Year 8 Knowledge Organiser

Spring Term
2020/21

Name:

Form:

West Norfolk Academies Trust

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Instructions for using your Knowledge Organiser

Every school day, you should study 1 to 2 subjects from your knowledge organiser for homework lasting at least 1 hour in total.

On pages 6 and 7 there is space for you to record the subjects you have studied to make sure you are giving equal time to all of them. Your parent should sign off your homework each evening on these pages.

Your parent should also sign your reading log on pages 8 and 9.

You can use the note pages in this booklet to help with your studies.

You need to bring your Knowledge Organiser to school every day. It will be checked regularly during form time.

You will be regularly tested on knowledge contained in this booklet in your lessons and through quizzes on Show My Homework.

Self- testing

You can use your Knowledge Organiser in a number of different ways but you should not just copy from the organiser. Use the following tips and guidance to help you get the most out of learning and revising your subject knowledge.

These are some possible tasks you could try:

- Ask someone to write questions for you
- Write your own challenging questions, leave them overnight and try answering them the next day
- Create mind maps
- Create flash cards
- Put the key words into new sentences
- Look, write, cover and check
- Write a mnemonic
- Use the 'clock' template to divide the information into smaller sections
- Give yourself a spelling test
- Give yourself a definition test
- Draw images and annotate/label them with extra information
- Do further research on the topic
- Create fact files
- Create flowcharts
- Draw diagrams

How to self- test with the knowledge organiser

The Knowledge Organisers are designed to help you learn a wide range of knowledge which will, in turn, mean you are more prepared for your lessons and make even better progress.

To get the most out of your Knowledge Organiser you should be learning sections and then self-testing.

Look, Cover, Write, Check, Correct

This should be familiar to you from primary school.

First Look, then cover this colum	Next try to answer/give definition/spell	Now Check to see if you were right	Finally Correct those you got wrong
Look	**Write**	**Check**	**Correct**
Noun	Person place or thing		
Belief	Something you believe	X	Accept true without proof

Questions/Answers, Answers/Questions

Ask a parent, carer, study partner to write you questions (or answers) and then you write the answer (or possible question that would respond to that answer).
You can also write your own questions but if you do this leave it until the next day before you answer them to see what you can remember after a break.

Always remember to check and correct

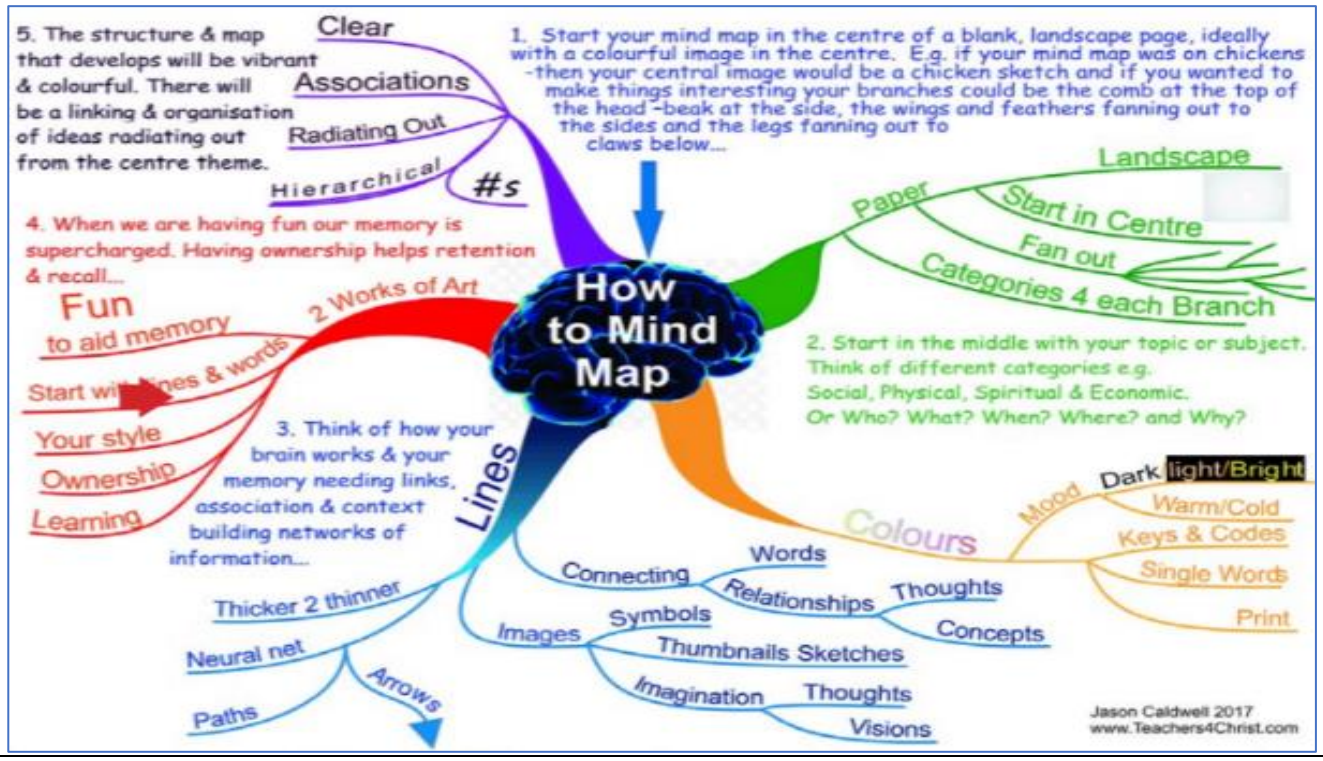
Flashcards

These are a very good and simple self-testing tool.
To make your own, take some card and cut into rectangles roughly 10cm x 6cm.
Write the key word on one side and the definition on the other.
Then go through your cards looking at one side and seeing if you can remember the keyword/definition on the other side.

Mind Maps

Mind mapping is a process that involves a distinct combination of imagery, colour and visual-spatial arrangement. The technique maps out your thoughts using keywords that trigger associations in the brain to spark further ideas.

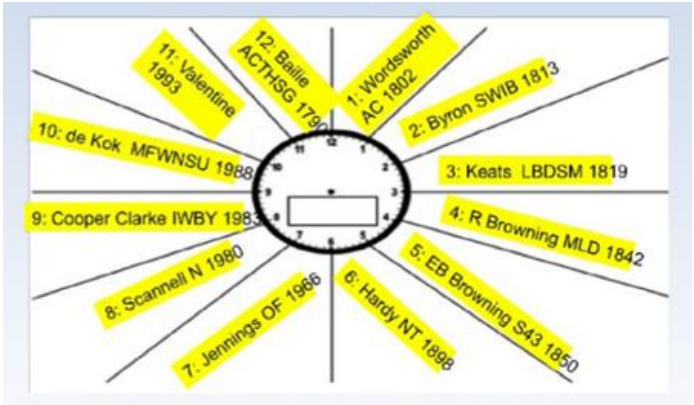
Once you have made your map, cover it and test yourself on different strands, e.g. how much of the 'Lines' strand can you recall.



Clock Learning

For this technique, draw a basic clock.
Take a subject or topic and break it down into 12 sub-categories.
Make notes in each segment of the clock. Revise each part for 5 minutes.
Now the clock over and try and write out as much information as you can from one of the segments.

Clocks can also be used to help to visualise a timeline



Homework log and parental check

Week 1	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 2	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 3	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 4	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 5	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 6	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 7	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

Homework log and parental check

Week 8	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 9	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 10	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 11	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 12	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 13	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 14	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

Reading log

Use this reading log to record the books you read along with how long you have spent reading and the Accelerated Reader quizzes you have completed.

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Book(s) read (title and author)	Total time spent reading	Parent/Guardian /Staff signature
1										
2										
3										
4										
5										
6										
7										

Reading log

Use this reading log to record the books you read along with how long you have spent reading and the Accelerated Reader quizzes you have completed.

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Book(s) read (title and author)	Total time spent reading	Parent/Guardian /Staff signature
8										
9										
10										
11										
12										
13										
14										

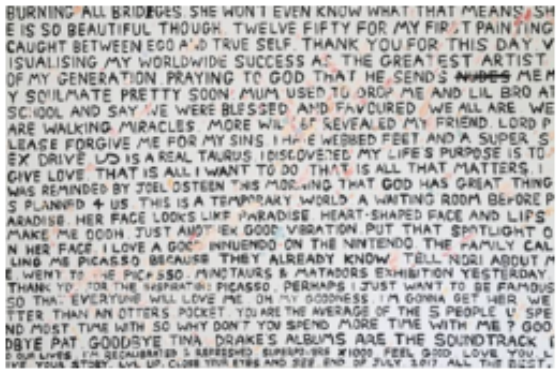
Year 8 Spring Term Knowledge Organiser 2021

Art – Typography– Printmaking:

Printmaking is the process of creating artworks by printing, normally on paper. Printmaking normally covers only the process of creating prints that have an element of originality, rather than just being a photographic reproduction of a image or a painting.

Art Specific Language and Terms			
Typography	Typography is the art and technique of arranging type to make written language legible, readable, and appealing when displayed.	**Screen printing**	A printing technique where a mesh or screen is used to transfer ink onto a surface, except in areas made impermeable to the ink by a blocking stencil.
Lino-cut printing	Lino-cut printing is a form of printmaking where the printing plate is cut into lino. The lino-cut is then inked, a piece of paper placed over it, and then run through a printing press or pressure applied by hand to transfer the ink to the paper.	**Graphic Designer**	Graphic designers create visual concepts, using computer software or by hand, to communicate ideas that inspire, inform, and captivate consumers. They develop the overall layout and designs for advertisements, brochures, magazines, and branding.

Typographical Art:



Lewis Durrant

Ronald Hunter

Nicolas Girard

Craig Ward

Year 8 Spring Term Knowledge Organiser 2021

Art – Typography– The Art of Lettering:

Art Specific Language and Terms			
Typography	Typography is the art and technique of arranging type to make written language legible and appealing when displayed.	**Leading**	leading is the space between individual lines of type.
Typographer	A Typographer is someone who designs a typeface or who arranges type.	**Display Typeface**	A display typeface is a typeface that is used for visual impact, rather than for extended passages of text.
Kerning	kerning is the process of adjusting the spacing between letters.	**Script Typeface**	Script fonts can be formal scripts, derived from 17th century formal writing or styles that look informal or handwritten as well as calligraphic scripts which emulate calligraphy.

Types of Font:

Sans-serif:
(without flicks)

AaBbCc

Serif:
(with flicks)

AaBbCc

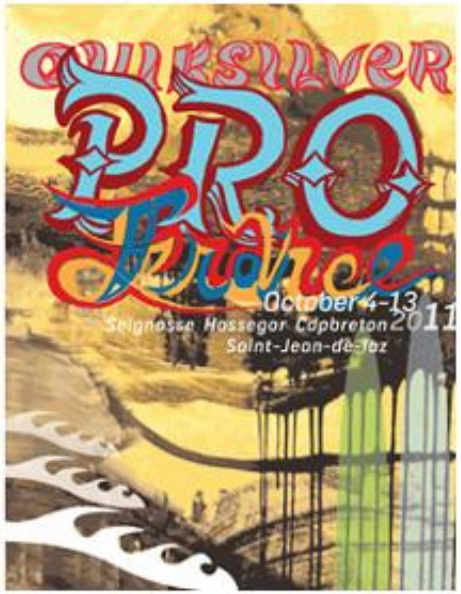
Sans is the French word for without.

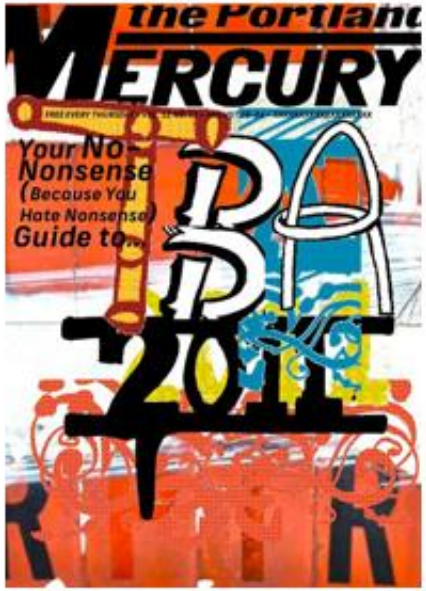
Weight and Size:

Changing the
weight or
size
of type
changes the emphasis

Typography:

David Carson is an American graphic designer. He is best known for his innovative magazine design, and use of experimental typography. He was the art director for the magazine Ray Gun and was perhaps the most influential graphic designer of the 1990s.





Y8 CITIZENSHIP KNOWLEDEGE ORGANISER Spring Term

Budget
A plan showing income (money coming in) and expenditure (money spent) which allows you work out how much you are able to spend.

Tax
Money paid to the government by individuals and companies. This is spent on public services like the NHS and schools.

Debt
something that is owed or that one is bound to pay to or perform for another:

The Economy
An economy is a system of making and trading things of value. It is usually divided into goods (physical things) and services (things done by people).

The Annual Budget
The governments plans for spending and managing taxes and public funds for the year.

The Chancellor of the Exchequer

The Chancellor of the Exchequer (called The Chancellor for short) is the government's chief finance minister and one of the most senior members of the Cabinet. They are responsible for setting levels of tax that people must pay and decides how much we will spend on public services across the UK. They announce these changes each year in the annual Budget statement.

Public Services

These are services provided to the public and paid for by taxes collected by the government. The taxes are taken from people's wages and used by the government to provide many essential services.

Public services are available to everyone, usually for free. Every person in the UK is entitled to a free education and free healthcare via the NHS.

How are people paid for jobs?

If you get paid a **salary**, this is when you are told the amount of money you will earn in one year. You will normally receive the same amount of pay every month in your bank account. Some people get paid an **hourly rate**, when you earn a set amount for every hour that you work. The more hours you work, the more pay you'll receive. You can get paid **piece work** – this is when you're paid a set amount for every item you make. The more items you produce, the more you'll be paid. Sometimes people get **commission** – this is mostly for sales jobs, when you receive a share of all the sales you make. Often you will get commission as an extra on top of your salary.

Command Words

Argue	Present a reasoned case
Apply	Put your ideas into effect in a relevant way
Compare	Identify similarities and/or differences
Consider	Review and respond to given information
Debate	Present different perspectives on an issue
Outline	Set out main characteristics
Suggest	Present a possible case/ solution
Summarise	Present key points without detail

Making connections

How can you link different topics together?

Government + budget + taxes
Taxes + public services
Public services + budget
Debt + budget
Taxes + The Annual Budget + economy
The Chancellor + cabinet + public services

Money & Finance

What is a budget? A plan for what you will spend – with a timescale.

Why budget? Puts you in control, understand your spending better, it allows us to save for the future, provides financial security and you can buy more of the things you like.

Y8 CITIZENSHIP KNOWLEDEGE ORGANISER Spring Term

Constituency
The voters in a particular area who elect an MP to Parliament.

Manifesto
A statement of policies and aims, usually released around the time of a general election.

Government
The winning party in a General Election form the government.
The Government is led by the Prime Minister.
The Prime Minister belongs to the political party with the majority of the seats.

MP
Member of Parliament - an elected representative who works in the House of Commons. There are 650 all together.

Houses of Parliament
Parliament is the place where MPs and Peers meet to make decisions and pass laws. Parliament makes sure that the government are running the country properly.

Government, Politics & Elections

Fixed Term Parliament Act 2011

This is a piece of legislation (law) that means that a General Election must take place every five years.

The Government are in charge of many aspects of our daily lives, such as...

- ✓ Education
- ✓ Healthcare
- ✓ Police
- ✓ Housing
- ✓ The economy

The cabinet is a group of MP's who are hand chosen by the Prime Minister to help make important decisions and run important departments... like health, education and the Treasury which is in charge of all the money raised through taxes!

Home Secretary — Responsible for running the police, prisons, law and order and the justice system.

Chancellor — Responsible for managing finances of the Government – how much is spent and how much is collected in taxes – and preparing for the budget.

Defence Secretary — Responsible for defence of the country, including armed forces and weapons.

Voter apathy
A lack of interest in voting – usually because of a lack of political knowledge.

Command Words	
Argue	Present a reasoned case
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Compare	Identify similarities and/or differences
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Yay!

Who can and cannot vote?

Nay!

- ✓ Over 18
- ✓ On the electoral register
- ✓ British Citizen
- × In the House of Lords
- × In prison

Making connections
How can you link different topics together?

Constituency + MP + representation
Cabinet + MP + responsibility
Democracy + MP + cabinet + Prime Minister

Computer Science – Python Keywords

Comments	Comments are notes in programs that the complier/interpreter ignore. In Python you write a comment by first typing a #
Variable	Is a space in memory to store some information, that we can be used later on in a program. This information can take on many forms it is therefore variable (it can change)
Data Types	Data Types are categories that define what a variable can store. Like in a child's game the square brick must go in the square hole, and a round brick in a round hole.
string	String is a type (category) of variable. Strings are combinations of letters and or numbers. Anything in quotes is a string Fr example . "a“ "ABCD" "123“ “Hello world 123”
integer or int	Integer or int is a type (category) of variable. An integer or int is a whole number. For example 1, 123, 1234567
float	Float is a type (category) of variable. A float is a decimal number. E.G 1.2, 1.234, 0.123
Boolean	Boolean is a type (category) of variable. A Boolean can be True or False.
list	A List a is type (category) of variable. It can store multiple pieces of information in one variable. Lists can store a mixture of strings, ints, floats, even other lists. Think of it like a shopping list.
Cast/Casting	Casting means to change a variables type (Category). For Example int ("123“) becomes 123, str(123) becomes “123” , str(1.23) becomes “1.23” and float(123) becomes 123.0
Input Command	A way to get information into the computer when programming. E.G. input(“Enter your name”)
Output Command	A way to get information out of the computer when programming. E.G. print(“Hi Bart”)
Concatenation	Concatenation means to link or join things together. In programming we use it to "glue" strings together. For example "Cat" + "Hat" would become "CatHat"
Mathematical Operators	Are mathematical functions that can be preformed on integers and floats. For example add (+), subtract (-), multiply (*) divide (/), MOD (%), Integer Division (//), exponent (**)
Assignment Operators	Are used to assign values to variables. For example = , += , -= , *= , /=
Conditional Statements	A conditional statement is an if statement. If statements can be true or false (like a Boolean variable)
if elif else	How we deal with a conditional statement/selections. For example: if HomeworkNearlyDone print("1 hour of Xbox") elif HomeworkComplete print("You can play Xbox"), else print("Do your homework!")
Comparison Operators	Used with conditional statements if, elif, and else as all can be resolved to true or false. For example: == 'equal to' != 'not equal to' > 'greater than' < 'less than' >= 'greater than or equal to' <= 'less than or equal to'
Logical Operators	Used to combine conditional statements so they resolve to a single true or false answer. I.E. 'and' 'or' and 'not' For example if HomeworkDone and BedroomTidy print(" You can play Xbox")
Iteration	Means to do the same process over and over again in a loop.
for	A type of loop used in programming when we know how many time we want to iterate.
while	A type of loop used in programming when we do not know how many time we want to iterate.
Syntax Error	An errar im thee writan code. Like a spelling or grammatical error when writing a sentence.
Logic Error	When the code runs, but does not do what you expect. Logic errors are far harder to fix.

Computing – Keywords: Animation and video editing

Video editing	Arrangement of images, videos, sounds and text made into a professional video.
File type	The way a file is stored on a computer file. It allows the file to run in certain programs.
Import	To open a file in a program. It could be different file formats.
Export	Saving files in a format that can be used by other programs.
Crop	Removing unwanted parts of photographs videos and sound.
Transition	It is an effect to move from one clip to the next during a movie or sound. You can control the speed and effect added. Like fade in or out. A transition is a time-based change between two overlapping video or audio clips.
Overlay	Running alongside another component. Sound can be overlaid on a photo.
Trimming	With audio or video clips, both duration and playback speed come into play. Most often, you'll want to shorten a clip without altering its playback speed – this is called trimming.
Animation	Computer animation is creating moving images.
Frame Rate	Changing the speed of the fame to be quicker or slower.
Gallery	Pre-set images that's can be used from a list.
Arrange	Placing an object in a certain position. Bring to front, Send back.
Rotate	Changing the position of an object by turning it.
Colour wheel/ Swatch	Picking a colour for an object when it is selected.
Colour Fill	Selecting an object to add a colour to. The colour wheel is used to select a colour.

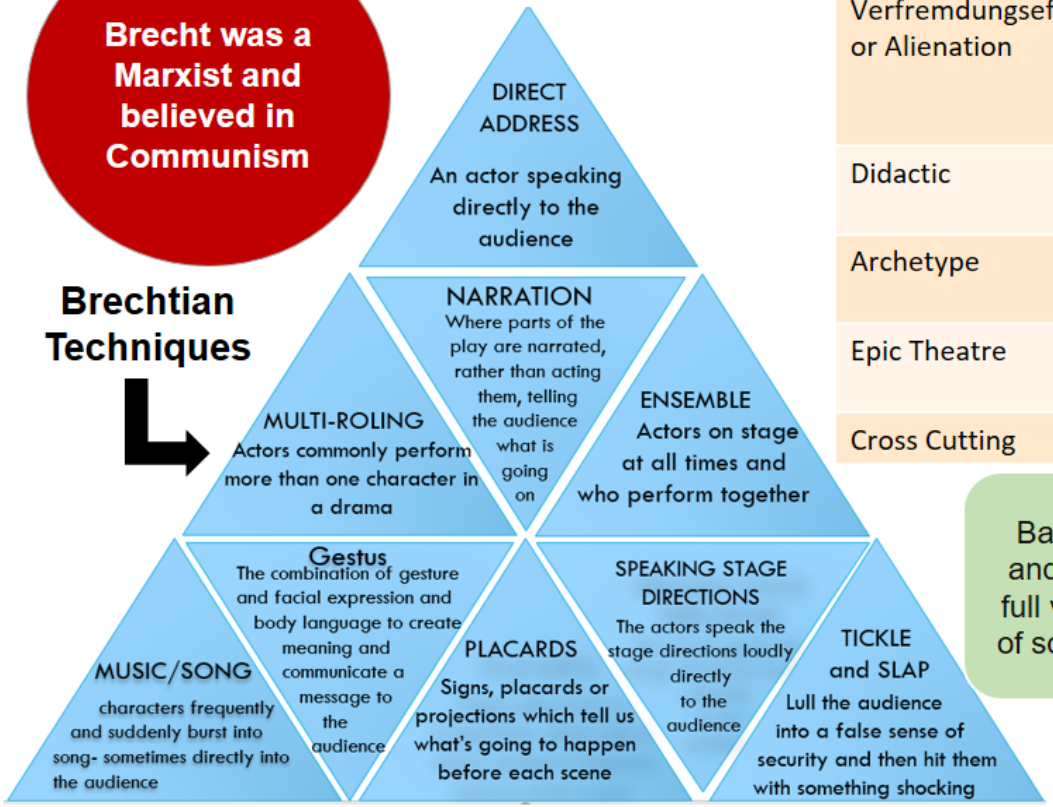
Drama

Bertolt Brecht 1898-1956

Brecht wanted theatre to be something completely different! He believed that theatre should be political as well as entertaining. He wanted his audiences to be wide awake and critical during the performance. He thought that most audiences of realistic theatre were passive and he wanted them to realise that what they saw on stage was happening in a theatre and should provoke the audience to react to what they saw on stage and try to change things in the outside world.

Brecht was a Marxist and believed in Communism

Brechtian Techniques



Key Vocabulary	Explanation
Verfremdungseffekt or Alienation	Brecht would use techniques which would create distance between actor and the spectator, so that his audience would be able to respond to the drama objectively and learn from it not just watch it and be entertained. This was called Verfremdungseffekt.
Didactic	Means to teach. The purpose of didactic theatre is to educate the audience and performers on social and political issues.
Archetype	Identifying a character by their role or status, for example, The teacher.
Epic Theatre	A form of theatre associated with Bertolt Brecht, which aimed to motivate audiences to make political or social change.
Cross Cutting	Re ordering of scenes

Technical Ideologies

Staging
Bare stage. All workings could be seen and any changes to scenery are made in full view of the audience. Using fragments of scenery and single pieces of furniture to suggest whole locations

Costume
Often a single item of clothing or prop was all that was used. An actor would frequently change character or costume in front of the audience reinforcing the idea of alienation

Lighting
The stage was flooded with bright white light the entire time regardless of whether the scene was summer day or winter evening

Unlike Stanislavski, Brecht wanted to break the 4th wall and include the audience in the performance, he did not want his plays to be watched for entrainment alone, he wanted them to help change society and make it better.

Practitioners Studied so Far in Drama....

Stanislavski- Realism

Key Ideologies

- Method Acting
  - Seven key questions- who am I? Where am I? What time is it? What do I want? Why do I need it? How will I get it? What do I need it for?
  - Magic if
  - Emotion memory
  - Given Circumstances
- Believing in what you are doing- realism
- Being expressive
- NOT breaking the 4th wall
- Costumes and set to be elaborate as they are in the real world.

Fanatic Assembly- Physical Theatre

Key Ideologies

- Push boundaries of physicality and imagination
- Help performer to understand how to use their body to tell a story.
- Breaking work into building block to create imaginative and creative work
  - Hymn Hands
  - Round-by-Trough
  - Push Hands
  - Chair Duets
- https://www.franticassembly.co.uk

Complicité- Improvisation

Key Ideologies

- 'There is no Complicité method , what is essential is collaboration, and a turbulent forward momentum...'
- Devises all its work.
- Bring together all different types of performers
- Has a eclectic style and performers
- Extensive research on topics
- Space is important- where it is small or vast.
- Ensemble work- during rehearsal the company works together
- Rhythm- both inner, seven sates of tension and outer rhythm of the piece are important.
- http://www.complicite.org

AlterEgo- T.I.E

Key Ideology of T.I.E

- Educate the audience
- Based on social, moral, cultural or spiritual topics
- Multi-roling and stereotypical characterisations
- Six key steps
  1. Pick your audience
  2. Pick your topic
  3. Research your topic
  4. Write your scene
  5. Audience participation
  6. Evaluate
- http://www.alteregocreativesolutions.co.uk

Kneehigh- Improvisation

Key Ideology

- Kneehigh is a band of brave storytellers that makes theatre and takes risks.
- Artist-led and takes the conditions of creativity seriously
- Kneehigh is political creates theatre of humanity
- Kneehigh looks to the world for inspiration and tells stories that reflect the world.
- Kneehigh defies expectation and breaks the rules.
- https://www.kneehigh.co.uk

Sophocles-Greek theatre

Key Ideologies of Greek theatre

- Theatre was created to please the gods
- 3 genres- Comedy, Tragedy and Satyr
- Protagonists and a chorus of 12-15 men
- Chorus would work as an ensemble and use unison, cannon and echo in their movement and voice.
- Masks would be worn by all
- Body's language needed to be large and expressive
- Sounds we often made with body and voice

https://www.youtube.com/watch?v=sNWrOuwzax8&t=597s
https://www.youtube.com/watch?v=VeTeK9kvxyo&t=244s

Year 8, Unit 2

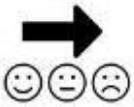
Rhetoric

Writers and speakers often construct texts in order to express their own perspective and influence other people. Students of English can comment on how writers create that influence.

Rhetorical texts draw on three common elements. They do not necessarily draw on them equally. The most important thing in motivating humans is actually the transfer of emotions. Most people behave according to their emotions, not reasons.

establish credibility
(ethos)

offer reasons
(logos)



transfer **emotions**
(pathos)

Rhetorical texts and speeches are often tools with which to challenge oppression. Oppression refers to the prolonged cruel or unjust treatment of a society, or a section of society. People can't safely criticise or speak out against their government. Some examples of oppression might be:

--gay marriage was only legalised in the UK in 2014 (and it was actually 2020 in Northern Ireland)
--apartheid – a system of government that legally segregates blacks and whites
--misogyny – women being routinely passed over for promotion etc because of a widespread perception that those jobs 'belong' to men
--transgender rights
--working classes (e.g may not be given the opportunity to vote)
--oppression of a tribe or religious group within a wider society by a different group, who hold power

Poets also seek to influence society and challenge oppression. In this example, Beverley Naidoo challenges Apartheid in South Africa, a legal system of segregation, where the white community had power and privilege, but the black community had few rights or opportunities. Naidoo expresses the idea that the righteous fight for freedom will never end, no matter how much a government tries to stifle it.

They Tried to Lock Up Freedom by Beverley Naidoo

They tried to lock up freedom
They seized the book
Ripped out its spine
Flung it in the fire
Pages fluttered through smoke
They grabbed the pages
Scratched out lines
Crushed them in their fists
Words squeezed through knuckles
They twisted the words
Tore out sound
Swallowed them in their silence
The heart of the book cried out
The pages grew wings
The words breathed Freedom

Students of English think about how writers create influential texts and speeches.

Worked Examples of Thinking in English

Non-fiction writers often construct texts to be influential, even if it's just influencing us to agree with their perspective on something.

In 2014, George Takei made an important speech about LGBT rights. He wanted to influence people to support the movement and understand the world from the perspective a gay man.

George Takei's speech, which he gave in New York in 2014

An excerpt from the speech:

'As a closeted kid growing up in Los Angeles…all I saw of gay[s] and lesbians in movies and television or heard on the radio were caricatures of people who were mocked and laughed at, or pitied, or hated. The media stripped us of all humanity and made us into pathetic stereotypes. The media then was a soul-crushing monster.'

ideas	+	examples
Takei established his credibility at the start of his speech. As a gay man himself, he is well placed to talk about the world from an LGBT perspective.		He describes himself as, 'a closeted kid growing up in Los Angeles...'
Takei blends authentic reasoning (logos) with authentic emotion (pathos.) It's sometimes hard to pinpoint exactly where one starts and the other ends but we can see a mixture of reasons and empassioned emotion running through the whole speech.		Films, TV and radio did use 'caricatures' (stereotypes) of gay people, so this is a reasonable, logical argument to put forward. He goes on to describe the media with powerful emotional intent, calling it a 'soul-crushing monster.'

Fiction writers sometimes construct texts to be influential. Sometimes they want to bring about social change.

In *Animal Farm*, George Orwell constructed a text that would influence his readership. He wanted people to think about how society is organised and whether it is fair, and also think about the nature of revolution.

Animal Farm: *a story in which farm animals overthrow their human leader only to end up at the mercy of a their new leader, Napoleon.*

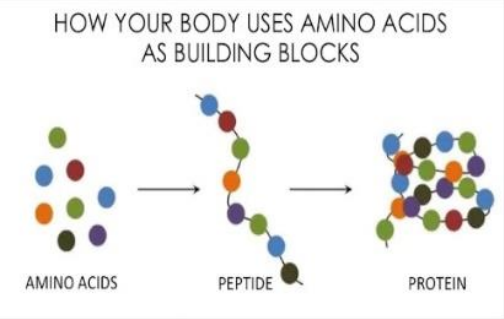
Students of English explore texts by tracking ideas and examples

ideas	+	examples
Orwell questions the idea that revolutions bring about positive change. He thought that real change had to come from ordinary people really investing in and understanding the revolution, otherwise it would just lead to more of the same poor leadership.		Once Farmer Jones is overthrown, things should improve for the animals. One of them is now in charge. But Napoleon turns out to be even worse than Jones so the revolution hasn't really changed anything at all - some members of society are still 'more equal than others'. That's because the animals themselves were never really in charge of what was going on.
Orwell wanted to show how important propaganda was in controlling the people. He wanted to encourage us to question everything we're told.		Orwell characterises Squealer as a key part of Napoleon's propaganda machine. Squealer convinces the animals to support their leader, even when it goes against their own best interests. He can twist and distort events so well, the animals rewrite their own memories of what happened in line with Squealer's version. Orwell writes, "he described the scene so graphically, it seemed to the animals that they did remember it."

Topic 3: Protein – Meat, Poultry and Fish

Protein is one of the nutrients essential for life. It is needed for the growth and repair of our cells and for energy. Some groups of people need more protein than others, for example, children and pregnant women need more protein for growth.

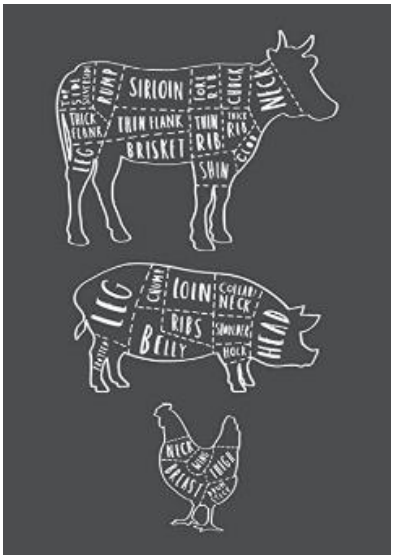
Each protein molecule is made up of a combination of 20 amino acids. It is essential that we include certain amino acids in our diet because our bodies cannot make them. There are 8 essential amino acids for adults and 10 essential amino acids for children (the extra 2 are needed for growth).



Sources of protein that contain all of the essential amino acids are called High Biological Value (HBV) or complete proteins. Sources of protein that contain some of the essential amino acids are called Low Biological Value (LBV) or incomplete proteins.

HBV proteins are mainly from animal sources. LBV proteins are mainly from plant sources such as beans, nuts and seeds. When combining LBV proteins you can consume all the essential amino acids (LBV + LBV = HBV). An example of this is beans on toast. This is called protein complementation.

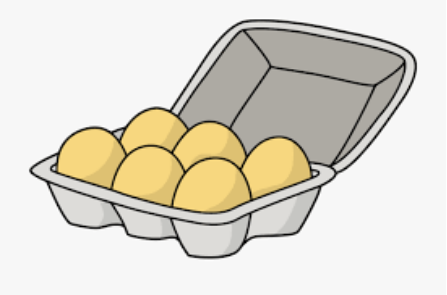
Meat is the muscle tissue of animals and it is high in protein, iron and B group vitamins. The main types of meat eaten in the UK are beef, pork and lamb. Meat from younger animals is tender and cooks quickly, meat from older animals is tougher and needs marinating or slow, moist cooking. Choose lean cuts of meat and mince, and eat less red and processed meat like bacon, ham and sausages.



Poultry are birds that are reared for eating. Popular poultry includes chicken, duck, turkey and goose. Poultry is high in protein and B vitamins and is lower in fat than meat. Poultry needs to be cooked thoroughly because it is a high risk food that can cause food poisoning.

Fish can be divided into three types, white, oily and shellfish. Fish is high in protein and you should aim for at least 2 portions of fish every week, 1 of which should be oily, such as salmon or mackerel, because it is high in vitamins A and D.

Topic 4: Protein – Eggs and Dairy Foods

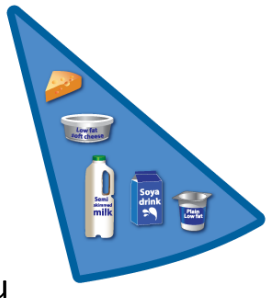


Eggs are nutritious – they're a source of protein, vitamin D, vitamin A, vitamin B2, vitamin B12, folate and iodine. Eggs can be enjoyed as part of a healthy, balanced diet, but it's best to cook them without adding salt or fat, for example boiled or poached.

Eggs are produced by laying hens. Hens can be housed in cages or barns to lay their eggs or they can be 'free range' and have access to the outdoors. The British Lion Code of Practice ensures that eggs are produced to high standards – look out for eggs that have the Red Lion stamp.

Eggs are very versatile and can be used to make a wide range of sweet and savoury dishes including cakes, meringues and custard or savoury tarts, omelettes and Yorkshire puddings.

This is because the protein in eggs can denature (change shape) and coagulate (set). Proteins denature when heated, beaten or exposed to acidic foods such as lemon juice. Egg white becomes solid and turns white as it coagulates at 60C and egg yolk becomes solid at 70C.



Milk and dairy products, such as cheese and yoghurt, are great sources of protein and calcium. They can form part of a healthy, balanced diet, especially if you go for lower fat and lower sugar options.

Milk is supplied by dairy cows but it is also available from sheep and goats. You can look out for the Red Tractor logo on dairy foods. This is a quality assurance scheme that informs consumers that milk has been produced to high standards by UK farms.

The milk you buy in the shops is heat-treated to 72C to destroy bacteria. This process is called pasteurisation. Fresh milk should be stored in the fridge and will last 5 days. Longer life milk is also available. Ultra-heat treatment milk (UHT) is heated to 135C and can be stored at room temperature for about 6 months. Some or all of the fat in milk can be removed to make a healthier version so full fat (blue packaging), semi-skimmed (green packaging) and skimmed (red packaging) varieties are widely available.

French Y8 Spring term Knowledge Organiser

Unit 3: Les loisirs – Hobbies

Qu'est-ce que tu aimes à la télé	What do you like on TV
J'aime/J'adore…	**I like/I love…**
Je n'aime pas…	**I don't like…**
Je déteste…	**I hate…**
les comédies	comedies
les dessins animés	cartoons
les feuilletons	soaps
les séries (policières)	(police) series
les documentaires	documentaries
les infos	the news
les jeux (télévisés)	gameshows
les émissions de…	…programmes
… sport	sports…
…cuisine	cooking…
… télé-réalité	reality TV…
…musique	music…
… science-fiction	science fiction…
Mon émission préférée c'est…	**My favourite programme is…**

Pourquoi?	Why?
Parce qu'ils/elles sont…	**Because they are…**
ridicules	ridiculous
divertissant(e)s	entertaining
passionnant(e)s	exciting
plein(e)s d'action	action-packed
nuls/nulles	rubbish
marrant(e)s	funny
bêtes	stupid
ennuyeux/ennuyeuses	boring

Remember to make the adjective ending agree for masculine/feminine.

Qui es ta célébrité préférée ?	Who is your favourite celebrity?
Ma célébrité préférée est…	**My favourite celebrity is…**
parce qu'il/elle est…	**because he/she is…**
parce qu'il/elle n'est pas..	**because he/she isn't…**
intelligent(e)	intelligent
arrogant(e)	arrogant
égoïste	selfish
drôle	funny
modeste	modest
généreux/généreuse	generous
travailleur/travailleuse	hard-working
beau/belle	good-looking
gentil/gentille	kind

Remember to make the adjective ending agree for masculine/feminine.

La télé	TV
Je regarde la télé…	**I watch TV…**
le matin	in the morning
le soir	in the evening
le weekend	at the weekend
à la maison	at home
dans le bus	on the bus
chez mes a mis	at my friends' house
seul(e)	alone
avec ma famille	with my family
avec mes copains	with my friends
sur ma tablette/mon smartphone	on my tablet/smartphone
à la demande	on demand
C'est facile	**It's easy**
Ce n'est pas cher	**It's not expensive**

Quels sont tes loisirs ?	What are your hobbies?
J'ai un smartphone	I have a smartphone
Je surfe/Je blogue/Je chatte	I surf/blog/chat
Je fais des achats en ligne	I shop online
Je crée des playlists	I create playlists
Je joue au foot	I play football
Je télécharge des chansons	I download songs
J'écoute de la musique	I listen to music
Je joue sur ma Xbox	I play on my Xbox
Je fais du vélo	I go cycling
Je lis des BD	I read comics
Je ne regarde jamais la télé	I never watch TV

Use time phrases such as: ***souvent* (often)**, ***parfois* (sometimes)**, ***d'habitide* (usually)**, ***tout le temps* (all the time)** to make your work more interesting.

On va au ciné ?	Shall we go to the cinema?
Je vais au cinéma ce soir.	**I'm going to the cinema this evening**
Je vais voir…	**I'm going to see…**
une comédie	a comedy
un film d'animation	an animated film
un film romantique	a romantic film
un film d'action	an action film
un film de science-fiction	a sci-fi film
un film de super-héros	a superhero film
un film d'horreur	a horror film
Tu viens ?	Are you coming?
Oui, je veux bien !	Yes, I'd like to!
Désolé(e), je ne peux pas.	Sorry, I can't
Rendez-vous à quelle heure?	When shall we meet?
Rendez vous chez moi à 19h	Meet at my house at 7pm

Question words

You can form a range of questions by using :
a **question word +** est-ce que and the *tu* form of the verb :

Quand est-ce que tu regardes la télé ?	**When** do you watch TV?
Où est-ce que tu regardes la télé ?	**Where** do you watch TV?
Avec qui est-ce que tu regardes la télé ?	**With whom** do you watch TV?
Qu'est-ce que tu regardes ?	**What** do you watch?
Comment est-ce que tu regardes la télé ?	**How** do you watch TV?

Negatives

To make a sentence negative, wrap negative expressions around the verb:

ne/n' +	pas (not)	jamais (never)	rien (nothing/notanything)
Je **n'**ai **pas** d'ordinateur			I do **not** have a computer
Je **ne** fais **pas** de sport			I do **not** do sport
Je **ne** joue **jamais** à des jeux vidéo			I **never** play video games
Je **ne** lis **rien**			I do **not** read **anything**
Je **ne** fais **rien** en ligne			I do **nothing** online

French Y8 Spring term Knowledge Organiser Unit 4: Ma région – My area

Où habites-tu ?	Where do you live?
J'habite…	**I live…**
dans un (petit) village	in a (small) village
dans une (grande) ville	in a (large) town
à la campagne	in the countryside
à la montagne	in the mountains
au bord de la mer	by the seaside
en Angleterre	in England
en Suisse	in Switzerland
au Maroc	in Morocco
aux Antilles	in the French Caribbean

C'est comment ?	What's it like?
J'aime mon village	**I like my village**
Je n'aime pas ma ville	**I don't like my town**
C'est…	It is…
Ce n'est pas…	It isn't…
animé	lively
calme/tranquille	quiet/peaceful
ennuyeux	boring
joli	pretty
nul	rubbish
historique	historic
touristique	touristic
moche	ugly

Quel temps fait-il ?	What's the weather like?
Il fait beau	The weather's good
Il fait mauvais	The weather's bad
Il fait chaud	It's hot
Il fait froid	It's cold
Il y a du soleil	It's sunny
Il y a du vent	It's windy
Il y a du brouillard	It's foggy
Il y a des orages	It's stormy
Il neige	It snows/it's snowing
Il pleut	It rains/it's raining
En été	In summer
En hiver	In winter
En automne	In autumn
Au printemps	In spring

Qu'est-ce qu'on peut faire dans ta région ?	What can you do in your area?
Dans ma région on peut…	**In my area you can…**
manger des crêpes	eat crêpes/
Manger du fastfood	eat fast food
visiter les monuments	visit monuments
visiter des grottes	visit some caves
aller au marché	go to the market
aller au cinéma	go to the cinema
aller en ville	go into town
aller à la plage	go to the beach
faire les magasins	go shopping
faire les randonnées	go walking
faire du canoë-kayak	go canoeing
faire du ski	go skiing

Elle est comment, ta région ?	What's your area like?
Dans ma région…	**In my region…**
il y a des..	**There are some…**
il y a beaucoup de…	**There's lots of…**
il y a trop de…	**There's too many…**
il y a plein de…	**There's plenty of…**
il y a peu de…	**There's not many of…**
il n'y a pas de…	**There isn't any…**
lacs	lakes
touristes	tourists
champs	fields
plages	beaches
voitures	cars
montagnes	mountains
bâtiments	buildings
rivières	rivers
jardins publics	parks
distractions pour les jeunes	things for young people to do
magasins	shops
forêts	forests

The verb POUVOIR (To be able to)

The verb POUVOIR is an irregular modal verb. It is usually followed by an **infinitive** :

*On peut **aller** au cinéma* – You can **go** to the cinema

Je peux	I can
Tu peux	You can
Il/Elle/On peut	He/She/We can
Nous pouvons	We can
Vous pouvez	You (pl). can
Ils/Elles peuvent	They can

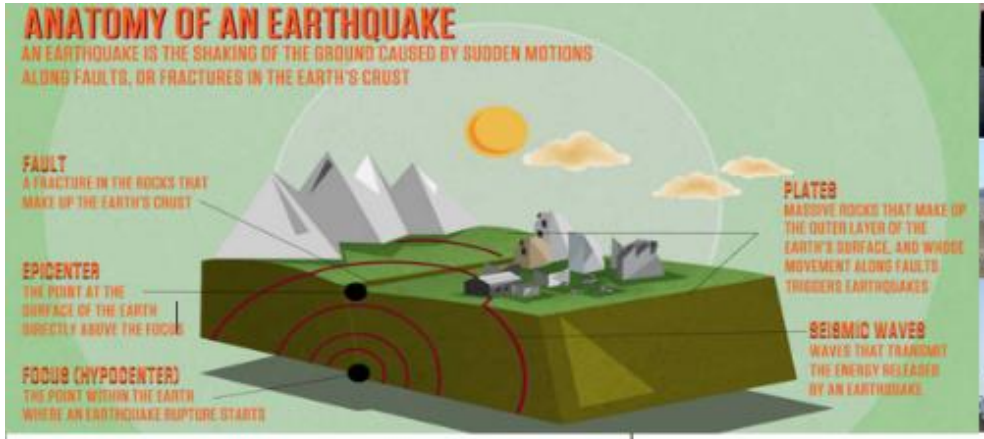
The verb DEVOIR (To have to/must)

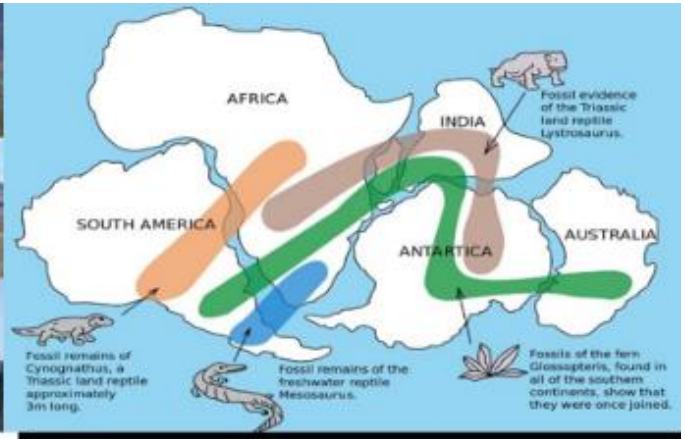
The verb DEVOIR is an irregular modal verb. It is usually followed by an **infinitive** :

*Je dois **laver** la voiture* – I have to **wash** the car

Je dois	I have to
Tu dois	You have to
Il/Elle/On doit	He/She/We have to
Nous devons	We have to
Vous devez	You (pl). have to
Ils/Elles doivent	They have to

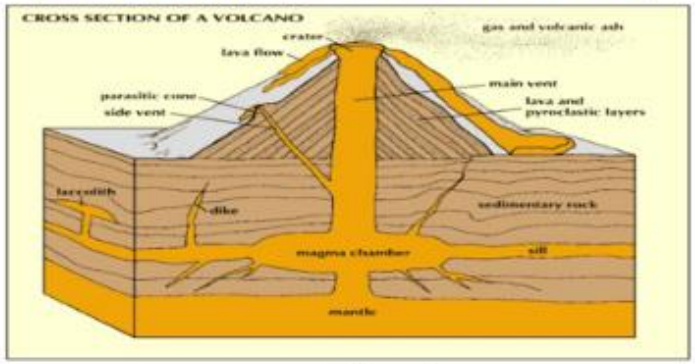
Qu'est-ce que tu dois faire à la maison	What do you have to do at home?
Je dois…	**I have to…**
Ma sœur/Mon frère doit…	**My sister/brother has to…**
laver la voiture	wash the car
ranger ma chambre	tidy my room
nourrir les animaux	feed the animals
faire la cuisine	do the cooking
faire la vaisselle	wash the dishes
garder le bébé	look after the baby
faire la lessive	do the washing
sortir la poubelle	take the rubbish out
passer l'aspirateur	do the vacuuming
promener le chien	walk the dog



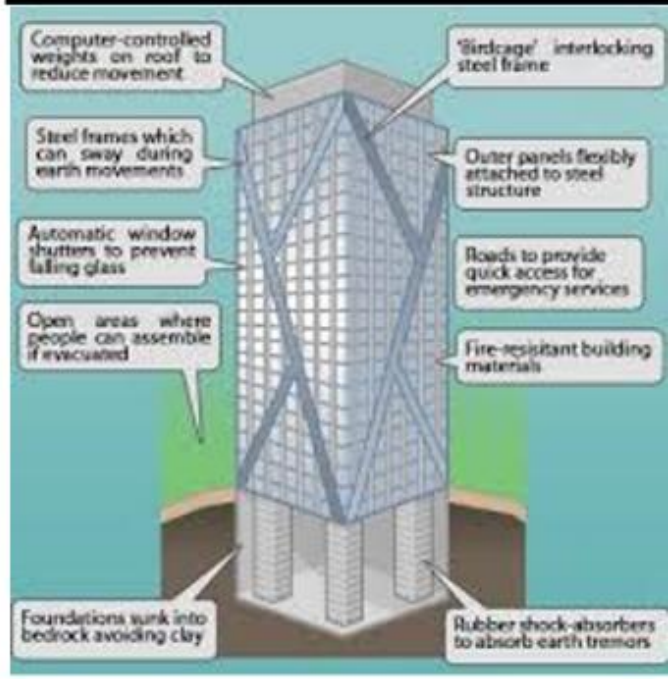


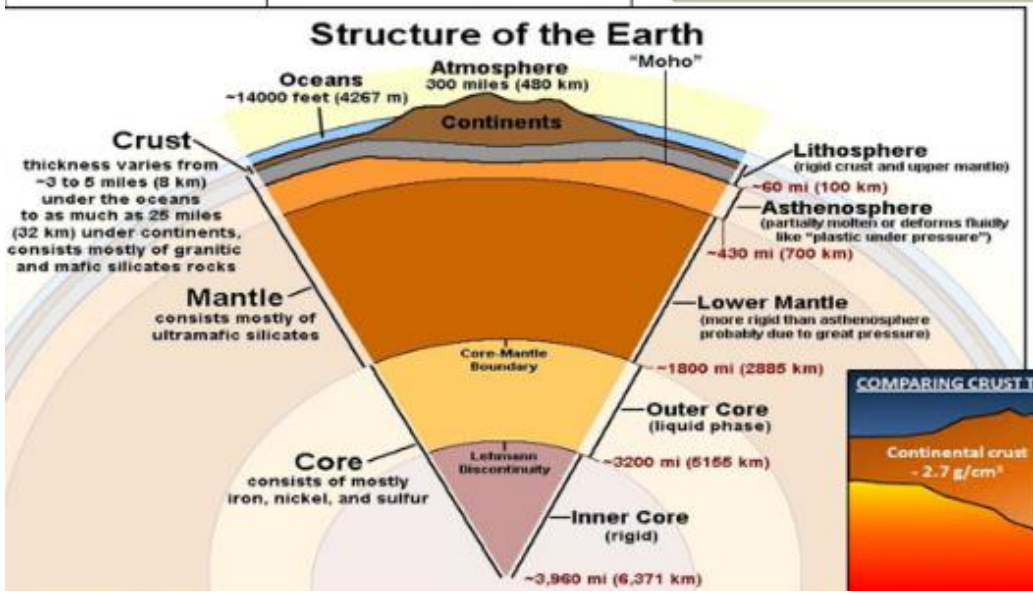
Volcanic Hazards	
Lahars	Volcanic mudslide
Pyroclastic flow	Super-heated explosion
Flooding	Glacier melt or river overflow
Ash clouds	Dense ash plumes
Volcanic bombs	Flying molten rock

Sections of a volcano

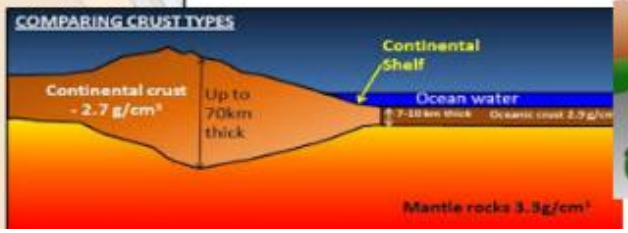


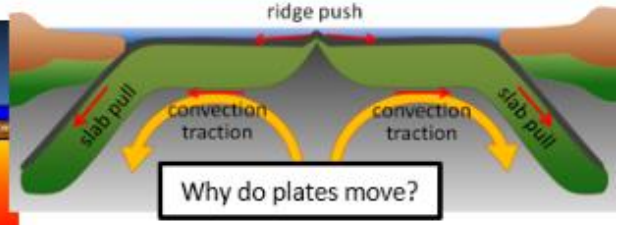
YEAR 8 Plate Tectonics





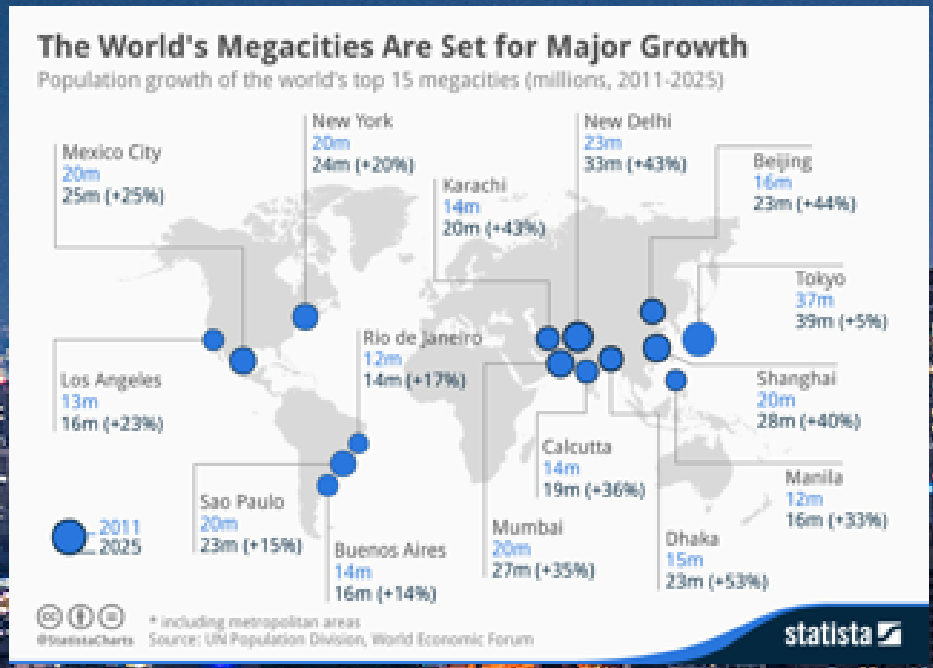
Tectonic benefits
Fertile soil
Geothermal energy
Tourism
Natural resources





Year 8 Geography: Population

Key Term	Definition
Population	The number of people living in a geographical area. The population of the world is approximately 7.8 billion people.
Megacity	A large city with a population over 10 million.
Population density	The number of people per unit of area, usually quoted per square kilometre or square mile.
Birth rate	The number of babies born every year per 1000 people in a population.
Death rate	The number of deaths that occur every year per 1000 people in a population.
Population pyramid	A graphical illustration that shows how many males and females of different age groups are in a population.



Key ideas

The world population is expected to reach **8 billion people by 2023**. Currently the highest levels of population growth are in the continents of Asia and Africa. Population growth in most parts of Europe is slowing or declining.

An **ageing population** occurs due to rising life expectancy and a declining birth rate within a population. This causes an increase in the average age of the population. In **Japan**, the number of people aged 65 years or older nearly has quadrupled in the last forty years, to 33 million, while at the same time the birth rate has declined. This has created social and economic problems for Japan.

The **One Child Policy** was a policy introduced in **China**, between 1979 and 2015, that limited most families to only having one child. The Chinese government was afraid that its birth rate was too high, and it would not be able to care for its population. The policy was relaxed in 2015 and most families are now permitted to have two children.

Y8 German – Spring Term 1

Im Kino	***At the cinema***
der Actionfilm(e)	*action film*
das Drama (Draymen)	*drama*
der Fantasyfilm(e)	*fantasy film*
der Horrorfilm(e)	*horror film*
die Komödie(n)	*comedy*
die Liebeskomödie(n)	*romantic comedy*
der Science-Fiction-Film(e)	*science fiction film*
der Zeichentrickfilm(e)	*cartoon*
ich bin ins Kino gegangen	*I went to the cinema*
ich habe zu Hause eine DVD gesehen	*I watched a DVD at home*

Wie hast du den Film gefunden?	***What did you think of the film?***
ich habe den Film … gefunden	*I thought the film was …*
furchtbar	*awful*
blöd	*stupid*
gruselig	*creepy*
interessant	*interesting*
langweilig	*boring*
kindisch	*childish*
lustig	*funny*
romantisch	*romantic*
schrecklich	*terrible*
spannend	*exciting*
unterhaltsam	*entertaining*
der Schauspieler(-)	*actor/s*
die Schauspielerin(nen)	*actress/es*

Meinungen	***Opinions***
das finde ich (un)fair	*I think that's (un)fair*
das geht mir auf die Nerven	*that gets on my nerves*
das ist (un)gesund	*that's (un)healthy*
das ist aktiv	*that's active*
das ist passiv	*that's passive*
das macht (un)fit	*that makes you (un)fit*
das macht Spaß	*that's fun*
das stimmt (nicht)	*that's (not) true*
du hast recht	*you're right*
ich bin (nicht) süchtig	*I'm (not) addicted*

Fragen	***Questions***
Wann?	*When?*
Wer?	*Who?*
Wie viel / viele?	*How much / many?*
Wo?	*Where?*
Warum?	*Why?*
Was?	*What?*
Wie?	*How?*

Was liest du gern?	***What do you like reading?***
ich lese gern / nicht gern…	*I like / don't like to read*
ich lese lieber	*I prefer reading*
ich lese am liebsten	*I like reading most of all*
der Roman(e)	*novel(s)*
die Zeitschrift(en)	*magazine(s)*
die Zeitung(en)	*newspaper(s)*
das Fantasybuch(-ücher)	*fantasy book(s)*
das Sachbuch(ücher)	*factual / non-fiction*
die Biografie(n)	*biography*

Wo liest du?	***Where do you read?***
im Bus / Zug	*on the bus / train*
im Garten / Park	*in the garden / park*
im Bett	*in bed*
im Schlafzimmer	*in the bedroom*
in der Pause / Schule	*at break / at school*
in der Badewanne	*in the bath*
auf dem Sofa / Klo	*on the sofa / loo*
auf dem Hof	*on the school yard*
auf dem Handy	*on the mobile phone*
am Computer	*on the computer*

Im Fernsehen	***On the TV***
Was siehst du gern?	*What do you like watching?*
ich sehe (sehr/nicht) gern…	*I (really/don't) like watching…*
ich hasse	*I hate*
ich gucke / sehe	*I watch*
die Dokumentation(en)	*documentary*
das Musikvideo(s)	*music videos*
die Nachtrichten	*news*
die Seifenoper(n)	*soap opera*
die Serie(n)	*series*
die Sportsendung(en)	*sports programme*

Bist du süchtig?	***Are you addicted?***
eine Studen pro Tag	*an hour a day*
zwei bis drei Stunden pro Tag	*two to three hours a day*
nicht mehr als drei Stunden pro Tag	*no more than three hours per day*
mehr als… Stunden	*more than… hours*
nur am Wochenende	*only at the weekend*
nach den Hausaufgaben	*after homework*
von 20 bis 22 Uhr	*from 8pm to 10pm*

Five key words	
er sieht	*he watches*
der Zeichentrickfilm	*cartoon*
die Zeitung	*newspaper*
die Zeitschrift	*magazine*
am Wochenende	*at the weekend*

Y8 German – Spring Term 2

Das Frühstück	*Breakfast*
der/das Joghurt	*yoghurt*
der Käse	*cheese*
der Schinken	*ham*
der Speck	*bacon*
der Toast	*toast*
der Kaffee	*coffee*
der Tee	*tea*
der Orangensaft	*orange juice*
das Butter	*butter*
die Marmelade	*jam*
die Orangenmarmelade	*marmalade*
die Milch	*milk*
die heiße Schokolade	*hot chocolate*
das Brötchen	*roll*
das Obst	*fruit*
das Ei/Eier	*egg(s)*
die Frühstücksflocken	*cereal*

Was isst du zum Frühstück? ***What do you eat for breakfast?***

ich esse einen Joghurt *I eat a yoghurt*
ein Brötchen mit Butter und Marmelade *a roll with butter and jam*
ich essen kein Frühstück *I don't eat any breakfast*

Die Speisekarte	*Menu*
(der) Fisch mit Reis und Erbsen	*fish with rice and peas*
(der) Flammkuchen	*Flammkuchen*
mit Sauerkraut	*with pickled cabbage*
(die) Bratwurst mit Eiern	*fried sausage with eggs*
(die) Gemüsesuppe mit Brötchen	*vegetable soup with a roll*
(das) Hähnchen mit Pommes und Karotten	*chicken with chips and carrots*
(das) Schnitzel mit Kartoffeln	*pork fillet in breadcrumbs with potatoes*

Die Mahlzeiten	*Mealtimes*
die Vorspeise	*the starter*
die Hauptspeise	*the main*
die Nachspeise	*dessert*

Wie ist das?		*What is it like?*	
süß	*sweet*	lecker	*delicious*
sauer	*sour*	köstlich	*tasty*
salzig	*salty*	gesund	*healthy*
scharf	*spicy*	ungesund	*unhealthy*
vegetarisch	*vegetarian*		
ekelhaft	*disgusting*		

Im Restaurant	*In the restaurant*
Was nimmst du?	*What are you having?*
ich nehme…	*I'll take / I'm having…*
den Fisch	*the fish*
die Gemüsesuppe	*the vegetable soup*
das Hähnchen	*the chicken*

Mein Lieblingssandwich	*My favourite sandwich*
das Ketchup	*ketchup*
der Senf	*mustard*
der Thunfisch	*tuna fish*
die Ernussbutter	*peanut butter*
die Gurke	*gherkin*
die Mayo	*mayonnaise*
die Olive	*olive*
der Käse	*cheese*

Gesund bleiben	*Staying healthy*
man muss…	*One / you / people must…*
acht Stunden schlafen	*sleep for eight hours*
wenig Fett und Zucker essen	*eat little fat and sugar*
viel Obst und Gemüse essen	*eat lots of fruit and vegetables*
mehr Wasser trinken	*drink more water*
früh ins Bett gehen	*go to bed early*
drei Stunden trainieren	*exercise for three hours*

Oft benutze Wörter	*High-frequency words*		
normalerweise	*usually*		
gestern	*yesterday*		
bis	*until*	in	*in / into*
früh	*early*	auf	*on*
spat	*late*		
mehr	*more*		
wenig	*little*		
weniger	*less / fewer*		
oft	*often*		
besser	*better*		
mein *my*	dein *your*	sein *his*	ihr *her*
mit *with*	ohne *without*		

Five key words	
der Schinken	*ham*
er isst	*he is eating / he eats*
das Frühstück	*breakfast*
weniger	*less / fewer*
Obst und Gemüse	*fruit and vegetables*

History

Reasons for the industrial revolution, factories, transport and inventions.

Chronology	
1706	First turnpike trust set up.
1750	Considered to be the start of the Industrial Revolution
1769	Spinning frame was invented. They were too big to use as home and factories were created.
1781	James Watt developed a new steam engine that could turn a wheel.
1804	Richard Trevithick shows his new invention the steam train.
1830	Liverpool to Manchester railway opened.
1831	Faraday discovered how to generate electricity.
1833	Factory Act- Stopped children under 9 working in factories.
1833	Brunel opened the Great Western Railway
1851	Great Exhibition in Hyde Park London.
1876	Alexander Graham Bell invented the telephone.

Key Words	Definition
Enclosure	Areas of land were divided up into fields owned by one person.
Revolution	A great change
Domestic system	Families working at home producing goods together.
Selective Breeding	Allowing the best animals to breed, so only the best characteristics of animals are passed on.
Mechanised	Machines are used rather then just people.
Pauper Apprentice	Children often orphans that were sent to work in factories by local authorities.
Coal	A hard back rock that burns for much longer then wood.
Iron ore	A rock containing iron that can be dug from the ground. Could be used to create iron tools.
Turnpike Road	A road that is owned by a group of businessmen, who repair it an charge people to use it.
Canal	Long man made channels filled with water that could be used to transport heavy and fragile goods.
Luddites	Groups of people that rebelled over fear of losing their jobs, to new machines.
Great Exhibition	A show where great inventions, technology and workmanship was shown to the public.
British Empire	A collection of countries and colonies (areas) that Britain controls around the world.
Entrepreneurs	People that could turn new ideas and inventions into money.

Key People	Role
James Watt	Developed the steam engine so it could turn wheels, and power machines.
Robert Owen	Factory owner who believed in treating his workers well.
Richard Trevithick	Credited with inventing the steam train
George Stephenson	Inventor, who developed steam trains including the Rocket.
Michael Faraday	Inventor who was expert with electricity. Invented the electric motor.
Ada Lovelace	Programmer of an adding machine. Viewed as the worlds first computer programmer.
Isambard Kingdom Brunel	Inventor, designed railways, bridges, ships and communication cables from Britain to America.
Henry Bessemer	Invented a cheap and easy way to make steel.
Alexander Graham Bell	Invented the telephone.

Key discoveries / ideas

Industrial Revolution
A time when the manufacture of goods moved out of people's homes into the new factories. Machine made goods in fraction of the time it would have taken a person by hand.

Factories create towns
Big factories are built in areas. These pull workers in from the surrounding countryside. Houses are build for these workers, and businesses develop to supply the workers with what they need.

Transportation
New and better forms of transport were needed to move goods and people. Transport was needed to take goods from factories to markets or ports so they could be shipped around the world.

Key Themes
Protest
Society
Economy
Empire

History

Industrial revolution: Living and working conditions, disease, crime and punishment

Chronology	
1749	The Bow Street Runners set up
1823	Prison Reform Act. Jailers were paid by the government not the prisoners. Male and female prisoners were kept separately.
1829	The Metropolitan Police Force set up.
1831	First major Cholera outbreak in Britain.
1842	Chadwick's report into conditions in towns and cities
1848	The public Health Act allowed councils to spend public money on cleaning up towns and cities.
1854	John Snow finds that Cholera was caused by contaminated drinking water.
1870	London sewer system was completed.
1888	Jack the Ripper kills at least 5 women in Whitechapel London.

Key Words	Definition
Back to back houses	A housing system that was built around a courtyard where houses were built back to back.
Overcrowding	Large numbers of people living in a small area. 40 people were found to be living in one room in Liverpool in 1847.
Public health	The General heath and well-being of ordinary people.
Typhoid	Disease caused by contaminated water. Gives headaches, fever and diarrhoea.
Tuberculosis	Disease of the lungs, causes shortness of breath and chest pains
Cholera	Caused by contaminated water. Gives diarrhoea, makes people turn black and blue.
Sewers	The system of underground pipes and tunnels that remove swage from towns and cities.
Classes	Divisions in society based on income, housing, family tradition and social life.
The watch	People in bigger towns that were paid to patrol the streets at night.
Magistrates	Volunteers that could question suspects in court and punish people for minor crimes. They would send more serious crimes to professional courts.
Constables	Unpaid volunteers who would organise the watch and help magistrates by catching criminals.
Capital offence	Crime that you could be executed for committing. Often by public hanging.
Transportation	Being sent overseas often to the USA or Australia after being convicted of committing a crime.
The Bow Street Runners	Group that would catch criminals around Bow Street in London. Especially good at stopping highway robberies.
The Metropolitan Police	Police force set up in London.

Key People	Role
Edwin Chadwick	Wrote a report about poor conditions in towns and cities, thought diseases were caused by bad air and deaths happen where there is polluted water.
John Snow	Made the link between contaminated water and Cholera.
Florence Nightingale	Led a team of nurses during the Crimean War, improved conditions for soldiers and then revolutionised nursing in Britain.
Joseph Bazalgette	Created the sewage system in London.
Henry and John Fielding	Set up the Bow Street Runners
Robert Peel	Set up the Metropolitan Police Force
Elizabeth Fry	Prison reformer. She taught women and children in prison and campaigned for better conditions in prisons
Jack the Ripper	Serial killer in Whitechapel who was never convicted.

Key discoveries / ideas
The two biggest problems for public Health in Britain came from overcrowding in towns and lack of understanding of disease.
The setting up of the Metropolitan Police was a turning point in British History from the people policing themselves to being controlled and policed by the government.

Key Themes
Society
Economy
Democracy

MATHEMATICS

Year 8 Knowledge Organiser
PERIMETER

Key Concept

2D Shapes

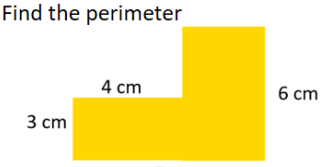
	Parallelogram
	Trapezium
	Right-angled triangle
	Isosceles triangle
	Equilateral triangle

Key Words

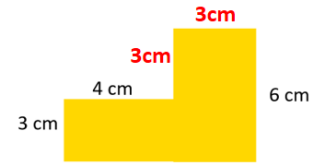
Perimeter: The distance around the outside of the shape.
Unit of measure: This could be any unit of length cm, inch, m, foot, etc.
Dimensions: The lengths which give the size of the shape.
Circumference: The perimeter of a full circle.

Examples

Find the perimeter



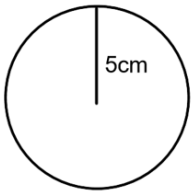
Step 1 – Find the missing lengths.



Step 2 – Add the lengths

3 + 4 + 3 + 3 + 6 + 7 = **26 cm**

Find the circumference to 1dp



Radius = 5, Diameter = 10

$Circumference = \pi \times d$

$Circumference = \pi \times 10$

$Circumference = 31.4\ cm$

Tip

- Always include units with your answer.
- If you don't have a calculator use pi as 3.14.

Formula

$Circumference = \pi d$

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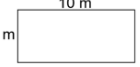
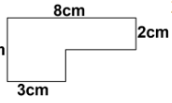
Clip Numbers
534-550, 691, 822

Questions – Find the perimeter of each shape to 1dp

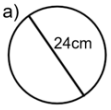
1) a)



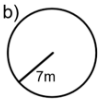
b)



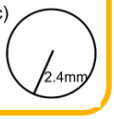
2) a)



b)



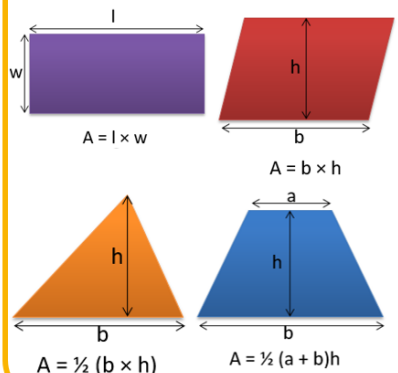
c)



ANSWERS: 1) a) 28 m b) 26 cm 2) a) 75.4 cm b) 44.0 m c) 15.1 mm

Year 8 Knowledge Organiser
AREA AND PERIMETER

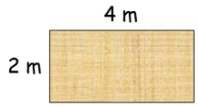
Key Concepts
Area



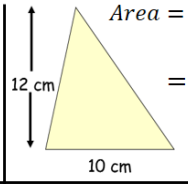
Key Words

Area: The amount of square units that fit inside the shape.
Perimeter: The distance around the outside of the shape.
Dimensions: The lengths which give the size of the shape.
Shapes: Rectangle, Triangle, Parallelogram, Trapezium, Kite.

Examples

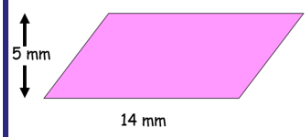


$Area = 2 \times 4 = 8m^2$



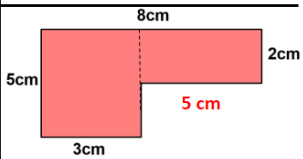
$Area = \frac{1}{2}(10 \times 12)$

$= 60cm^2$



$Area = 5 \times 14$

$= 70mm^2$



$Area = (5 \times 3) + (2 \times 5)$

$= 25cm^2$

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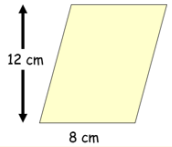
Clip Numbers
554 – 559

Tip

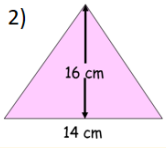
Always remember units. These units are squared for area.
mm^2, cm^2, m^2, etc

Questions – Find the area.

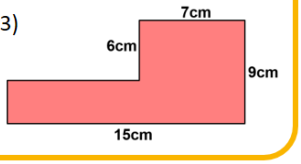
1)



2)



3)

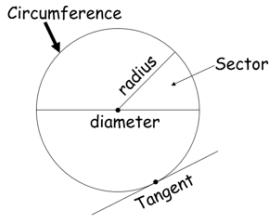


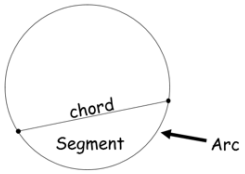
ANSWERS: 1) 96 cm^2 2) 112 cm^2 2) 87 cm^2

MATHEMATICS

Year 8 Knowledge Organiser
CIRCLES AND COMPOUND AREA

Key Concepts





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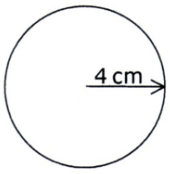
Clip Numbers
534-547, 556, 592

Key Words

Diameter: Distance from one side of the circle to the other, going through the centre.
Radius: Distance from the centre of a circle to the circumference.
Chord: A line that intersects the circle at two points.
Tangent: A line that touches the circle at only one point.
Compound (shape): More than one shape joined to make a different shape.

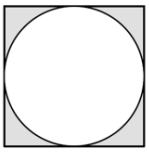
Examples

Find the area and circumference to 2dp.



$$Circumference = \pi \times d$$
$$= \pi \times 8 = 25.13cm$$
$$Area = \pi \times r^2$$
$$= \pi \times 4^2 = 50.27cm^2$$

Find shaded area to 2dp.



$$Square\ area = 10 \times 10$$
$$= 100m^2$$
$$Circle\ area = \pi \times r^2$$
$$= \pi \times 5^2$$
$$= 78.54\ m^2$$
$$Shaded\ area = 100 - 78.54 = 21.46m^2$$

Tip
If you don't have a calculator you can leave your answer in terms of π.

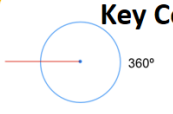
Formula
$Circle\ Area = \pi \times r^2$
$Circumference = \pi \times d$

Questions
1) Find to 1dp the area and circumference of a circle with:
a) Radius = 5cm b) Diameter = 12mm c) Radius = 9m
2) Find the area & perimeter of a semi-circle with diameter of 15cm.

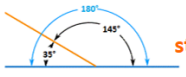
ANSWERS: 1) a) A = 78.5cm², C = 31.4cm b) A = 113.1mm², C = 37.7mm
c) A = 254.5m², C = 56.5m 2) A = 88.4cm², P = 38.6cm

Year 8 Knowledge Organiser
ANGLES (lines/points)

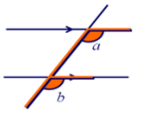
Key Concepts



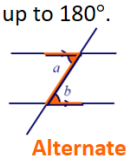
Angles at a point add up to 360°.



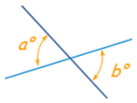
Angles on a straight line add up to 180°.



Corresponding angles are equal.



Alternate angles are equal.



Vertically opposite angles are equal.

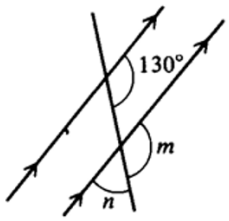
Key Words

Intersect: Two lines which cross.

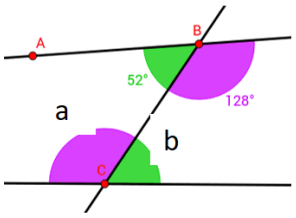
Parallel: Two lines which never intersect. Marked by an arrow on each line.

Transversal: A line which intersects two parallel lines.

Examples



m = 130° as corresponding angles are equal.
n = 50° as angles on a line add to 180°



a = 128° as alternate angles are equal
b = 52° as angles on a straight line add up to 180°

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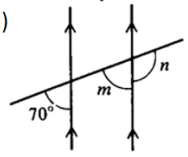
Clip Numbers
477 to 483, 812 to 815

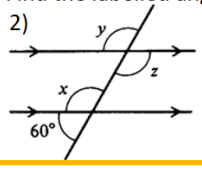
Tip
These angle properties can be used alongside all the other angle properties that you have learnt.

Questions – Find the labelled angles, give reasons.

1)



2)



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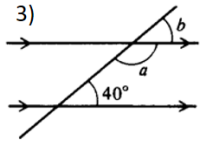


ANSWERS: 1) m = 70°, n = 110° 2) x = 120°, y = 120°, z = 120° 3) a = 140°, b = 40°

Music - Blues Music

An introduction to Blues Music	
Blues is a style of music that originated from African-American slaves. The basic musical pattern is based upon a chord pattern known as the 12 Bar Blues, and eventually provided the basis for Rock and Roll music in the 1950s	
Key Term – Chords/Harmony	
Reviewing and developing knowledge of chords and triads from pervious units (Y7/T2, Y8/T1)	
12 bar Blue Chord Sequence	I I I I IV IV I I V IV I V
Walking Bass	Bass accompaniment which creates a feeling of regular movement, like walking, following the notes from the 12 Bar Blues Chord Sequence.
Key term - Melody	
Reviewing and developing knowledge of melody and melodic construction from pervious units (Y7/T1)	
Blues Scale	A scale with flattened 3rd and 7th degrees to create 'Blue Notes'
Pentatonic Scale	A pentatonic scale has five notes, and many melodies in blues and other genres are made from the pentatonic scale.
Riff	A short repeating pattern of notes. In classical music this is also called and 'Ostinato'
Improvisation	Creating or performing spontaneously or 'on the spot'.
Call & response	One person plays (or sings) a musical phrase which is then responded to by a group performing a different phrase, like a musical conversation.

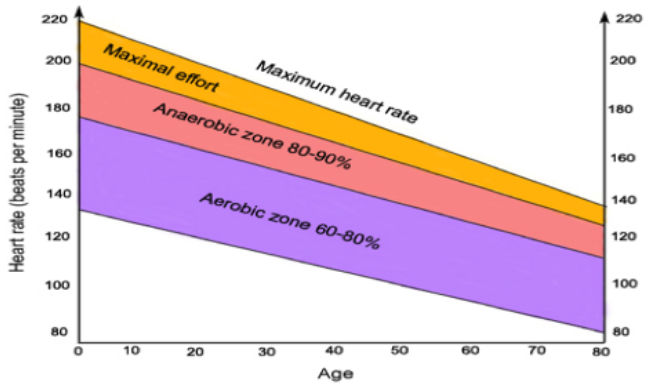
Key term - Rhythm	
Swung Rhythms	A distinctive rhythmic style often found in the Blues and Jazz music where quavers are played in a triplet rhythm
Syncopation	A way of making music more rhythmically interesting by playing ‘off the beat’
Instruments	
Older Blues songs are generally a voice accompanied by banjo or acoustic guitar. As the style developed, arrangements became more complex and used instruments such as Drums, Double Bass, Piano, and jazzier instruments such as saxophone and trumpet.	
Blues lyrics	
The lyrics of Blues songs were generally sad, reflecting the lives of the slaves. The lyrics are structured in three lines, with lines 1 and 2 the same with line 3 different but often rhyming.	

Listening	Identification and application of musical features of the blues
	Understanding the context of lyrical context of Blues Music
Performing	Performing and improvising different elements of Blues Music
	Working in pairs and/or groups
Composing	Compose a short improvised melody based upon the Blues Scale
Contextual knowledge	Develop Historical knowledge of the development of Blues Music and the Slave Trade. Research famous Blues musicians

8.3 KS3 Core PE Knowledge Organiser: Exercise Intensity

Key Terms	
Key Term	**Definition**
Heart Rate (HR)	The number of **heart beats per minute**, measured in **beats per minute**.
Resting Heart Rate (RHR)	The number of **heart beats per minute (at rest)**, measured in **beats per minute.**
Maximum Heart Rate (MHR)	The **maximum number of beats** your heart can beat **per minute.** This is measured in beats per minute. **This is calculated as 220 - age.**
Recovery Heart Rate	The fitter you are, the faster the recovery of your heart rate. Your heart rate **drops most sharply in the first minute** after you stop exercising; it should then **fall about 20 beats a minute**—a drop of less than **12 beats a minute** is considered abnormal.

Training Zones



Calculate - Requires computation in relation to fitness data

Training Thresholds	
Key Term	**Definition**
Aerobic Training	**60-80%** of your maximum heart rate.
Anaerobic Training	**80-90%** of your maximum heart rate.
Muscular Endurance	**Low Weight Vs High Repetitions & Sets**
Muscular Strength	**High Weight Vs Low Repetitions & Sets**

Worked example: Calculate the aerobic target zone for a 20 year old athlete.

Fist you need to calculate the athletes maximum heart rate which would be 220-20 (his age) = 200bpm (1). The aerobic target zone is 60-80% of the MHR (1). 60% of 200 is 120, 80% is 160. (1). So the athletes aerobic target zone would be between 120 and 160bpm. If they were in this range they would be working aerobically (1) working on their endurance (1).

Your Turn: Try these questions

1) Define the term heart rate. 2) How would you develop muscular strength? 3) How would you determine that an athlete had stopped exercising? What is this called?

Misconceptions

- Heart rate zones need to be calculated using maximum HR (220-age)
- Aerobic involves using oxygen and is used for longer duration events working on endurance.
- Anaerobic is without oxygen and is used for shorter duration higher intensity using strength and power.
- Co-ordination can be more than just hand-eye, can be foot-eye or moving arm and legs at the same time.
- Speed can also refer to moving a body part – e.g. moving the arm to play a shot in table tennis.

Key Vocabulary

Aerobic, anaerobic, heart rate, resting, recovery, weight, repetitions, maximum, maximal, component, stimulus, voluntary, joints, static

Your Turn: Try these questions

1) Define the term flexibility. 2) State 2 sports that would require power. 3) Explain the importance of agility and speed for a 100m sprinter.

Explain - Requires a justification/exemplification of a point. The answer must contain some linked reasoning

8.4 KS3 Core PE Knowledge Organiser: Components of Fitness

State - Generally involves the recall of a fact

Components of Fitness		Worked Examples – For each component state an athlete that would use it and explain why.
Component	**Definition**	
Body Composition	A measure of the percentage of fat, muscle, bone, water and vital organs that make up your body weight.	Athletes require a suitable body composition for their sport. E.g.; a **rugby player** requires a larger **proportion of muscle** than a **dancer** as they need **strength to make tackles**.
Coordination	The ability to move two or more body parts together, accurately and smoothly.	**Tennis** players require excellent levels of **coordination** to be able make **contact with the ball and racket** at the same time to **perform accurate shots**.
Power	The ability to combine strength with speed to perform a strong muscular contraction very quickly.	**Long jumpers** require great amounts of **power** to be able **to push off the ground** to propel themselves into the air in order to **travel a long distance** in their jump.
Reaction Time	The amount of time it takes you to respond to a stimulus.	**Sprinters** requires a quick **reaction time** to be able to **get out of their starting blocks as quickly as possible** at the beginning of a race to give **them a better chance of winning**.
Speed	The rate at which your body, or part of your body, is able to perform a movement.	**Rugby players**, particularly wingers, require high levels of **speed** to be able to travel down the wing at a **fast pace to be able to score a try**.
Balance	Your ability to keep your body steady, both when in a static position and when moving.	**Dancers** require large amounts of **balance** to ensure that they **maintain control** when in a **static position**, such as **standing on one leg**. This will give them a better **aesthetic score**.
Agility	A measure of how quickly you can change the position of your body, while keeping your entire body under control.	**Footballers** require high levels of **agility** to be able to **change direction** at speed when **running with the ball** to get **around their opponents** to attack with a bigger threat.
Flexibility	The ability of your joints to move through their full range of movement.	**Gymnasts** require large amounts of **flexibility** to be able to move their **joints through their full range of motio**n when performing moves and routines to a **higher standard.**
Muscular Endurance	A measure of the length of time your voluntary muscles can contract without getting tired. This can be repeated muscle contractions, or one contraction held for a long period of time.	**Boxers** require good **muscular endurance** to be able to **repeatedly contract** their muscles when **throwing punches** many times without getting tired to try **enforce a knockout**
Strength	The amount of force a muscle can generate when it contracts to overcome resistance.	**Powerlifters** require excellent **muscular strength** to be able to generate l**arge amounts of force** when lifting **heavy weights**.
Cardiovascular Fitness	A measure of how efficiently your body can deliver oxygen and nutrients, such as glucose, to your working muscles during exercise, and also carry away waste products.	**Marathon runners** require excellent **cardiovascular fitness** to be able to use the whole body to run for the **entire duration of the race** without getting **tired**.

Religious Studies: The Environment

What are the issues with the environment?

In recent years people have become very concerned about the impact humans are having on the environment and the way we are changing it. Climate change, global warming, deforestation – these are all key areas of concern. Linked to this is the way humans treat animals – vegetarianism, veganism, animal testing… where do we draw the line between use and abuse? Some say the environment is the biggest concern for the 21st century, with our life style causing untold harm for the future.

Christianity, Judaism and God's creation

Jews and Christians believe that God created the universe, but they may disagree about how. Many are happy to accept scientific theories but others follow the traditional accounts in Genesis. However creation happened they believe that humanity was given a special role within the process of creation, above animals and the rest of the environment. Some talk about humans being given dominion, others – probably the majority today – prefer the term 'stewardship' with its idea of looking after God's creation.

A Hindu perspective

Hinduism is an eastern religious tradition which says all living beings contain a soul, which suggests there is greater equality between humans and animals. Life is cyclic, with animals, plants and people all being valued as part of a creation where everything should be in harmony. Ahimsa is a key Hindu principle, and many Hindus are vegetarian as killing animals for meat causes suffering. Cows are seen as especially sacred and are protected by law in India – the Vedas forbid the killing of cows and the cow is seen as more useful to humans alive than dead. In India there are goshallas, or retirement homes for cows.

A Jain perspective

Jains also believe in ahimsa, but seem to take it further. For Jains almost everything is seen as living, with consciousness of some sort, and all life is sacred regardless of race, caste or species. They believe in the principle of interconnectedness, harm done to other beings is seen as harm done to oneself. A Jain monk may wear a mask to stop flies being accidentally swallowed, using a broom to remove bugs gently from their path. Humans are not separate from other life forms and we are certainly not the top of creation.

What do Humanists say?

Do religious beliefs actually hinder someone from looking after the environment? Humanists say we have only one life, it's up to us to make best use of it – does that lead us to take better care of our planet? H4BW = Humanists for a Better World works to protect the environment. Greta Thunberg is seen by some as a modern prophet for environmental issues. Is she religious? She doesn't mention it in her campaigns, so religion seems to be irrelevant. Should religious views, or lack of them, be irrelevant as we work together to save Planet Earth? What should we do to make a difference?

Key Word	Definition
Environment	The natural world, and habitats.
Creation	How did the world / universe come to exist?
Stewardship	Humans have responsibility to look after the world.
Dominion	Humans have power over the world, we rule it.
Global Warming	The increasing temperature of the world, caused by human activities etc.
Climate Change	Changes in temperature ie ice age.
Vegetarian	Not eating meat.
Vegan	Not eating meat or dairy products, or using animal products eg in clothing.
Animal testing	Using animals to test drugs or make up on.
Souls	The spiritual side of a human, may survive death or be a link with God? Hindus say all
Ahimsa	Non-violence / respect for life.
Interconnectedness	The idea that everything /being is linked together and is interdependent.

Key Quotes

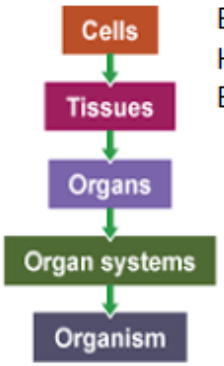
Judaism / Christianity: "When I look at the sky, which you have made, at the moon and the stars which you set in their places – what is man, that you think of him; mere man, that you care for him? Yet you made him inferior only to yourself… you appointed him ruler over everything you have made." (Psalm 8)

Hinduism: "Without the killing of all living beings, meat cannot be made available, and since killing is contrary to the principles of ahimsa, one must give up eating meat." (from the Maunsmriti)

Jainism: "There is no quality of soul more subtle than non-violence and no virtue of spirit greater than reverence for life." (Mahavira)

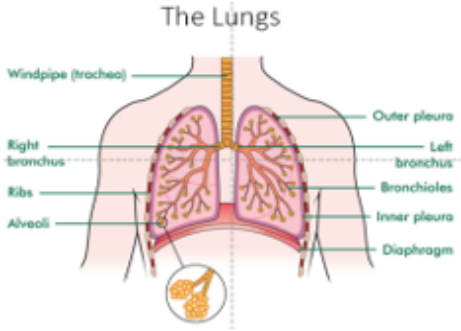
Greta: "People are suffering. People are dying. Entire ecosystems are collapsing. We are in the beginning of a mass extinction…" (speech to UN Climate Action Summate)

Year 8 Organ Systems Knowledge Organiser



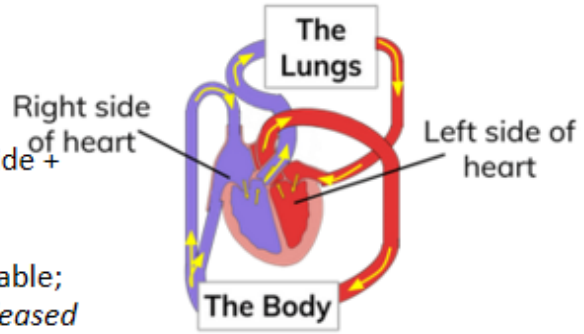
CIIRCULATORY SYSTEM.

Blood vessels (arteries, veins and capillaries).
Heart (left & right atrium, left & right ventricles).
Blood.



RESPIRATION.

Aerobic respiration,
oxygen + glucose → carbon dioxide + water + *energy released*
Anaerobic respiration,
happens when oxygen isn't available;
Glucose →lactic acid+ *energy released*

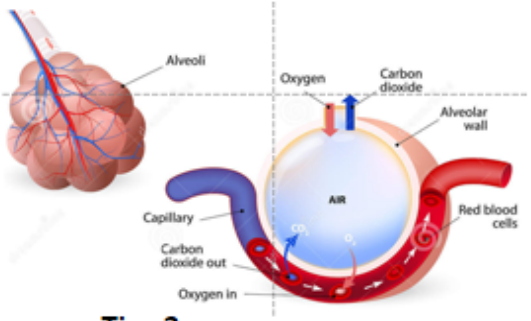


DOUBLE CIRCULATORY SYSTEM.

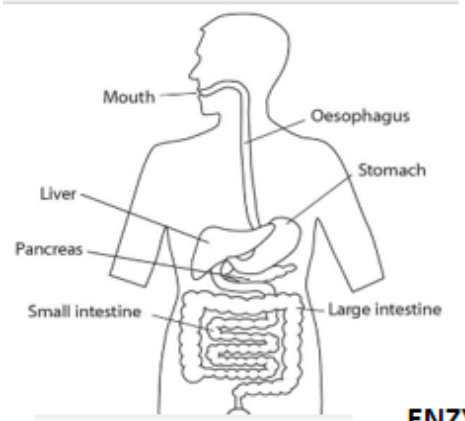
Blood passes through the heart twice.
The right side pumps deoxygenated blood to the lungs.
The left side pumps oxygenated blood to the body

Gaseous exchange.

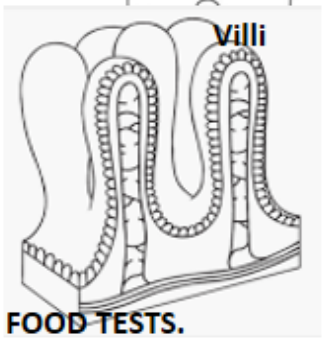
This is the swapping of oxygen from the alveoli by diffusion into the blood for carbon dioxide.



Digestion is the process by which food is broken down to be absorbed into the blood stream and distributed around the body.



Mouth- physical breakdown of food
Oesophagus- takes food to the stomach
Stomach- digestion of protein
Liver- produces bile
Pancreas- produces enzymes and insulin
Small intestine- absorption of nutrients
Large intestine- absorption of water



ENZYMES

An enzyme breaks down large food molecules into smaller molecules
Lipases break down lipids and fats.
Proteases break down proteins.
Carbohydrases break down carbohydrates.

Villi, finger-like projections with large surface area to aid absorption of nutrients into the blood

FOOD TESTS.

Starch; iodine turns black .Glucose; Benedicts, blue to orange.
Protein; Biurets, blue to purple.Fats; ethanol, clear to cloudy

Tier 2

Digestion
Saliva
Absorbed
Stomach
Rectum anus
Bacteria
Microorganism
Model
Diffusion
Glucose
Aerobic
Respiration
Combustion
breathing
ventilation
red blood cells
blood vessels

Tier 3.

salivary glands
liver
ingestion
small intestine
oesophagus
faeces
large intestine
egestion
enzyme
catalyst
plasma
villi
carbohydrates
anaerobic
capillaries
lactic acid

Year 8 Knowledge Organiser Physics – Topic 2 - Electricity

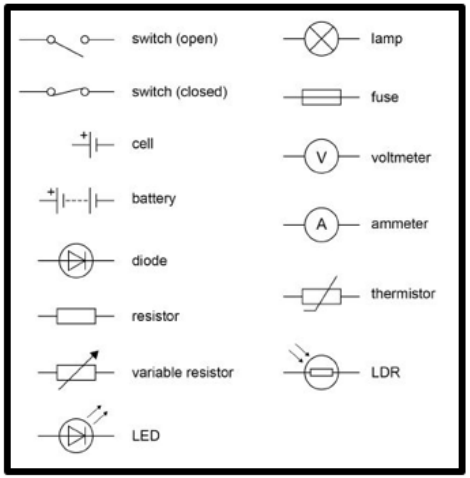
Static charge Insulators (not conductors) can become charged when rubbed.
They become either positively or negatively charged.
Two objects that have the same charge repel each other.
Two objects that are oppositely charged attract each other.

Particle	Charge
Proton	Positive (+)
Electron	Negative (-)
Neutron	Neutral
Nucleus	Positive (+)

Current -Current (symbol I, measured in ampères, A) is the rate of flow of charge (symbol Q, measured in coulombs, C)

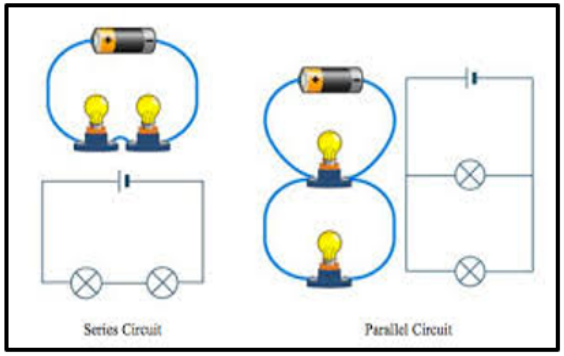
$$I = Q/t$$

For current to flow the circuit must be complete (no gaps).



Potential Difference (P.D.) or voltage (symbol V, measured in volts, V) is provided by a cell or battery. It measures the size of the push given to charges around the circuit (or across a component).

Circuit diagrams help us to simply display complex circuits.
A series circuit has one loop.
A parallel circuit has more than one loop.



Measuring current and voltage
An ammeter measures the current in a loop and is placed in series.
A voltmeter measures the potential difference across a component and is placed in parallel with the component.

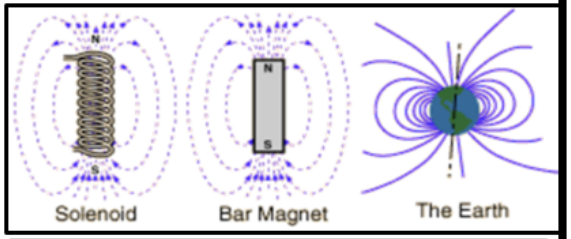
Resistance and Ohm's Law
The resistance (symbol R, measured in ohms, Ω) of a component is the degree to which it opposes the flow of current.

The current passing through a circuit is directly proportional to the potential difference pushing the current around the circuit

$$I = V/R$$

Type of circuit	Property	The same /shared
Series	Current	The same
Series	Pot. Diff.	Shared
Parallel	Current	Shared
Parallel	Pot. Diff.	The same

A magnet produces a magnetic field which is a region where magnetic materials (like iron, steel, nickel and cobalt) feel a force.



Bar magnets have a north (N) and south (S) magnetic pole. Opposite poles of magnets attract (N v S), but like poles repel (N v N or S v S).

A solenoid is a loop of wire with a current passing through it which creates a magnetic field.
More loops of wire or a larger current make a stronger magnetic field. Electromagnets (solenoids with soft iron cores) and the Earth produce magnetic fields.

A plotting compass can help us map the magnetic field.

Tier 2 Vocabulary

Attract
Battery
Charged
Circuit
Compass
Current
Fuse
LED
Magnetic
Neutral
Parallel
Pole
Repel
Series

Tier 3 Vocabulary

Ammeter
Cell
Conductor
Diode
Electromagnet
Electron
Field
Insulator
LDR
Potential Difference
Proton
Resistor
Solenoid
Thermistor
Voltmeter

Spanish Y8 Spring term Knowledge Organiser Unit 3: La comida - Food

Key spellings	
Learn these spellings, they will be really useful for this unit and you will be tested on them.	
1. desayuno	for breakfast I eat…
2. ceno	for dinner I eat…
3. voy a tomar	I'm going to have…
4. voy a beber	I'm going to drink…
5. voy a comprar	I'm going to buy…

Key vocabulary and questions

¿Qué te gusta comer y beber?	What do you like to eat and drink?
Me gusta/No me gusta…	**I like/don't like…**
el agua	water
el arroz	rice
la carne	meat
la fruta	fruit
la leche	milk
el marisco	seafood
el pescado	fish
el queso	cheese
Me gustan/No me gustan…	I like/don't like **(plural)**
las verduras	vegetables
los caramelos	sweets
las hamburguesas	hamburgers
los huevos	eggs
porque es/son	because it is/they are
delicioso/a(s)	delicious
asqueroso/a(s)	disgusting
Can you use a dictionary to look up more of your favourite foods?	

¿Qué desayunas/comes/cenas?	What do you have for breakfast/lunch/dinner?
Desayuno…	**For breakfast I have…**
Como/Almuerzo…	**For lunch I have…**
Ceno…	**For dinner I have…**
cereales	cereal
tostadas	toast
café	coffee
yogur	yoghurt
té	tea
zumo (de naranja)	(orange) juice
un bocadillo	a sandwich
pollo con ensalada	chicken with salad
sopa	soup
patatas fritas	chips
helado de fresa	strawberry ice cream
Can you describe these Spanish foods and name some others? *churros, paella, tortilla española, Cola Cao.*	

En el restaurante – Role play	At the restaurant – Role play
¿Qué va a tomar	What are you going to have?
de primer plato	to start
de segundo plato	for a main course
de postre	for dessert
Voy a tomar…	I'm going to have…
¿y para beber?	and to drink?
Voy a beber…	I'm going to drink…
¿Algo más?	Anything else?
No, nada más	No, nothing else
La cuenta, por favor	The bill, please
Tengo hambre	I'm hungry
Tengo sed	I'm thirsty
Look back at the example menu we saw in class, what would you order?	

En el mercado – Role play	At the market – Role play
¿Qué quiere?	**It was…**
Quiero comprar…	**I want to buy…**
cien gramos de tomates	100g tomatoes
doscientos gramos de uvas	200g grapes
trescientos gramos de pan	300g bread
medio kilo de pimientos rojos	0.5kg red peppers
un kilo de cebollas	1kg onions
dos kilos de manzanas	2kg apples
una botella de limonada	a bottle of lemonade
un paquete de tortillas	a packet of tortilla wraps
una lechuga	a lettuce
¿Cuánto es?	How much is it?
Son diez euros con veinte	It's 10€20
Can you remember all your numbers, including how to form numbers past 100? Practise them at home.	

Key grammar – The near future

Use the near future to talk about what is going to happen (I am going to eat, he is going to buy, we are going to dance)

This tense is formed be 3 parts, make sure you have all of them to use it correctly.

1. The present tense of IR (the verb to go)
2. 'a'
3. An infinitive verb (ending in -ar/er-ir)

1. The present tense of IR	2. 'a'	3. An infinitive verb	
Voy	a	comer	I am going to eat
Vas		bailar	You are going to dance
Va		llevar	(S)he is going to wear
Vamos		cantar	We are going to sing
Vais		comprar	You (pl.) are going to buy
Van		beber	They are going to drink

Spanish Y8 Spring term Knowledge Organiser Unit 4: Las salidas - Outings

Key spellings	
Learn these spellings, they will be really useful for this unit and you will be tested on them.	
1. llevo	I wear
2. ¿Te gustaría?	Would you like to?
3. Me gustaría	I would like to
4. no puedo	I can't
5. tengo que	I have to

Key vocabulary and questions

¿Quieres salir? ¿Te gustaría ir…?	Do you want to go out? Would you like to go…?
al cine	to the cinema
al polideportivo	to the sports centre
al parque	to the park
al museo	to the museum
al centro comercial	to the shopping centre
a la bolera	to the bowling alley
a la playa	to the beach
a la pista de hielo	to the ice rink
a la cafetería	to the café
a mi casa	to my house
How do you know whether to use *al* or *a la* with the places above?	

¿Cómo responderás?	How will you answer?
De acuerdo/Vale	All right/Okay
Muy bien	Very good
¡Genial!	Great!
Sí, me gustaría mucho	Yes, I would really like to
¡Ni hablar!	No way!
¡Ni en sueños!	In your dreams!
No tengo ganas	I don't want to
¡Qué aburrido!	How boring
Lo siento, no puedo	Sorry, I can't
Don't forget to use one of the excuses if you say you can't go.	

Excusas	Excuses
Tengo que…	**I have to…**
lavarme el pelo	wash my hair
cuidar a mi hermano	look after my brother
hacer los deberes	do homework
ordenar mi dormitorio	tidy my room
pasear al perro	walk the dog
salir con mis padres	go out with my parents
No quiero	I don't want to
No tengo tiempo	I don't have time
No tengo dinero	I haven't any money

¿A qué hora?	At what time?
A las seis	At 6:00
A las ocho y diez	At 8:10
A las cinco y cuarto	At 5:15
A las tres y media	At 3:30
A las nueve menos cuarto	At 8:45
A las once menos veinte	At 10:40
A mediodía	At midday
A la una	At 1:00
You'll also need to say on what day. Can you remember all the days of the week?	

¿Cómo te preparas?	How do you get ready?
Me baño	I bathe
Me ducho	I shower
Me lavo la cara	I wash my face
Me lavo los dientes	I brush my teeth
Me visto	I get dressed
Me maquillo	I put my makeup on
Me peino	I brush my hair
Me aliso el pelo	I straighten my hair
Me pongo gomina	I put gel in my hair
Use sequencers to talk about your routine: *primero, luego, después, finalmente…*	

¿Dónde quedamos?	Where shall we meet?
delante de la cafetería	in front of the café
al lado del museo	next to the museum
enfrente de la bolera	in front of the bowling alley
detrás del polideportivo	behind the sports centre
en tu casa	at your house
Can you spot the rule for using *del* or *de la* here?	

¿Qué vas a llevar?	What are you going to wear?
Normalmente llevo…	**Normally I wear…**
Voy a llevar…	**I'm going to wear…**
una camisa blanca	a white shirt
una camiseta naranja	an orange T-shirt
un jersey amarillo	a yellow jumper
una sudadera verde	a green hoodie
una falda rosa	a pink skirt
un vestido morado	a purple dress
una gorra gris	a grey cap
unos pantalones negros	some black trousers
unas botas marrones	some brown boots
unos vaqueros azules	some blue jeans
unos zapatos de muchos colores	some multicoloured shoes
unas zapatillas de deporte	some trainers
Remember that the adjective comes after the noun in Spanish and needs to have the correct ending (masc/fem/plural)	

Key grammar – Reflexive verbs

Reflexive verbs are often used to describe an action you do to yourself. They work in the same way as other verbs, but have and extra **reflexive pronoun** that must be added. Don't forget to change the **ending of the verb** accordingly.

Lavarse	To wash oneself
Me lav**o**	I wash myself
Te lav**as**	You wash yourself
Se lav**a**	S(he) washes her/himself
Nos lav**amos**	We wash ourselves
Os lav**áis**	You (pl) wash yourselves
Se lav**an**	They wash themselves

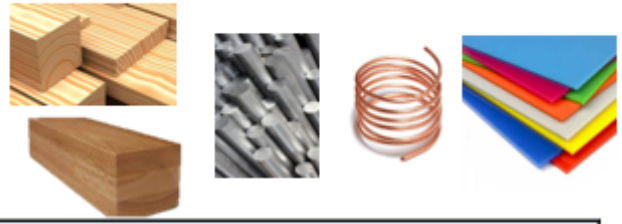
Year 8 Design and Technology Knowledge Organiser 2020

Classification and Properties of Materials:

Classification on Woods	
Hardwood	
Oak, beech, mahogany	•Deciduous trees • Have broad leaves • Slow growing so expensive • Grow nuts or seeds
Softwood	
Pine, cedar and spruce	• Coniferous trees • Have needles • Fast growing so cheaper • Grow berries or fruit
Manufactured boards	
MDF, plywood, chip board	•Made in a factory • Binds wood with a resin • Comes in large sheets not planks

Classification on Metal	
Ferrous	
Wrought iron, pig iron, mild steel, stainless steels	•Contain iron • Magnetic (most) • Rust
Non-Ferrous	
Copper, tin, silver, gold, aluminium, bronze, nickel	•Do NOT contain iron • Are NOT magnetic • Do NOT rust
Alloys	
Solder, Pewter, Brass	•Mixture of more than one element • Combining 2 metal improves properties

Classification on Plastic	
Thermosetting	
Epoxy resin, polyester resin, urea formaldehyde	•Can only be heated and shaped once into a product. • Not recyclable
Thermoplastic	
Acrylic, PVC, polythene, nylon, polypropylene	-Can be heated and shaped repeatedly into different products. - Can be recycled



Specific Language and Terms			
Durable	To be long lasting	**Thermal**	To be able to conduct or insulate head
Malleable	To be bent and shaped	**Electrical**	To be able to conduct or insulate electricity
Strength	To withstand forces and breaking	**Ductile**	To be drawn into a wire (stretched)
Toughness	To not break or snap	**Density**	A measure of mass per unit volume
Hardness	To withstand scratching or denting	**Absorbency**	The ability to take in moisture

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Health and safety and Hand tools:

Specific Language and Terms	
PPE	Personal protective equipment.
Hazard	A danger or a risk
BSI	British Standards Institute
Kitemark	Assures consumes that the product is safe and has been tested by the BSI
CE mark	Assures consumers that the product meets European safety standards

PPE Equipment		
Apron	To protect your clothing from soiling or from being caught in machinery/tools.	
Goggles	Protect your eyes from dust particles or any other flying debris from machining.	
Ear defenders	To protect your ears when using loud machinery.	
Gauntlets	Protect your hands- particularly from heat when brazing or carrying out heat treatments.	
Dust mask	To protect your breathing when working with dusty or hazardous materials.	

Tools and equipment		
Try Square	Drawing a line at 90 degrees OR checking a corner is square (90 degrees)	
Tennon Saw	Sawing straight lines in wood or plastic (not metal	
Coping saw	Sawing curve lines in wood or plastic (not metal)	
Flat File	Shaping or smoothing a piece of wood, metal or plastic.	
Vice	Hold work still and secure when drilling.	

Red: Prohibition Do Not - Stop
Blue: Mandatory Must obey
Yellow; Warning Risk of danger
Green: Safety Means go

Walk safely and calmly around the classroom/ workshop.	Keep your work area and floor area clear – keep your belongings hung up	Follow the teacher's instructions for using equipment carefully.	Make sure that you are wearing the correct PPE equipment for tasks.	Return all equipment to the correct areas of the classroom/ workshop.	Report all spillages & clean up properly after yourself.

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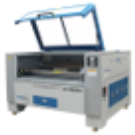
Machinery and CAD CAM:

Machinery					
Pillar Drill	A free standing machine that uses a motor to rotate a drill bit. This drill bit can then be used to cut holes in materials.		**Vacuum former**	A machine used to form sheet plastic into permanent objects using a mould.	
Sander	Is used for shaping and finishing wood. It consists of an electric motor that turns a continuous loop of sandpaper.		**Hegner saw**	A small electrical saw with a thin blade used to cut a variety if thin sheet materials	
Laser Cutter	A CAM machine that engraves and cuts through material using a high powered optical laser		**Vinyl Cutter**	A CAM machine that has a sharp blade to cut out designs on tin self-adhesive plastic	

CAD- Computer Aided Design	
Advantages	**Disadvantages**
Designs can be created, saved and edited easily, saving time	CAD software is complex to learn
Designs or part of designs can be easily copied or repeated	Software can be very expensive
Designs can be worked on by remote teams simultaneously	Compatibility issues with software
CAD is very accurate	Work can be lost if not backed up
Designs can be rendered to look-realistic to gather public opinion in a range of finishes.	

CAM – Computer Aided Manufacture	
Advantages	**Disadvantages**
Quick – speed of production can be increased	Training is required to operate CAM
Consistency and accuracy – All parts manufactured are all the same	High initial outlay cost for machines
Less mistakes- there is no human error unless pre programmed	Loss of jobs for people
Cost saving – workforce can be reduced	Production stoppage – if the machines break down, the production would stop

Specific Language and Terms	
Machinery	Mechanical or electrical device designed to be used to perform a function.
CAD	Computer Aided Design
CAM	Computer Aided Manufacture
Software	The programs used by a computer

CAD software programmes

SketchUp

Roland CutStudio

SolidWorks

2D DESIGN

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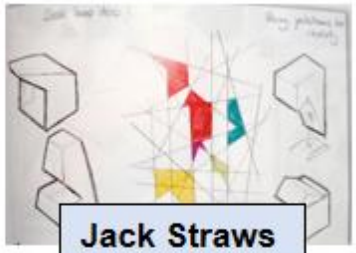
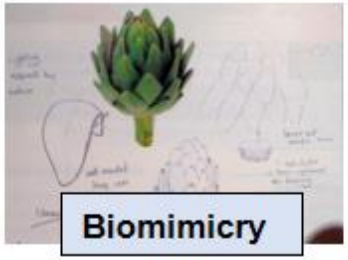
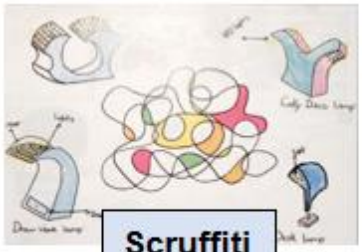
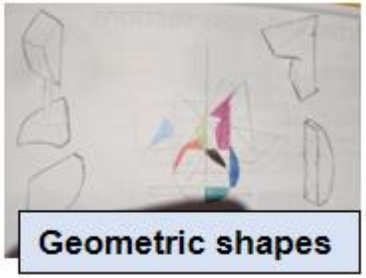
Creating ideas and Oblique drawing:

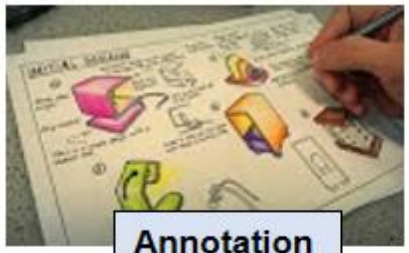
Freehand


Jack Straws


Biomimicry


Scruffiti

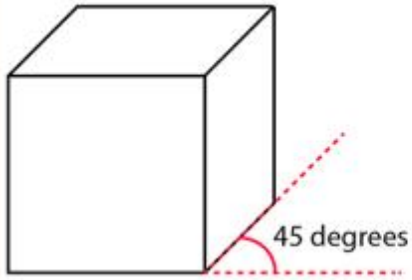

Geometric shapes


Annotation

Specific Language and Terms

Oblique drawing	A projective drawing on an object in 3D where the front face is drawn flat and all other lines are projected at 45 degrees
Freehand sketching	Quick sketching without using a ruler. This is to be used to get your first thoughts for ideas down on paper
Creative ideas	Thinking outside the box. Different ways to get creative are to use techniques such as Jack straws, Geometric shapes, Scruffiti and Biomimicry.
Annotation	The notes you write around your ideas explaining what they show and how it could be made.

Oblique Projection

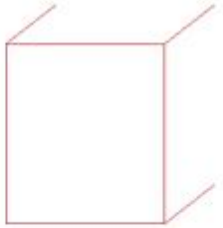


Opposite is a cube that has been drawn in Oblique projection.

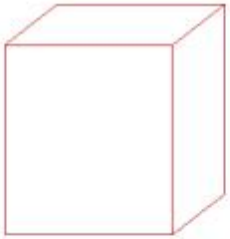
To draw it in oblique projection follow the three main steps below:

1. Draw the front or side view of the object.

2. Project 45 degrees lines from each corner



3. Draw the back two lines of the cube in position. Go round the outline of the cube with a fine black pen or dark, sharp pencil.



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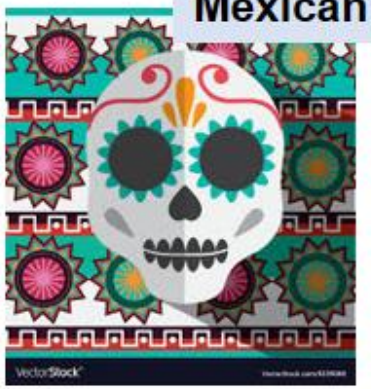
Art/Design Cultures and ACCESSFM:

British

Aboriginal

Ancient Chinese



Mexican

African

Access FM

We use ACCESS FM to help write a **specification** and to help **analyse** and describe an already **existing product**

- **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**

Specific Language and Terms	
Culture	Culture is a pattern of behaviour shared by a society, or group of people. Many different things make up a society's culture. These things include food, language, clothing, tools, music, arts, customs, beliefs, and religion.
Product Analysis	A detailed examination of a product
Specification	Stating precise requirements of a design

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Mechanical systems and Movement and forces:

Specific Language and Terms	
Mechanical system	A mechanical system is a set of physical components that convert an input motion and force into a desired output motion and force. Mechanical systems have at least three elements: input, process and output.
Mechanism	Is a device that transforms input forces and movement into a desired set of output forces and movement.
Machine	A system of mechanisms working together
Motion	A type of movement
Force	Is a push or pull in a certain direction that causes a change in speed, direction or shape.

Mechanisms

Mechanism	Definition	Example
Gears	Gears are toothed wheels (cogs) that lock together and turn one another. When one gear is turned the other turns as well.	
Pulleys	Pulleys are like gears, but the wheels do not lock together. The wheels are instead joined together by a drive belt. Pulleys can be used to affect the speed, direction or force of a movement.	
Levers	a rigid bar resting on a pivot, used to move a heavy or firmly fixed load with one end when pressure is applied to the other	

Forces

Force	Definition	Example
Compression	A pushing or squashing force	Mattress springs
Tension	A pulling or stretching force	Tug of war rope
Torsion	A twisting force	Turning a screw
Shear	A cutting force caused by two forces in opposite directions very close together	Scissors
Bending	When two forces act in opposite directions	Beam bridge

Types of Movement

Motion	Definition	Example
Linear	Moves in one direction	Bike, car, train
Oscillating	Swings back and forth	Pendulum, swing
Reciprocal	Repetitive back and forth linear motion	Sewing machine needle
Rotating	Moves in a circular motion	Car wheels, pedals

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