OADV –Year 11 Students

100% Booklet-Ebacc subjects

Student Name.....

English

Knowledge Organiser Focus: 'Poetry: Power and Conflict'

I should already know:

- 'Versatile vocabulary' introduced in years 7-9
- Structure of comparative analytical paragraphs
- Poetry skills introduced in years 7 and 9

I will learn:

- Structure of poems
- Contextual features for all poems
- Periods in poetry (e.g. Romantic)
- KS4 'Versatile Vocabulary.'
- Key quotations alongside the literal, metaphorical and symbolic meaning of poets' methods

This will help in the future:

- GCSE English Literature Paper 2 Section B

Further Reading

CGP Revision Guide and Workbook

Poems - GCSE English Literature Revision - AQA - BBC Bitesize

Versatile Vocabulary: Year 10 and Year 11			
From feudalism to fighting for freedom: contending with rules, stories and patterns			
Something concrete is definite, solid and real.	concrete	abstract	Something abstract is not physical; based on ideas.
Order exists when everything is in the correct or expected place	order	chaos	Chaos is a state of complete disorder and confusion.
If something is secure, it is strong and difficult to damage.	secure	vulnerable	If something is vulnerable, it is easy to harm and is fragile.
If someone is dogmatic, they are stubborn and unchangeable.	dogmatic	malleable	If someone or something is malleable, it can be changed and is flexible
You use constant to describe something that happens all the time or is always there.	constant	volatile	A situation that is volatile is likely to change suddenly and unexpectedly.
Something intermittent happens every so often.	intermittent	perpetual	Something perpetual never ends or changes.
If something is tangible, it can be felt, seen or noticed.	tangible	intangible	Something that is intangible can't be measured or felt.
Something physical can be touched and seen.	physical	metaphysical	Something metaphysical does not have a body or substance.
Natural behaviour is shared by all people or all animals and has not been learned.	natural	supernatural	Something supernatural is beyond laws of nature. It is impossible that it exists.
Something normal is expected, logical and usual.	normal	abnormal	Something abnormal is beyond or different to what is expected.
The literal meaning of a word is its original, basic or true meaning.	literal	metaphorical	The metaphorical meaning of a word or phrase is what it suggests.
Rational decisions and thoughts are based on reason and logic rather than on emotion.	rational	emotional	An emotional decision is concerned with emotions and feelings.
Something permanent lasts forever.	permanent	ephemeral	Something ephemeral lasts for a short time; it is temporary.
If someone or something reinforces a feeling or situation, it makes it stronger.	reinforce	transgress	If someone transgresses, they break or go against a moral law or a rule of behaviour.
A moral person behaves in a way that is believed by most people to be good and right.	moral	immoral	If you describe someone or their behaviour as immoral, their behaviour is wrong.
If you describe a person in authority as benevolent, they are kind and fair.	benevolent	malevolent	A malevolent person deliberately tries to cause harm or evil.
If you describe someone as credulous, they are believe what people tell them and are gullible.	credulous	duplicitous	Someone who is duplicitous lies and is two-faced.
The interior or something or someone is its inside.	interior	exterior	The exterior of someone or something is its inside.
Someone innocent has no knowledge of the more unpleasant aspects of life.	innocent	corrupt	Someone who is corrupt behaves in a way that is wrong, often in return for power.
Something that is inferior is not as good as something else.	inferior to	superior to	Something that is inferior is not as good as something else.
A utopia is a world where society is impossibly perfect.	utopia	dystopia	A dystopia is an imaginary place where everything is as bad as it can be.
Something that is static does not move or change.	static	active	Someone of something that is active moves around a lot.
A creature's prey are the creatures that it hunts and eats in order to live.	prey	predator	A predator is an animal that kills and eats other animals.
If you say that something is comforting, you mean it makes you feel less worried.	comforting	unsettling	If you describe something as unsettling, you mean that it makes you feel worried.
If you describe someone as liberated, you mean that they have been freed.	liberated	imprisoned	If someone is imprisoned, they are locked up or trapped.
If you say that there is a paucity of something, you mean that there is not enough of it.	paucity	excess	An excess of something is a larger amount than is needed, allowed, or usual.
A philanthropic person or organization freely gives money or kindness to people who need it.	philanthropic	misanthropic	If you describe a person as misanthropic, you mean that they do not like other people.
If you describe something as banal, you do not like it because you think that that it is dull and boring.	banal	idiosyncratic	If you describe someone or something as idiosyncratic, you mean that it is unusual.
Homogeneous is used to describe a group or thing which has members or parts that are all the same.	homogeneous	heterogeneous	A heterogeneous group consists of many different types of things or people.
Something that is finite has a fixed size or end.	finite	infinite	Something that is infinite lasts forever; it has no end.

Greater Depth Challenge

- Colour code poems that go well together under each heading.
- Use the grid to help you write essays comparing how power or conflict is shown in two poems.

Poem	Conflict	Power	5 Key Quotations	Structure	Context
Ozymandias	Conflict between a warrior's great power being reduced to wreckage.	Human power doesn't last forever. Nature is stronger.	Two vast and trunkless legs of stone Sneer of cold command Look on my works ye Mighty and despair! Nothing beside remains Colossal wreck boundless and bare	The sonnet rhyme scheme is irregular, perhaps symbolic of the broken statue itself, no longer perfect.	It acts as a warning to anyone who thinks they are immortal that their power won't last. Shelley was a romantic with a belief in the power of nature.
Prelude	Conflict between man and nature: nature proves it is more powerful.	The power and beauty of nature to make man feel overwhelmed and insignificant.	An act of stealth and troubled pleasure Heaving through the water like a swan Huge peak, black and huge With trembling oars I turned O'er my thoughts there hung a darkness	As journey progresses poem becomes rougher. 'And' is repeated to give a breathless feel.	Wordsworth was a romantic poet who believed the power and beauty of nature and its capacity to overwhelm man.
London	Conflict caused by the greatest city in the world having great poverty and oppression.	The abuse of power in Victorian England and the lack of power amongst the poor in society.	Where the chartered Thames does flow The mind-forged manacles I hear Every black'ning church appals The hapless soldiers sigh Blights with plagues the Marriage hearse	The regular rhyme scheme reflects the regular walking pace of the narrator as he walks around the city.	Set during poverty of industrial revolution when there was huge poverty. The poet is supporting the French revolution's quest for liberty.
Poppies	Conflict from the perspective of a mother left behind when son goes to war.	The powerless of the mother who must deal with her son's departure to war.	Before you left I pinned one onto your lapel Crimped petals, spasms of paper red The world overflowing like a treasure chest A single dove flew from the pear tree Hoping to hear your playground voice...on the wind	The poem uses a lot of enjambment to enhance the idea of natural tone and the mother's voice.	The poem is focused on the idea of poppies as symbols of memorial. Weir was inspired by walks through a graveyard with her son.
Remains	Explores the long term effects that conflict in war has on a soldier.	A soldier's power or lack of power over his own memories and experiences of war.	Probably armed, possibly not We got sent out to tackle looters Pain itself, the image of agony He's here in my head when I close my eyes His bloody life in my bloody hands	Enjambment shows the painful memories run on and on in his mind.	This poem highlights the problem of post-traumatic stress disorder in soldiers.
Storm on the Island	The conflict between man and nature and people's fear of the weather.	The power of the weather to instil fear into man.	We are prepared: we build our houses squat The wizened earth had never troubled us Spits like a tamed cat turned savage Exploding comfortably down on the cliffs It is a huge nothing that we fear	Present tense suggests the storm is occurring now. Enjambment helps add to the conversational tone.	The poet was born on an isolated storm-battered island which acts as a metaphor for the troubles in Ireland.
War Photographer	Conflict between a warzone and rural England.	The powerful war images contrast with the detached way they are consumed.	Spools of suffering set out in ordered rows Rural England. Home again to ordinary pain. Hands... did not tremble then but seem to now He remembers the cries of this man's wife He stares impassively...and they do not care	The regular 4 line structure reflects the order he is giving to the chaos in the photos.	The poet is bitter about the indifferent way in which people view modern warfare through newspapers.

Poem	Conflict	Power	5 Key Quotations	Structure	Context
My Last Duchess	Conflict between how the speaker presents himself and who he actually is.	The power the speaker had over his wife's life.	That's my last duchess...looking as if she were alive Who passed without much the same smile? Had you skill in speech – which I have not - I gave commands then all smiles stopped Notice Neptune though taming a sea horse	Enjambment, caesura and pauses reflect the speaker's train of thought. Rhyming couplets and iambic pentameter show his high status and authority.	Based on The Duke of Ferrera from the Italian Renaissance to indirectly comment on sin in the Victorian era.
Exposure	Conflict between man and the cruel weather in a warzone.	Nature is more powerful and deadly than bullets and shells.	Merciless iced east winds that knife us Mad gusts tugging on the wire Pale flakes with fingering stealth come...for our faces Shutters and doors are closed: on us the doors are closed But nothing happens	The 5th line in each stanza creates an anti-climax. Para-rhyme reflects how unsettled the soldiers are.	The poet wanted to truthfully show the real conditions for soldiers on the trenches to the ill-informed people back home.
Charge of the Light Brigade	Conflict between the bravery of the soldiers and the stupidity of their mission.	The powerful military rhythm matches the rhythm of marching drums.	Into the valley of death rode the six hundred Someone had blundered Stormed at with shot and shell Theirs not to reason why theirs but to do and die When can their glory fade?	It has a military rhyme similar to the sound of marching drums of horse hooves. The rhythm is called dactylic dimeter.	A miscommunication during the Crimean war led a group of soldiers to head first into a battle with catastrophic results.
Tissue	Conflict caused by holding onto things too tightly.	This poem explores how we cling too tightly to power and should build more things with paper-like qualities. It also highlights the power of nature over man.	Paper that lets the light shine through If building were paper I might feel their drift Maps too. The sun shines through. Fly our lives like paper kites Raise a structure never meant to last	Enjambment creates a calm tone. The poem starts looking at the joy of things like paper and wonders what the world would be like if it had the same qualities.	The poem comes from a collection called 'The terrorist at my table' and explores global issues such destruction, war, terrorism, materialism and the unequal distribution of wealth.
Bayonet Charge	The internal conflict inside a soldier's head as he leaves the trenches.	The powerful and raw emotions involved in rushing out from the trenches.	Suddenly he awoke and was running He lugged a rifle numb as a smashed arm The patriotic tear...sweating like molten iron A yellow hare that rolled like a flame His terror's touchy dynamite	The structure is deliberately confusing to reflect the indescribable horror of war. Enjambment is used to reflect the chaos.	This poem looks at the dehumanising impact of leaving the trenches.
Checking out me History	Conflict between what we are taught and not taught by society.	This poem rebels against the way powerful black figures from history are marginalised.	Bandage up me eye with me own history Dem tell me bout Dick Whittington and he cat But dem never tell me about Mary Seacole Nanny see-far woman of mountain dream I carving out me identity	The irregular verse and colloquial language mirrors the drum beat of Caribbean music. This structure is a method for the poet to express his cultural identity	The poem looks at how history is taught and the conflict between fact and truths which is sometimes obscured by race or gender.
Emigree	Conflict between childhood memories of a place and adult understanding.	The power of childhood memories can affect people negatively in adulthood.	My memory of it is sunlight clear I am branded by an impression of sunlight The child's vocabulary I carried here like a hollow doll I comb its hair and love its shining eyes They accuse me of being dark in their free city	Enjambment and the lack of a consistent line structure or rhyme reflects the speaker's confusing feelings about the city of her childhood.	The poet bases many of the ideas on examples of emigration from countries like the Middle East where people are fleeing corruption and tyranny.
Kamikaze	Conflict between the rules and honour of society and the desire to survive and return to family.	The power of the Japanese government and the power of family.	A one way journey into history A green-blue translucent sea My mother never spoke again We too learned to be silent Wondered which had been the better way to die	Uses italics for an aside to maybe show the daughter speaking to her own children.	It was considered a great honour in Japan to die for your country. Nowadays in Japan this samurai culture has become problematic to younger generations.

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Prelude	Conflict between man and nature: nature proves it is more powerful.		An act of stealth and troubled pleasure Heaving through the water like a swan Huge peak, black and huge With trembling oars I turned O'er my thoughts there hung a darkness	As journey progresses poem becomes rougher. 'And' is repeated to give a breathless feel.	
London	Conflict caused by the greatest city in the world having great poverty and oppression.	The abuse of power in Victorian England and the lack of power amongst the poor in society.			Set during poverty of industrial revolution when there was huge poverty. The poet is supporting the French revolution's quest for liberty.
Poppies		The powerless of the mother who must deal with her son's departure to war.	Before you left I pinned one onto your lapel Crimped petals, spasms of paper red The world overflowing like a treasure chest A single dove flew from the pear tree Hoping to hear your playground voice...on the wind	The poem uses a lot of enjambment to enhance the idea of natural tone and the mother's voice.	
Remains			Probably armed, possibly not We got sent out to tackle looters Pain itself, the image of agony He's here in my head when I close my eyes His bloody life in my bloody hands	Enjambment shows the painful memories run on and on in his mind.	This poem highlights the problem of post-traumatic stress disorder in soldiers.
Storm on the Island	The conflict between man and nature and people's fear of the weather.			Present tense suggests the storm is occurring now. Enjambment helps add to the conversational tone.	
War Photographer	Conflict between a warzone and rural England.		Spools of suffering set out in ordered rows Rural England. Home again to ordinary pain. Hands... did not tremble then but seem to now He remembers the cries of this man's wife He stares impassively...and they do not care		

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My Last Duchess	Conflict between how the speaker presents himself and who he actually is.		That's my last duchess...looking as if she were alive Who passed without much the same smile? Had you skill in speech – which I have not - I gave commands then all smiles stopped Notice Neptune though taming a sea horse	Enjambment, caesura and pauses reflect the speaker's train of thought. Rhyming couplets and iambic pentameter show his high status and authority.	
Exposure		Nature is more powerful and deadly than bullets and shells.			The poet wanted to truthfully show the real conditions for soldiers on the trenches to the ill-informed people back home.
Charge of the Light Brigade			Into the valley of death rode the six hundred Someone had blundered Stormed at with shot and shell Theirs not to reason why theirs but to do and die When can their glory fade?		
Tissue	Conflict caused by holding onto things too tightly.	This poem explores how we cling too tightly to power and should build more things with paper-like qualities. It also highlights the power of nature over man.		Enjambment creates a calm tone. The poem starts looking at the joy of things like paper and wonders what the world would be like if it had the same qualities.	
Bayonet Charge	The internal conflict inside a soldier's head as he leaves the trenches.				This poem looks at the dehumanising impact of leaving the trenches.
Checking out me History	Conflict between what we are taught and not taught by society.	This poem rebels against the way powerful black figures from history are marginalised.			
Emigree			My memory of it is sunlight clear I am branded by an impression of sunlight The child's vocabulary I carried here like a hollow doll I comb its hair and love its shining eyes They accuse me of being dark in their free city	Enjambment and the lack of a consistent line structure or rhyme reflects the speaker's confusing feelings about the city of her childhood.	
Kamikaze	Conflict between the rules and honour of society and the desire to survive and return to family.			Uses italics for an aside to maybe show the daughter speaking to her own children.	

Knowledge Organiser Focus: 'Macbeth'

I should already know:

- 'Versatile vocabulary' introduced in years 7-9
- Structure of analytical paragraphs
- Contextual knowledge of Shakespeare and the Elizabethan and Jacobean eras
- The conventions of Tragedy
- Characteristics of heroes and villains

I will learn:

- Structure of Shakespearian tragedies
- Aristotelian perspective of the tragic hero
- Presentation of tragic heroes
- Year 10 'Versatile Vocabulary.'

English Language:

- **Sentence Demarcation**
- **Speech Punctuation**
- **Paragraphing**
- **Writing Practice**
  - Fictional writing

This will help in the future:

- GCSE English Literature Paper 1 Section A

Further Reading

BBC bitesize – https://www.bbc.co.uk/bitesize/topics
Other Shakespearean plays – King Lear, Hamlet, Othello

Versatile Vocabulary: Year 10 and Year 11

From feudalism to fighting for freedom: contending with rules, stories and patterns

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If you describe someone as liberated, you mean that they have been freed.	liberated	imprisoned	If someone is imprisoned, they are locked up or trapped.
If you say that there is a paucity of something, you mean that there is not enough of it.	paucity	excess	An excess of something is a larger amount than is needed, allowed, or usual.
A philanthropic person or organization freely gives money or kindness to people who need it.	philanthropic	misanthropic	If you describe a person as misanthropic, you mean that they do not like other people.
If you describe something as banal, you do not like it because you think that that it is dull and boring.	banal	idiosyncratic	If you describe someone or something as idiosyncratic, you mean that it is unusual.
Homogeneous is used to describe a group or thing which has members or parts that are all the same.	homogeneous	heterogeneous	A heterogeneous group consists of many different types of things or people.
Something that is finite has a fixed size or end.	finite	infinite	Something that is infinite lasts forever; it has no end.

Greater Depth Challenge

- How did Shakespeare structure his tragedies so that the audience were not surprised?
- Why did Shakespeare write the play Macbeth? What was one of his intentions?

Maths

Knowledge Organiser Focus:

Graphs, representing data, averages and cumulative frequency, area, surface area and volume, Pythagoras and trigonometry

I should already know:

How to plot a graph
How to calculate averages
How to calculate area
The Pythagorean theorem

I will learn:

To understand the equations of circles and tangents

How to represent data appropriately

How to calculate appropriate averages

How to draw and interpret cumulative frequency graphs

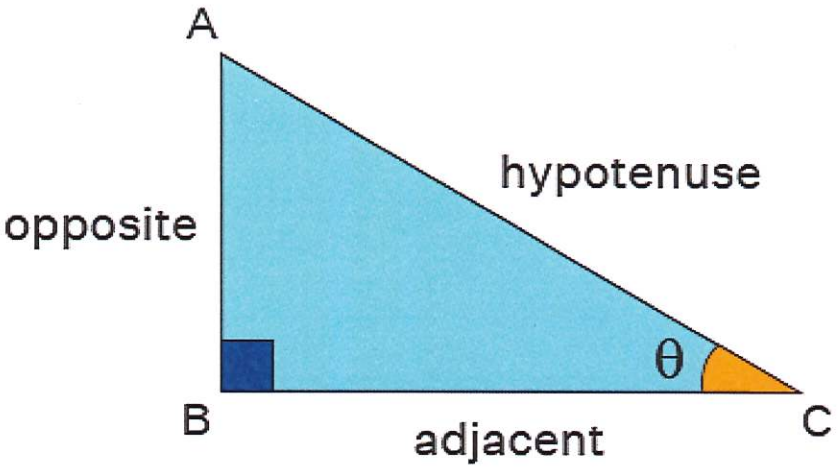
How to calculate surface area and volume

This will help in the future:

Developing these algebraic skills assist all other area of mathematics. They also develop your problem-solving abilities.

Key Words

Tangent	A straight line touching a graph at only one point
Average	A numerical summary of a data set
Cumulative frequency	A running total of frequencies
Surface area	The total sum of the area of all faces on a 3D shape
Volume	The space inside a 3D shape
Pythagorean theorem	$a^2 + b^2 = c^2$



Greater Depth Challenge

When and why would you use each average?
What is the same and different about box plots and cumulative frequency graphs?

Further Reading

Cumulative frequency graphs
Histograms

Knowledge Organiser Focus:

Graphs, representing data, averages and cumulative frequency, area, surface area and volume, Pythagoras and trigonometry

Unit 35 - graphs	
Question	**Answer**
What is the y intercept?	Where the graph crosses the y axis
What are parallel lines?	Lines that never meet. This is because they have the same gradient.
What are perpendicular lines?	Lines that intersect at a right-angle. Their gradients are the negative reciprocal of one another.
What is the equation of a circle with centre (0,0)?	$x^2 + y^2 = r^2$ where r is the radius

Unit 36 – Representing data	
Question	**Answer**
What are the key features of bar charts?	- Axes labelled - Bars of equal width - Equal gaps between bars
What is a pie chart?	A circular graph where each sector represents a proportion of the data
What is a histogram?	A graph where the area of each bar represents the frequency of that group of data.
What do histograms look like?	People often confuse histograms with bar charts because they both include bars. However, histograms often have unequal bar widths and there are no gaps between the bars.

Unit 37 – Averages and cumulative frequency	
Question	**Answer**
What are averages?	A numerical summary of data. These include mean, median and mode.
What is cumulative frequency?	A running total of frequencies.
How do you draw a cumulative frequency graph?	Plot cumulative frequencies at the end of the variable group and then join with a smooth 'S' shape
How do you find the median from a cumulative frequency graph?	Start at the middle of the cumulative frequency axis, draw a straight line across until you hit the graph and then go down.

Unit 38 – Area, surface area and volume	
Question	**Answer**
What is area?	The space inside a 2D shape
What is surface area?	The total of the area of all the faces on a 3D shape
What is volume?	The space inside a 3D shape
How do you convert units of area?	Multiply or divide by the scale factor squared
How do you convert units of volume?	Multiply or divide by the scale factor cubed

Unit 39 – Pythagoras and trigonometry	
Question	**Answer**
When do you use Pythagoras and not trigonometry?	When you have two lengths of a right-angled triangle and want to calculate the third.
When do you use Sine and Cosine rule instead of basic trigonometry?	When working with triangles that don't have a right-angle.

Knowledge Organiser Focus:

Graphs, representing data, averages and cumulative frequency, area, surface area and volume, Pythagoras and trigonometry

Unit 35 - graphs	
Question	**Answer**
What is the y intercept?	
What are parallel lines?	
What are perpendicular lines?	
What is the equation of a circle with centre (0,0)?	

Unit 36 – Representing data	
Question	**Answer**
What are the key features of bar charts?	
What is a pie chart?	
What is a histogram?	
What do histograms look like?	

Unit 37 – Averages and cumulative frequency	
Question	**Answer**
What are averages?	
What is cumulative frequency?	
How do you draw a cumulative frequency graph?	
How do you find the median from a cumulative frequency graph?	

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Question	**Answer**
What is area?	
What is surface area?	
What is volume?	
How do you convert units of area?	
How do you convert units of volume?	

Unit 39 – Pythagoras and trigonometry	
Question	**Answer**
When do you use Pythagoras and not trigonometry?	
When do you use Sine and Cosine rule instead of basic trigonometry?	

Science

KS4 – 5.10.1-2 Using Earth's resources – Knowledge Organiser

The Learning

Life Cycle Assessments

Water | Resources | Energy sources

Why bother? **Reduce**...use of limited resources

Waste

Why bother? **Reduce**...waste and environmental impacts

Reducing use of resources

What do we use the earth's resources for?
- **Warmth**
- **Shelter**
- **Food**
- **Transport**

We can use them as natural resources or process them.

Why bother? **Reduce**...use of energy resources

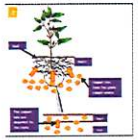
'Natural resources' + agriculture provides
- **Food**
- **Timber**
- **Clothes**

Finite resources are processed to get us
- **Energy**
- **materials**

e.g. Cotton is natural and we grow cotton plants. OR we can use synthetic materials e.g. nylon

e.g. Coal, oil and gas are used for energy.
e.g. metal ores are mined to get metals.

Phytomining



- BURN plants
- React ASH with sulphuric acid

Bioleaching

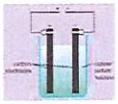
Bacteria feed on metal ore

- 'leachate solution' contains copper compounds

How to get the copper from the compound

Displacement using scrap iron

Electrolysis



Potable water must have low levels of SALTS and MICROBES (it isn't PURE water)

Rainwater in lakes, rivers and reservoirs

Filter

Why? To remove insoluble solids

Sterilise – chlorine, ozone, or UV light

Why? To kill microbes

Sewage

Screening and grit removal

Sedimentation

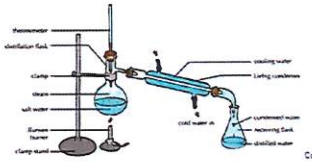
Anaerobic digestion of sludge

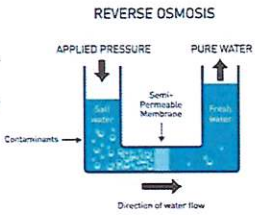
Aerobic treatment of effluent

Industrial and agricultural waste water – remove organic matter and harmful chemicals

Salt water

Desalination



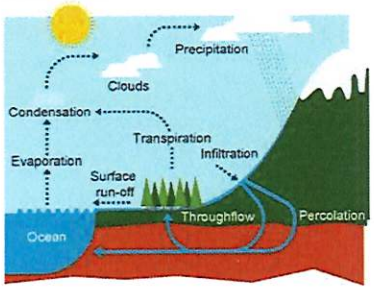


☹ Both use a lot of energy

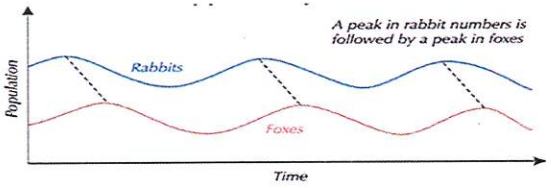
Key terms – To use with GCSE Pod

Finite	Will run out eventually
Renewable	We can replace them as we use them
Sustainable	meets the needs of the current generation without compromising he ability of future generations to meet their needs.
Potable	Safe to drink
Pure	One type of atom or molecule only

The Learning



Prey-predator cycle



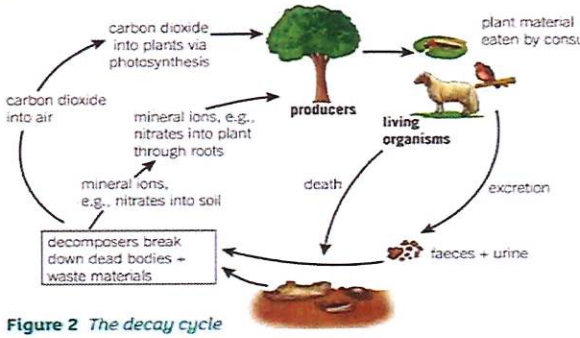
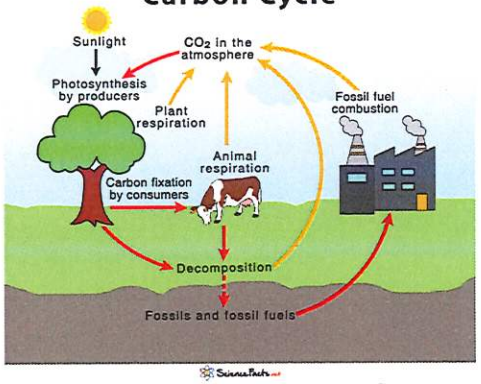


Figure 2 *The decay cycle*

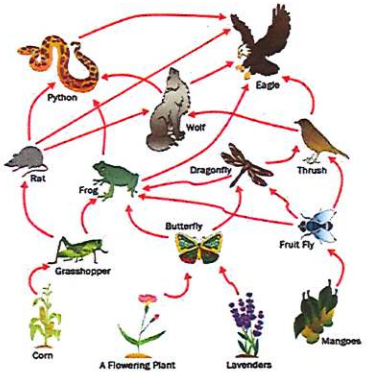
Key terms

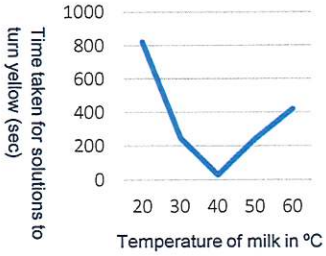
Ecosystem	The living organisms in a particular area, together with the non-living components of the environment.
Biotic	Living elements of an ecosystem, such as plants and animals.
Abiotic	Non-living elements of an ecosystem, such as climate, temperature, water, and soil type.
Food web	A food web is a network of interconnected food chains. It shows the energy flow through part of an ecosystem.
Decomposition	The process of breaking down material to release nutrients.
Carbon	Carbon is a non-metal element. All living things consist mostly of carbon-containing compounds
Carbon cycle	The processes and events involved in recycling carbon in the environment.
Respiration	The chemical change that takes place inside living cells, which uses glucose and oxygen to release the energy that organisms need to live. Carbon dioxide is a by-product of respiration.
Photosynthesis	A chemical process used by plants to make glucose and oxygen from carbon dioxide and water, using light energy.
Combustion	The process of burning by heat. The burning of fossil fuels releases stored carbon dioxide into the atmosphere.
Fossilisation	If conditions are not favourable for the process of decomposition, dead organisms' decay slowly or not at all. These organisms build up and, if compressed over millions of years, can form fossil fuels (coal, oil or gas).
Water cycle	The continuous movement of water on, above and below the Earth.
evaporation	The process in which a liquid changes state and turns into a gas.
transpiration	The loss of water from leaves by evaporation through the stomata.
Condensation	The moist air cools down as it rises. Water vapour **condenses** back into liquid water, and this **condensation** process produces clouds.
Precipitation	As the water droplets in the cloud get bigger and heavier, they begin to fall as rain, snow and sleet. This is called **precipitation** (it is not the same as precipitation in Chemistry).
pH	Scale of acidity or alkalinity. A pH (power of hydrogen) value below 7 is acidic, a pH value above 7 is alkaline
compost	Decayed organic matter which can be used as a plant fertiliser.
decomposer	An organism which eats dead organisms, fallen leaves, animal droppings, etc, and breaks them down into simpler materials.

Carbon Cycle

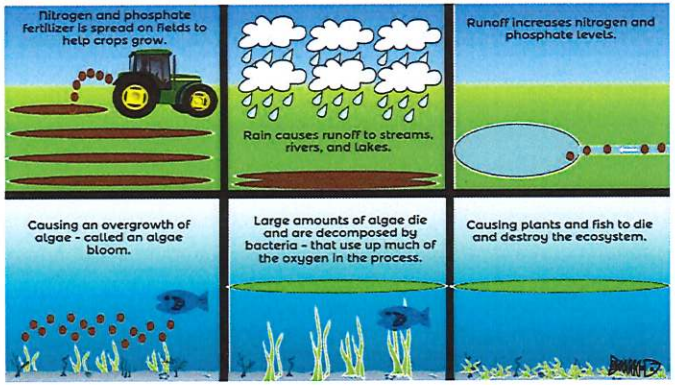


A Food Web

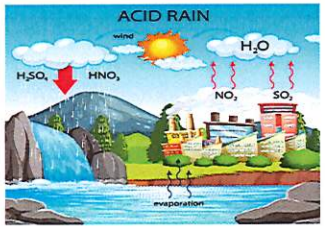


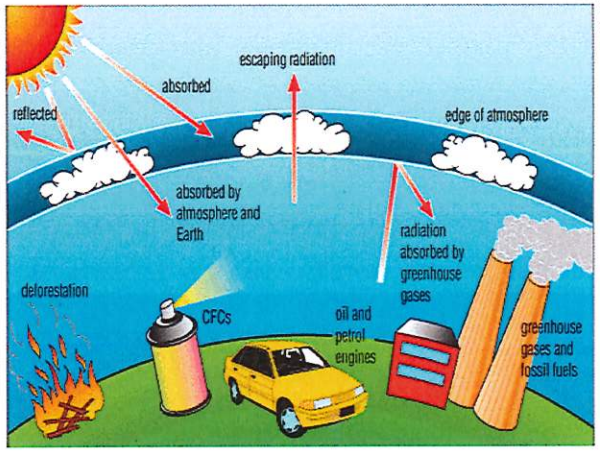


Triple RP – investigate the rate of decomposition



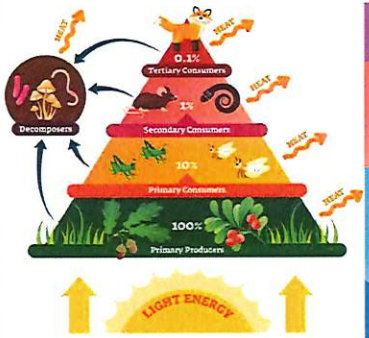
The Learning

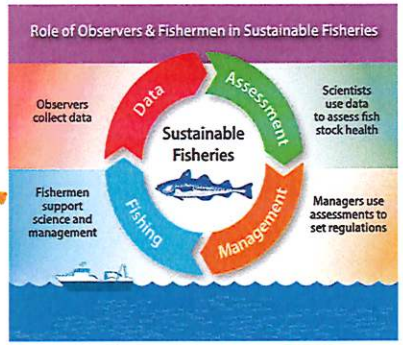


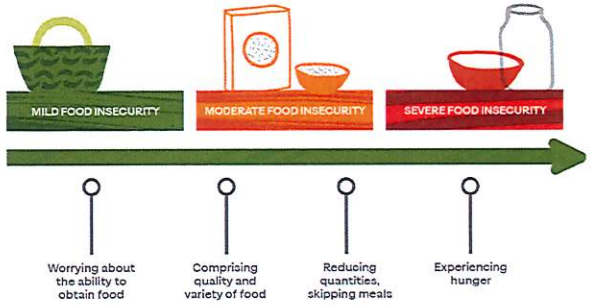


Key terms – To use with GCSE Pod

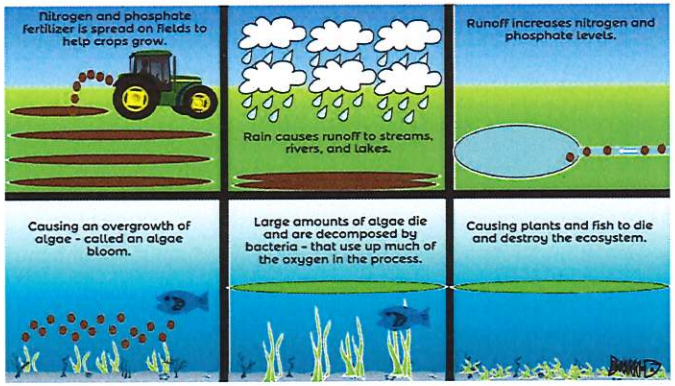
Acid rain	Rain that contains dissolved acidic gases such as nitrogen oxides and sulfur dioxide.
Algae	A group of organisms that photosynthesise (all have chloroplasts) but lack organs found in land plants.
Bioaccumulation	The process in which industrial waste and toxic chemicals, etc. Gradually build up in living tissue.
Biodiversity	A measure of the variety of all the different species of organisms on Earth.
Decomposers	An organism which eats dead organisms, fallen leaves, animal droppings, etc., and breaks them down into simpler materials.
Ecosystem	The living organisms in a particular area, together with the non-living components of the environment.
Eutrophication	Increase in levels of minerals/nutrients in the water resulting from fertiliser pollution of aquatic ecosystems.
Global dimming	The decrease in the amounts of solar radiation reaching the surface of the Earth due to tiny particulates.
Global warming	The rise in the average temperature of the Earth's surface.
Particulates	Tiny solid particles, such as dust and soot in the air which can cause health problems for humans as it irritates the lining of the lungs.
Peat bog	Poorly drained areas made up of partially decomposed organic matter due to waterlogging.
Smog	A type of pollution that is a mixture of smoke and fog.
Sulphur dioxide	A colourless pungent toxic gas formed by burning sulphur in air, which can cause serious breathing problems.
Incident energy	Light from the Sun arriving at the surface of the Earth
Trophic level	The position of an organism in a food chain, food web or pyramid.
Biomass	The dry mass (mass of an organism after its water has been removed) of an organism.
Pyramid of biomass	A diagram to illustrate the amount of biological material within a food chain or web.
Biotechnology	The use of selective breeding and genetic modification techniques in farming.
Mycoprotein	Fungus-based meat substitute.
Fermentation	A term for respiration in the absence of oxygen.

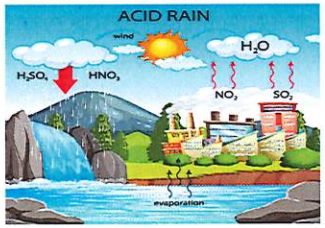


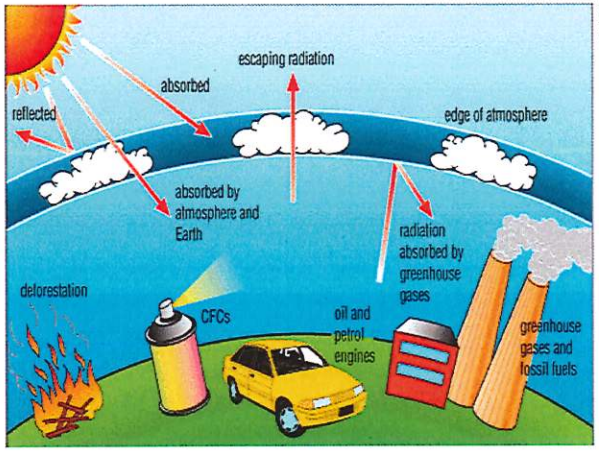




The Learning







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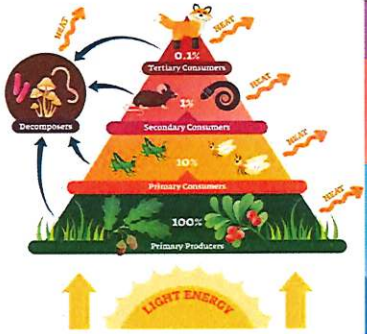
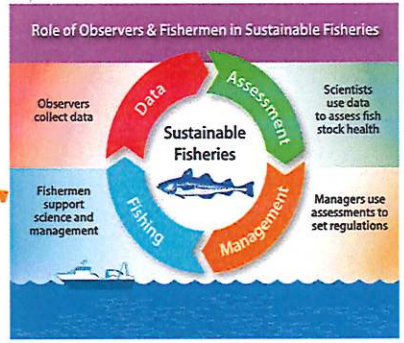
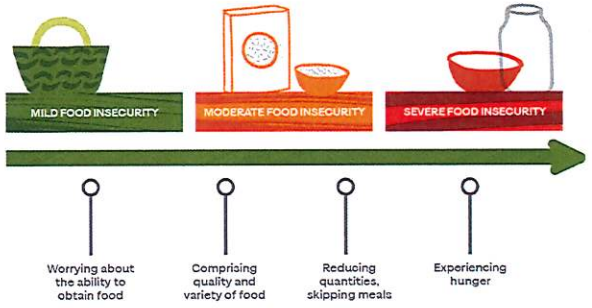






KS4 – 5.10.1-2 Using Earth's resources – Knowledge Organiser

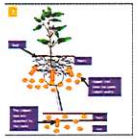
The Learning

Water | Resources | Energy sources

Life Cycle Assessments

Waste

Phytomining

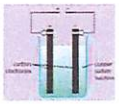


- BURN plants
- React ASH with sulphuric acid

How to get the copper from the compound

Displacement using scrap iron

Electrolysis



Bioleaching

Bacteria feed on metal ore

- 'leachate solution' contains copper compounds

Why bother? Reduce...use of limited resources

Reducing use of resources

Why bother? Reduce...use of energy resources

Why bother? Reduce...waste and environmental impacts

What do we use the earth's resources for?

- **Warmth**
- **Shelter**
- **Food**
- **Transport**

We can use them as natural resources or process them.

'Natural resources' + agriculture provides

- **Food**
- **Timber**
- **Clothes**

e.g. Cotton is natural and we grow cotton plants. OR we can use synthetic materials e.g. nylon

Finite resources are processed to get us

- **Energy**
- **materials**

e.g. Coal, oil and gas are used for energy.
e.g. metal ores are mined to get metals.

Potable water must have low levels of SALTS and MICROBES (it isn't PURE water)

Rainwater in lakes, rivers and reservoirs

Filter

Why? To remove insoluble solids

Sterilise – chlorine, ozone, or UV light

Why? To kill microbes

Sewage

Screening and grit removal

Sedimentation

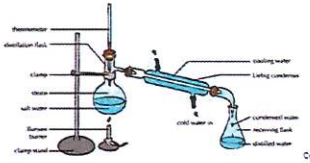
Anaerobic digestion of sludge

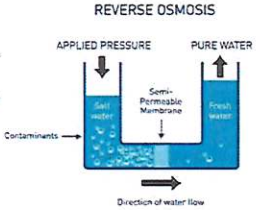
Aerobic treatment of effluent

Industrial and agricultural waste water – remove organic matter and harmful chemicals

Salt water

Desalination





☹ Both use a lot of energy

Key terms – To use with GCSE Pod

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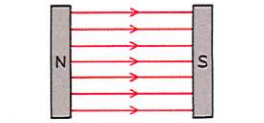
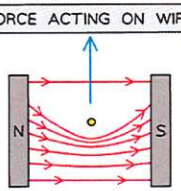
Renewable	We can replace them as we use them
Sustainable	meets the needs of the current generation without compromising he ability of future generations to meet their needs.
Potable	Safe to drink
Pure	One type of atom or molecule only

The Learning

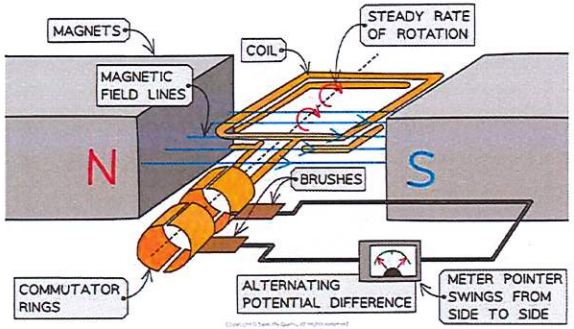


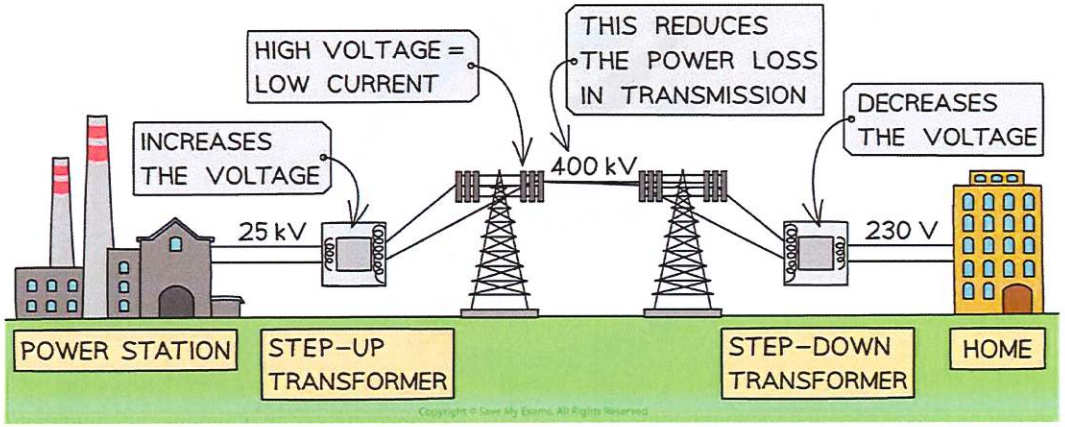
MAGNETIC FIELD PRODUCED BETWEEN OPPOSITE POLES OF A MAGNET



MAGNETIC FIELD PRODUCED WHEN THE CURRENT CARRYING CONDUCTOR IS PLACED BETWEEN THE POLES OF THE MAGNET

MAGNETIC FIELD PRODUCED BY A CURRENT CARRYING WIRE



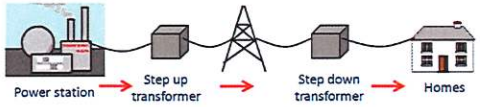


Key terms – For use with GCSE Pod

Voltage (PD)	The measure of the difference in energy between two parts of a circuit. Measured in volts.
Voltmeter	A device used to measure the potential difference between 2 points. Connected in parallel.
Power	The rate at which energy is transferred. Measured in Watts.
Resistance	The opposition that a substance offers to the flow of electric current.
Ohm	The unit for resistance.
Coulomb	The unit for charge.
Circuit diagram	A diagram created from circuit symbols and used to represent electrical circuits.
Circuit symbol	A diagram that represents each electrical component. Used in circuit diagrams.
Resistance equation	V = I x R (V=Voltage, I=Current, R=Resistance)
Charge equation	Q = I x t (Q=Charge, I=Current, t=time)

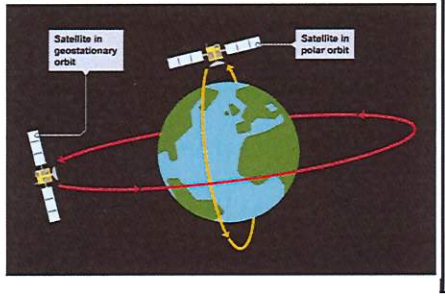
Revision...

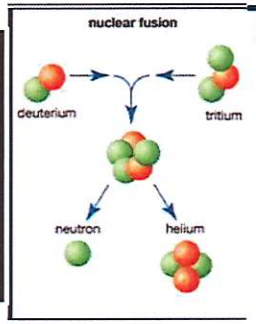
Copy the diagram and complete the questions in your books on the National Grid



We use the national grid to _ transfer _ energy to our homes. The step-up transformers increase the _ _ voltage _ _ and reduce the _ current _. The high voltage electricity now at _132_ kV moves with _low_ thermal losses and means that the wires can be quite _ thin _. Finally the step-down transformers mean that the _voltage_ is reduced to _230_ V and is useable in every day appliances. This can only be done with _alternating current_ from a power station.

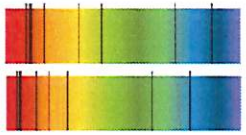
The Learning

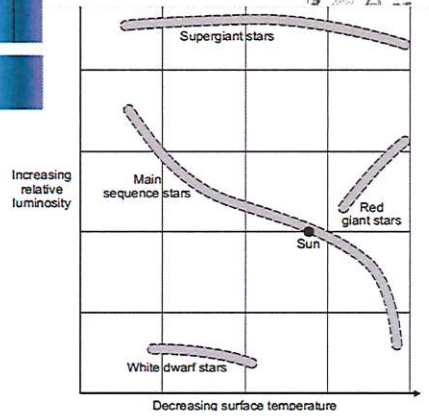




$^{2}_{1}\mathrm{H} + {}^{3}_{1}\mathrm{H} \rightarrow {}^{4}_{2}\mathrm{He} + {}^{1}_{0}\mathrm{n}$

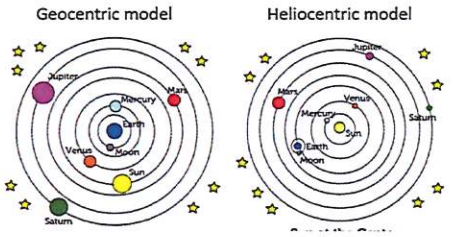
Two hydrogen nuclei fuse to produce a helium nucleus and a neutron.

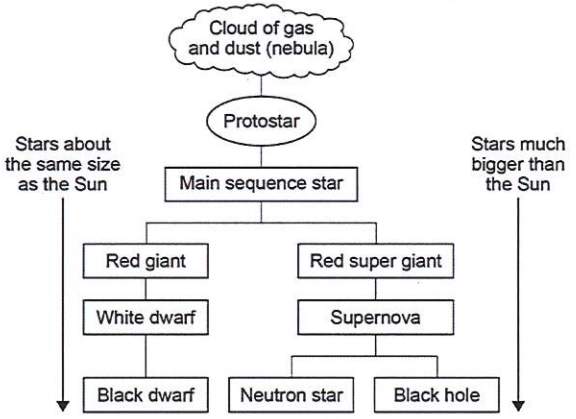




Key terms – For use with GCSE Pod

Heliocentric model	A model where the Sun is at the centre of our Solar system and planets orbit the Sun.
Nuclear fusion	The joining of two light nuclei to form a heavier nucleus. In this process some of the mass may be converted into the energy of radiation.
Main sequence star	A star in its main phase, where outward pressure due to nuclear fusion reactions is balanced by inward force due to gravitational attraction.
1 solar mass	A way to describe the mass of our Sun. The mass of other stars can then be compared.
Nebula	A cloud of dust and gas which combine due to gravitational attraction to form heavier masses.
Red giant	A life stage for a star with roughly 1 solar mass where the radius expands and cools, and nuclear fusion forms heavier elements up to iron.
Red super giant	A life stage for a star with roughly 5 or more solar mass where the radius expands (largest known stars) and cools, and nuclear fusion forms heavier elements up to iron.
White dwarf	Once nuclear fusion in a red dwarf star ceases, the radius collapses and cools to form a white dwarf.
Black dwarf	A theoretical stellar remnant, specifically a white dwarf that has cooled sufficiently that it no longer emits significant heat or light.
Supernova	When fusion reactions in a red super giant stop, and the star begins to collapse in on itself. The collapse is so catastrophic, that temperatures get so hot and cause the star to explode as a supernova.
Neutron star	A dense star made of neutrons.
Black hole	The final life stage of a star of roughly 8 solar masses, has gravitational pull which cannot be escaped by anything, including light.
Hertsprung-Russell diagram	A diagram to categorise and describe stars.
Orbit	The curved path of a celestial object or spacecraft round a star, planet, or moon, especially a periodic elliptical revolution.
Artificial satellites	Human-built objects orbiting the Earth and other planets in the Solar System.
Geostationary orbits	Geostationary satellites take 24 hours to orbit the Earth, so the satellite appears to remain in the same part of the sky when viewed from the ground.
The Big Bang theory	The scientific theory that the universe underwent rapid expansion from a singular point, to produce all known elements.
Red-shift	The observed increase in wavelength of light due to a star moving away from the observer.
Cosmic microwave background radiation	This comes from all directions in space and has a temperature of about -270 °C. The CMBR is the remains (echo or shockwave) of the thermal energy from the Big Bang, spread thinly across the whole Universe.
Theory	An idea with some corroborating evidence.





German

HT3 – Soziale Probleme – Y11 - German Knowledge Organiser

Key Ideas:

- social issues
- solutions
- regular and irregular verbs
- modal verbs
- conditional
- imperative

Key Verbs	
nehmen	to take
rauchen	to smoke
trinken	to drink
husten	to cough
vermeiden	to avoid
aufhören	to stop
unterstützen	to support
helfen	to help
aufgeben	to give up
schützen	to protect
schaden	to damage/harm

Adjectives	
ungesund	unhealthy
traurig	sad
schlimm	terrible
wichtig	important
ernsthaft	serious
schlecht	bad
gefährlich	dangerous
abhängig	addicted
krank	sick
laut	loud
gewalttätig	violent
obdachlos	homeless
arbeitslos	unemployed
reich	rich
arm	poor
sauber	clean
schädlich	harmful
einsam	lonely
menschlich	human/humane
hilflos	helpless
fettleibig	obese
bewusstlos	unconscious

Key phrases	
der Alkoholismus	alcoholism
das Rauchen	smoking
der Drogenkonsum	consumption of drugs
die Armut	poverty
die Obdachlosigkeit	homelessness
die Arbeitslosigkeit	unemployment
die Ungleichheit	inequality
die Diskriminierung	discrimination
der Rassismus	racism
der Seximus	sexism
die Gewalt gegen Frauen	violence against women
das schlimmste Problem	the worst problem
das größte Problem	the biggest problem
die Jugendliche	young people
das Blut	blood
der/die Drogensüchtige	drug addict
der/die Freiwillige	volunteer
die Gesundheit	healthy
die Gleichheit	equality
die Hilfe	help
die Krankheit	sickness
der Rat	advice
der Schmerz	pain

Connectives	
weil	because
deshalb	therefore
jedoch	however
obwohl	although
Negatives	
kein	no
nie	never

Opinions	
Ich würde sagen dass …	I would say that ..
ich denke dass …	I think that ..
Meiner Meinung nach …	In my opinion …
Ich bin der Ansicht dass ..	I am of the opinion that …
Man könnte sagen dass …	You could say that …

Hospitality & Catering

Knowledge Organiser Focus:

Hospitality and Catering:
Unit 2 Hospitality and Catering in Action

I should already know:

- The needs of different age groups.
- The needs of vegetarians and vegans.
- The needs of lactose intolerant.
- The needs of coeliac

I will learn:

- AC1.4 explain how cooking methods impact on nutritional value
- AC2.1 explain factors to consider when proposing dishes for menus
- AC2.2 explain how dishes on a menu address environmental issues
- AC2.3 explain how menu dishes meet customer needs
- AC2.4 plan production of dishes for a menu

This will help in the future:

This unit of work will provide students with knowledge to complete their coursework.

Key Words

Fat Soluble	Vitamin ADEK – Absorbed along with fat in the body.
Water Soluble	Vitamin C and B – carried in the bodies tissues and not stored in the body.
Organoleptic	Affects how a customer experiences food using their senses.
Sustainability	The avoidance of the depletion of natural resources in order to maintain the ecological balance.
Provenance	Where food comes from.
Mise en Place	The preparation of dishes ingredients before the beginning of service.

Factors

- Time of year e.g. seasonality of commodities, seasonal events
- Skills of staff
- Equipment available
- Time available
- Type of provision e.g. service, location, size, standards
- Finance e.g. costs, customer needs
- Client base

Dishes

- Preparation and cooking methods
- Ingredients used
- Packaging

Environmental issues

- Conservation of energy and water
- Reduce, reuse, recycle
- Sustainability e.g. food miles, provenance

Greater Depth Challenge

Research dishes for your cooking exam.
You have to prepare and cook a starter and main or a main and dessert.
You must include 3 cooking methods and a range of skills.

Further Reading

Try out some recipes at home:
Recipes - BBC Good Food
BBC Bitesize revision:
https://www.bbc.co.uk/bitesize/guides/zdr8y9q/revision/2

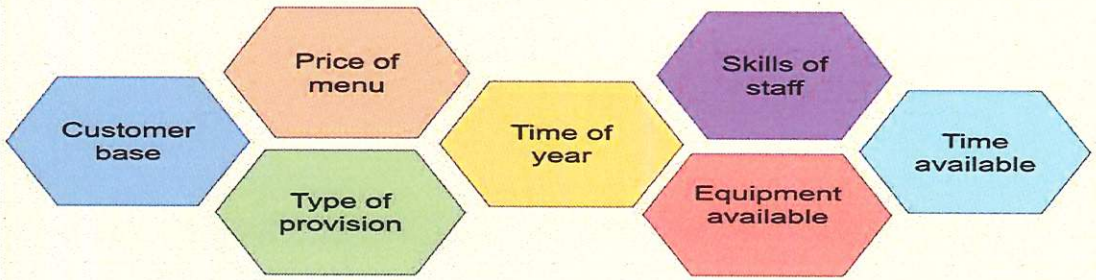
Hospitality & Catering

Recycle

Recycle sturdy containers for food storage
Send food waste to be used for compost or animal feed instead of throwing it away
Recycle used cooking oil. Some companies collect it for free and then turn it in to bio diesel
Recycle paper, cardboard, cans, glass bottles and jars – councils collect for recycling
Buy recycled glass, food grade plastic containers, recycled paper
Use the recycling bins

Task: Create a leaflet to advise kitchen staff how to recycle.

Factors to consider when planning a menu



Task: Chose a dish you eat regularly and describe the organoleptic qualities of the dish.

Organoleptic
This means how the dishes appeal to the customers senses.

Sight – How will the dish be attractive, a variety of colours, shapes, textures and good quality of finish, plated up neatly using the space and height on the plate

Smell – Will the dishes have an appetising smell, will the customers want to eat it?

Taste – What will be the main flavours customers will taste? Will the dish be spicy, fresh, meaty, savoury, cheesy, fruity?

Touch – How will the food feel in the mouth, will it be creamy, crunchy, smooth, chewy, crumbly?

Boiling, Simmering and Poaching.
Vitamin C dissolves out of the food into the cooking liquid.
Vitamin B leeches out of the food into water.
Vitamin ADEK are not water soluble so survive in the cooking water.
Using the water to make gravy or making a stew makes sure the vitamins are consumed.

How to maximise nutrient intake during cooking:
Use less water – poach or steam.
Consume the liquid in the pan.
Don't peel vegetables – there is fibre in the skin.
Eat vegetables a few days after you have bought them – the nutrients decrease with air exposure.
Cut food after you have cooked it.
Nutrient loss decreases the bigger the pieces

Task: Research which fruits and vegetables are in season in the UK in
Spring
Summer
Autumn
Winter

Task: Explain what happens to vitamins when they are cooked in water.

Seasonality

Food that is in season is better value, readily available and is more environmentally friendly.
If food has to be flown around the world it can lose its quality.
Customers also want hot food in the winter and cold food in the summer.
This will be more relevant for the lunch menu as in the evenings most people have a hot meal

Task: Summarise how to maximise the nutrient intake during cooking.

Hospitality & Catering

Recycle

Factors to consider when planning a menu

Task: Create a leaflet to advise kitchen staff how to recycle.

Task: Chose a dish you eat regularly and describe the organoleptic qualities of the dish.

Seasonality

Task:
Research which fruits and vegetables are in season in the UK in
Spring
Summer
Autumn
Winter

Task: Explain what happens to vitamins when they are cooked in water.

Boiling, Simmering and Poaching.

How to maximise nutrient intake during cooking:

Task:Summarise how to maximise the nutrient intake during cooking.

Organoleptic

Sight –

Smell –

Taste –

Touch –

Creative

Y11 Design & Technology

I should already know and what to expect

- You have investigated the design context and should have produced an initial mind map/research page, conducted two product analysis of existing products, carried out independent research based around your design context.

I will learn – Skills school :

- Drawing skills 2D/3D
- How to add colour and shading to your designs
- How to produce a range of innovative designs
- The importance of quality annotations

I will learn - Knowledge:

A02

Design and make prototypes
that are fit for purpose
C Generating design ideas **20**

Assessment Criteria

Imaginative, creative and innovative ideas have been generated, fully avoiding design fixation and with full consideration of functionality, aesthetics and innovation.

Ideas have been generated, that take full account of on-going investigation that is both fully relevant and focused.

Extensive experimentation and excellent communication is evident, using a wide range of techniques.

Imaginative use of different design strategies for different purposes and as part of a fully integrated approach to designing

Key learning

The importance of producing a range of innovative design ideas as a designer and avoiding .duplicating designs. You will learn how to effectively communicate designs through a range of sketching and annotation techniques

Y11 Design & Technology

Understanding assessment objectives – GCSE Design & Technology

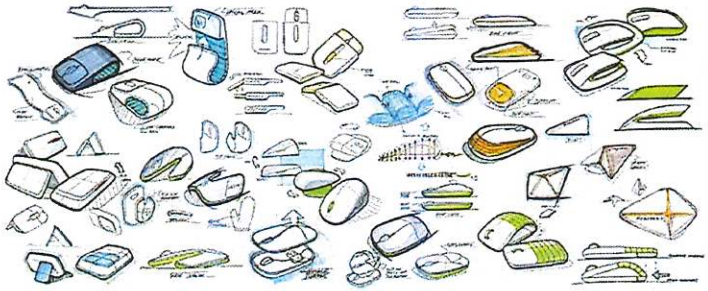
AO1
Identify, investigate and outline design possibilities
A Identifying & investigating design possibilities **10**
B Producing a design brief & Specification **10**

A02
Design and make prototypes that are fit for purpose
C Generating design ideas **20**
D Developing design ideas **20**
E Realising design ideas **20**

A03

AO2
C – Developing Design Ideas

Assessment Criteria
Very detailed development work is evident, using a wide range of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype.
Excellent modelling, using a wide variety of methods to test their design ideas, fully meeting all requirements.
Fully appropriate materials/components selected with extensive



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Y11 Design & Technology

AO2
C – Generating Design Ideas

Understanding assessment objectives – GCSE Design & Technology

Use this space to make notes on your progress towards each assessment objective

AO1

_____

_____

_____

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A02

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A03

Assessment Criteria

Very detailed development work is evident, using a wide range of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype.

Excellent modelling, using a wide variety of methods to test their design ideas, fully meeting all requirements.

Fully appropriate materials/components selected with extensive research into their working properties and availability.

Fully detailed manufacturing specification is produced, showing comprehensive justification to inform manufacture.

Highlight once you think you have achieved any of the above assessment criteria