BRISTOL METROPOLITAN ACADEMY

Knowledge Organisers 2024-25

Year 8 – Term 2

Monday 4th November	Week A
Monday 11th November	Week B
Monday 18th November	Week A
Monday 25th November	Week B
Monday 2nd December	Week A
Monday 9th December	Week B
Monday 16th December	Week A

Please note: Maths homework will be on an online platform for this term. It will be set and checked weekly separately from the timetable.

Complete your homework on the night stated e.g. if it is a Monday Week A you will complete ICT/DT

	Week A	**Week B**
Monday	ICT/DT	MFL
Tuesday	English	English
Wednesday	Science	Science
Thursday	History	Geography
Friday	RS	Music/Art

Contents

This Knowledge Organiser is to help you see the key information for each subject for this term. You can use this to help you both with homework and with revision, supporting your learning at home. In the table below you will find the instructions for each subject to be completed on the correct day.

Subject	Tasks
Maths	Homework question tasks/sets will be set weekly on an online platform. You will have one week to complete this online, before it is checked for competition and the next set is published.
Science	For term 1 this will be directed by your classroom teacher. It could involve an online platform too.
English	Using the separate question booklet, divide your homework book page in half length ways, write the questions out on the left hand side. First, attempt to answer the questions from memory/your own knowledge. Then use your knowledge organiser booklets to check your answers and fill in the missing ones.
MFL	Find the correct date in the KO and the question booklet. With the list of 10 key words for that week, complete the look – say - cover – write – check method in your homework book. Complete this process for each word/phrase 4 times each.
Geog/Hist/RS /DT	Same process as outlined for English above. DT have 5 questions and not 10.
ICT	For term 1, continue to use the KO to do revision/key words etc in your homework books.
Music/Art	For music and art, you will have two practical tasks to complete each term for each subject. These will be found in the question booklets and will be checked by you classroom teacher.

At the back of this booklet, you will find: Sentence starters, a history chronology, DT sentence starters, a periodic table, maps of the world, subject websites, a RAG sheet and a timetable.

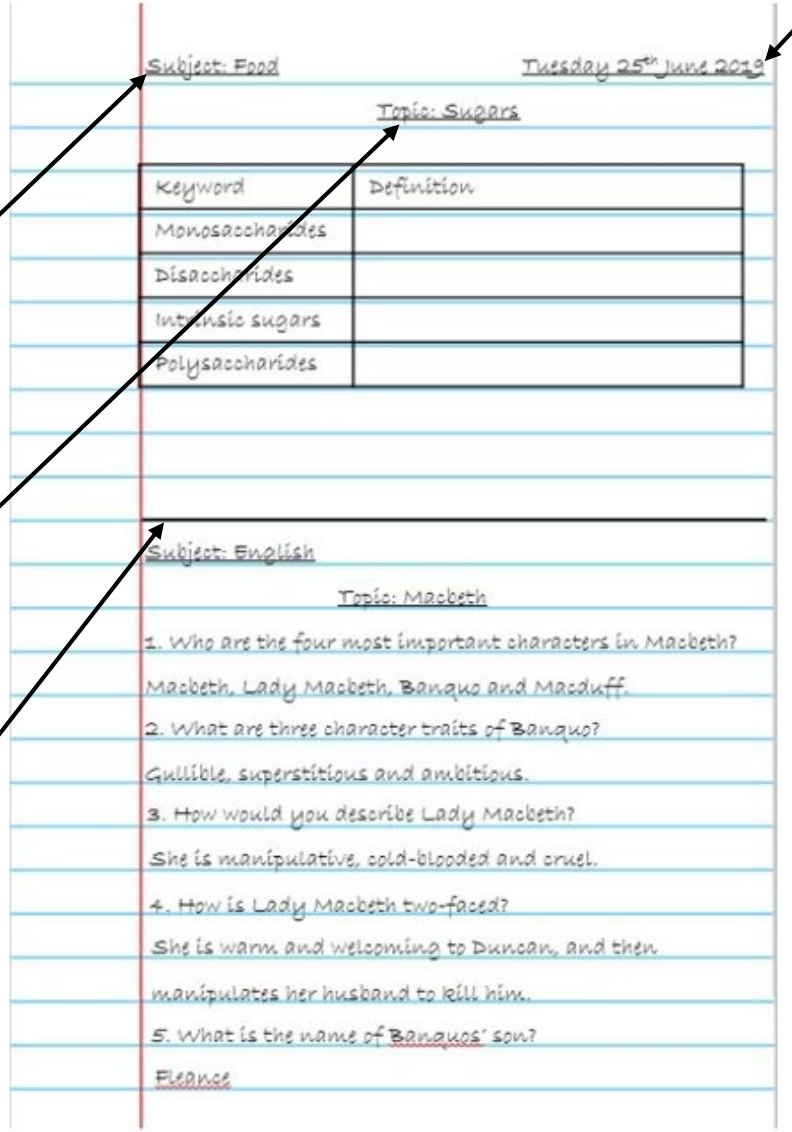
How to present your homework:

Date written fully on the right-hand side of the page and underlined. This should be the day you complete the homework.

Subject written on the left-hand side of the page and underlined.
For example: Food

Topic written on the centre of the page and underlined.
For example: Sugars

One single straight line between both pieces of homework.



Subject: Food — Tuesday 25th June 2019

Topic: Sugars

Keyword	Definition
Monosaccharides	
Disaccharides	
Intrinsic sugars	
Polysaccharides	

Subject: English

Topic: Macbeth

1. Who are the four most important characters in Macbeth?

Macbeth, Lady Macbeth, Banquo and Macduff.

2. What are three character traits of Banquo?

Gullible, superstitious and ambitious.

3. How would you describe Lady Macbeth?

She is manipulative, cold-blooded and cruel.

4. How is Lady Macbeth two-faced?

She is warm and welcoming to Duncan, and then manipulates her husband to kill him.

5. What is the name of Banquos' son?

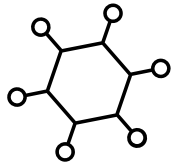
Fleance

Home Learning Strategies to help you revise

Brain Dump

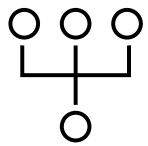
Write down everything you know about o certain topic on a page. Use your KO to add extra notes in a different colour.

Mind Map



Condense a topic showing the important links and connectors between key parts. Use your KO to add in extra notes.

Diagram



Draw a clear diagram for a subject including labels and key features. Make sure you use correct vocabulary and spellings.

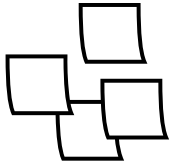
Vocabulary

Learn the key words associated with a topic and commit the word and spelling to memory. Test yourself or ask someone else to test you.

Retrieval Quiz

Write key questions about a topic as well as the answers. Use the content of the KO to help you. Check to see if you can remember the answers without looking.

Compare



Complete a comparison table showing two different sides of a topic. Can you use it to create an argument for one viewpoint?

Year 8 Creature & Characters

Content: In this project you will

Knowledge—of different artists who create creatures and characters

Understand—What inspired artists to create their work and how to write about the work

Skills—drawing, collage, painting, clay and showing the influence of other artists in your own work and presentation

Outcome— a 3D monster and watercolour painting

Nicola L Robinson is an illustrator for children's books. She is interested in mythology, history and fairy tales. Her favourite media to work in is *'pen and ink.'* She is still working around the UK.

Artists

Alex Lucas is a Bristol based artist, who creates illustrations in a range of media. He also creates murals on walls and garages around the city. Keep an eye out for his artwork!

Cressida Cowell

Keywords

Illustration—a decoration, interpretation or visual explanation of a text.

Texture—used to describe how an object would feel when touched

Complementary Colours—opposite each other on the colour wheel

Analysis

All artist research pages should be annotated

Artwork-

- **Artist name**
- Describe the work-what does it look like?
- Use the formal elements i.e. colour, line etc.
- What techniques/materials were used?
- What is your opinion of the work?
- How is it relevant to your own idea?

Sentence starters

I like/dislike the way the artist has used...because

I think the colour scheme used is effective because...

I think the artist has been inspired by...because

Evaluation of Your Artwork-

- What inspired you to create the piece?
- What techniques did you use and why?
- What does it mean to you?
- How is it relevant to your idea?

Consider

Mythology, Fantasy and Surrealism as sources of inspiration

Assessment

D	Demonstrate a deepening knowledge, understanding and skill
O	On Track—demonstrate some knowledge, understanding and skills
Y	Yet to be on track—developing some knowledge, understanding and skills
A	At an earlier stage—starting to develop some knowledge, understanding and skills

Year 8 - Networks

Year 7 - Knowledge

Strong Passwords
Prevents unauthorised access to a computer system. A strong password contains: *Uppercase letters, Lowercase letters, Numbers, Symbols, 8 or more characters*

Saving Files
It is important to regularly save files/work so that you do not lose your work.

How to save a file?
1. Save in your documents
2. Save with a relevant file name
3. Saved in an appropriate folder structure
4. Save the file in a folder that is relevant to the topic

Save and Save As
- "Save" updates a file
- "Save As" creates another version of the file

Networks
Computers connected together that share data and resources.

Cloud Storage
Cloud computing is storage that you can access through the Internet

+ Files can be accessed from anywhere
+ You have unlimited storage space and can store for free
+ Allows you to create more local storage
+ Good form of a backup storage
+ Does not require expensive hardware
- You need internet access
- Has the potential to get hacked
- Data could be seen by a third party
- Can be expensive long term

Year 8 - Knowledge

Networks Types

Two or more computers connected together that share data and resources

LAN (Local Area Network)
Network in a small geographical area
Example: Small Office, School

WAN (Wide Area Network)
Network in a large geographical area
Example:The Internet

WPAN (Personal Area Network)
Network centred around a single user
Example: Bluetooth Headset, Hotspot

Advantages of Networks:
+ Sharing files is easier
+ Share hardware (printers)
+ Updates are central
+ User accounts can be stored centrally

Disadvantages of Network:
- Set up could be expensive
- Vulnerable to hacking
- Need specific hardware
- Might need a network manager

Bluetooth

Short range wireless connection

+ Very common connection type **and** Low power usage
- Low bandwidth **and** Short range

Wired and Wireless

Wired Networks
Computers connected together using wires.

+ Fast connection
+ More secure than wireless
- Set up could be expensive
- Wires are trip hazards
- Difficult to connect new devices

Wireless Networks
Computers connected together using wireless connections (Wi-Fi).

+ Freedom to move around
- Less secure
- Connection can be interrupted by walls and other electronic devices

Cyber Security

Malware - Any hostile or intrusive softwares

Hacking - People that gain unauthorised access to a computer

Prevention - Passwords, Antivirus, Firewall, Encryption

Yr 8 BMA Drama Knowledge Organiser

Theatre Roles

- **Playwright** – a person who writes plays *i.e Shakespeare*
- **Performer** – entertains the audience
- **Understudy** – a person who learns another's role in order to be able to act at short notice in their absence
- **Director** - oversees and orchestrates the production (a play, an opera, a musical, or a devised piece of work) by combining all aspects of the production
- **Stage manager** - the person responsible for the lighting and other technical arrangements for a stage play.
- **Theatre manager** – has the responsibility for the smooth operational running of the theatre, ensuring it functions effectively and within budget. Manages staff, resources and systems and may also be responsible for leading on marketing and publicity activities.
- **Sound Designer** – designs and creates the sound *i.e. music, sound effects*
- **Set designer** – designs and creates the set
- **Costume Designer** – designs and creates costumes for a production
- **Puppet Designer** – designs and creates puppets for a production
- **Technician -** A theatrical technician is a person who operates technical equipment and systems in the performing arts and entertainment industry.

Techniques

- **Freeze – frame** - a frozen scene on stage
- **Role play** - pretending to be someone else, playing a character
- **Step – out** - a character to 'step out' of a scene and reveal something to the audience, while the rest of the action freezes.
- **Narration** – the process of telling a story
- **Split stage** - two or more scenes which are performed on stage at the same time
- **Stage configurations** - proscenium arch, thrust stage, In the round, traverse stage, promenade, end-on
- **Breaking the fourth wall** – characters speak to the audience by breaking the imaginary wall between them
- **Characterisation** – how your character appears, speaks, thinks, feels & moves, motivation & context
- **Positions** *– i.e centre stage, upstage left, upstage right*
- **Blocking** – the movements of an actor
- **Devising** – to plan and create something from an idea or stimulus, target audience
- **Improvise** – create without preparation

Elements of play texts

Language, plot, themes, atmosphere, characters, context, conflict, climax, tension, pace, sound, symbol, interpretation, status

Terminology (Physical Skills)

- **Gesture** – an action of the body *i.e. pointing a finger or tilting the head*
- **Mannerism** – a habitual movement *i.e. twitching the nose, licking the lips*
- **Body language** – non verbal communication of the body to show emotion
- **Facial expressions** – how the face conveys emotion *i.e. an angry face shows furrowed eyebrows, pursed lips, squinted eyes, scrunched nose and forehead*
- **Proxemic**s – how the stage space is used effectively to show something (i.e. relationships between characters)
- **Gait** – how a character moves *i.e. the Villain took big strides across the stage on tip toes lunging with his knees*
- **Energy** – low level or high level
- **Posture** – how a person carries themselves sitting or standing *i.e. – shoulder back, chest out, chin up, feet together*
- ***Eye contact & focus*** - the state in which two people are aware of looking directly into one another's eyes. Or where the eyes are focused
- **Relationship** – *how the character interacts with others on stage*

Terminology (Vocal Skills)

- **Accent** – shows where the character is from
- **Volume** – How loudly or softly you speak
- **Diction** – informal / slang the way in which you pronounce words clearly
- **Tone –** how the voice conveys emotion
- **Pitch** – High or low voice
- **Pace** – Speed of delivering dialogue
- **Pause** – used for effect
- **Intonation** – where the pitch goes up at the end of a sentence i.e. a question
- **Timing** – considered carefully for effect
- **Emphasis** – where a word or sound is exaggerated for effect

Year 8 D&T – Night Light Project

A is for **Aesthetics**

C is for **Cost**

C is for **Customer**

E is for **Environment**

S is for **Size**

S is for **Safety**

F is for **Function**

M is for **Material**

Analyse the Dinosaur Night Light by using ACCESS FM

You can use ACCESS FM to analyse existing products, write a specification, annotate designs and to evaluate the final outcome!

Remember to consider the sustainability of your design – try using the 6 R's!

Pillar Drill

File

Fret Saw

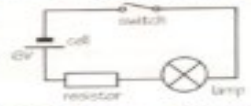
Soldering Iron

Line Bender

Electrical Systems Involve Circuits

1) All electrical systems need to have a complete circuit to make them work. Here's a simple circuit:

The circuit isn't complete yet — there's a gap at the switch. When you press the switch down you make a complete circuit. An electric current flows and the lamp comes on.



You can draw diagrams of electrical circuits using symbols to represent the components.

2) The materials you use in a circuit have to be conductors — they need to let electricity flow through. E.g. copper is used for the wire that joins the components because it's a good conductor and is ductile.

3) Insulators (e.g. PVC) don't let electricity through, so they're used to coat the outside of wires.

4) Voltage from a power cell (a battery) or the mains pushes the electric current around a circuit.

- Mains power is used for non-portable products like fridges and televisions.
- Batteries are used in portable products. There are disposable batteries and rechargeable ones.
- Rechargeable batteries are more expensive than disposable batteries, but can be cheaper in the long run as you don't need to keep replacing them. They're built in to some products, e.g. mobile phones.

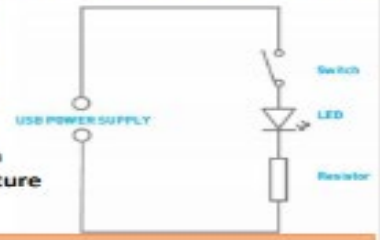
5) Resistors are used to reduce the current in a circuit so you don't damage delicate components (e.g. the lamp in the circuit above). Resistance is measured in ohms (Ω). A larger resistance means less current flows.

Colour-coded stripes show the

Acrylic

polymethyl methacrylate (PMMA) is available in a variety of colours. It is a hard, rigid material that weathers well.

Night Light Circuit Diagram



CAD = Computer Aided Design
CAM = Computer Aided Manufacture

Use modelling to improve your design

Modelling is a good way to solve problems with your design. You can make models using card as it's cheap and easy to work with.

When modelling, try out different aspects of your design. For example, you could model just one part of the product separately, to check it works, before going on to the rest.

Test and evaluate each model

After you've made each model, do some tests to check that it's how it should be. Get some potential customers to try it out and give you feedback too.

1. You'll probably find there are some things that don't work out quite how you'd hoped. Write down what he problem is, suggest how to fix it and try out another model.
2. Record how the design develops – take photos of your models.
3. You should evaluate each model, against the design by considering the strengths and weaknesses.

Develop Ideas with Sketches

1) 'Freehand' means drawing without using any equipment (except a pencil or pen).
2) You can combine 2D and 3D sketches to explain details.
3) And you can annotate your sketches (add notes) to explain details further, e.g. describing the materials and processes you'd use.

Practice your tonal drawing skill here

Practice your isometric drawing here

Isometric Drawing Shows Objects at 30°

1) Isometric drawing can be used to show a 3D picture of an object.
2) It doesn't show perspective (things don't get smaller in the distance), but it's easy to get dimensions right.
3) There are three main rules when drawing in isometric:

- Vertical edges are drawn as vertical lines.
- Horizontal edges are drawn at 30°.
- Parallel edges appear as parallel lines.

This drawing's been done on isometric dot paper. You could use plain paper and a 30°/60° set square instead.

DT

Knowledge Organiser: Animal Farm

Writer's Intent

Orwell wrote *Animal Farm* as a 'fairy story' with the intent of teaching of the dangers of dictatorial regimes. The cyclical nature of the novella illustrates the inevitability of exploitation of the masses if they are not educated. The microcosm of Animal Farm is meant to be representative of what Orwell saw in the tyrannical regimes that were rife in twentieth century Europe.

Key Themes

Totalitarianism
A form of government where the state seeks to control every facet of life. Those in power in care only about maintaining control through any necessary means.

Revolution and Corruption
The revolution in Animal Farm arises out of a hope for a better future. However, corruption occurs due to the pigs' greed.

Class Warfare
The farm animals work so hard that they have no time to educate themselves and consider their exploitation at the hands of their oppressors.

Language as Power
Animal Farm shows how the minority in power uses misinformation to control the thoughts in the lower classes.

The Soviet Union
While Animal Farm condemns all forms of totalitarianism, it is most explicitly an attack on the Soviet Union.

Characters

Old Major	A pig. He creates the ideas behind Animalism and inspires the other animals to rebel. His privileged life has given him the time to think about the ways that humans exploit and enslave animals.	1. Old Major … was so highly regarded on the farm. 2. 'Now, comrades, what is the nature of this life of ours? Let us face it: our lives are miserable, laborious, and short.' 3. 'Man is the only creature that consumes without producing.'
Napoleon	A pig. He cares more about his own power than he does about the ideals of the revolution. This leads him to build a totalitarian government based on terror and lies.	1. Napoleon was a large, rather fierce-looking Berkshire boar […] with a reputation for getting his own way 2. Napoleon took them away from their mothers, saying that he would make himself responsible for their education. 3. The dogs flanked the procession and at the head of all marched Napoleon's black cockerel.
Snowball	A pig. Snowball is an intelligent pig, but he is less shrewd in the ways of power than Napoleon. He values the ideals of the revolution but is unable to retain power.	1. Snowball was a more vivacious pig than Napoleon. 2. Snowball also threw on to the fire the ribbons 3. Snowball, who had studied an old book of Julius Caesar's campaigns…was in charge of the defensive operations
Squeeler	A pig. Squealer is a terrific speaker who prioritizes his personal comfort above all else. He represents the propaganda that proliferates tyrannical regimes.	1. he could turn black into white. 2. Squealer was sent to make the necessary explanations 3. Here Squealer looked very sly.
Boxer	A horse. Boxer is honourable but not intelligent. He believes deeply in the revolution and has the strength to overthrow the dictatorship, but not the wit to realise that it *is* a dictatorship.	1. he was not of first-rate intelligence, 2. but he was universally respected for his steadiness of character and tremendous powers of work 3. 'I will work harder.' 'Napoleon is always right'.
Benjamin	A donkey. Alone among the other animals, Benjamin seems to understand what's going on, but he does nothing to stop it. In the end, his inaction comes back to haunt him.	1. Benjamin was the oldest animal on the farm, and the worst tempered. 2. he saw nothing to laugh at. 3. Benjamin, as usual, said that he refused to meddle
Humans	The humans represent the original power structures in place before any revolution occurs. The humans care about profit at the expense of the welfare of their workers who they mistreat.	1. Mr. Jones…was too drunk to remember to shut the popholes 2. Mr. Pilkington, was an easy-going gentleman farmer 3. Mr. Frederick, a tough, shrewd man

Writer's Methods

Cyclical Structure	When conditions at the end of a story are in many ways similar to those at the start.
Symbolism	An object which represents an abstract idea.
Allegory	A story that can be interpreted to reveal a hidden meaning, typically a moral or political one.
Setting	The place or surroundings where a scene takes place. It often highlights a key idea or tone for the scene.
Character Arc	The transformation, or inner journey, of a character over the course of a narrative.

Key Context

World War Two	Early twentieth century Europe was at war due to the rise of fascism (particularly in Nazi Germany). This led to Britain allying with the communist Soviet Union – another tyrannical leadership.
Social Democracy	Orwell derided any form of totalitarianism, whether Fascist or Communist. He wished for people to work for their own wealth but with a strong emphasis on helping those in poverty.
Imperialism	A policy of extending a country's power and influence through colonisation.
The Russian Revolution	The Revolution saw the expulsion of the Tsar (king) but the rise of a new tyrannical leadership under the guise of equality.

Knowledge Organiser: Animal Farm

Key Word Glossary			
Word	**Definition**	**Example**	**Word in Action**
Anthropomorphism	A type of personification - Giving animals human characteristics.	The Lion King is an example of **anthropomorphism**, as lions are shown to have a human monarchical society.	
Capitalism	The political ideology of profit. Centred on the individual (person, business, country). Each individual tries to gain as much as possible and give as little as possible.	The western world is built on **capitalism**. Profitability runs the economy.	
Communism	The political ideology of equality. Centred on the group – usually an entire country. Wealth, power, and rights are shared equally between all citizens.	**Communism** is said to be the greatest idea that can never work, because all it takes is one person to exploit the system for it to fail.	
Coup	**An uprising where power is taken forcibly from the rulers.**	The leader was overthrown at the hands of his subjects in a swift and merciless **coup.**	
Cult of Personality	A type of leadership where the leader becomes a figure of love and worship. The focus becomes less about ideas and more about the person.	The head teacher kept order at the school through **a cult of personality.**	
Dictator	A person with supreme authority over a group of people, usually a country. Their word is law.	Kim Jun-Un is an example of a modern-day **dictator**.	
Indoctrination	Where a person or group are taught to believe certain things without questioning them.	The children of Nazi Germany were brainwashed through a process of **indoctrination.**	
Imperative	An order.	"Get out!" is an **imperative** statement.	
Microcosm	Where a large place, often a country, is represented by a much smaller place and aspects of the larger place have been 'shrunk' or distilled into aspects of the smaller place.	The Serengeti in the Lion King is a **microcosm** for society, with the lions representing the ruling class.	
Propaganda	Using language as a means to persuade or control a group of people. Affects their thoughts and behaviour.	The whole country believed that they were under attack due to the relentless government **propaganda.**	
Rhetoric	Language with the purpose to persuade.	The speech was entirely given in **rhetoric**, designed to change the mind of the crowd.	
Totalitarian	A system of government where one person has absolute power and all citizens are subservient.	The animals live in a **totalitarian** regime – they have no rights and live in fear.	
Treachery	Betraying somebody who trusts you, particularly if that person is responsible for you such as your leader.	The **treachery** of the defectors ruined the whole plan.	
Tyranny	The unchecked and particularly cruel use of power to subdue and rule over citizens.	The mad king laughed as he watched his **tyranny** crush the spirits of the people.	

Food

Why do we cook food?

The application of heat in the preparation of a food or mixture may:
improve digestibility;
improve appearance, flavour, odour and texture;
increase the availability of nutrients;
prevent spoilage;
increase keeping qualities.

Heat Exchange
As a food is heated, its molecules absorb energy and vibrate more vigorously. The faster they move, the more the temperature of the food rises. If heat is removed, the molecules become less active, reducing the foods temperature.

Heat can be exchanged in three ways:
- conduction;
- convection;
- radiation

Factors that affect food choice

Coeliac – cannot eat products containing gluten.
Lactose intolerance – the body can't digest the sugar lactose in dairy products.
Vegetarian: No meat in the diet
Vegan: No products from animals in the diet e.g. meat, milk or honey.
Religion :
Islam: Requires Halal meat, no alcohol, no pork
Judaism: Requires Kosher food, no meat and dairy together, no pork
Hinduism: No beef

Micro-nutrients

Vitamins and minerals are essential nutrients that your body needs in small amounts to work properly.

Fat-soluble vitamins
Fat-soluble vitamins (vitamin A, D, E and K) are mainly found in:
animal fats, vegetable oils, dairy foods, liver and oily fish
While your body needs these vitamins to work properly, you don't need to eat foods containing them every day.

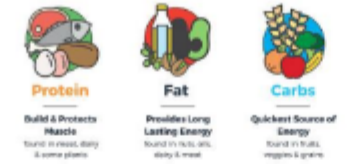
Water-soluble vitamins
Water-soluble vitamins (vitamin C, the B vitamins and folic acid) are mainly found in:
fruit and vegetables, grains, milk and dairy foods
These vitamins aren't stored in the body, so you need to have them more frequently.
If you have more than you need, your body gets rid of the extra vitamins when you urinate.

Minerals
Minerals include calcium and iron amongst many others and are found in:
Meat, cereals, nuts, fish, milk and dairy foods, fruit and vegetables

Minerals are necessary for 3 main reasons:
Building strong bones and teeth
Controlling body fluids inside and outside cells
Turning the food you eat into energy

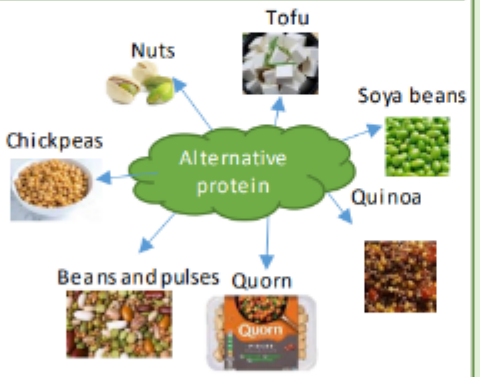
Micros

Macros



Alternative protein

Proteins are known as the building blocks of life: In the body, they break down into amino acids that promote cell growth and repair. (They also take longer to digest than carbohydrates, helping you feel fuller for longer and on fewer calories—a plus for anyone trying to lose weight.) You probably know that animal products—meat, eggs, and dairy—are a good source of protein.



Vegetarians and **vegans** don't consume meat so instead they use protein alternative products which are manufactured in order to provide protein in a diet and protein rich foods.

Protein complementation is when two LBV **proteins** are eaten together. Examples of protein complementation's are: hummus with pitta bread; nut roast made from a variety of nuts and seeds; vegetable curry and rice; lentil soup and wholemeal bread; baked beans on toast.

LBV proteins- . Foods that are deficient in one or more of the essential amino acids are said to have a **low biological value (LBV)**. Foods originating from plants (cereals, nuts, seeds, lentils, beans, pulses)

Food Poisoning

Food poisoning is a disease caused by eating a spoiled or contaminated food. Such food may contain certain microorganisms, toxins or enzymes.

Symptoms of food poisoning:
- Stomach pains and cramps
- Nausea and vomiting
- Diarrhoea
- Fever
- Shivers

Functions of Eggs

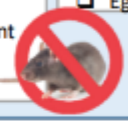
Setting and thickening (coagulation): Eggs will set when cooked. This is shown when you make a quiche or an egg custard.
Enriching: Eggs add nutritional value to a dish. This is shown when you make egg fried rice.
Raising agent: When whisked, eggs can hold air and become a raising agent. They can make a mixture light in texture, e.g. Chocolate éclairs.
As a glaze and to add colour: Beaten egg can be used as a glaze which turns golden brown on heating. An example is glazing sausage rolls with egg before cooking to give a golden brown finish.
Aeration: Eggs can be whisked to hold air and form a foam. The protein in the egg white becomes stretched and holds the air bubbles. This is shown in making meringues or a whisked sponge. When the meringues or whisked sponge are cooked the protein sets and hardens.

Food Spoilage

Cross- contamination

Cross-contamination means that bacteria, toxins or food particles were transferred to a food product.
Cross-contamination can cause food poisoning and allergic reactions.
Anaphylactic shock is a life-threatening reaction of the immune system to an allergen.

Food can become contaminated from:
- ❑ Waste food and rubbish
- ❑ Pest and rodents
- ❑ The cook's hand
- ❑ Work surfaces and equipment
- ❑ Other contaminated foods, including high-risk foods.



Most common allergens:
- ❑ Nuts
- ❑ Fish and seafood
- ❑ Milk
- ❑ Eggs

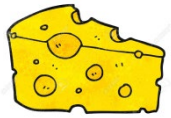
Signs of Food Spoilage- Many species of microorganism and some enzymes can cause food spoilage.

	Bacteria	Yeast	Mould	Enzymes
Food Spoilage	The bacteria Clostridium botulinum produces a toxin which causes meat preserves to bulge. Bacteria can also make meat products look slimy and green in colour.	Ferments sugar in juices and beverages, making them sour, fizzy and foamy. 	Create green, white or black coat on food products such as bread, grapes, tomatoes and jams. 	Turns bananas, apples, potatoes and other foods brown. 

Key words
Microorganism- a very small living bacteria.
Toxins- poison of plant or animal origin, especially one produced by or derived from microorganisms
Preserves – something in its original state
Ferments – The process in which yeast produces the gas carbon dioxide and alcohol.

Food and Drink Year 8 German Term 1 vocab list

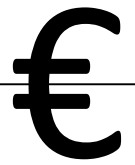
Was isst du?	What do you eat?
das Brot	Bread
der Fisch	Fish
der Käse	Cheese
die Butter	Butter
die Milch	Milk
der Kaffee	Coffee
der Tee	Tea
die Cola	Coke
der Zucker	Sugar
der Schinken	Ham
heiße Schokolade	Hot chocolate
der Apfel	Apple
die Fleisch	Meat
die Marmelade	Jam
das Eis	Ice cream
grüne Bohnen	Green beans
das Gemüse	Vegetables
die Pommes	Chips
die Chips	Crisps
der Spinat	Spinach
das Ei	Egg
das Wasser	water



Magst du….?	Do you like…?
Ja	Yes
Nein	No
denn es ist…	Because it is…
gut	good
fantastisch	fantastic
köstlich	delicious
lecker/schmackhaft	tasty
gesund	healthy
schrecklich	horrible
furchtbar	awful
widerlich	disgusting
würzig	spicy
salzig	salty
fettig	fatty
gut für deine Gesundheit	good for your health
enspannend	relaxing
gesellig	sociable
eine Herausforderung	a challenge
Es macht Spaß	fun
toll/spitze	great
ermüdend	tiring
nicht gut für deine Gesundheit	Bad for your health
ungesund	unhealthy

Was möchten Sie essen? Kann ich Ihnen helfen?	What would you like to eat? Can I help you?
Ich möchte …	I would like...
essen/trinken	to eat/to drink
Vorspeise/Hauptgericht/Nachtisch/Getränk	starter/main meal /dessert/drink
die Rechnung, bitte	The bill please
Kellner/Kellnerin	A waiter/waitress
Ich nehme/ich hätte gern	I'll take (have)
das Trinkgeld	The tip
Das ist alles	That's all
Danke	Thank you

Möchtest du…?	Would you like…?
eine Packung	A packet of
ein Liter	A litre of
ein Kilo	A kilo of
ein halbes Kilo	Half a kilo of
eine Flasche	A bottle of
Was magst du?	**What do you like?**
Ich mag	I like
Ich mag...nicht	I don't like
Ich liebe	I love
Ich hasse	I hate
Ich esse lieber	I prefer eating
Ich denke, dass	I think, that
Meiner Meinung nach	In my opinion



Zahlen	Numbers
zehn	10
zwanzig	20
dreißig	30
vierzig	40
fünfzig	50
sechzig	60
einundsechzig	61
siebzig	70
einundsiebzig	71
achtzig	80
zweiundachtzig	82
neunzig	90
zweiundneunzig	92
hundert	100
zweihundert	200

Wann isst du?	When do you eat?
das Frühstück	Breakfast
das Mittagessen	Lunch
der Imbiss	Snack
das Abendessen	Evening meal/tea

My home! Year 8 German ARE 2 vocab. list

Wo wohnst du ?	**Where do you live?**
Ich wohne…	**I live…**
In einem Haus	In a house
in einer Wohnung	In a flat
in einem Wohnwagen	In a caravan
auf dem Land	In the countryside
in den Bergen	In the mountains
an der Küste	On the coast
in der Stadt	In a city/town
am Stadtrand	In the suburbs
in einem Dorf	In a village
im Norden	In the north
im Süden	In the south
im Westen	In the west
im Osten	In the east
Extending our sentences	**Extending our sentences**
Opinion phrases	**Opinion phrases**
Meiner Meinung nach	In my opinion
Ich denke, dass	I think that
Ich glaube, dass	I believe that
Ich finde	I find
Intensifiers	**Intensifiers**
wirklich	Really
sehr	Very
ziemlich	Quite
ein bisschen	A little
Connectives	**Connectives**
weil or denn	Because
auch	Also
aber	But
obwohl	However

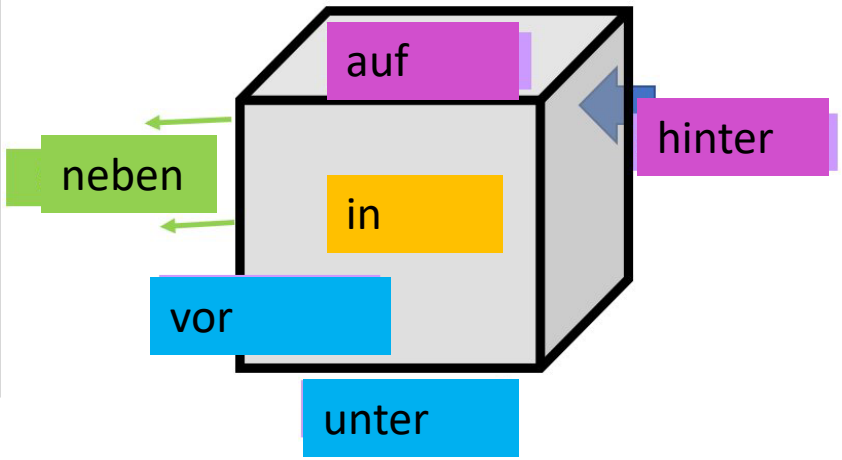
Was hast du in deinem Haus ?	**What is there in your house?**
Es gibt … Es gibt keinen,keine,kein	There is / are… There isn't…
einen Garten	A garden
einen Dachboden	An attic
ein Büro	An office/study
eine Garage	A garage
ein Wohnzimmer	A living room
einen Eingang	A hall
eine Küche	A kitchen
ein Schlafzimmer	A bedroom
ein Esszimmer	A dining room
ein Badezimmer	A bathroom
eine Terrasse	A terrace
die Toiletten	The toilets
einen Balkon	A balcony
im ersten Stock	On the first floor
im zweiten Stock	On the second floor
im Erdgeschoss	On the ground floor

Was hast du in deinem Schlafzimmer ?	**What is there in your bedroom?**
ein Bett	A bed
eine Wand	A wall
einen Schreibtisch	A desk
einen Computer	A computer
einen Kleiderschrank	A wardrobe
einen Teppich	A carpet
ein Regal	A shelf/shelves
eine Lampe	A lamp
eine Tür	A door
einen Stuhl	A chair
ein Fenster	A window
eine Kommode	A chest of drawers
die Poster	Some posters

My Town! Year 8 German ARE 2 vocab. list

Beschreib dein Dorf/ deine Stadt	**Describe your village/ town**
Es ist...	**It's...**
groß	big
klein	small
historisch	historic
ruhig	peaceful
touristisch	appealing to tourists
industriell	industrial
kulturell	cultural
wichtig	important
lebendig/lebhaft	lively
laut (e)	noisy
verschmutzt	polluted
modern	modern
schön	pretty
hässlich	ugly
neu	new
alt	old
bequem	comfortable
Es ist klein**er** als…	It's small**er** … than…
Es ist weniger …als	It's less … than…
Ich bevorzuge… weil E ist mehr/weniger…	I prefer… because it's more/less…

Wo ist…?	**Where is…?**
auf	on
unter	under
vor	in front of
in	in
hinter	behind
zwischen	between
neben	next to
gegenüber	opposite to
In der Nähe	near to



Was besuchst du?	**What do you visit?**
Ich besuche…	I visit…
Wir besuchen…	We visit…
den Strand	The beach
das Schwimmbad	The swimming pool
das Eisstadion	The ice rink
die Metzgerei	The butchers
die Bäckerei	The bakery
den Bahnhof	The train station
den Busbahnhof	The bus station
die Buchhandlung	The book shop
die Konditorei	The cake shop
die Post	The post office
das Stadtzentrum	The town centre
das Kino	The cinema
das Museum	The museum
das Theater	The theatre
das Verkehrsamt	The tourist information office
das Einkaufszentrum	The shopping centre
das Sportszentrum	The leisure centre
die Polizeiwache	The police station
der Markt	The market
der Supermarkt	The supermarket
das Stadion	The stadium
den Freizeitpark	The theme park
das Krankenhaus	The hospital
die Denkmäler	The monuments
die Geschäfte	The shops
das Cafe	The café
das Restaurant	The restaurant

Year 8 German Knowledge Organiser 2

Where I live geographically, Places in town, Phrases that use infinitives.

Opinion starters:
Ich denke, dass = I think that
Ich glaube, dass = I believe that
Meiner Meinung nach = In my opinion
Für mich = For me
Ich mag = I like/Ich mag...nicht = I don't like
Ich gehe lieber = I prefer going
Ich sehe lieber = I prefer seeing
Ich finde =I find

Ich denke, dass Bristol historisch ist. - I think that Bristol is historic
Ich finde London ziemlich laut.=I find London quite loud
Ich bevoruge Bath, weil Bath ruhiger als Liverpool ist – I prefer Bath because it is quieter than Liverpool.

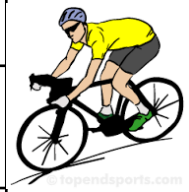
Phrases that use **infinitives**.
An infinitive is the basic form of the verb. In English it starts with to_ to run, to jump, to swim.
In German, the verb ends in –**en** or **n.** The infinitive goes to the end of the sentence
e.g., I will eat – ich werde essen

Man kann =You can
Ich werde = I will
Ich muss = I must

These are followed by an infinitive.

Man kann in die Stadt gehen– You can go to the town
Ich werde in einem Restaurant essen– I am going to/will eat in a restaurant.
Ich muss einkaufen gehen= I must go shopping

Pronoun	**werden – to become** (need to form future tense)
I	ich werde
you	du wirst
he/she/it	er/sie/es wird
we	wir werden
you (pl)	ihr werdet/Sie werden (polite + pl)
they	sie werden



ins Einkaufszentrum gehen to go to the shopping centre
radfahren to cycle
mit meinen Freunden aussgehen to go out with friends
ins Kino gehen to go to the cinema
die Museen besuchen to visit museums
einkaufen gehen to go shopping

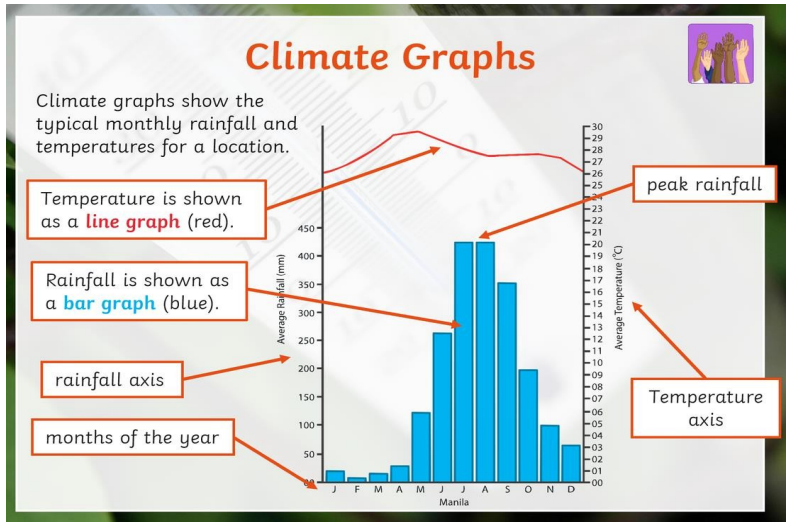
um...zu + infinitive = in order to

Ich gehe ins Einkaufszentrum, um einkaufen zu gehen – I go to the shopping centre to go shopping.

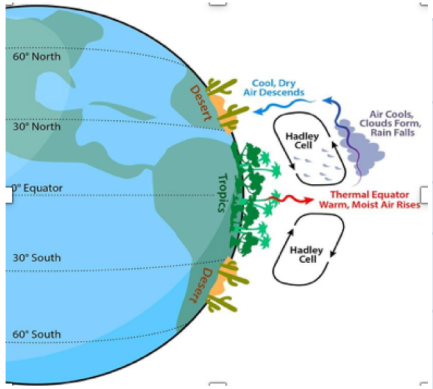
Ich gehe zum Park, um Fußball zu spielen – I go to the park, in order to play football.

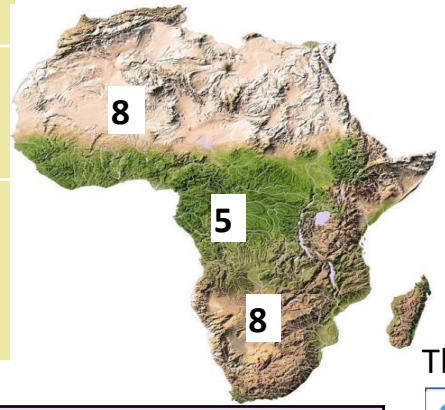
Year 8 Geography: Term 2

Are Africa's landscapes more than just 'The Lion King'?



Key Word	Definition
Biome	large area with the same plants, climate and animals
Hot desert	An area with little rainfall, high daily temps. and little vegetation
Savanna	A grassy biome between the rainforest and desert
Tropical rainforest	Found around the Equator. Dense trees, warm temperature and high rainfall.





Atmospherics leading to the location of biomes:

1	Incoming radiation from the sun is more focused at the Equator.
2	The warm air at the Equator then rises, and evaporates moisture too
3	As the air rises, it cools and condenses.
4	This creates clouds and convectional rainfall at the Equator.
5	This leads to tropical rainforests around the Equator.
6	Some air from the Equator is pushed both north and southwards, and is cooled.
7	The cool(er) and drier air descends.
8	This creates desert conditions around 30° north & south of the Equator.
9	Warm air then returns towards the Equator, due to surface winds (Trade winds).

Tourism in Botswana:

Okavango River Delta

It is a huge wetland area formed when the Okavango River flows into the Kalahari Desert during seasonal flooding.

National Parks and Game Reserve Safaris

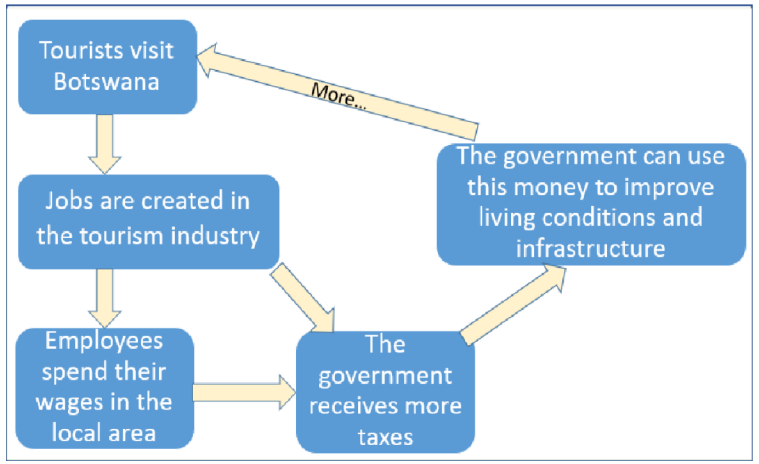
The Central Kalahari Game Reserve is larger than the Netherlands, & is the second largest game reserve in the world.

Makgadikgadi & Nxai Salt Pans

The Salt Pans in Botswana are one of the largest salt pans in the world.

	Pros	Cons
Mass Tourism	-Lots of jobs created to cater for all of the guests. -Can lead to infrastructure improvement within the country eg. roads/electricity	- Environmentally unfriendly. Eg lots of water used/wasted. - Places a huge strain on the environmental attractions.
Ecotourism	- Less damage environmentally. - More culturally sympathetic. - Aims to support local communities more.	- Small scale so smaller profits. - Still suffers from the general problems of tourism eg leakage of profit out of Botswana.

The Multiplier Effect:



Enquiry

Migration Through Time – Romans to Present Day
What factors have caused people to come to Britain?
What have attitudes towards migrants been in Britain?

History – Year 8 Knowledge Organiser Term 2

Key Causes of Migration

1	Employment	Work/job.
2	Persecution	Hostility and ill-treatment, especially because of race or political or religious beliefs; oppression.
3	Empire	When one country rules over other countries , e.g. British Empire

Key Skills

4	change	make or become different than before.
5	similarities	Factors that are similar to each other within a defined period of time.
6	differences	Factors that are different across defined period of time.

Further Your Learning

Learn more about the often untold stories of migrants who came to and shaped the Britain we live in today.
https://www.ourmigrationstory.org.uk/

Key Terms

7	migration	Migration is the movement of people from one place to another. This can be internal or international.
8	refugee	A person who has been forced to leave their country in order to escape war, persecution, or natural disaster.
9	Conquer	To overcome and take control of (a place or people) by military force
10	Factors	Common reasons that cause change.
11	Commonwealth	An international association consisting of the UK together with some states that were previously part of the British Empire.
12	emigration	leaving one's own country to settle permanently in another; moving abroad.
13	racism	Prejudice or discrimination directed against someone of a different race based on the belief that one's own race is superior.
14	Huguenot	French Protestants.
15	Windrush	The people who emigrated from the Caribbean to Britain on the British ship the Empire Windrush in 1948.

Timeline of Migration

Prehistoric – First People
Wandered across the land bridge which linked Britain to Europe, 20,000BC.

20,000BC

Romans – 43AD-410AD
Conquer new land, extend the Empire to obtain more goods and power. They also wanted revenge for British support of Gaul.

Middle Ages – Normans - c1066
William of Normandy invaded declaring he had a claim to the English throne.

Early Modern – French Huguenots – 1670-1710
Persecuted in Catholic France. Many were skilled craftsmen who set up businesses in England.

19th century
Eastern European Jews 1880's
Persecuted and fled to England. Many moved to the East End of London.

Present Day

Modern – 1940s-1960s Windrush Generation
After WWII, Britain encouraged immigration from Commonwealth countries. This was to mainly help rebuild the country as there was a shortage of labour at the time.

YEAR 8 TERM 2

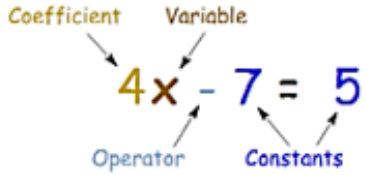
SOLVING LINEAR EQUATIONS

Key Ideas

- **The = sign** tells us that everything on one side of this equals sign is **exactly the same** as everything on the other side
- The equation is **balanced.** Both sides are the same.
- **Inverse operations** are used to 'work backwards' through the equation and find the value of the variable
- $\div 3$ and $\frac{}{3}$ are **the same** mathematical operation (dividing by 3)
- **Solving** equations means finding the **value** of the variable

Key Words

Inverse - Opposite in effect. The reverse of.



Inverse Operations	
Operation	Inverse
+	−
−	+
x	÷
÷	x
x^2	$\sqrt{x}$

Term - In Algebra a term is either a single number or variable, or numbers and variables multiplied together.

Equation - An equation says that two things are equal. It will have an equals sign "="

Operation- A mathematical process such as + - x ÷

Variable - A symbol for a number we don't know yet. It is usually a letter like x or y

Solve - To find a value (or values) we can put in place of a variable that

Solution - A value we can put in place of a variable (such as x) that makes the equation **true**

Balance - When both sides have the same quantity or mass.

Algebraically – Using algebra

Solving 2-step equation

1. Add or subtract to isolate the variable term.
2. Multiply or divide to solve for the variable.
3. Check your solutions.

Example:

$3x + 5 = -16$

$-5 \quad -5$ Subtract

$3x = -21$

$\frac{3x}{3} = \frac{-21}{3}$ Divide

$x = -7$

$3(-7) + 5 = -16$ Check

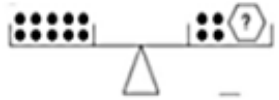
Like terms are terms whose variables (such as x or y) with any exponents (such as the 2 in x^2) are the same.

Examples:
7x and 2x are **like terms** because they are both "x".
$3x^2$ and $-2x^2$ are **like terms** because they are both "x^2".

But 7x and $7x^2$ are NOT like terms (the exponents are different), they are **unlike terms**.

$5x + 9 + 3x - 2$

$= 8x + 7$



This represents the equation $10 = 4 + x$

Therefore the solutions to this equation would be $6 = x$

$4x = 24$

$\frac{4x}{4} = \frac{24}{4}$ *(Divide by 4 on both sides)*

$x = 6$

Solving 2-step equations

1. Simplify each side
2. Eliminate the variable from the right side
3. Eliminate the constant term from the left side
4. Divide each side by the coefficient

Example:

$3(x + 1) = 5 + x$

$3x + 3 = 5 + x$

$2x + 3 = 5$

$2x = 2$

$x = 1$

Example:

$2(x + 2) - 5 = 3(x + 1)$

$2x - 1 = 3x + 3$

$-x - 1 = 3$

$-x = 4$

$x = -4$

$5(x - 4) = 2(x - 11)$

$5x - 20 = 2x - 22$

$-2x \quad -2x$

$3x - 20 = -22$

$+20 \quad +20$

$\frac{3x}{3} = \frac{-2}{3}$

$x = -\frac{2}{3}$

https://www.bbc.co.uk/bitesize/topics/zxjpn9q

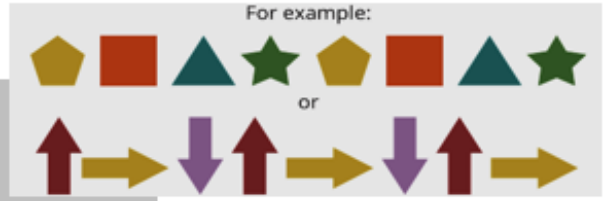
https://vle.mathswatch.co.uk/vle/

YEAR 8 TERM 2

SEQUENCES

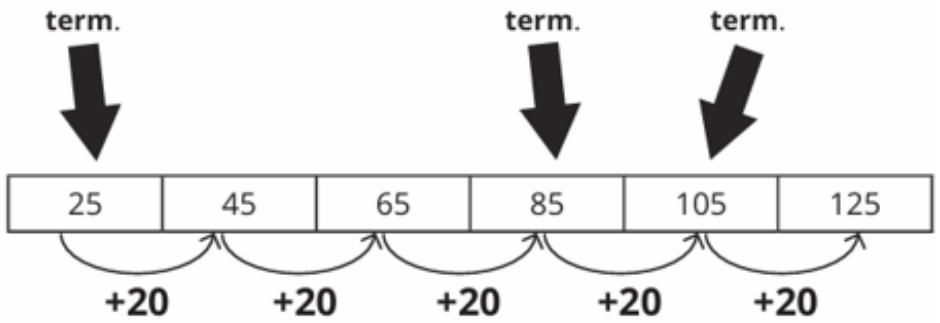
Key Idea

Sequences are patterns of numbers or shapes that follow a rule.



Linear Sequences

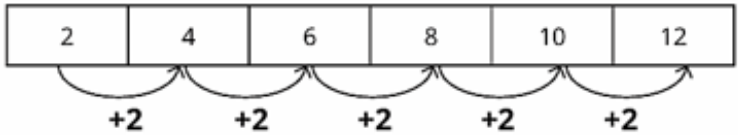
A linear number sequence is a sequence where each value increases or decreases by the same amount each time



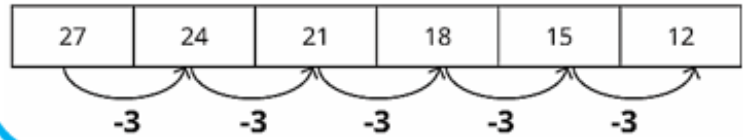
Each number in a linear number sequence is called a term

Arithmetic Sequences

Arithmetic sequences add or subtract the same number each time.



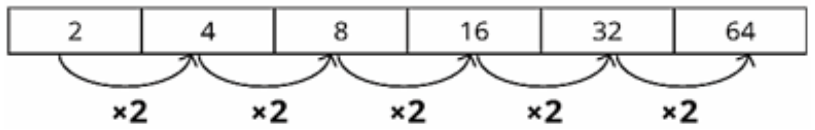
Rule:
Add 2 to the previous term



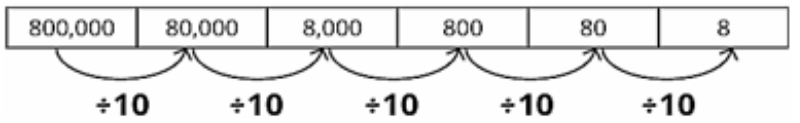
Rule:
Subtract 3 from the previous term.

Geometric Sequences

Geometric sequences multiply or divide by the same number each time.



Rule:
Multiply the previous term by 2



Rule:
Divide the previous term by 10

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https://vle.mathswatch.co.uk/vle/

YEAR 8 TERM 2

SEQUENCES

Term-to-Term Rule

The constant change between each number is called the term to-term rule. To identify the term-to-term rule, find the difference between two adjacent terms.

When you know the term-to-term rule, you can use it to find the next number in the sequence.

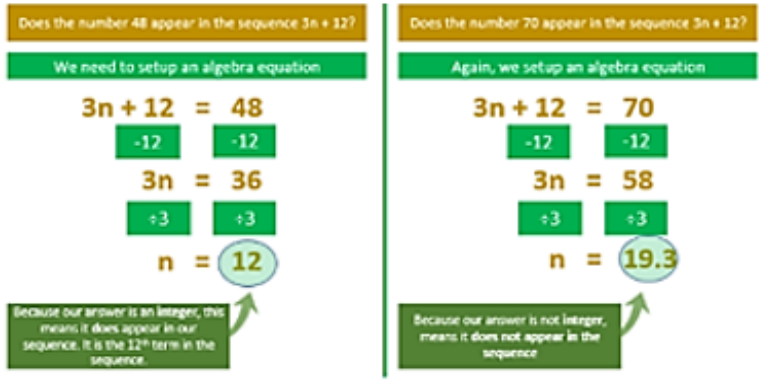
The term-to-term rule is '+20' so the next 3 terms are:

25	45	65	85	105	125	145	165	185
	+20	+20	+20	+20	+20	+20	+20	+20

It can also be used to find a missing number within a sequence.

The term-to-term rule is '-10' so the missing terms are

90	80	70	60	50	40	30	20	10



Nth Term

The 'n' in nth term represents an unknown number. The nth term rule allows you to find any number in a sequence.

term	1	2	3	4	5	6
	25	45	65	85	105	125
		+20	+20	+20	+20	+20

1. Find the common difference. Each term is increasing by 20 every time. This tells you that it's the same as the 20 times table, with some addition or subtraction.

term		1
	5	25
	-20	

2. The 20 times table would be written as $\boldsymbol{20n}$.
3. To complete the rule, you need to find the previous term:
4. If the previous term is a positive number (a number above 0), we can add this on to the $\boldsymbol{20n}$ to make the rule $\boldsymbol{20n + 5}$. If it is a negative number (a number below 0), we would subtract it from the 20n.
5. We can check this makes sense by replacing the $\boldsymbol{n}$ with a term:

$n = 1$ become
$\boldsymbol{20 \times 1 + 5 = 25}$

$\boldsymbol{n = 2}$ becomes
$\boldsymbol{20 \times 2 + 5 = 45}$

term	1	2	3	4	5
	25	45	65	85	105

Elements of Music

Year 7 – Topic 1

RHYTHM – The pattern of long and short beats

TEXTURE – How the layers of music fit together

TEMPO – The speed or pace of music

DYNAMICS – Loud or Soft

PITCH – How high or low a note is

TIMBRE – A description of the sounds or instruments being used

Term	Symbol	Meaning
Pianissimo	pp	Very Soft
Piano	p	Soft
Forte	f	Loud
Fortissimo	ff	Very Loud
Crescendo	<	Getting louder
Diminuendo	>	Getting quieter

Strings
EG - Violin

Woodwind
EG - Clarinet

Brass
EG - Trumpet

Semibreve – 4 Beats

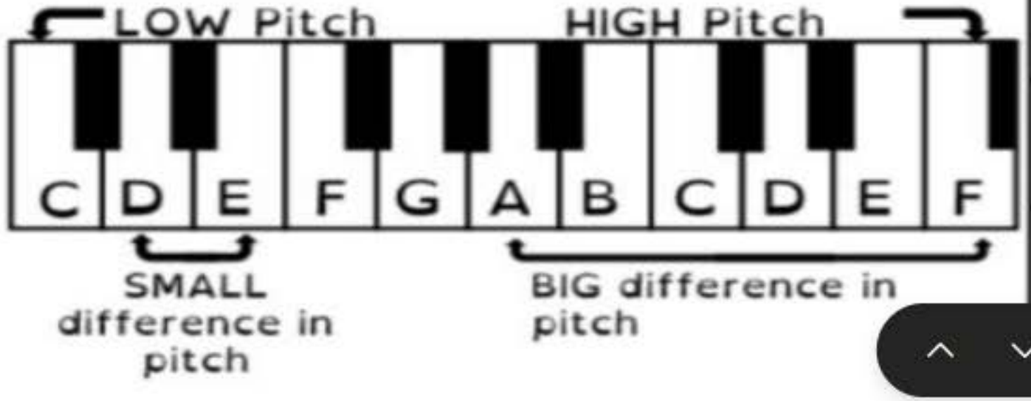
Minim – 2 Beats

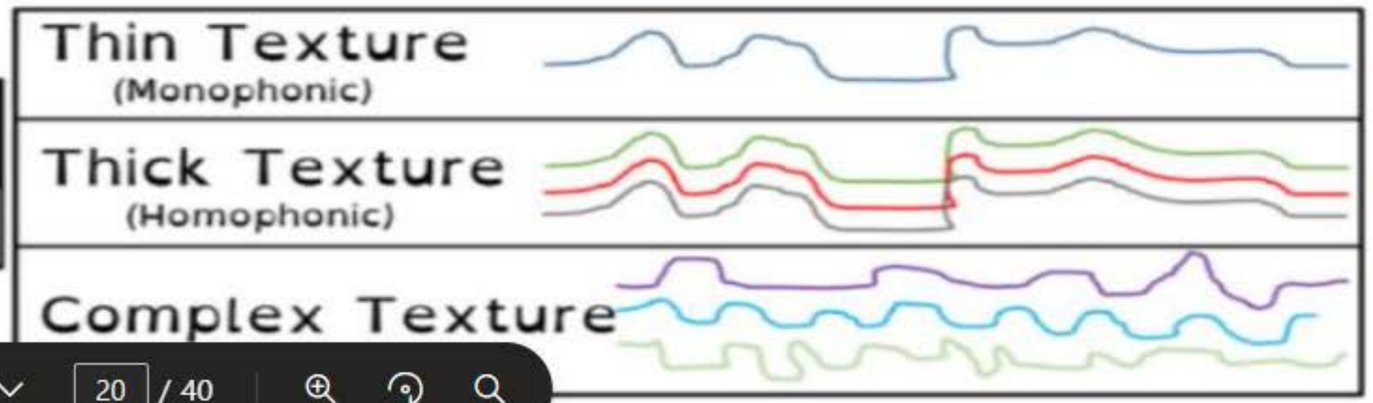
Crotchet – 1 Beat

Quaver – ½ Beat

Semiquaver – ¼ Beat

Percussion
EG - Drums





Warm Ups

A warm up should be completed before any physical activity to prepare the body. There are two stages...

EXAMPLE

1 Gentle exercise

Jogging for example will increase heart rate and get the muscles moving

2 Stretching

Static and dynamic stretches help get the full range of movement needed so injury is prevented

Cool Downs

A cool down should be completed after exercise to help the body get back to how it was before exercise and aid recovery

EXAMPLE

1 Gentle exercise

Slow jogging for example will decrease the heart rate

2 Stretching

Static and dynamic stretches help stop the muscles becoming stiff and sore

Judaism *Knowledge Organiser*	**Key facts**	**Key words**	**Quotes**
Relationship with God	Abraham – God promised to look after the descendants of Abraham, give them the Promised Land and help them.	**Covenant** – agreement made between humans and God	Genesis 22:1-18 - I will surely bless you and make your descendants as numerous as the stars in the sky and as the sand on the seashore.
	Abraham – to show this promise, Abraham circumcised of all Jewish males	**Moses** – an important figure in Judaism who delivered the Jews out of slavery in Egypt.	
	Moses – God promised to free the Jewish people from slavery and make them His chosen people.	**Noah** – an important figure in Judaism who built an ark to survive the Great Flood.	
Founders	Abraham is the founder of Judaism, Christianity and Islam. It began due to the covenant that was made with God that they will become a 'great nation'.	**Abraham** – The founder of Judaism	Genesis 12:1-2 'I will make you into a great nation, and I will bless you'.
Festivals	Pesach is the festival of joy, even though it events of great sadness. The celebration involves meeting with the family.	**Pesach** – festival of the Passover celebrating the Jewish escape from Egyptian slavery.	Exodus 7:3 'I will harden Pharaoh's heart, and though I multiply my signs and wonders in Egypt'
	During Pesach, Jews will use a special plate called a Seder plate. This allows for families to share a feast.	**Ten Plagues** – problems that God sent down to persuade the Pharaoh to let the Israelites go.	
	Homes are spring cleaned, charity is given (maot chitim) and the first-born son attends the synagogue to study a portion of the holy texts.	**Seder** – the feast shared by Jewish families at the Passover festival	
Rites of passage	The Brit Milah ceremony happens 8 days after birth to all males in the Jewish community. This is to remember the covenant made with Abraham.	**Brit Milah** – celebrates the birth of a Jewish child. For a boy, at 8 days old, he is circumcised.	Genesis 17:13 – 'Whether born in your household or bought with your money, they must be circumcised.'
	Bar Mitzvah recognises that the young man has reached the age in that he takes responsibility for his religious acts.	**Bar Mitzvah** – the service for a Jewish boy to become a full member of the Jewish community	
Places of worship	A synagogue is a place of worship in Judaism. It was difficult for Jews to go to the Temple and so Jews went to the synagogue.	**Synagogue** – Jewish place of worship; means 'coming together'	Isaiah 65:7 - 'My house should be called a house of prayer for all people'
	The synagogue was a place of study and prayer.	**Torah –** first part of the Jewish scripture: Genesis, Exodus, Leviticus, Numbers and Deuteronomy	
Ways of living	The Shabbat was a sign linked to Moses for the covenant he made with God. It is the day of rest which begins at sundown on Friday and ending when the stars are out on Saturday evening.	**Shabbat** – the Jewish holy day which is kept special	Exodus 20:1-17 - Ten Commandments – e.g. 'You shall not murder.' 'You shall not commit adultery'. Exodus 23:19 - "Do not cook a young goat in its mother's milk."
	There are different laws about what is acceptable to do and eat, It is forbidden to eat pork as it is an unclean animal.	**Kosher** – proper or lawful for Jews. This could be in how they eat food e.g. meat and dairy must be separated.	
	Jews use the Decalogue as a guide to live their life by. This is why keeping Shabbat is important.	**Decalogue –** the Ten Commandments which were the laws given to Moses on Mount Sinai	

Year 8 Block 2 Biology Knowledge Organiser Respiration and gas exchange

Revision guide Pgs: 11-13 (12-14 higher)

https://www.bbc.com/bitesize/subjects/z4882hv

Breathing:

We breathe in order to get the oxygen into our bodies and to remove the waste product of carbon dioxide.

Breathing in is called inhalation. When this happens our diaphragm contracts and expands downwards. The intercostal muscles contract and pull the rib cage upwards and outwards. This increases the volume of the chest cavity. The decrease in air pressure inside the lungs causes air to be drawn into the lungs through the trachea.

Breathing out is called exhalation. When this happens our diaphragm relaxes and moves upwards. The intercostal muscles relax and the rib cage moves inwards and downwards. This increases the pressure inside the lungs. This causes carbon dioxide to be forced out of the lungs.

Respiration

Respiration is the process that living organisms use to release energy from glucose. It occurs in the mitochondria within our cells. We get glucose from food that we eat.

The equation for aerobic respiration is:

Glucose + oxygen → carbon dioxide + water +(energy)

The equation for anaerobic respiration is:

Glucose → Lactic acid (+ energy)

The glucose comes from our food and the oxygen comes from the lungs via the blood stream. Carbon dioxide is removed from the body via the bloodstream and then exhaled from the lungs.

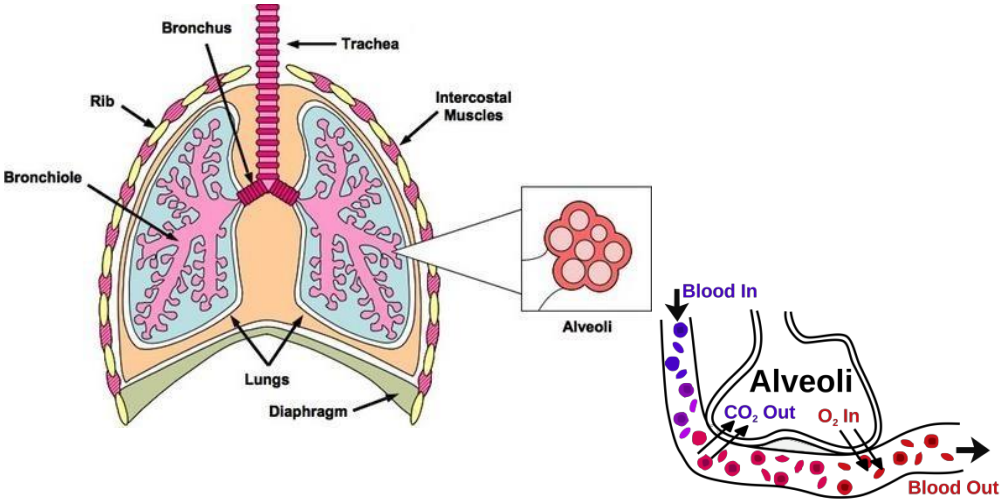
We use the energy created for many processes within our body.:

MRS NERG → Movement, Respiration, Sensitivity, Nutrition, Excretion, Reproduction, Growth

The Respiratory System

The respiratory system is responsible for taking in oxygen and expelling carbon dioxide. The lungs are the organ where this gas exchange occurs. They are made up of many fine air tubes called bronchioles, which terminate in alveoli. Here oxygen diffuses into the bloodstream and carbon dioxide diffuses out.

Lungs are designed for absorbing oxygen as they have a huge surface area (alveoli), a rich blood supply, are moist (gases move in solution), and alveoli walls are thin so the gases do not have far to diffuse.



COPD and Alveoli

Chronic obstructive pulmonary disease (COPD) is a term used for a wide range of conditions including emphysema and chronic bronchitis. Emphysema causes the alveoli to change shape causing the surface area to become smaller. This causes the amount of gas exchange happening in the lungs is reduced. This causes people to become short of breath and they get tired quicker. There is no cure for COPD and it is a progressive condition.

Year 8 Block 2 Biology Knowledge Organiser Respiration and gas exchange

Revision guide Pgs: 11-13 (12-14 higher)

https://www.bbc.com/bitesize/subjects/z4882hv

Key Words:

Aerobic → respiration that uses oxygen

Alveoli → the small air sacs in the lungs that are the site of gas exchange

Anaerobic → respiration performed without oxygen

Asthma → a disease of the respiratory system

Breathing → the process of drawing in oxygen and releasing carbon dioxide

Bronchioles → the small air tubes in the lungs

Bronchus → the 2 main air tubes into the lungs

Calories → the unit of measuring energy in food

Carbon dioxide → the waste gas produced in respiration

Diaphragm → a membrane found at the bottom of the rib cage that helps with breathing

Digestive system → the system that breaks down food into useful molecules

Energy → The useful product of respiration that our bodies use for life processes

Glucose → the sugar used in respiration

Lactic acid → the waste product formed in anaerobic respiration

Lungs → the organs used for breathing

Oxygen → the gas used in respiration

Respiration → the chemical reaction that our bodies use to make energy

Respiration system → the system used to create energy in our bodies

Trachea → the scientific word for the windpipe

Core Practical: Lung volume and height investigation:

In the core practical an investigation was carried out to see if there was a relationship between height and lung volume.

Apparatus:

Meter sticks were used to measure height

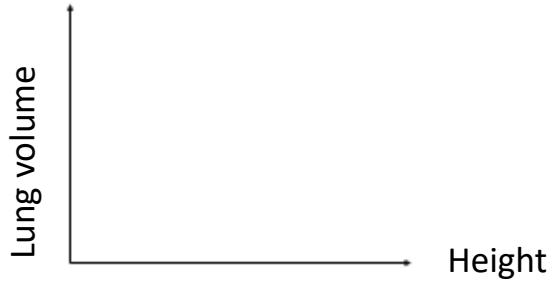
Lung volume bags were used to measure lung volume

Method:

Each student measured their height and lung volume.

The class results were added to a table.

The results were then used to draw a graph.



Variables:

Independent Variable: height

Dependent variable: lung volume

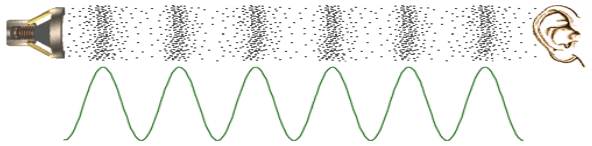
Control variables: both non smokers, both same age, both non asthmatic

Year 8 Block 2 Knowledge Organiser Waves

Revision Pgs: 83 + 90-92 (86-87 + 91-93 higher)

https://www.bbc.com/bitesize/subjects/zh2xsbk

- Sound travels as a longitudinal wave – oscillations parallel to the wave/energy direction
- An oscilloscope then converts this longitudinal wave into a wave that we can interpret to investigate the pitch, volume and frequency



- Sound travels fastest in a solid. Particles can pass energy on quickly because they are arranged in a regular pattern and are tightly packed. Why does light travel slowest in air?

Label the wave above: **amplitude, wavelength, peak, trough**

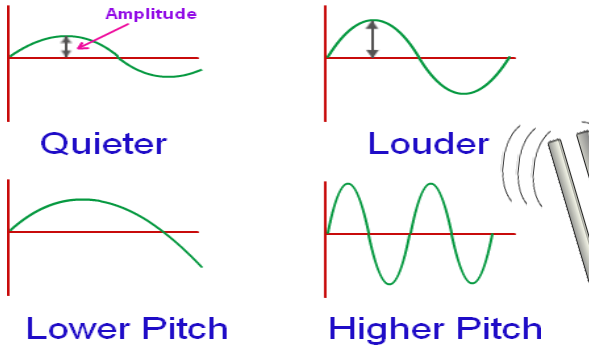
Animal	Hearing range (Hz)	Loudest sound produced (dB)
human	20–20 000	90
dog	40–60 000	113
elephant	10–10 000	117
howler monkey	100–30 000	140
cat	30–50 000	100
bat	3 000–120 000	100

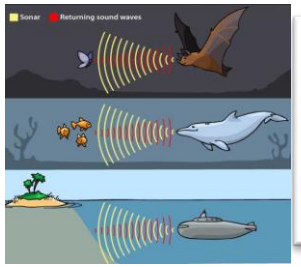
Speed of sound in air: **340m/s**

Key Terms	Definitions
Waves	Oscillations or vibrations which have amplitude, wavelength and frequency. The top is the peak/crest and the bottom is the trough. Waves transfer energy but not matter.
Amplitude	The distance from the middle to the top (or bottom) of the wave – often referred to as the height of a wave.
Wavelength	The distance between one peak and the next and determined the pitch (high/low) of a sound.
Frequency	The number of waves passing a specific point every 1 second, measured in Hertz (Hz).
Loudness	Determined by the amplitude of the wave and is measured in decibels (dB).
Pitch	The pitch of a sound depends on the frequency.
Echo	A reflection of sound which can be used to calculate the distance
Ultrasound	Sound with a frequency greater than 20,000Hz, used to determine the depth of the ocean or produce images of inside the human body
Infrasound	Sound with frequency less than 20Hz, used by some animals for communication and by scientists to detect volcanic eruptions

Pitch and Volume

The shorter the wavelength, the higher the pitch.
The bigger the amplitude, the louder the sound.





Microphones

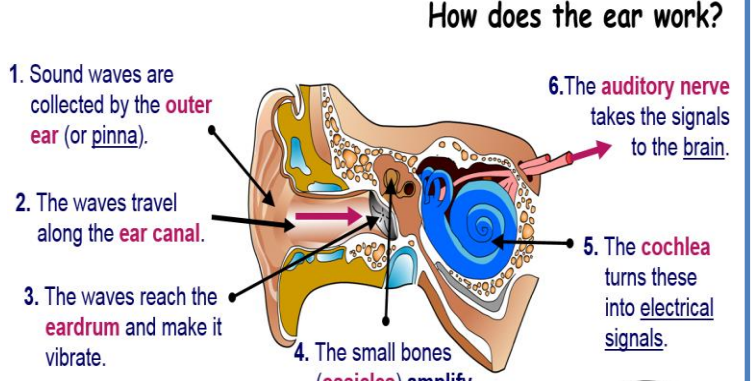
Mobile phones and telephones contain microphones.

These devices contain a diaphragm, which does a similar job to an ear drum.

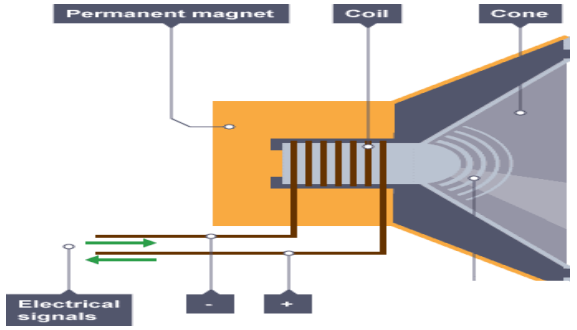
The vibrations in air make the diaphragm vibrate, and these vibrations are changed to electrical impulses.

These electrical signals can then be relayed through a loudspeaker.

Detecting Sound



Loudspeakers



All vibrating objects produce sound. A loudspeaker is a device which converts electrical energy into kinetic energy (sound). This moves the cone, creating the sound wave.

Year 8 Block 2 Knowledge Organiser Waves

Revision Pgs: 83 + 90-92 (86-87 + 91-93 higher)

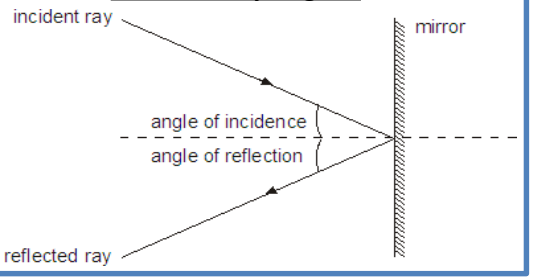
https://www.bbc.com/bitesize/subjects/zh2xsbk

Use ray diagrams to show how images are formed – such as mirrors, pinhole cameras and the human eye

Reflection

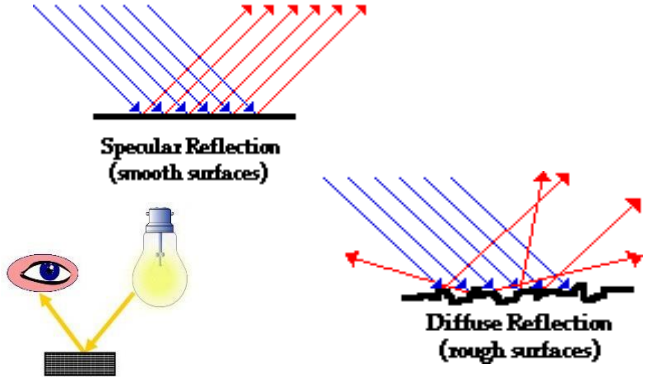
- You need light to reflect from an object for you to see it
- When light is reflected from a mirror, the angle of incidence is equal to the angle of reflection. This is the law of reflection.

Reflection ray diagram



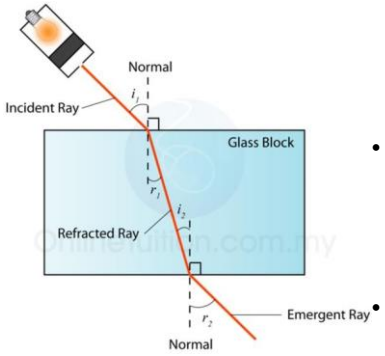
Diffuse scattering and specular reflection

Reflection from a smooth surface is called specular reflection. Reflection from a rough surface is called diffuse scattering.



Key Terms	Definitions
Incident ray	The ray of light that hits the mirror or glass block from the ray box
Reflected ray	The ray of light that reflects off the mirror
Normal line	Imaginary line at 90 degrees to the mirror
Angle of reflection	The angle between the normal and reflected ray
Angle of incidence	The angle between the normal and the incident ray
Refraction	When light changes direction as it enters or leaves a different medium (material)
Emergent ray	The ray of light that leaves the glass block
Focus / focal point	The point where light rays cross

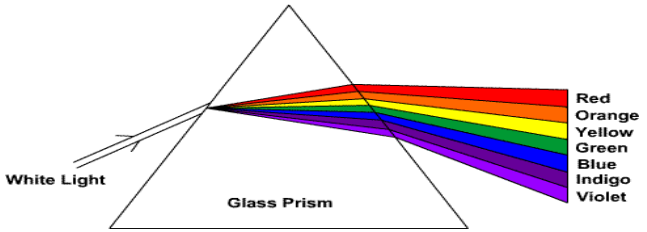
Refraction



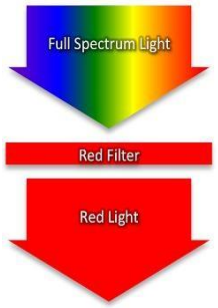
- When light travels through a glass block it slows down when it goes in and speeds up again when it comes back out
- Light bends towards the normal when it goes into glass and bends away from the normal when it comes out
- The two rays outside the block are parallel
- The changing direction of light is called refraction
- Light is refracted when changes speed

Absorption of light

- White light is made up of seven different colours
- You can use a prism to split white light into a spectrum, this is called dispersion
- The spectrum of white light is continuous, there are no gaps between the colours
- Dispersion happens because different colours of light are refracted by different amounts
- Light with a higher frequency is refracted more than light with a lower frequency. So violet is refracted the most as it has the highest frequency and red is refracted the least.

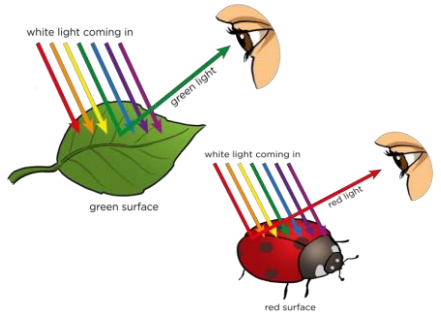


A filter removes the colours from white light leaving you with the colour you want, e.g a red filter transmits red light and absorbs all the others



Filtering light

- A filter removes the colours from white light leaving you with the colour you want, e.g a red filter transmits red light and absorbs all the others
- Any coloured object reflects the colour that it is and absorbs the rest
- Black objects absorb all colours
- White objects absorb no colours and reflect all the light



Year 8 Block 2 Knowledge Organiser Light

Revision Pgs: 84-86 + 88-89 (87-88 + 90 higher)

https://www.bbc.com/bitesize/subjects/zh2xsbk

KPI 6.1: Describe how light interacts with different materials

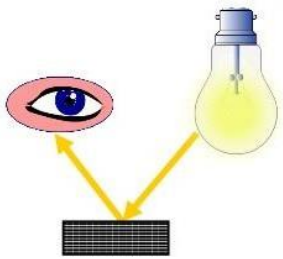
- Light travels as a wave
- Light moves very fast at 300 000 km/s in a vacuum
- Light can travel through gases, some liquids like water and some solids like glass.
- Light can travel through a vacuum, it doesn't need a medium to travel in. This is how light from the sun travels through space to reach the Earth.
- Light moves more slowly the denser the medium, so its slower in a solid than in a gas.

Key Terms	Definitions
luminous	Something that gives out light
transparent	Materials you can see through
translucent	Materials light can travel through but is scattered, so you cannot see clearly
opaque	Materials that do not transmit light, they produce shadows
emit	Gives out light
Light year	The distance light travels in one year
vacuum	Contains no particles

Transmission of light through materials

Something that gives out light is luminous e.g. a lamp or the sun

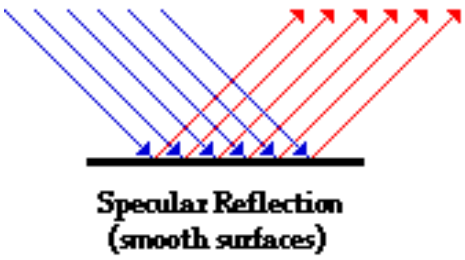
Most objects you see are non-luminous, you see them because they reflect light into your eyes.

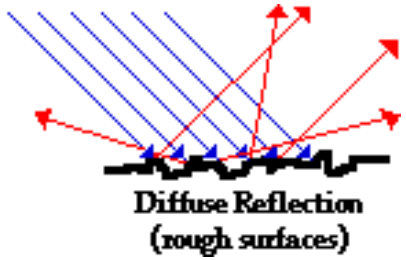


- When you look through a window light travels through the glass into your eye, the glass **transmits** the light
- Most of the light goes through the glass but a small amount is absorbed, the material is **transparent**
- Materials like frosted glass or tissue are **translucent**, light travels through them but is scattered so you can't see clearly
- Materials that do not transmit light are **opaque**

Diffuse scattering and specular reflection

Reflection from a smooth surface is called specular reflection. Reflection from a rough surface is called diffuse scattering.





To form an image the rays from each part of the object have to reflect off the surface in the same way.

Year 8 Block 2 Knowledge Organiser Light

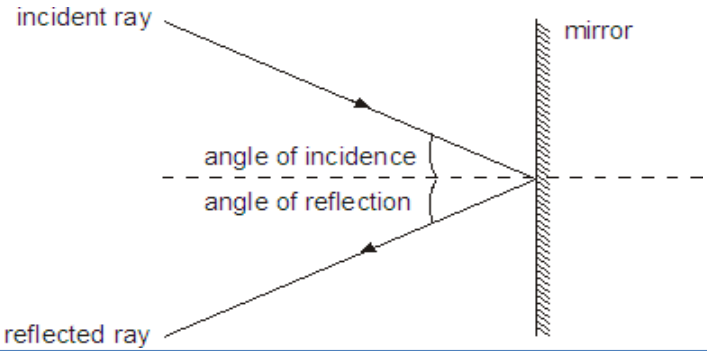
Revision Pgs: 84-86 + 88-89 (87-88 + 90 higher)

https://www.bbc.com/bitesize/subjects/zh2xsbk

KPI 6.2: Use ray diagrams to show how images are formed – such as mirrors, pinhole cameras and the human eye

- You need light to reflect from an object for you to see it
- When light is reflected from a mirror, the angle of incidence is equal to the angle of reflection. This is the **law of reflection**.

Reflection ray diagram



Key Terms	Definitions
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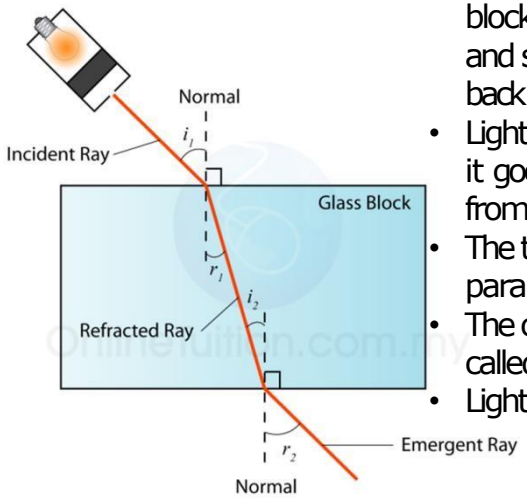
Emergent ray	The ray of light that leaves the glass block
Focus / focal point	The point where light rays cross

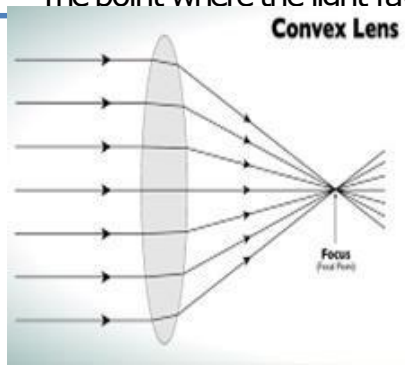
Refraction

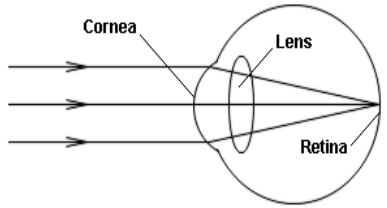


- When light travels through a glass block it slows down when it goes in and speeds up again when it comes back out
- Light bends towards the normal when it goes into glass and bends away from the normal when it comes out
- The two rays outside the block are parallel
- The changing direction of light is called refraction
- Light is **refracted** when changes speed

Lenses

- There are two types of lenses, **convex** and **concave**
- The lens in your eye is a **convex** or a converging lens
- Light is refracted as it goes into the lens and as it comes out
- The point where the light rays cross is called the **focus**





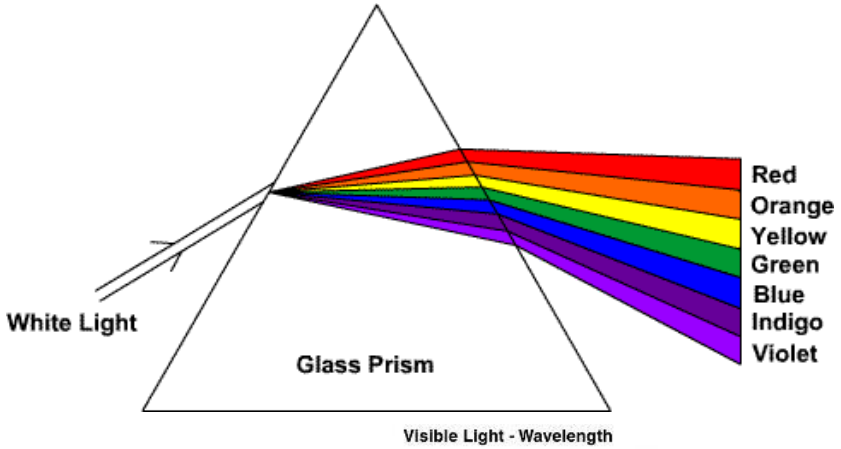
Year 8 Block 2 Knowledge Organiser Light

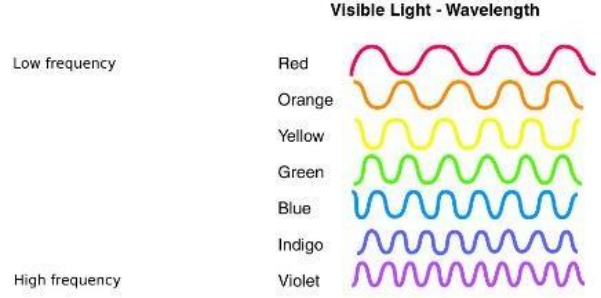
Revision Pgs: 84-86 + 88-89 (87-88 + 90 higher)

https://www.bbc.com/bitesize/subjects/zh2xsbk

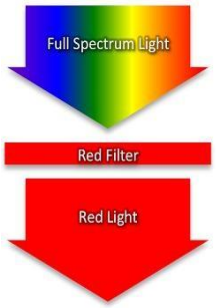
KPI 6.3: Describe the effects of absorption of light in terms of energy

- White light is made up of seven different colours
- You can use a **prism** to split white light into a **spectrum**, this is called **dispersion**
- The spectrum of white light is continuous, there are no gaps between the colours
- Dispersion happens because different colours of light are **refracted** by different amounts
- Light with a higher frequency is refracted more than light with a lower frequency. So violet is refracted the most as it has the highest frequency and red is refracted the least.



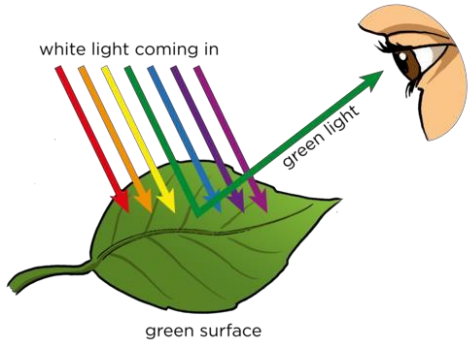


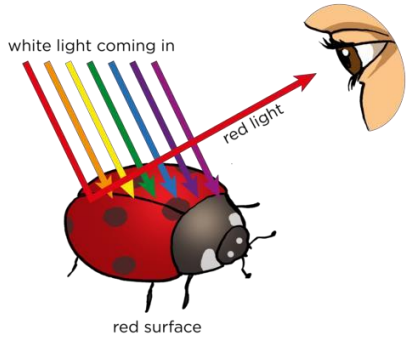
Key Terms	Definitions
Spectrum	White light split into it's seven colours
Filter	Removes colours from white light
Prism	Pyramid shapes glass object used to split white light
Dispersion	the separation of white light into colours according to wavelength
Pixels	Photosensitive picture elements on a grid at the back of a digital camera



- A **filter** removes the colours from white light leaving you with the colour you want, e.g a red filter transmits red light and absorbs all the others

- Any coloured object reflects the colour that it is and absorbs the rest
- Black objects absorb all colours
- White objects absorb no colours and reflect all the light





Year 8 Spanish Knowledge Organiser 8.6

Where I live geographically, Places in town, Phrases that use infinitives.

Opinion starters:

Pienso que	I think that
Creo que	I believe that
En mi opinión	In my opinion
Para mí	For me
Me parece que	It seems to me
Encuentro	I find

Pienso que Bristol es histórico - I think that Bristol is historic
Encuentro Londres bastante industrial – I find London quite industrial.
Prefiero Bath porque es menos turístico que Liverpool – I prefer Bath because it is less touristy than Liverpool.

Phrases that use **infinitives**.
An infinitive is the basic form of the verb. In English it starts with to_ to run, to jump, to swim.
In Spanish the verb ends in –ar, -er , -ir.
e.g. I like to run – Me gusta correr.

Se puede	– One can
Voy a	- I am going to
Me gusta	- I like

These are followed by an infinitive.

Se puede ir al centro – One can go to the city centre.
Voy a comer en un restaurante – I am going to eat in a restaurant.
Me gusta jugar al fútbol en el parque - I like to play football in the park.

	Ir – to go
I	Voy – I go / I am going
you	Vas – You go / you are going
he/she/it	Va – he goes / he is going
we	Vamos – we go / we are going
you (pl)	Vais – you (pl) go / are going
they	Van – they go / are going

Hay (there is) and no hay (there is not) – these phrases are very important to allow us to say what is in our town or city.
Remember! When using no hay there is no un/una
e.g. **Hay un** parque but **no hay** parque

It is important to use the correct **article** in front of a noun. This will depend on if we want to say '**a**' (indefinite article) or '**the**' (definite article), and also in Spanish if the noun is **masculine**, **feminine**, **singular** or **plural**.

Articles	**A/some**	**The**
Masculine	Un	El
Feminine	Una	La
Masc Plural	Unos	Los
Fem Plurl	Unas	Las

My home! Year 8 - 8.6 Spanish

Cabot Learning Federation

¿Dónde vives? *(Where do you live?)*

Vivo … *(I live)*

en una casa *(in a house)*

en un apartamento *(in a flat)*

- **en el campo** (in the countryside)
- **en las montañas** (in the mountains)
- **en la costa** (on the coast)
- **en la ciudad** (in the city/town)
- **en las afueras** (in the suburbs)
- **en un pueblo** (in a village)
- **en el norte** (in the north)
- **en el sur** (in the south)
- **en el oeste** (in the west)
- **en el este** (in the east)

OPINION	NOUN	JUSTIFICATION	INTENSIFIERS	ADJECTIVES
Prefiero I prefer **Me encanta** I love **Me gusta** I like **No me gusta** I don't like **Odio** I hate	**la playa** (the beach) **la piscina** (the swimming pool) **la pista de hielo** (the ice rink) **la mezquita** (the mosque) **la iglesia** (the church) **la librería** (the library) **el centro** (the town centre) **el cine** (the cinema) **el museo** (the museum) **el teatro** (the theatre) **el centro comercial** (the shopping centre) **el polideportivo** (the leasure centre) **el mercado** (the market) **el supermercado** (the supermarket) **el estadio** (the stadium) **el parque de atracciones** (the theme park) **el hospital** (the hospital) **los monumentos** (the monuments) **las tiendas** (the shops) **los restaurantes** (the restaurants) **la oficina de turismo** (the tourist office)	**porque es** because it is **ya que es** because it is	**muy** very **bastante** quite **un poco** a bit **demasiado** too	Pequeño/a (small) Grande (big) Histórico/a (historic) Tranquilo/a (peaceful) Turístico/a (touristy) Industrial (industrial) Cultural (cultural) Importante (important) Animado/a (lively) Ruidoso/a (noisy) Contaminado/a (polluted) Moderno/a (modern) Bonito/a (pretty)
En mi opinion In my opinion **Pienso que** I think that		**es** it is **son** they are		

Describe donde vives
Describe where you live

En mi casa
In my house

En mi apartamento
In my flat

En el primer piso
On the first floor

En el segundo piso
On the second floor

En la planta baja
On the ground floor

tengo
I have

no tengo
I don't have

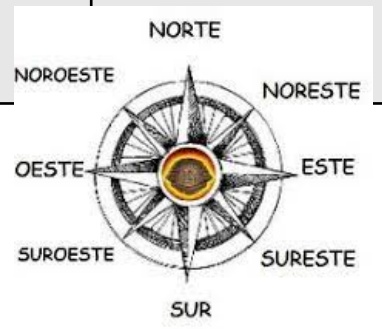
hay
There is

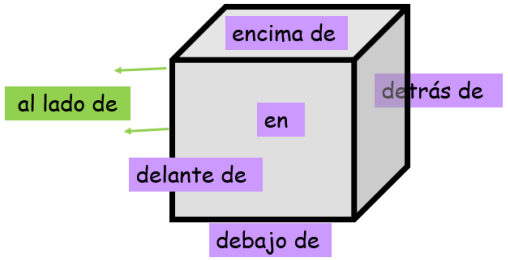
no hay
There isn't

- un jardin (a garden)
- una buardilla (a loft)
- un despacho (an office/a study)
- un garaje (a garage)
- un salón (a lounge)
- una entrada (a hallway)
- una cocina (a kitchen)
- un dormitorio (a bedroom)
- un comedor (a dining room)
- un baño (a bathroom)
- una terraza (a terrace)
- unos aseos (some toilets)
- el dormitorio de mis padres (my parent's bedroom)

¿Qué hay en tu habitación?
(What is there in your bedroom?

- **Una cama** (a bed)
- **Una pared** (a wall)
- **Un escritorio** (a desk)
- **Un ordenador** (a computer)
- **Un armario** (a wardrobe)
- una alfombra (a carpet)
- **Una estanteria** (a shelf/shelves)
- **Una lampara** (a lamp)
- **Una puerta** (a door)
- **Una silla** (a chair)
- **Una ventana** (a window)
- **Una comoda** (a chest of drawers)
- **unos poster** (some posters)





Un ordenador esta **encima de** una mesa (a computer is on the table)

My home! Spanish Year 8 - 8.6

¿Dónde vives?	Where do you live?
Vivo …	I live
en una casa	In a house
en un apartamento	In a flat
en el campo	In the countryside
en las montañas	In the mountains
en la costa	On the coast
en la ciudad	In the city/town
en las afueras	In the suburbs
en un pueblo	In a village
en el norte	In the north
en el sur	In the south
en el oeste	In the west
en el este	In the east

¿Dónde está?	Where is…?
en	On/in
debajo de	under
delante de	in front of
detrás (de)	behind
entre	between
al lado de	next to
enfrente	opposite
cerca de	near to

¿Qué se puede hacer? ¿Qué vas a hacer?	What can you do? What are you going to do?
Se puede…	You can…
Voy a …	I am going to…
ir de paseo	Go for a walk
visitar museos	Visit museums
comer en un restaurante	Eat in a restaurant
descansar en la playa	Rest on the beach
quedar con amigos	Hang out with friends

¿Qué hay en tu casa?	What is there in your house?
Hay…. No hay…	There is / are… There isn't…
Un jardín	A garden
Un garaje	A garage
Un salón	A living room
Un pasillo	A hall
Un dormitorio	A bedroom
Un comedor	A dining room
Un cuarto de baño	A bathroom
Una cocina	A kitchen
Una terraza	A terrace
Una oficina/un despacho	An office/study
Los baños	Toilets
El dormitorio de mis padres	My parents' bedroom
En la primera planta	On the first floor
En la planta baja	On the ground floor
Arriba	Upstairs

¿Qué hay en tu dormitorio?	What is there in your bedroom?
Una cama	A bed
Un escritorio	A desk
Un ordenador	A computer
Un armario	A wardrobe
Un estante	A shelf
Una lámpara	A lamp
Una mesa	A table
Una puerta	A door
Una silla	A chair
Una televisión	A television
Una ventana	A window
Una cómoda	A chest of drawers
Una moqueta	A carpet
Unos pósteres	Some posters

¿Qué hay en tu ciudad?	What is there in your town?
En mi ciudad hay…	In my city there is…
la playa	The beach
la piscina	The swimming pool
la pista de hielo	The ice rink
la biblioteca	The library
la carnicería	The butchers
la comisaria	The police station
la mezquita	The mosque
la iglesia	The church
la librería	The book shop
el centro	The town centre
el cine	The cinema
el museo	The museum
el teatro	The theatre
el centro comercial	The shopping centre
el polideportivo	The leisure centre
el mercado	The market
el supermercado	The supermarket
el estadio	The stadium
el parque de atracciones	The theme park
el hospital	The hospital
el puerto	The port
los monumentos	The monuments
las tiendas	The shops
los cafés	The cafés
los restaurantes	The restaurants
la oficina de turismo	The tourist information office

Cabot Learning Federation

REMEMBER!
Any practical work you do at home, take photos and this can be classed as homework if there is evidence in your homework book!

Decorative Textile Techniques

Applique is the method of sewing pieces of fabric onto other fabric bases in beautiful designs. You can stitch the applique pieces by hand as well as by sewing machine.

Spray dying creates a speckled, graffiti effect on fabric. Try not to spray too close as it will not have the same effect on the fabric.

Dyeing involves adding colour to the fabric by way of soaking it in a solution of dye. You can dye a fabric fully or partially ; Batik, tie and dye, shibori dyeing are all variations of dyeing fabric to bring about beautiful patterns on fabric surface.

Rubbings use natural textures to create interesting designs on to fabric, layer different colours to make your design more original.

Shaving foam marbling is a method of creating a marble effect, using shaving foam and acrylic paints. You can mix colours together to create a colourful design. Be careful not to overmix as this could result in to getting an all over brown colour.

Decorative stitches are created by selecting different stitch settings on a sewing machine, these are good to use in different colours to match your creative work. They can be sewn in a curved line as well as just sewing straight.

Year 8 Textiles Knowledge Organiser

The 4 Rs of sustainability

The UK wastes around £1 billion of clothing each year, which effects the environment we live in. A way to support the environment is to follow the four Rs of sustainability at home.

Recycle – Making unwanted clothing in to something new i.e. Jeans in to shorts.
Reduce – Buy high quality clothing which will last for longer.
Repair – If there is a rip or hole in your clothing, fix it by hand sewing it or adding a patch.
Reuse – If you no long want your clothing, donate it to a sibling or local charity shop.

Textiles Hierarchy of Key words

Tier 3 'Academic' keywords.
Plain seam, analyse, sustainable, embellishment, Woven/ bonded/ knitted, Free machine embroidery, function, develop

Tier 2 Valuable keywords used in most lessons every lesson.
Complementary colours, contrast, environment, fastening, compare, embroidery, iron, equipment, context, appliqué, effect, improve

Tier 1 Basic keywords used in almost every lesson.
colour, design, shape, machine, pattern, line, Texture, tone, theme, Fabric, thread, sew

Textiles

Use these in your writing and speaking

Use connectives to link each paragraph!	**Explain an idea:** • Although • Except • Unless • However • Therefore	**Sequencing:** • Firstly • Secondly • Next • Finally • Since
Adding to: • Furthermore • Also • As well as • Moreover	**Cause and effect:** • Thus • So • Therefore • Consequently	**Contrasting:** • Whereas • Instead of • Alternatively • Otherwise • Then again
To empathise: • Above all • Ultimately • Especially • Significantly	**To compare:** • Likewise • Equally • In the same way • Similarly	**Give examples:** • Such as • For example • In the case of • As revealed by • For instance

DESCRIBE

I believe that...

I think that...

The main idea is...

EXPLAIN

This means that...

Therefore...

This maybe because...

JUSTIFY

This is positive because...

This is negative because...

It is useful/not useful because...

ANALYSE

One strength is...

One weakness is...

One argument is...

EVALUATE

One advantage is...

One disadvantage is...

The best option is...

COMPARE AND CONTRAST

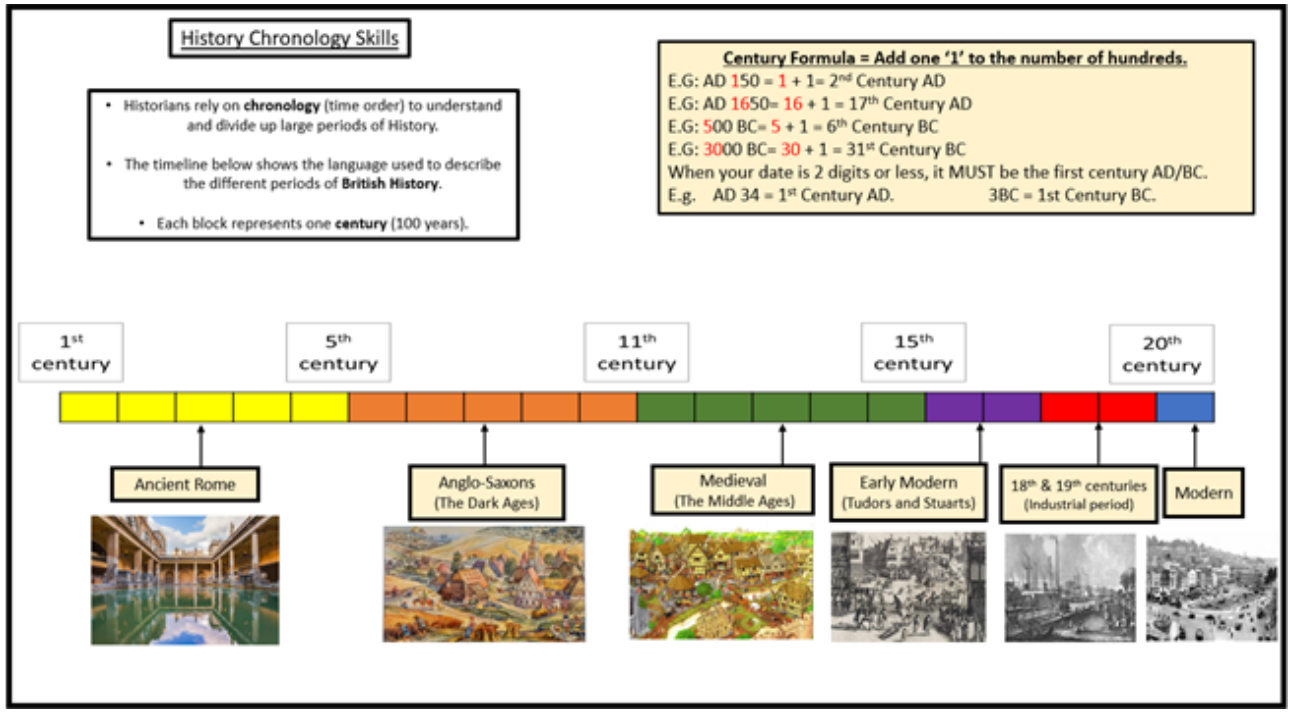
One similarity is...

One difference is...

On the other hand...

Sentence starter phrases

Most people would agree…
Only a fool would think…
We all know…
A sensible idea would be…
The fact is that…
Surely you would agree that…
Without a doubt…
I am certain that…
Some people might argue…
However…
Also…



Use these in your writing and speaking in DT

Design and Technology Keywords

Food and Nutrition	Design and Technology	Textiles
Caramelisation Aeration Amino acids Plasticity Shortening Denaturation Coagulation Gelatinisation Emulsification Pasteurisation	Carbon footprint Planned Obsolescence Iterative Design Tolerance Technology Push Anthropometrics Consumer Social Footprint Ergonomics Forming Processes	Plain seam analyse sustainable embellishment Woven/ bonded/ knitted Free machine embroidery function develop
Unsaturated Protein Radiation Saturated Carbohydrates Conduction Deficiency Digest Convection Cross-contamination Micro-organisms	Aesthetics Target Market Properties Deciduous Coniferous Automation Functionality Primary Source Sustainability Continuous Improvement	Complementary colours contrast environment fastening compare embroidery iron equipment context appliqué effect improve
Claw grip Flavour Texture Aroma Nutrients Energy Appearance Bridge hold Mix Smell	Cost Customer Materials Annotation Product Safety Environment Design User Prototype	colour design shape machine pattern Texture line tone theme Fabric thread sew

Sentence Starters - DT

I have designed…because
My project was about…
I found… during my research
My design is suitable for…
I have learnt how to…
The most enjoyable part of my project was….
The area I found the most challenging was…
Equipment I have used include…
I would improve my work by…
I am pleased with my finished product because…

Sentence Starters- Food and Nutrition

In order to work hygienically/safely I made sure I ….
I worked safely when in the kitchen by...
If I could improve any skill, I would improve...because...
Overall, I am happy/unhappy with my progress/dish because....
The texture of my dish is… this is because…

Sentence starters- Textiles

I have designed….
The context of my design is…
My research is useful because…
By researching, I am able to…..
By researching I have found out….
I researched into….
My design is suitable for…..
My design is based upon…
I have planned to..
The order I will work in is…
The most enjoyable part of m project was…
The area I found most challenging was…
I am most pleased with…
I am pleased with my finished project because…
Equipment I used was…

The periodic table of the elements

1	2											3	4	5	6	7	0
							1 **H** hydrogen 1										4 **He** helium 2
7 **Li** lithium 3	9 **Be** beryllium 4											11 **B** boron 5	12 **C** carbon 6	14 **N** nitrogen 7	16 **O** oxygen 8	19 **F** fluorine 9	20 **Ne** neon 10
23 **Na** sodium 11	24 **Mg** magnesium 12											27 **Al** aluminium 13	28 **Si** silicon 14	31 **P** phosphorus 15	32 **S** sulfur 16	35.5 **Cl** chlorine 17	40 **Ar** argon 18
39 **K** potassium 19	40 **Ca** calcium 20	45 **Sc** scandium 21	48 **Ti** titanium 22	51 **V** vanadium 23	52 **Cr** chromium 24	55 **Mn** manganese 25	56 **Fe** iron 26	59 **Co** cobalt 27	59 **Ni** nickel 28	63.5 **Cu** copper 29	65 **Zn** zinc 30	70 **Ga** gallium 31	73 **Ge** germanium 32	75 **As** arsenic 33	79 **Se** selenium 34	80 **Br** bromine 35	84 **Kr** krypton 36
85 **Rb** rubidium 37	88 **Sr** strontium 38	89 **Y** yttrium 39	91 **Zr** zirconium 40	93 **Nb** niobium 41	96 **Mo** molybdenum 42	[98] **Tc** technetium 43	101 **Ru** ruthenium 44	103 **Rh** rhodium 45	106 **Pd** palladium 46	108 **Ag** silver 47	112 **Cd** cadmium 48	115 **In** indium 49	119 **Sn** tin 50	122 **Sb** antimony 51	128 **Te** tellurium 52	127 **I** iodine 53	131 **Xe** xenon 54
133 **Cs** caesium 55	137 **Ba** barium 56	139 **La*** lanthanum 57	178 **Hf** hafnium 72	181 **Ta** tantalum 73	184 **W** tungsten 74	186 **Re** rhenium 75	190 **Os** osmium 76	192 **Ir** iridium 77	195 **Pt** platinum 78	197 **Au** gold 79	201 **Hg** mercury 80	204 **Tl** thallium 81	207 **Pb** lead 82	209 **Bi** bismuth 83	[209] **Po** polonium 84	[210] **At** astatine 85	[222] **Rn** radon 86

Key

relative atomic mass
atomic symbol
name
atomic (proton) number

* The elements with atomic numbers from 58 to 71 are omitted from this part of the periodic table.

The relative atomic masses of copper and chlorine have not been rounded to the nearest whole number.


UNITED KINGDOM
LOW / HILLS / MOUNTAINS
Orkney Islands
Shetland Islands
Prime Meridian
Scotland
North Sea
Outer Hebrides
Highlands
Atlantic Ocean
Inverness
Aberdeen
Ben Nevis
Edinburgh
Northern Ireland
Glasgow
Sunderland
N
United Kingdom (UK)
Londonderry
Belfast
Carlisle
PENNINES
Leeds
Isle of Man
Irish Sea
Dublin
Liverpool
England
Ireland
Cambrian Mts.
The Fens
Birmingham
Ipswich
Oxford
Wales
London
Bristol
Celtic Sea
130 mi
130 km
Cardiff
Thames
Portsmouth
Dover
Plymouth
Exeter
Falmouth
English Channel
Channel Tunnel
France
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EUROPE
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15° W
0°
15° E
30° E
45° E
60° E
ARCTIC CIRCLE
Barents Sea
White Sea
Norwegian Sea
Iceland
Faroe Islands (Denmark)
400 mi
400 km
Russia
60° N
Norway
Finland
Sweden
Estonia
Latvia
Lithuania
(European Russia)
Ural Mountains
Atlantic Ocean
Scotland
North Sea
Baltic Sea
Northern Ireland
Netherlands
Belarus
UK
Belgium
Denmark
Poland
Ireland
England
Wales
50° N
Germany
Czech Rep
Slovakia
Ukraine
English Channel
Luxembourg
Liechtenstein
Austria
Hungary
Romania
Moldova
Sea of Azov
Kazakhstan
Azores
Switzerland
Madeira Islands
Bay of Biscay
France
Slovenia
Croatia
Bosnia and Herzegovina
Monaco
Serbia
Bulgaria
Black Sea
Caspian Sea
Italy
San Marino
Montenegro
Macedonia
Georgia
Andorra
Vatican
Albania
Corsica (France)
Sardinia (Italy)
Armenia
40° N
Spain
Greece
European Turkey
Turkey
Azerbaijan
Portugal
Balearic Islands
Iran
0°
Sicily (Italy)
Malta
Crete (Greece)
Canary Islands
Cyprus
Syria
ASIA
Gibraltar (UK)
PRIME MERIDIAN
Algeria
Mediterranean Sea
Lebanon
15° E
30° E
Tunisia
Iraq
Morocco
Israel
Jordan
Libya
30° N
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AFRICA
Egypt
Saudi Arabia
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Barents Sea
Novaya Zemlya (Russia)
Kara Sea
Laptev Sea
Arctic Ocean
NORTH AMERICA
Norwegian Sea
ARCTIC CIRCLE
Ostrova Anzhu (Russia)
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Russian Federation
Ural Mts
Bering Sea
Alaska
European Russia
Lake Baikal
Ostrov Sakhalin (Russia)
Sea of Okhotsk
Kamchatka Peninsula
Aleutian Islands
EUROPE
Aral Sea
Kazakhstan
Mongolia
North Korea
Caspian Sea
Black Sea
Uzbekistan
Kuril Islands (Russia)
INTERNATIONAL DATE LINE
MONDAY
SUNDAY
Turkey
Turkmenistan
Kyrgyzstan
Tajikistan
ASIA
Sea of Japan (East Sea)
Lebanon
Syria
MIDDLE EAST
China
Yellow Sea
Japan
Pacific Ocean
Israel
Iraq
Persian Gulf
Iran
Afghanistan
Nepal
Bhutan
South Korea
Jordan
Kuwait
Qatar
Bahrain
Pakistan
Bangladesh
Hong Kong (China)
Macau (China)
East China Sea
Ryukyu Islands (Japan)
Bonin Islands (Japan)
India
Gulf of Tonkin
TROPIC OF CANCER
Saudi Arabia
U.A.E.
Oman
Gulf of Oman
Burma
Laos
Hainan (China)
Taiwan
Okinawa (Japan)
Volcano Islands (Japan)
Red Sea
Arabian Sea
Bay of Bengal
Thailand
Vietnam
Philippines
Yemen
Gulf of Aden
Laccadive Sea
Andaman and Nicobar Islands (India)
SOUTHEAST ASIA
South China Sea
Lakshadweep Islands (India)
Brunei
Philippine Sea
AFRICA
Socotra (Yemen)
Sri Lanka
Phuket (Thailand)
Andaman Sea
Sulu Sea
Cambodia
Malaysia
Gulf of Thailand
Celebes Sea
New Guinea (Indonesia)
Maldives
EQUATOR
0°
Borneo (Indo.)
Singapore
Sumatra (Indo.)
Java Sea
Indonesia
Banda Sea
British Indian Ocean Territory (UK)
Indian Ocean
Java (Indo.)
Bali (Indo.)
Flores Sea
Savu Sea
East Timor
Arafura Sea
OCEANIA
15° S
150° E
Coral Sea
1000 mi
1000 km
AUSTRALIA
60° E
90° E
120° E
180°
60° N
45° N
30° N
15° N
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Azores (Portugal)
Portugal
Spain
EUROPE
Turkey
15° W
Algiers
Mediterranean Sea
Syria
ASIA
Madeira Is. (Portugal)
Tunisia
Israel
Iran
Iraq
MIDDLE EAST
30°N
Morocco
Cairo
Jordan
Persian Gulf
Canary Is. (Spain)
Algeria
Libya
Egypt
Kuwait
Western Sahara
Qatar
Atlantic Ocean
TROPIC OF CANCER
U.A.E.
Oman
Saudi Arabia
Mauritania
Nile River
Red Sea
Arabian Sea
Niger
Cape Verde
Senegal
Mali
Eritrea
15° N
Dakar
Chad
Sudan
Yemen
Burkina Faso
Benin
Lake Chad
Gulf of Aden
Gambia
Djibouti
Socotra (Yemen)
Guinea
Guinea-Bissau
Togo
Djibouti
Cote D'Ivoire
Nigeria
South Sudan
Ethiopia
Somalia
Sierra Leone
Central African Rep.
Accra
Uganda
Liberia
Ghana
Gulf of Guinea
Cameroon
Indian Ocean
0° EQUATOR
Rwanda
Kenya
Eq. Guinea
Nairobi
Dem. Rep. of the Congo
Sao Tome & Principe
Lake Victoria
Zanzibar (Tanzania)
800 mi
Congo
Tanzania
Gabon
Burundi
800 km
Malawi
Seychelles
Cabinda (Angola)
AFRICA
Lake Malawi
Angola
Comoros
PRIME MERIDIAN
15° S
Zambia
Lusaka
Mozambique Channel
Namibia
Zimbabwe
Mauritius
TROPIC OF CAPRICORN
Botswana
Windhoek
Reunion (France)
Madagascar
Atlantic Ocean
Mozambique
30° S
South Africa
Swaziland
worldatlas
Indian Ocean
Lesotho
Cape Town
60° E
30° W
15° W
0°
15° E
30° E
45° E
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Subject websites

These websites will help you with homework, reading around the subject and revision

English

https://www.sparknotes.com/ - *Macbeth, A Christmas Carol, An Inspector Calls*
https://app.senecalearning.com/ - *Macbeth, A Christmas Carol, An Inspector Calls, Power and Conflict Poetry*
https://www.bbc.com/bitesize - *Macbeth, A Christmas Carol, An Inspector Calls*

Maths

https://corbettmaths.com/
https://vle.mathswatch.co.uk/vle/
https://www.mathspad.co.uk/

Science:

https://www.bbc.com/bitesize
https://www.senecalearning.com/
https://www.memrise.com/

Geography

Time for Geography - videos (mainly focused on physical processes)
Bitesize
Cool Geography

History

Seneca Learning
BBC bitesize - use Edexcel resources for GCSE.

Art Websites

https://www.tate.org.uk/
https://www.bbc.co.uk/bitesize/subjects/z6f3cdm
https://www.incredibleart.org/

Computer Science and IT.

www.mrahmedcomputing.co.uk

Drama

https://youtu.be/VeTpob9LBM8
https://youtu.be/wISEU13mRBE
https://www.bbc.co.uk/bitesize/guides/zsf8wmn/revision/1

DT:

http://www.mr-dt.com/
http://technologystudent.com/
https://www.senecalearning.com/

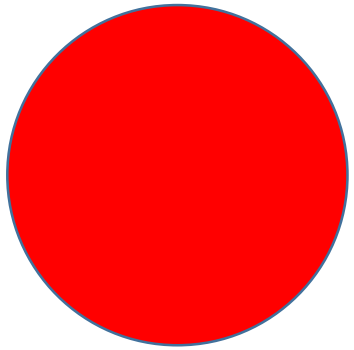
PE

https://www.bbc.com/bitesize/examspecs/ztrcg82
https://sites.google.com/view/ocrgcseperevision/home

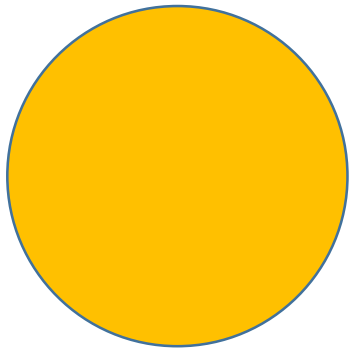
RS

KS3 https://www.bbc.co.uk/bitesize/subjects/zh3rkqt

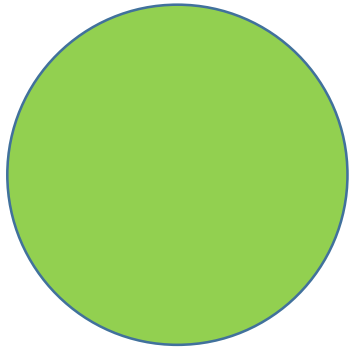
How would you describe your learning in this lesson?



I don’t understand the learning in this lesson and would like some help



I am not confident with the learning in this lesson so might need some extra help.



I am confident with the learning in this lesson and can work independently