ of\ Sphere = 4\pi r^2$$

$$Surface\ Area\ of\ Cone = \pi r^2 + \pi rl$$

Where l is the sloped height of the Cone.

Scatter Graphs and Correlation



The points lie close to a straight line, which has a positive gradient.

This shows that as one variable **increases** the other **increases**.

The points lie close to a straight line, which has a negative gradient.

This shows that as one variable **increases**, the other **decreases**.

There is no pattern to the points.

This shows that there is **no connection** between the two variables.

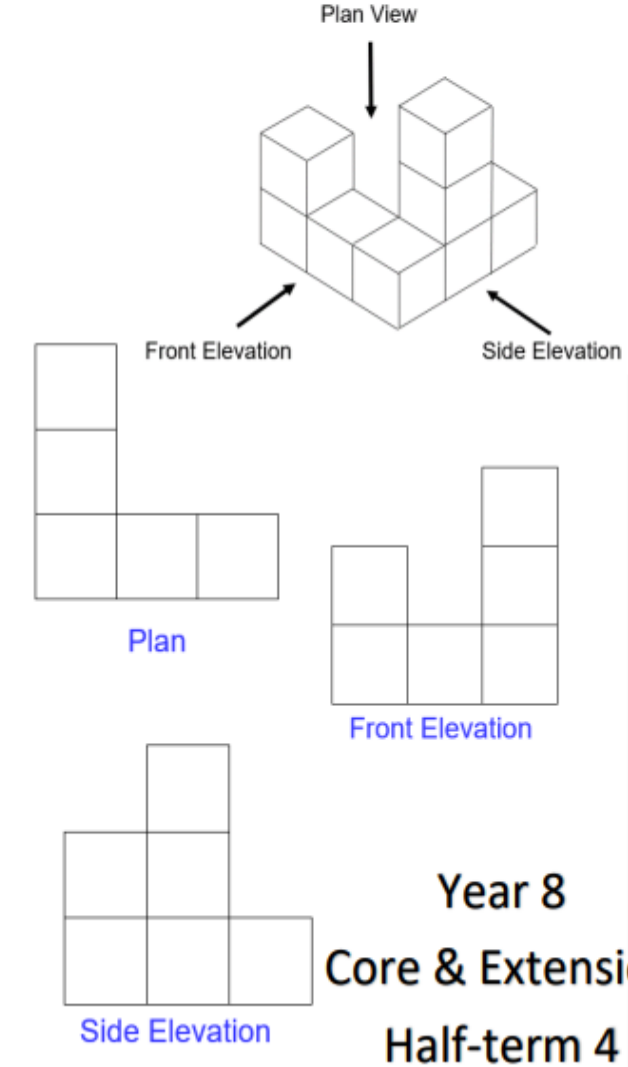
Multiplying and Dividing in Standard Form:

$(4.2 \times 10^3) \times (3 \times 10^4) = (4.2 \times 3) \times (10^3 \times 10^4)$
$= 12.6 \times 10^7$

But our answer is not in Standard Form. We need to write it as: 1.26×10^8

$(7.5 \times 10^9) \div (2.5 \times 10^6) = (7.5 \div 2.5) \times (10^9 \div 10^6)$
$= 3 \times 10^3$

Plans and Elevations



Maths

Year 8

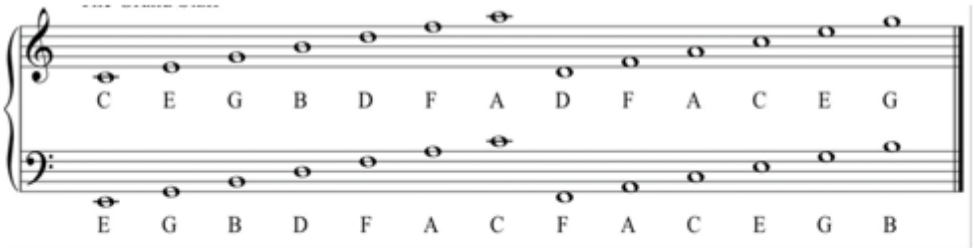
Core & Extension

Half-term 4

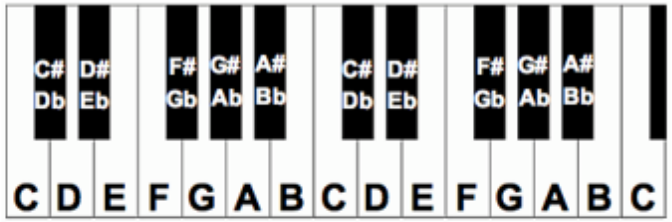
Y8 Music HT3 – Harmony and Tonality, Structure

HT3 – Harmony and Tonality

Treble and Bass clef notation



Piano keyboard diagram



C major chord number chart using Roman Numerals:

G	A	B	C	D	E	F
E	F	G	A	B	C	D
C	D	E	F	G	A	B
I	II	III	IV	V	VI	VII

Tonality: Major and Minor
Major; has a bright/cheerful sound
Minor; has a darker/moody sound
C major scale:

C D E F G A B C

C minor scale

C D Eb F G Ab B C

Y8 Music HT3 – Harmony and Tonality, Structure

HT3 – Structure

Structure words for a Rock song:

Intro: short section, no lyrics, establishes the key

Verse: set of lyrics that tell the main 'story'. The melody for each verse is usually the same.

Chorus: Usually at a higher pitch that the verse to create excitement. Contains the song title.

Solo/Instrumental: No lyrics (except backing vocals sometimes), shows an instrument off.

Bridge: used as a transition from one section to another eg chorus to verse.

Middle 8: Usually happens in the middle of a song, has a different melody to the verse and the chorus.

Pre-chorus: short section just before the chorus.

Outro: opposite of intro, short section that ends a song.

Life after Death

Year 8 Religion, Philosophy & Ethics

Key Terms		Definition
Life after Death		The belief that when you die there is another life
Paranormal		Events that science can't explain that are thought to have a spiritual cause e.g. ghosts and mediums
Near Death Experience		When someone is about to die and they have an out of body experience
Christian Beliefs	Heaven	A place of perfection with God
	Hell	A state of being without God
	Purgatory	Purification of souls before heaven (believed by Catholic Christians)
Muslim Beliefs	Paradise	Also called Jannah, where those who have lived a good life go after death
	Jahannam	The Arabic word for hell, a place of punishment
	Bazarkh	The waiting place between death and judgement day

Rejecting Belief in Life After Death

- All six major religions (Judaism, Christianity, Islam, Buddhism, Hinduism and Sikhism) all believe in some form of life after death. However, atheists reject belief in life after death due to a lack of convincing evidence.
- **Dawkins** is a world famous scientist and atheist rejects all religions, ideas of God and any belief in a soul or afterlife.
- Dawkins thinks people mistakenly believe in an afterlife as a form of comfort and to give meaning to life but it isn't real.
- He argues that it is natural to desire a believe in life after death as it gives us hope and helps us survive. But the only part of us that lives on after death is our DNA in our children.
- **Humanists** are atheists (don't believe in any God or afterlife). Since Humanists don't believe in an afterlife they try to find meaning and purpose in this life. They base their ethical decisions on what is best for humanity and aim to seek happiness for themselves and others.
- Humanists believe when we die our bodies will decompose and we only live on in the memory of others.
- Atheist Michael Persinger (in the 1980s) was a neuro (brain) scientist that created the 'God Helmet'. His research claimed that the *God Helmet* could evoke a religious experience in someone by artificially stimulating (altering) part of their brain. His study concluded that "at least" 80% of the 900 people involved experiences a presence close by and 1% reported an experience of "God". Persinger concluded God must be a creation of the human mind.

'A delusion is something that people believe in spite of a total lack of evidence' Richard Dawkins

'Feeling something beyond yourself, bigger in space and time, can be stimulated' Michael Persinger

'the spirit returns to God who gave it' Bible

'When created you the first time, and to Him you are returned' Qur'an 41

'Life is uncertain; death is certain' Buddha

Paranormal Activity

Paranormal events cannot be explained by science and are believed to be caused by something spiritual. They are used as evidence for life after death.

- **Ghosts** are the soul or spirit of a d1ead person believed to be sensed by the living.
- **Mediums** are people who claim to be able to communicate to the dead.
- **Near death experiences** are when someone who was close to death wakes up and claims to have had a temporary experience of the afterlife.

Atheists reject paranormal activity due to lack of scientific evidence of anything spiritual. They may claim infrasound (sound waves effecting our brains), waking dreams (psychological issues) or grief (wanting to believe as a comfort) is the cause of what some see as paranormal activity.

Religious Studies

Life after Death
Year 8 Religion, Philosophy & Ethics

Muslim Beliefs

- Muslims believe in life after death (akhirah).
- Evidence for Muslims is found in the holy book the Qur'an which contains God's teachings.
- Muslims believe that when a person dies they go to a place called Barzakh to await judgement. Once the Day of Judgement comes, all bodies will be resurrected to await judgment.
- After **judgement**, Muslims believe those who have passed the test (are righteous according to God) will go to paradise and those who fail will go to hell (Jahannam).
- **Paradise** (known as Al-Jannah) is described in the Qur'an (Muslim holy book) as a wonderful garden. Believers go here if they are a real Muslim who has pleased God (Allah) during their life.
- **Hell** (known as Jahannam) is described as being fire, black smoke and boiling water. It is a place of punishment where those who deserve it face endless pain and torture, mainly, for turning away from Allah.

Buddhist Beliefs

- Buddhists believe that life is a cycle of death and **rebirth** called **samsara,** which means when we die our energy/spirit is born again in another body. Buddhists aim to escape the cycle.
- By living a good life (following the Buddha's teachings through the eightfold path e.g. avoid evil, do good deeds and **meditate**) Buddhists believe they can bring about good karma which means they will have less suffering in the future.
- If a Buddhist follows the Buddha's teachings perfectly they can come to understand the true reality of the world which means they become enlightened and are no longer stuck in the cycle of rebirth.

Hindus also believe in samsara and rebirth. **Sikh's** believe in reincarnation too but unlike Buddhists they believe we have soul and that is what is reincarnations (up to 8.4 million times).

Christian Beliefs

- Christians believe that their soul will live on after death – **immortality of the soul**. Most Christians believe, where the soul goes depends on the judgement they receive from God.
- **Heaven** is a place of perfection (often described as paradise) and is where believers go to be with God if have lived a morally good life and have accepted Jesus as their savior.
- Jesus said *"I am the way, the truth and the life"* – Christians believe it is through Jesus and His forgiveness that they can achieve eternal life.
- **Hell** is a place of eternal separation from God. God does not send people to hell, it is the absence of being in heaven. Those who do not follow God's teachings cannot enter heaven due to their sin so they live eternally separated from Him in hell.
- Some Christians, called Catholics, also believe in purgatory which is where they get rid of their sins before entering heaven.
- Christians believe Jesus was crucified (killed on a cross) but rose from the dead two days later. The Bible recounts that Jesus then spoke to over 500 people before rising up to heaven. **Jesus' resurrection is proof** of life after death according to Christians.
- The leader of the Church of England, Archibishop Justin Welby, believes that religion is a positive force in our lives and communities which help support and guide people in times of need and grief.

Y8 Bio T2- Variation & DNA

The differences that occur both between different species and within the same species are called **variation**.

There are 2 types of variation:

- **Continuous**: A characteristic that changes gradually over a range of values

e.g. Height & Weight

- **Discontinuous**: A characteristic of any species with only a limited number of possible values

e.g. Eye Colour & Blood group

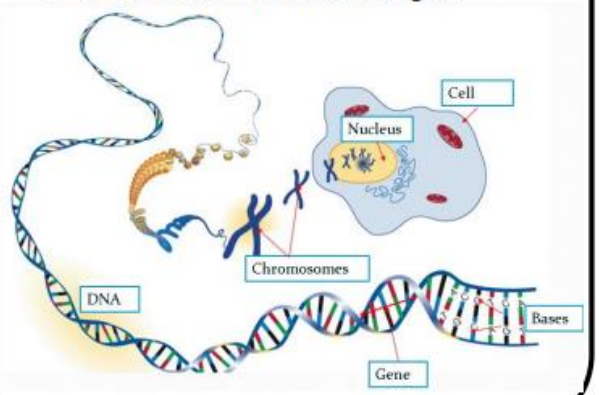
Variation can be caused by **inherited** (e.g. eye colour, blood type) and **environmental** (Hair length, accent) factors.

Evolution is the theory that all the kinds of living things that exist today developed from **earlier organisms**.
The differences between them resulted from changes that happened over many years.
Both humans and chimpanzees have evolved from a similar ancestors dating around **3.8 million years ago** from **simple life forms.**
The most recognised theory of evolution is the theory of **'Natural selection'** by **Charles Darwin.**

1. There is variation within populations
2. The best adapted organisms have a better chance of survival
3. These organisms then have a better chance of reproducing
4. The genes for survival are then passed onto the offspring
5. The process continues over many generations

Fossils are the **preserved remains, impressions or traces** of animals, plants and other organisms that **lived millions of years ago**.
Fossilized remains only form in the **absence of microbes,** which need food, oxygen, water and warmth. There are **gaps in the fossil record**
DNA from different organisms can be compared. The fewer differences, the less time since they shared a common ancestor.

- DNA stands for **Deoxyribose nucleic acid**
- DNA is contained within the **nucleus** of cells.
- **Chromosomes** are made up of large molecules of DNA which has a **double helix** structure
- Human cells contain **46** chromosomes.
- A small section of DNA is called a **gene**.



Extinction is when there are no remaining individuals of a species still alive.
Causes of extinction may include:

- **Change in environment/ natural disaster**
- **New predator**
- **New competitor**
- **New disease**

Genetic engineering is about **changing the DNA** of a living thing to change its characteristics.

Stage	Example
1. Select the product or characteristic needed	Bioluminescence
2. Isolate/cut the genes from DNA using an enzyme	Jellyfish DNA
3. Insert the genes into target DNA using an enzyme	Mouse DNA
4. Replicate the new organism/ early stage	Mitosis

Chromosomes contain the same type of genes that code for the same characteristics, such as eye colour.

Each chromosome in the pair, however, may have a different **version** of the gene.

Each different version of a gene is called an **allele**.

Blue eyes is because of a **RECESSIVE** allele.
Brown eyes is because of a **DOMINANT** allele.

Dad- Brown eyes (BB)
Mum- Blue eyes (bb)

What are the chances their child will have brown eyes?

Steps to a genetic cross

1. Set out a punnet square like this
2. Write in each parents alleles (in letters)
3. Match up the letters in each of the 4 boxes
4. Work out which eye colour each option will have
5. Work out the % of all of the options

Answer= 100% Brown
0% Blue

		Parent 2: b	Parent 2: b
Parent 1: B		B b Brown	B b Brown
Parent 1: B		B b Brown	B b Brown

Selective breeding is a process used to produce different breeds of animals or varieties of plants that have **useful characteristics**.

- **1. Choose parents with characteristics we are looking for from a mixed population**
- **2. Breed them together …**
- **3. Select the offspring that have inherited the characteristics we want**
- **4. Breed the offspring together**
- **5. Repeat this over several generations**

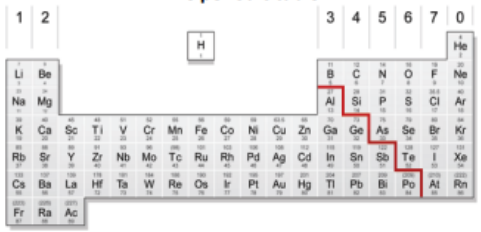
Selective breeding can lead to **'inbreeding'**
This means that some species are particularly prone to **inherited disease or inherited defects** … 'best in show' isn't always 'best in health' !

Science - Biology

Year 8 chemistry term 2 - Periodic table and metals

Science - Chemistry

The periodic table



There are over 100 different elements. All the elements are shown in the **Periodic Table**. Each element has a **chemical symbol**, which is usually one or two letters.
A symbol is written with the first letter as a capital, and the second letter is small.
The arrangement of the periodic table gives us information about the structure of the atoms and the elements properties.

Extracting metals

Metals are usually found in the ground as metal oxides (for example iron oxide or copper oxide). Metal oxides are in rocks. If there is enough metal oxide in the rock to make it worthwhile extracting we call it an ore.

Metals can be extracted from metal oxides by removing the oxygen. This is called **reduction**. A substance that is more reactive than the metal is used to remove the oxygen. This is usually carbon:

Copper oxide + carbon → copper + carbon dioxide

Carbon cannot extract aluminium from aluminium oxide as carbon is less reactive than aluminium:

Aluminium oxide + carbon → **X**

Aluminium is separated from aluminium oxide by **electrolysis**.

Displacement reactions

Metals can also be extracted from compounds by reacting them with more reactive metals. For example:

Copper sulphate + magnesium → copper + magnesium sulphate.

Here the magnesium has displaced copper because magnesium is more reactive than copper.

Patterns of reactivity

Metals may react with substances around them in the environment such as air, water and acids.

Some metals react very easily or quickly. They are **reactive**. Other metals do not react very easily and are described as **unreactive**. The most reactive metals are found on the left-hand side of the Periodic Table. Less reactive metals are found in the centre of the Periodic Table.

Group 1 metals and water

The group 1 metals react readily with water. They float on the surface and move around releasing bubbles of gas. When universal indicator is added to the water, it goes purple, an alkali has been formed.

When group 1 metals react with water they form **hydrogen** gas and a metal **hydroxide**.

metal + water → metal hydroxide + hydrogen

For example:

sodium + water → sodium hydroxide + hydrogen

$Na + H_2O \rightarrow NaOH + H_2$

The group 1 metals increase in reactivity going down the group.

Metals and acid

The reactivity of metals can be compared by observations of their reactions with acid. The more reactive the metal the faster the bubbles of gas are given off. We can also compare the change in temperature. The bigger the temperature change the more reactive the metal.

The metals that react with water also react very quickly with acids. Some metals that don't react with water do react with acids. When metals react with acids, they produce hydrogen and a **salt.**

metal + acid → salt + hydrogen

The name of the salt formed depends on the name of the acid:

- **sulphuric** acid makes **sulphates**
- **nitric** acid makes **nitrates**
- **hydrochloric** acid makes **chlorides**.

Writing equations

We can write **word equations** to show a chemical reaction. The chemicals that you start with are called the **reactants**. The chemicals at the end are called the **products**.
For example:

magnesium + oxygen → magnesium oxide

reactants products

We can use the symbols and formulae to write balanced symbol equations. An equation is only balanced when there are the same number of atoms of each type on both sides of the equation.
An equation can only be balanced by putting numbers in front of formulas – you cannot change the formula itself.
For example:

$$2Mg + O_2 \rightarrow 2MgO$$

The reactivity series

Metals can be arranged in a **Reactivity Series**. The most reactive metals are placed at the top of the table. The position of the metals allows us to understand how it will react.

potassium sodium lithium calcium magnesium zinc iron copper silver gold

most reactive ← **least reactive**

Even though carbon is a non-metal it will fit into the reactivity series. It fits between magnesium and zinc.

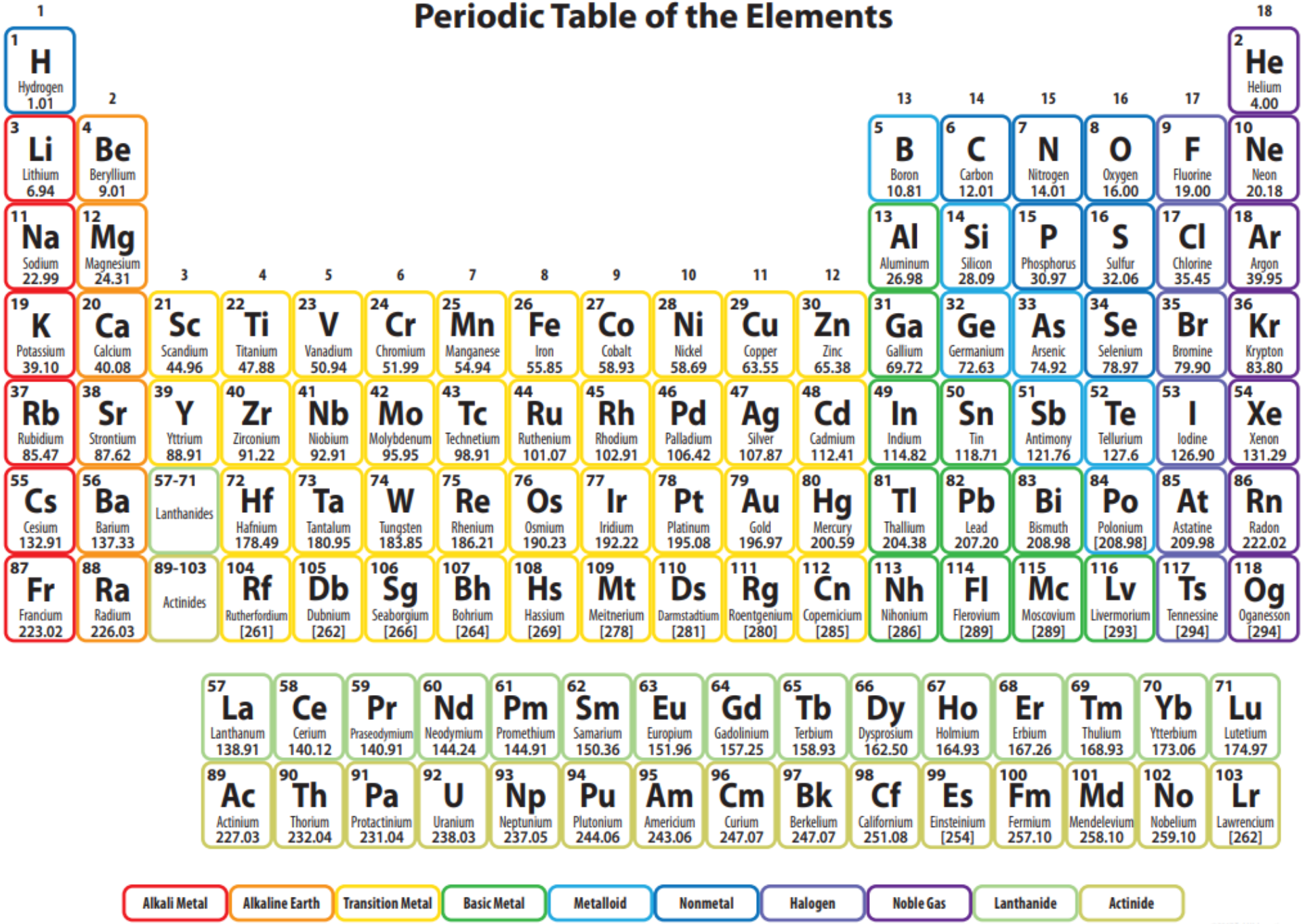
Metals and recycling

All of the metals that we use we get from the Earth's crust. There is a limited amount of each metal available, they are a **finite** resource. We must use them carefully.

One way to make resources last longer is to recycle them.

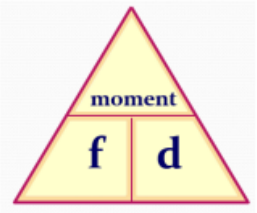
Metals are easily recycled. They need to be separated then they can be melted and remoulded to make new objects. The energy needed to do this is less than the energy needed to obtain new metals from the raw materials. Aluminium is a valuable metal that melts at a relatively low temperature, so it is particularly attractive for recycling.

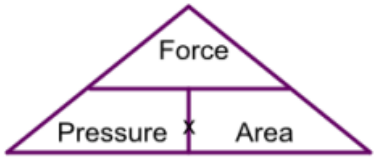
Periodic Table of the Elements

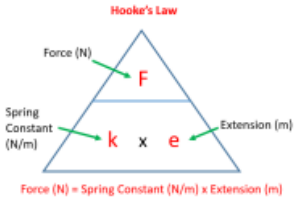


Year 8 Term 2 Physics – Mechanics

Science - Physics







Pressure is calculated as:

$$P = \frac{F}{A}$$

P = Pressure (Pa)
F = Force (N)
A = Area (m^2)

If a force is spread over a larger area, it gives a smaller pressure, for example in snow shoes.

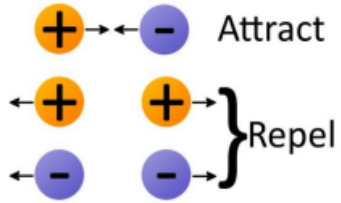
If a force is spread over a smaller area it gives a larger pressure, for example in a knife.

The three states of matter are solids liquids and gases.

In solids, the particles have little energy and the forces of attraction between them are strong. In liquids, the particles have more energy than in solids and the forces of attraction between the particles are weaker than in solids. In gases, the particles have high energy and the forces of attraction between the particles is weak.

Static electricity is the build up of charge. Friction between two materials may cause electrons to jump from one material to another. The material that gains the electrons becomes negatively charged and the material that has lost electrons is positively charged.

Opposite charges attract, same charges repel.



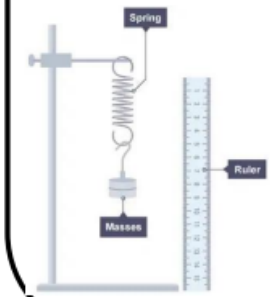
When a force is applied to an object and a turning effect is produced, we name this a moment.

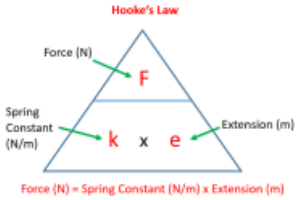
moment = force (N) × distance from pivot (m)

Where moments are generated, a force is exerted at a given distance from a pivot. A moment is therefore greater if the force applied to a system is greater, and the distance from the pivot is greater.

The principle of moments states that the sum of clockwise moments must equal the sum of anticlockwise moments in order for a system to be balanced.

When a force is applied to a spring, the spring extends. The extension of the spring is **directly proportional** to the force applied to it. For example, if we double the force on the spring, the extension of the spring will double. We can investigate this by hanging masses of a spring and measuring its extension each time (see diagram). The spring constant of a spring is a measure of how many newtons are needed to stretch a spring by 1m. A stiffer spring needs more force to stretch it, so has a higher spring constant. It can be calculated using the equation:





Year 8 Half Term 3 Spanish Knowledge Organiser

Unit 3: Mis Pasatiempos

3.1 Mi tiempo libre

los pasatiempos	hobbies
bailar salsa	to dance salsa
chatear en el móvil	to chat on the phone
descansar en casa	to relax at home
escuchar música	to listen to music
jugar a la videoconsola	to play on the games console
leer libros	to read books
navegar por Internet	to surf the Internet
practicar deportes	to do/play sports
salir con mis amigos	to go out with friends
ver la tele	to watch TV
la discoteca	nightclub
estupendo/a	wonderful
favorito/a	favourite
interesante	interesting
el programa	programme
el tipo	type

3.2 Soy muy deportista

los deportes	*sports*
los deportes acuáticos	*water sports*
jugar al...	*to play...*
bádminton	*badminton*
baloncesto	*basketball*
balonmano	*handball*
béisbol	*baseball*
fútbol	*football*
golf	*golf*
rugby	*rugby*
tenis	*tennis*
voleibol	*volleyball*
hacer...	*to do...*
atletismo	*athletics*
ballet	*ballet*
boxeo	*boxing*
ciclismo	*cycling*
equitación	*horse riding*
gimnasia	*gymnastics*
natación	*swimming*
con	*with*
deportista	*sporty*
el/la deportista	*sportsperson*
diferente	*different*
excelente	*excellent*
terrible	*terrible*
el equipo	*team*
el partido	*match*
la selección nacional	*national team*

3.3 Mis gustos deportivos

aburrido/a	*boring*
apasionante	*exciting*
difícil	*difficult*
divertido/a	*fun*
emocionante	*exciting*
fácil	*easy*
lento/a	*slow*
rápido/a	*fast*
me chifla	*I love*
me fascina...	*... fascinates me*
me interesa...	*... interests me*
me mola	*I love*
en mi opinión	*in my opinion*
para mí	*for me*
porque	*because*

3.4 ¡Brrr! ¡Hace frío!

el tiempo	*weather*
¿Qué tiempo hace?	*What's the weather like ?*
hace (mucho) calor	*it's (very) hot*
hace frío	*it's cold*
hace sol	*it's sunny*
hace viento	*it's windy*
hay niebla	*it's foggy*
hay tormenta	*it's stormy*
llueve (mucho)	*it's raining (a lot)*
nieva	*it's snowing*
el pronóstico	*forecast*

el calor	*heat*
el frío	*cold*
el invierno	*winter*
la lluvia	*rain*
la niebla	*fog*
la nieve	*snow*
el sol	*sun*
la tormenta	*storm*
el viento	*wind*
cuando	*when*
si	*if*

3.5 ¡Somos fanátic@s de la música!

el/la actor/actriz	*actor/actress*
actuar	*to act/perform*
el/la artista	*(performing) artist*
la canción	*song*
el/la cantante	*singer*
estar en contacto con	*to be in touch with*
famoso/a	*famous*
el/la famoso/a	*famous person*
el/la fan	*fan*
Internet	*Internet*
popular	*popular*
el/la rapero/a	*rapper*
talentoso/a	*talented*
la visita	*view (e.g. on YouTube)*

3.6 Su foto tiene muchos 'me gusta'

el estilo	*style*
la foto	*photo/picture*
el grupo	*group*
influenciar	*to influence*
el/la jugador(a)	*player*
'me gusta'	*like (on social network)*
el miembro	*member*
la personalidad	*personality*
la red social	*social network*
el/la seguidor(a)	*follower*
usar	*to use*
simpático/a	*kind, nice*
sociable	*sociable*
talentoso/a	*talented*

Spanish

Year 8 Half Term 3 Spanish Knowledge Organiser

Unit 3: Mis Pasatiempos

3.1 Mi Tiempo libre

En mi tiempo libre – in my free time	me gusta I like	descansar en casa escuchar música jugar a la videoconsola leer libros navegar por Internet	to relax at home to listen to music to play on the games console to read books to surf the Internet	y – and o - or	salir con amigos ver la televisión	go out with friends watch TV	

3.2 Soy muy deportista

Me gustan los deportes I like sport	y me gusta jugar al and I like to play	baloncesto balonmano béisbol fútbol	*basketball* *handball* *baseball* *football*	pero no me gusta hacer but I don't like to do	boxeo ciclismo equitación gimnasia	*boxing* *cycling* *horse riding* *gymnastics*	

3.3 Mis gustos deportivos

me chifla me fascina... me interesa...	*I love* *... fascinates me* *... interests me*	el baloncesto el balonmano el béisbol el fútbol	*basketball* *handball* *baseball* *football*	porque es because it is	difícil divertido/a emocionante	*difficult* *fun* *exciting*	y – and o - or	fácil lento/a rápido/a	*easy* *slow* *fast*

3.4 Brrr.....¡Hace frío!

Cuando When	hace (mucho) calor hace frío hace sol	*it's (very) hot* *it's cold* *it's sunny*	me gusta jugar al I like to play	el baloncesto el balonmano el béisbol el fútbol	*basketball* *handball* *baseball* *football*	pero cuando but when	hay tormenta llueve (mucho) nieva	*it's stormy* *it's raining (a lot)* *it's snowing*	prefiero	escuchar música leer libros	to listen to music to read books

3.5 ¡Somos fantatic@s de la música!

Mi actor/actriz favorito Mi canción favorita Mi cantante favorito	*My favourite actor/actress* *My favourite song* *My favourite singer*	se llama..... is called.....	Es he is/ she is	muy bastante un poco	very quite a little	popular talentoso/a	popular talented	

3.6 Su foto tiene muchos 'me gusta'

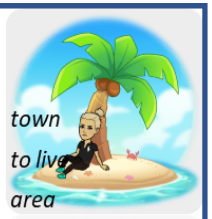
Mi famosos favorito se llama	me gusta me encanta	I like him/her I lovehim her	porque es because he/ she is	súper popular y really popular and	tiene he/ she has	una buena personalidad un estilo atractivo millones de seguidores	a good personality an attractive style millions of followers		

Spanish

Year 8 Half Term 4 Spanish Knowledge Organiser

Unit 4: Mi Casa

4.1 Donde vivo yo



antiguo/a	*old*
histórico/a	*historic*
moderno/a	*modern*
las afueras	*outskirts*
la aldea	*village*
el campo	*countryside*
el centro	*centre*
la ciudad	*city*
la costa	*coast*
el desierto	*desert*
la isla	*island*
el mar	*sea*
la montaña	*mountain(s)*
la playa	*beach*
el pueblo	*town*
vivir	*to live*
la zona	*area*
la brújula	*compass*
el este	*east*
el noreste	*northeast*
el noroeste	*northwest*
el norte	*north*
el oeste	*west*
los puntos cardinales	*Compass points*
el sur	*south*
el sureste	*southeast*
el suroeste	*southwest*

4.2 Mi casa es tu casa

el apartamento	*apartment*
el área	*area*
el bloque	*block*
la caravana	*caravan*
la casa	*house*
la casa de campo	*country house*
el castillo	*castle*
el chalet	*villa*
la granja	*farm*
el piso	*flat*
el rascacielos	*skyscraper*
la región	*region*
la vista	*view*
bonito/a	*pretty*
cómodo/a	*comfortable*
espacioso/a	*spacious*
lujoso/a	*luxurious*
nuevo/a	*new*
viejo/a	*old*

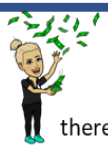
4.3 ¡Pasa, pasa a mi casa!

las habitaciones	rooms
abajo	downstairs
afuera	outside
arriba	upstairs
el aseo	toilet
el ático	attic
el balcón	balcony
el baño	bathroom
la cocina	kitchen
el comedor	dining room
el dormitorio	bedroom
las escaleras	stairs
el garaje	garage
el jardín	garden
el pasillo	hall, corridor
el salón	living room
situarse en	to be located in
el trastero	storage room
vender	to sell

4.4 Mi habitación es mi reino

los muebles	furniture
el armario	wardrobe
la cama	bed
el espejo	mirror
la estantería	shelves, bookcase
la lámpara	lamp
la mesa	table
el ordenador	computer
el póster	poster
la silla	chair
la ventana	window
al lado de	next to
debajo de	underneath
delante de	in front of
detrás de	behind
encima de	on top of
entre	between

4.5 Mi casa de ensueño



enorme	enormous
exótico/a	exotic
impresionante	impressive
luminoso/a	bright
privado/a	private
la caseta	kennel
el cine	cinema
el estudio	study
la piscina	swimming pool
el trampolín	diving board
la ubicación	location
estaría	I/it would be
habría	there would be
me gustaría	I would like
sería	I/it would be
tendría	I/it would have

4.6 Ayudo en casa

las tareas domésticas	household tasks/chores
los trabajos	jobs
corto el césped	I mow the lawn
hago la colada	I do the washing
lavo/friego los platos	I wash the dishes
ordeno mi dormitorio	I tidy my room
paso la aspiradora	I do the hoovering
pongo la mesa	I lay the table
quito el polvo	I dust
quito la mesa	I clear the table
plancho la ropa	I iron
una vez	once
dos veces	twice
al día	per day
a la semana	per week
al mes	per month
todos los días	every day
fregar	to wash
hacer	to do
limpiar	to clean
planchar	to iron
repartir	to share
fácil	easy
horrible	horrible
perezoso/a	lazy
relajante	relaxing

Spanish

Year 8 Half Term 4 Spanish Knowledge Organiser
Unit 4: Mi Casa

4.1 Donde vivo yo

Vivo en I live in	un pueblo una aldea una ciudad	a village/town a village a city	grande pequeño/a antiguo/a moderno/a	big small old modern	que se llama.... that is called...	que está that is	en el norte en el sur en el este en el noroeste	in the north in the south in the east in the northwest

4.2 Mi casa es tu casa

Vivo – I live Vive- he/she lives Vivimos we live Viven – they live	en una granja un rascacielo una casa un castillo	- on a farm - in a skyscraper - in a house - in a castle	viejo/a nuevo/a espacioso/a cómodo/a	- old - new - spacious - comfortable	con vistas de with views of	las montañas la playa la costa el campo	- the mountains - the beach - the coast - the countryside

4.3 ¡Pasa, pasa a mi casa!

En mi casa in my house	arriba abajo afuera	- upstairs - downstairs - outside	hay there is/ there are	un salón una cocina un dormitorio el dormitorio de mis padres	- a living room -a kitchen - a bedroom - my parents' bedroom	y también and also	un comedor un garaje	- a dining room - a garage

4.4 Mi habitación es mi reino

En mi dormitorio in my bedroom	la cama la lámpara la mesa	- the bed - the lamp - the table	está is	debajo de delante de detrás de encima de	underneath in front of behind on top of	la ventana la puerta el armario	- the window - the door - the wardrobe		

4.5 Mi casa de ensueño

En mi casa de ensueño in my dream house	habría me gustaría tendría	- there would be - I would like - it would have	una piscina enrome - an enormous swimming pool un cine privado - a private cine un jardín exótico – an exotic garden			estaría en it would be in (location)	España – Spain Francia – France los Estados Unidos - USA		

4.6 Ayudo en casa

En mi casa tengo que in my house I have to	hacer las tareas domésticas do household chores	por ejemplo for example	una vez a la semana dos veces a la semana una vez al mes todos los días	once a week twice a week once a month every day		pongo la mesa quito el polvo quito la mesa plancho la ropa	I lay the table I dust I clear the table I iron		

Spanish