

Knowledge Goals Homework Booklet 1 (Autumn term 2023)

Year 9 and 10

Name: _____



Subject	Page Number
Art and Design	5
Computer Science	7
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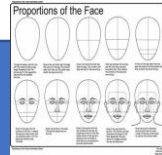
Suggested Homework Schedule
(30 minutes of independent study per subject each week)

	Subjects to Revise	
Monday	Science	Option 2
Tuesday	Mathematics	Option 2
Wednesday	Science	Tier 2 Vocab
Thursday	English	Option 3
Friday	Option 3	Mathematics
Saturday	Option 1	English
Sunday	Option 1	Mathematics

To help you get organised, we have planned out your weekly homework slot for each subject.

Mind mapping

- Mind mapping is simply a diagram to visually represent or outline information.
- Use information gathered from your Knowledge Goals booklet to create mind maps, make sure to use colour and images and keep writing to the bare minimum.



HOW TO MIND MAP VIDEO

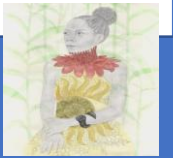
Parent information on knowledge retrieval:



Flash cards

Use your Knowledge Goals booklet to make flash cards. Write the questions on one side and on the other record the answer.

Test yourself or work with a friend to make sure you know all of the key information for each topic.



HOW TO FLASH CARD VIDEO

How should students use the Knowledge Goals booklets?

Your **Knowledge Goals** booklet provide the essential knowledge that you need to learn in each subject this half term.

You are expected to spend **30 minutes per subject per week** 'learning' the content.

You will be assessed during lessons using 'low stake' quizzing.

Your teacher may choose to set you additional homework.

How can parents support?

- Read through the booklet with your child – if you don't understand the content then ask them to explain it to you – 'teaching' you helps them to reinforce their learning.
- Test them regularly on the spellings of key words until they are perfect. Get them to make a glossary (list) of key words with definitions or a list of formulae.
- Read sections out to them, missing out key words or phrases that they have to fill in. Miss out more and more until they are word perfect.

Literacy: Tier 2 Vocabulary

Tier 2 Vocabulary		
	Key word	Definition
1	Adequate	Barely sufficient or suitable.
2	Conformity	Action in accord with prevailing social standards, attitudes, practices, etc.
3	Diverse	To be of a different kind, form, character, etc.
4	Hindrance	To impede, stop, prevent, or the like.
5	Indifferent	To act without interest or concern; not caring; apathetic.
6	Turbulent	To be in a state of agitation or tumult; disturbed.
7	Valid	To be sound; just; well-founded.

These words are all tier 2 words; in other words, they are seen as 'academic vocabulary' and if you know them, can understand them and use them, you will do better in your exams and be able to communicate more precisely and effectively in life.

Still Life

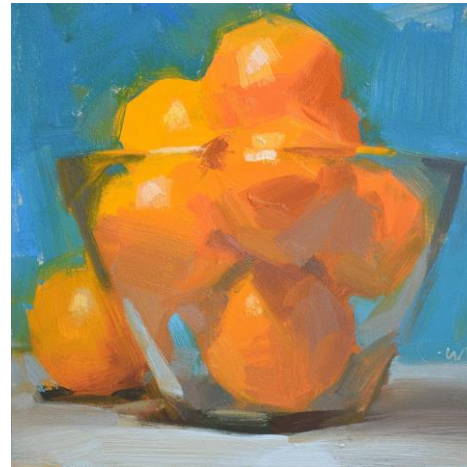
Still life includes all kinds of man-made or natural objects. Still life can be a celebration of material pleasures such as food and wine, or a warning of the ephemerality and of the brevity of human life.

In the hierarchy of genres (or subject types) for art established in the seventeenth century by the French Academy, still life was ranked at the bottom – fifth after history painting, portraiture and genre painting (scenes of everyday life) and landscape. Still life and landscape were considered lowly because they did not involve human subject matter. In modern art, simple still life arrangements have often been used as a relatively neutral basis for formal experiment, for example by Paul Cézanne, the cubist painters and, later in the twentieth century, by Patrick Caulfield.

Landscape Painting - Keywords

Pen	Acrylic paint	Harmonious
Pencil	Watercolour paint	Complementary
Tone	Colour mixing	Hue
Value	Pointillism	Tints
Contrast	Primary	Shades
Brushstrokes	Secondary	Warm colours
Monochromatic	Tertiary	Cool colours
Rhythm	Texture	Perspective

Artist Example (Complementary Colours)



Carol Marine
'Beside Ourselves'

Artist Example (Harmonious colours)



Patti Mollica

Brushstrokes - Examples

Pointillism	Flat block colour	Broad & chunky	Impasto

Resources

[TATE: Still Life](#)

[Still Life: MoMA](#)

[Paul Cezanne](#)

[Cubism](#)



[Carol Marine](#)

[Patti Mollica](#)



Tier 3 Vocabulary

	Key word	Definition
1	Composition	The arrangement of elements within an art work.
2	Colour Theory	Facts about colour & how we can use it.
3	Value	Determines the lightness or darkness of a colour.
4	Tone	(Similar to 'Value') Describes how light or dark something is
5	Complementary	Complementary colours are opposites.
6	Harmonious	Harmonious colours are next to each other on the colour wheel. They are similar to each other. (Warm & Cool)
7	Brushstroke	A mark made by a paintbrush drawn across a surface.
8	Texture	The feel, appearance, or consistency of a surface or substance.
9	Tint	Tint is adding white.
10	Shade	Shade is adding black.
11	Form	To show that objects that are 3-Dimensional, or have length, width, and height.
12	Chiaroscuro	the treatment of light and shade in drawing and painting.

Notes:

Quiz QR Code



Quiz Link

[QUIZ LINK](#)

1. A computer system has both hardware and software.
2. **Hardware** are the physical components that make up a device or computer system. These include both the internal components (eg motherboard, CPU, RAM) and peripheral devices such as printers.
3. **Software** is the computer code, programs and algorithms that give instructions to the hardware to make it perform the desired task. Without the software the hardware will not get any instructions and it will not do anything.
4. **CPU (Computer Processing Unit) or processor** Fetches, decodes and executes instructions and performs logical and arithmetic operations.
5. **Von Neumann architecture** is the stored program concept, where program instructions and the data to be processed can be stored in the same memory.



1. The **print** function is used to write output to the screen. `print` takes one or more arguments (strings or variables between the brackets) and writes the data to the screen.
2. Variable assignments **are not** equations. Variable assignments are instructions for the computer. This means that the data stored in a variable can change throughout the runtime of the program.
3. The **input** function is used to prompt the user to enter some data using the keyboard. `input` can take a string argument which is used as a prompt to the user to tell them what data the computer is expecting.
4. When you want to generate a random number in your program you can make use of the **random library**.

```

user_input.py x
1 value = input("Please enter a string:\n")
2
3 print(f'You entered {value}')
4
Run: user_input x
/Users/pankaj/Documents/PycharmProjects/Pytho
Please enter a string:
Python
You entered Python

Process finished with exit code 0

```

Revise:

[BBC Bitesize](#)[Craig 'n' Dave](#)

Tier 3 Vocabulary

	Key word	Definition
1	Hardware	The physical components of a computer.
2	Software	The computer code, programs and algorithms that give instructions to the hardware to make it perform the desired task.
3	Computer Processing Unit	Fetches, decodes and executes instructions and performs logical and arithmetic operations.
4	Von Neumann architecture	Where program instructions and the data to be processed can be stored in the same memory.
5	Input	Any method of getting data into the computer.
6	Output	Any method of getting data out of the computer.
7	Variable	A storage location with a name. The data in a variable can be changed after being initially set.
8	Assignment	A statement in a programming language used to set or reset the data stored in a storage location identified by a variable name.
9	Syntax error	An error that has occurred because the programmer has not followed the rules of the programming language they're using.
10	Logical error	When a program does not behave in the way that it should, even though the programmer has followed the rules of the language.

Notes:

Quiz QR Code



Quiz Link

[QUIZ LINK](#)

Tatty Devine

Analysing the work of others:

Designing with **sustainability** in mind:

- Create a quality item that will last.
- Avoid waste – tessellate your designs to use less materials.
- Use scraps and off cuts

Tatty Devine Inspired Jewellery

We use **ACCESS FM** to help us write a **specification** - a list of requirements for a design - and to help us **analyse and describe** an already existing product.

ACCESS FM - Helpsheet

A is for **Aesthetics**



Aesthetics means **what does the product look like?**
What is the: Colour? Shape? Texture? Pattern? Appearance? Feel? Weight? Style?

C is for **Cost**



Cost means **how much does the product cost to buy?**
How much does it: Cost to buy? Cost to make?
How much do the different materials cost? Is it good value?

C is for **Customer**



Customer means **who will buy or use your product?**
Who will buy your product? Who will use your product?
What is their: Age? Gender?
What are their: Likes? Dislikes? Needs? Preferences?

E is for **Environment**



Environment means **will the product affect the environment?**
Is the product: Recyclable? Reuseable? Repairable? Sustainable?
Environmentally friendly? Bad for the environment?
6R's of Design: Recycle / Reuse / Repair / Rethink / Reduce / Refuse

S is for **Size**



Size means **how big or small is the product?**
What is the size of the product in millimeters (mm)? Is this the same size as similar products? Is it comfortable to use? Does it fit?
Would it be improved if it was bigger or smaller?

S is for **Safety**



Safety means **how safe is the product when it is used?**
Will it be safe for the customer to use? Could they hurt themselves?
What's the correct and safest way to use the product? What are the risks?

F is for **Function**

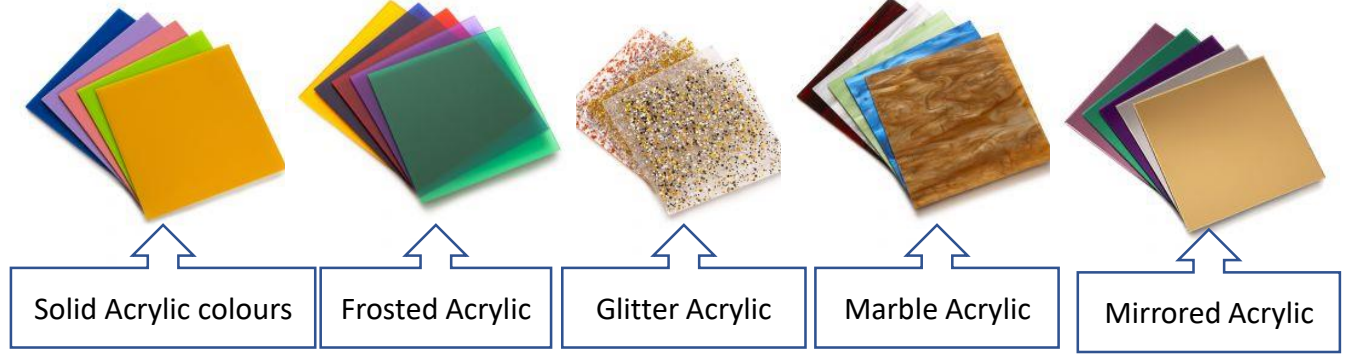


Function means **how does the product work?**
What is the products job and role? What is it needed for? How well does it work? How could it be improved? Why is it used this way?

M is for **Material**



Material means **what is the product made out of?**
What materials is the product made from? Why were these materials used? Would a different material be better? How was the product made? What manufacturing techniques were used?



Prototypes:
Preproduction models.

Pliers: Round nosed, cutting and long nosed

Jewellery findings:
They are the small parts that make up a piece of jewellery – the building blocks to jewellery making.



Tier 3 Vocabulary

Key word		Definition
1	Sustainability	The quality of being able to continue over a period of time.
2	Acrylic	A type pf plastic suitable for laser cutting.
3	Pliers	Hand held tools to snip or bend materials.
4	Findings	Jewellery making parts to join, attach or hold jewellery together.
5	Chain	Links of chain joined together to form lengths.
6	Links	Single circles of chain which join jewellery together.
7	Tessellate	Nesting materials together to take up as little space as possible.
8	Prototype	A pre production model made to check the product works.
9	Aesthetics	How a product looks.
10	Function	What a product is supposed to do.
11	Material	What a product is made out of.
12	Customer	Who a product or design is for.

Notes:

Quiz QR Code



Quiz Link

[QUIZ LINK](#)

What is 'devising'?

Devising is **creating your own ideas from scratch**, in a theatrical performance. During this you will develop the ability to:

- Use a stimuli to come up with original ideas for a piece.
- Develop your ideas – thinking deeply about links in your ideas and how you can make a story engaging.
- Collaborate with others – Combine ideas in your devised work with others in your group.
- Use a range of drama skills and techniques to engage your audience.
- Rehearse and improve your work - make changes in your practical work where needed.
- Perform to an audience.
- Analyse and evaluate it – discuss how to improve your work.

What is a 'stimulus'?

A stimulus is a **starting point**.

Examples of stimuli...

In order to come up with original and interesting ideas, we can use a range of stimuli. For example;

- A prop
- An image
- A piece of music
- A title
- A poem or piece of writing
- A sound

Which of these are stimuli?

- Pictures and poems
- Music and articles
- All of them

What is a flashback?

- A scene showing past events
- A scene showing future events
- A scene showing an actor in more than one role

Tier 3 Vocabulary

Key word		Definition
1	Stimulus	A starting point.
2	Devising	Creating from scratch.
3	Facial Expressions	A way to show emotions and feelings using your face.
4	Body Language	A way to show emotions and feelings using your body.
5	Gait	The way you walk
6	Stance	The way you stand using your legs and feet.
7	Posture	The way you stand using your body.
8	Vocal Projection	the strength of speaking or singing whereby the voice is used powerfully and clearly.

Link:

BITESIZE
[Click Here](#)


Notes:

Quiz QR Code



Quiz Link

[Click Here](#)

Autobiography – a self written account of one's own life

The word is from 3 Greek words:

- **auto** – meaning self
- **bio** – meaning life
- **graphy** – meaning writing

Week 1: List at least 5 words and their meanings which -

**2 achievement points
if you list 10
in each column**

start with auto

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 8
- 9.
- 10.

start with bio or
have bio in them

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 8
- 9.
- 10.

end in graph or graphy

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 8
- 9.
- 10.

Week 3: Vocabulary linked with feeling

	happy		sad
1	euphoric	6	miserable
2	elated	7	melancholic
3	ecstatic	8	morose
4	jubilant	9	grief stricken
5	overjoyed	10	overwhelmed

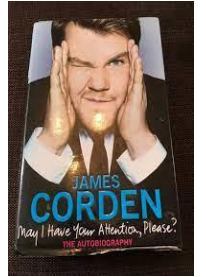
Week 4 : Vocabulary linked with feeling

	something was hard		a sense of achievement
1	challenging	6	a sense of success
2	arduous	7	a sense of accomplishment
3	formidable	8	a sense of fulfilment
4	gruelling	9	a dream realised
5	irksome	10	triumphant

10 Must-Read Autobiographies

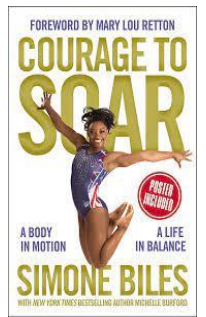
May I Have Your Attention Please? by James Corden

James Corden achieved the dream of many a British entertainer: he became a huge success in the USA as well as here. His Carpool Karaoke TV show has an almost cult following. Yet at school, he wasn't cool, or clever - in fact, he was pretty disruptive. He formed a boy band but it was when he co-wrote "Gavin and Stacey" that his life really changed.



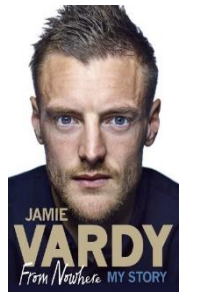
Courage to Soar: A Body in Motion, A Life in Balance by Simone Biles

Olympic gold medallist, Simone Biles, appeared to somersault onto our screens from nowhere when she became the darling of the 2016 Rio de Janeiro Olympics. But the gymnast, like all successful athletes, had spent many years training and overcoming a less-than-perfect start to her life. Taken from her drug-addict mother, she was fostered and eventually adopted.



Jamie Vardy From Nowhere. My Story by Jamie Vardy

Jamie Vardy has made it from being an ordinary boy in Sheffield to the soccer player who led underdogs, Leicester City, to the top of the Premier League and won himself a place on the England team.



Being Jazz: My Life as a (Transgender) Teen by Jazz Jennings

Jazz has a hugely popular reality TV show on TLC. Jazz transitioned to life as a girl at the very young age of five and now she is one of the most recognised activists for transgendered kids, teens and adults. She has had to endure much discrimination and bullying. This story tells of how Jazz navigated adolescence, having started her life as a boy.



10 Must-Read Autobiographies

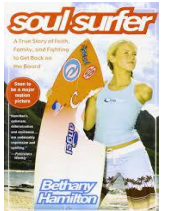
Mud Sweat and Tears Junior Edition by Bear Grylls

Bear Grylls is the ultimate adventurer. A former SAS serviceman, he is also a [survival](#) instructor, and has found fame as a writer and TV presenter. In this memoir, he describes how he learned to sail and climb with his dad, and spent his teenage years practising mountaineering and martial arts. But when he broke his back in a terrible parachuting accident, he defied expectation and learned to walk again, eventually climbing Everest at the age of 23.



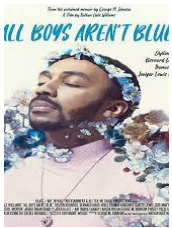
Soul Surfer: A True Story of Faith, Family, and Fighting to Get Back on the Board by Bethany Hamilton

Bethany Hamilton is a professional surfer, who returned to surfing after she lost her arm in a shark attack. Bethany describes how she survived that attack and found the determination and faith to continue with the sport she loved.



All Boys Aren't Blue: A Memoir-Manifesto by George M Johnson

George M. Johnson is a journalist and LGBTQIA+ activist. This tale takes us through his childhood, teen and college years in the states of New Jersey and Virginia, from being bullied at the age of five to embarking on sexual relationships.



The Reason I Jump: One Boy's Voice from the Silence of Autism by Naoki Higashida

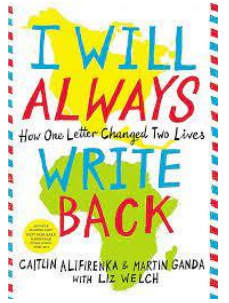
Autistic teenager, Naoki Higashida, wrote this at the age of 13. Naoki explains why he acts as he does such as why he talks loudly, what causes his panic attacks, and why he likes to jump.



10 Must-Read Autobiographies

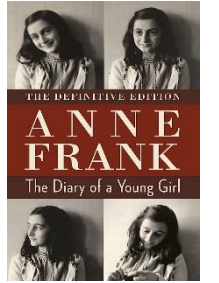
I will always write back by Caitlin Alifirenka

Some school assignments can go further than just getting you a good grade. This story tells of how 12-year-old Caitlin Alifirenka writing to an unknown student in a far-off place, Martin Ganda in Zimbabwe, changed her life.



The Diary of Anne Frank

Anne Frank, a Jewish teenager during the Second World War, wrote of how her family had to hide in a tiny secret annexe fearful of being arrested and taken away by the Nazis. Tragically, Anne and her family were arrested and sent to concentration camps, where Anne died at the age of 16. You can watch [The Anne Frank video diaries](#) on YouTube.



Week 2: Be ready to be quizzed about who wrote about what by the week beginning Sept 18th

Good autobiography, like good stories, uses techniques to make details more vivid

Week 5: Know the following techniques to use in your writing :
SIMPLE ones to PASS and get a ROARINGLY good grade

Similes	Comparing one thing with another using the word like or as to give a clearer picture of it.	Pathetic fallacy	Where the weather is made to reflect the feelings of a character.	Rhyme	Where the ends of 2 words in a sentence sound the same to make them catchy and memorable.
Imagery	Any words which give a clear picture of something.	Alliteration	The repeating of a letter sound at the start of several words in a sentence – not necessarily next to each other.	Onomatopoeia	Where a descriptive word sounds like the sound it's describing.
Metaphor	Comparing one thing with another but saying it is that thing to give a clearer picture of it.	Synonyms	Using several different words with the same meaning to emphasise the picture being given.	Assonance	Half rhyme where the beginning and end of a word have the same letter sounds or the middle of the words do.
Personification	Comparing a non-living thing/an object with a person/ living thing to make it sound mysterious, scary, funny .	Superlatives	Making something sound as if it's the best or worst ever using most or least in front of an adjective or adding - est to the end.	Repetition	Using the same word several times in a sentence or paragraph to emphasise a point.
Lists of 3 words eg. verbs, adjectives, adverbs	Using 3 descriptive words for one thing rather than just one to give a more precise picture.				
Exaggeration	Describing something to be more than it actually is to capture strong feelings about it or a person.				

Poem Summaries

Context

Extract from 'The Prelude' by William Wordsworth (1850): This autobiographical epic poem is set on a lake in the English Lake District. The speaker narrates an incident in which he finds and steals a shepherd's boat in "an act of stealth". Being typical of Romantic poetry, the experience of rowing on the lake is described as a beautiful and peaceful until the tone changes and nature causes the speaker to panic and return the boat. However, the experience isn't forgotten and haunts the boy for many days afterwards. Although he is unsure what is happening to him, it is clear that the experience causes an epiphany as nature teaches him a moral lesson and the poet feels guilty for taking the boat without permission

Wordsworth is writing this pastoral poem based on experiences during his formative years in the English Lake District. This section of the epic poem, subtitled Growth of the Poet's Mind, is focused on an event in which he stole a boat and feels that nature tried to teach him a moral lesson as a result. Being a Pantheist (worships nature) and Romantic, nature is presented as both beautiful and powerful. Also typical of Romantic poetry is the focus on the individual's connection with nature, away from the urban cities and Industrial Revolution.

'What Were They Like?' by Denise Levertov (1967): This poem is split into two stanzas: the first lists 6 questions and the second stanza provides the answers to each. This creates the impression almost of a television interview. It is clearly an anti-war piece of propaganda, presenting the American soldiers as barbaric and the Vietnamese civilians as simple and peaceful yet being destroyed by the might of the American forces. Although one might consider it slightly patronising towards the Vietnamese, "most were peasants," Levertov's aim is to create sympathy for the majority of innocent, highlighting the grotesque destruction of the innocent, particularly children, and describing a future in which the Vietnamese culture has been destroyed.

The Vietnam War was one of the first televised wars, therefore the world were able to witness the horrors and greater sympathy was evoked for the Vietnamese civilians. The American army intervened in the civil war between North and South Vietnam (South Vietnam wanted to preserve its independence, North Vietnam wanted to unite the country). America sent masses of military personnel to support South Vietnam, which many at home perceived to be morally wrong. In America, there were many protests and movements to withdraw American troops and involvement. The North's use of guerrilla warfare meant the American army was eventually humiliated. This is very clearly a piece of anti-war propaganda.

'The Class Game' by Mary Casey (1981): This poem is a dramatic monologue in which the speaker directly addresses [a] member[s] of the middle or upper classes. The speaker is confident and challenges prejudice based on class backgrounds. One long stanza is used to present a sustained outpouring or outburst of anger and annoyance. The use of rhetorical questions throughout the poem puts the reader under pressure. She also uses juxtaposition by placing slang or colloquial words alongside standard English or by presenting the contrast in its physical form, such as "did I drop my unemployment card/Sitting in your patio (we have a yard)?" This not only highlights the contrast between the lifestyles but trivialises the class distinctions. Ultimately, Casey ends the poem with a defiant tone, stating her pride in being working class

Little is known about Casey except that she was a housewife from Liverpool who contributed to a literary magazine, 'Voices', from 1972-1984. The poets were not professional but ordinary, working class people writing about ordinary events in daily life. Many were consequently snobbish about the collections, questioning the magazine's literary value. In 1979, Margaret Thatcher became Prime Minister and the working class felt the repercussions with job cuts due to recession and indirect taxation which taxed everybody, regardless of income. Some argue that today, we live in a classless society but more than enough, the distinction is vivid.

'Half Caste' by John Agard (1996): Agard directs this poem at anybody who uses the term "half-caste". He uses humour and sarcasm to ridicule the term and challenge its use. The tone becomes growingly angry at prejudice based on race and he uses lots of famous cultural references such as Picasso and Tchaikovsky, who mixed colours and notes to make infamous works that have been acclaimed for generations, to highlight that some of the greatest successes in life come from mixing, thus mixing races is not a bad thing.

Agard was born in the former British colony of Guyana and moved to Britain in 1977. He uses Caribbean accent and dialogue to bring Guyanese identity to his work. 'Caste' derives from the Latin 'castus' meaning pure, thus the term "half caste" is offensive as it derives from the Latin meaning of being 'half pure'. Having moved to Britain in 1977, Agard is sure to have faced and witnesses some of the prejudices held by the public. He is foremost challenging the use of the term "half-caste" but more widely, he is challenging racial discrimination which is arguable still present in society.

'No Problem' by Benjamin Zephaniah (1996): Zephaniah speaks directly to the reader about being a victim of "playground taunts/ An racist stunts." However, he holds no grudges but uses the poem to attack racism in general and racial stereotyping in particular. The title of the poem, "No problem" is ironic since racism and racial stereotyping have no place in civilised society. He is confident that "I/Black am/is not de problem", the racist attitudes are. The first stanza deals with the many stereotypes white people have of black people, which the poet is able to deal with but thinks is unfair.

Zephaniah grew up in Jamaica and Birmingham and consequently uses a mixture of Black British and Standard English words in his poem. He left school at 14 and was dyslexic; this could be why he does not abide by punctuation and grammatical rules. However, it could also be evidence of him standing up against the rules and expectations. He writes a lot of poetry celebrating cultural diversity in Britain yet declined an OBE from the Queen because he felt it would be a symbol of accepting the oppression by the British Empire.

Tier 3 Vocabulary

Key word		Definition
1	Autobiographical	Written work dealing with the writer's own life.
2	Epic	A lengthy narrative poem typically about the extraordinary deeds of extraordinary characters.
3	Dramatic monologue	A type of poetry written in the form of a speech of an individual character.
4	colloquial	Colloquialism is informal, everyday language that is used by a specific geographical region.
5	Juxtaposition	Two things being seen or placed close together with <u>contrasting</u> effect.
6	Irony	The expression of one's meaning by using language that normally <u>signifies</u> the opposite, typically for <u>humorous</u> or <u>emphatic</u> effect.
7	Simile	A simile describes something by comparing it to something else, using like or as.
8	Metaphor	A figure of speech that describes an object or action in a way that isn't literally true.
9	Personification	The attribution of a personal nature or human characteristics to something non-human.
10	Alliteration	The occurrence of the same letter or sound at the beginning of adjacent or closely connected words.
11	Assonance	The use of the same vowel sound with different consonants or the same consonant with different vowels in successive words.
12	Anaphora	A figure of speech in which words repeat at the beginning of successive clauses, phrases, or sentences.

Notes:

Quiz QR Code



Quiz Link

[QUIZ LINK](#)

Primary processing



Secondary processing



Enzymic browning



Starch degradation



Maillard reaction



Caramelisation



Starch geletanisation



Blanch

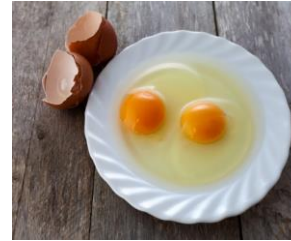


Categories of cheese

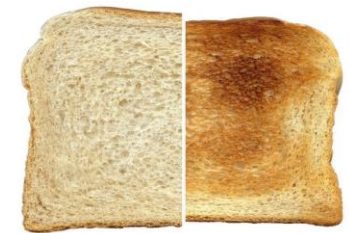
Examples

Hard	Cheddar, Parmesan, Gouda, Red Leicester,
Soft	Goats cheese, Brie, Cambebert, Cottage Cheese,
Blue Veined	Stilton, Danish blue, Garstang Blue

Protein denaturation



Dextrinisation



Tier 3 Vocabulary

Key word		Definition
1	Protein denaturation	Where protein strands unravel and change structure to form a different shape or colour. i.e when frying an egg.
2	Dextrinisation	When dry heat is applied to a starchy product and the molecules on the surface break down and change colour to brown – i.e bread to toast.
3	Enzymic browning	The release of enzymes from cut cells in fruit and vegetables, which react with oxygen and form brown discolourations i.e in an apple.
4	Milliard reaction	Chemical reaction between proteins and carbohydrate which changes the flavour of food i.e when meat is cooked.
5	Starch degradation	The breaking up of starch molecules during cooking which releases sugars and sweetness, breaks down bonds to make starchy foods softer. I.e pasta, potatoes.
6	Starch gelatinisation	When starch molecules swell up during boiling and absorb water to thicken a sauce. They eventually burst, creating a gel in the sauce i.e white sauce.
7	Caramelisation	When sugars melt at a high temperature and change colour to a shade of brown and release sweetness.
8	Blanch	Vegetables or fruit are put into boiling water for two minutes and then plunged into cold water. This prevents enzymic browning and partly cooks the fruit or vegetable.
9	Pasturisation	A process of food preservation in which packaged and non-packaged foods (such as milk and fruit juices) are treated with mild heat, usually to less than 100 °C (212 °F), to eliminate pathogens and extend shelf life .
10	Primary processing	Changing a food that is not edible in its original state. For example washing salad, harvesting wheat.
11	Secondary processing	When a primary food is changed into an ingredient which then can be used to make a food product.
12	The olfactory system	The olfactory system, or sense of smell, is the sensory system used for smelling (olfaction).

Notes:

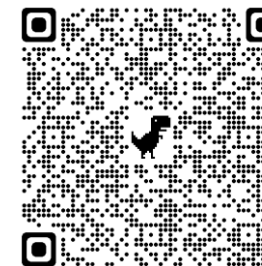
Quiz 1 QR Code



Quiz 1 Link

[QUIZ LINK](#)

Quiz 2 QR Code



Quiz 2 Link

[QUIZ LINK](#)

Revise these countries

- Angleterre =
- Ecosse =
- Canada =
- Suisse =
- France =
- Grande Bretagne =
- Amérique =
- Allemagne =
- Espagne =
- Portugal =
- Irlande =
- Autriche =
- Belgique =
- Pays de Galles =

Nouvelle-Zélande =

Australie =

Arabie Saoudite =

Dubaï =

Emirats Arabes Unis =

Croatie =

Bulgarie =

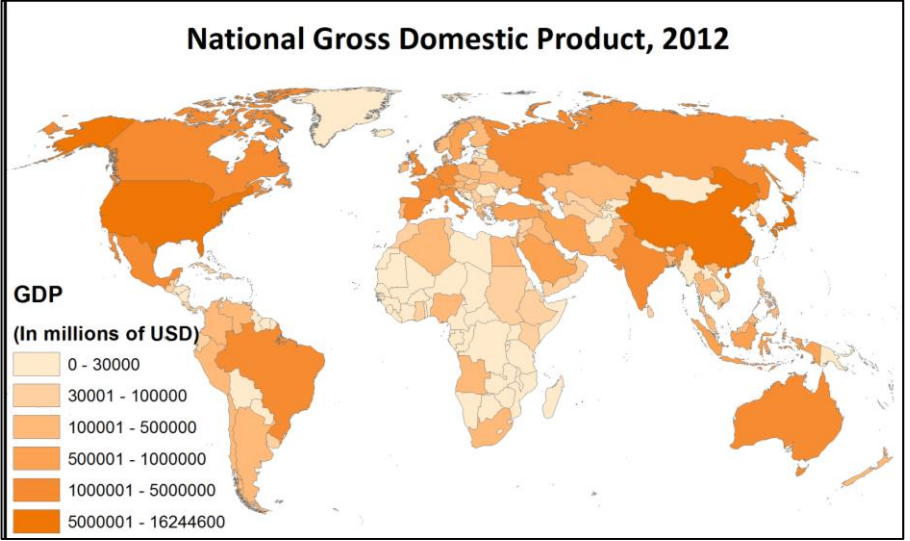
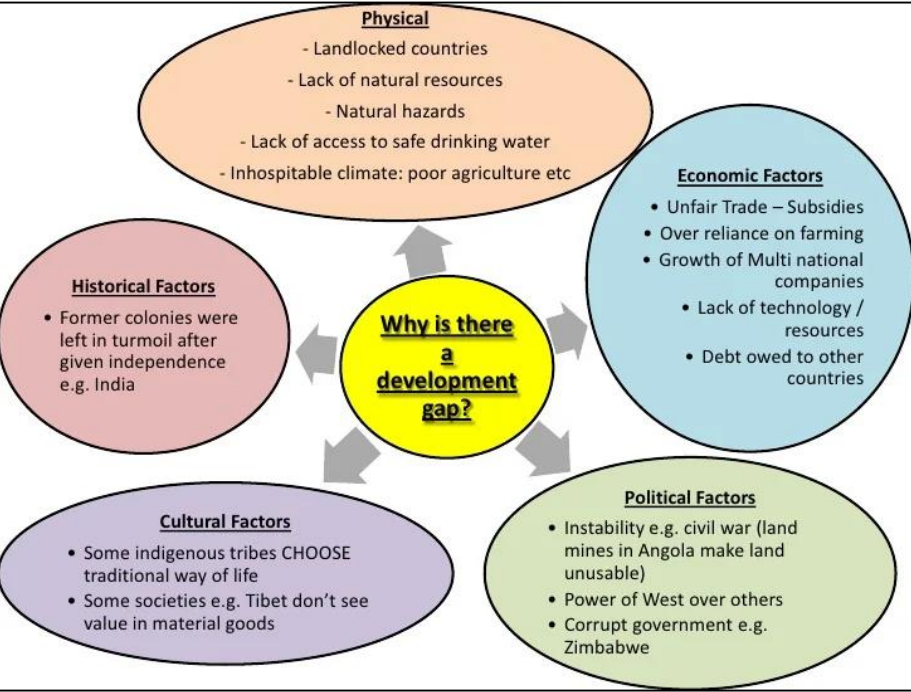
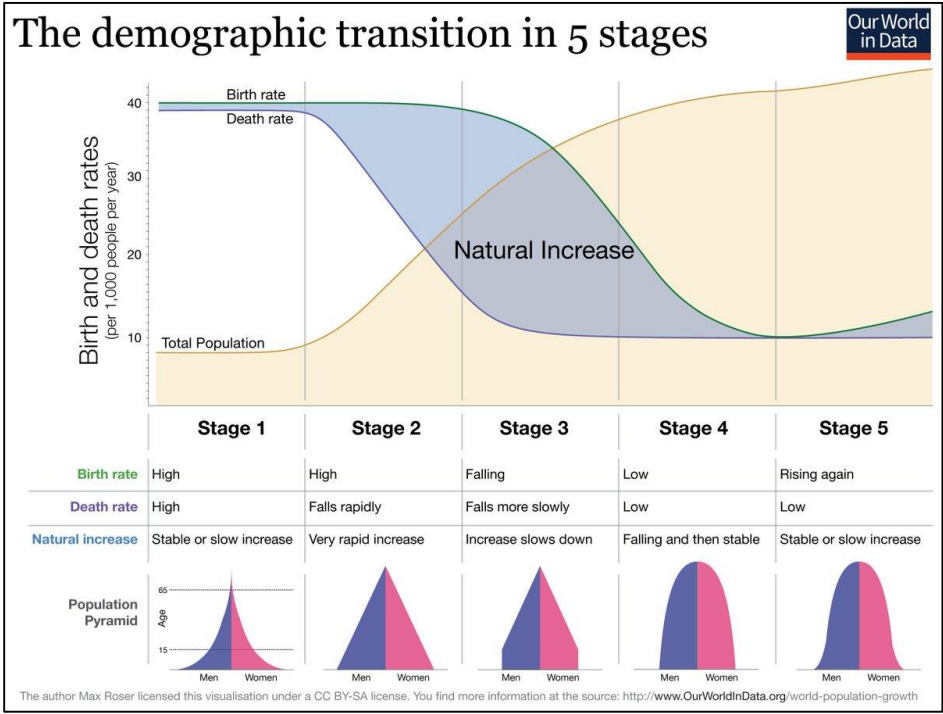
Danemark =

Finlande =

Grèce =

Russie =

Suède =



Solutions to the Development Gap

- Investment:** infrastructure, energy, services and industry can all improve if they are given money either via capital investment (own country) or international investment (another country or cooperation).
- Fairtrade:** this is where the primary producers and secondary industries get a fair payment for their product as well as investment in their infrastructure and improvement in working conditions.
- Tourism:** Money from tourists visiting the area can be used by governments and local businesses to help develop an area.
- Free trade:** Trade with out tax or tariffs can help grow the economy and therefore increase the amount of available money to develop a country.
- Aid:** there are many different types of Aid from emergency aid to help recover from a natural disaster, long-term aid to help build a sustainable economy or tied aid that is used with conditions attached, all play a key role in closing the development gap.

Tier 3 Vocabulary

Key word		Definition
1	Demographic Transition Model	A 5 stage model showing how populations should change over time in terms of their birth rates, death rates and total population size.
2	Fairtrade	Fairtrade changes the way trade works through better prices, decent working conditions and a fairer deal for farmers and workers in developing countries.
3	Free trade	The buying and selling of goods, without limits on the amount of goods that one country can sell to another, and without taxes, tariffs or charges: a free-trade agreement such as within the European Union.
5	GDP (Gross Domestic Product)	The total wealth including all products and goods of a country.
6	Birth rate	The amount of children born per person in a population.
7	Death rate	The amount of deaths per thousand people in a population.
8	HDI (Human development Indicator)	A development indicator that demonstrates how developed a country is, it includes; life expectancy, education and GDP per capita (average wealth per person).
9	TNC (Transnational Corporation)	A large company operating across multiple countries and also has no fixed country in which it is based.
10	Intermediate technology	Small scale technology that is usually cheap, easy to use and manage.
11	Aid	There are many different types of Aid from emergency aid to help recover from a natural disaster, long-term aid to help build a sustainable economy or tied aid that is used with conditions attached, all play a key role in closing the development gap.
12	Multiplier effect	A positive feedback loop that helps demonstrate how investment can help develop a country or population.

Notes:

Resource QR Code



Resource Link

[The Changing Economic World](#)

Quiz QR Code



Quiz Link

[QUIZ LINK](#)

The Origins of the Republic, 1918-19

- Why did World War One have such dire social and economic consequences on Germany and its people?
- Why was there a revolution in Germany before it was defeated on the battlefield during World War One?
- Why was the social and political unrest in Germany during November 1918 so dangerous to the government?
- Why did the Kaiser abdicate in November 1918?
- How did the events of the November revolution ensure that moderates, rather than extremists, were able to take control over Germany after the abdication of the Kaiser?
- How did Friedrich Ebert try to increase the support and stability of the new Republic between November 1918 and July 1919?
- Why were the National Assembly elections of January 1919 regarded as a success?
- Why was the new system of proportional representation seen as both a blessing and a curse to the new Republic?
- How was the Weimar Constitution created to ensure a system of checks and balances?
- Why was there so much criticism of the Weimar Constitution when it was created?

Early Developments in the Nazi Party, 1920-22

- How did Hitler's experience in World War One shape his political ideas and beliefs?
- How did Hitler change the new policies of the DAP when he became head of party propaganda in 1920?
- Why were Hitler's oratory skills so important to improving the popularity of the DAP?
- How did the changes that Hitler made to the party organisation of the DAP increase its appeal and popularity?
- How did the changes to the party leadership change Hitler's status and control over the NSDAP?
- How did the SA strengthen the appeal and popularity of the NSDAP?
- How did Hitler control the SA to his own advantage?
- Why was January 1922 a turning point for Hitler's relationship with the NSDAP?

Early challenges to the Republic, 1919-23

- Why did the armistice create such problems for the new Weimar Republic?
- Why did the "diktat" prove such a fatal problem for the new Weimar Republic?
- How did the Treaty of Versailles negatively impact the economy of Germany?
- Why was the Treaty of Versailles so unpopular amongst ordinary German people?
- Why did the leaders of the new German republic who signed the Treaty of Versailles become known as the "November Criminals"?
- Why were the results of the June 1920 elections so problematic for the Weimar Republic?
- Why did the Weimar Republic survive the Spartacist Revolt?
- What were the consequences of the Kapp Putsch?
- Why was the Weimar Republic able to survive the revolutionary threats against it, 1919-23?
- Why were political assassinations so damaging for the Weimar Republic?
- Why was there so much animosity between Germany and France over the Ruhr?
- How did the occupation of the Ruhr in 1923 result in the hyperinflation crisis?
- How did the hyperinflation crisis negatively affect Germany politically, socially and economically?
- Why did some Germans actually benefit from the hyperinflation crisis?

The Munich Putsch

- Why did the Munich Putsch fail?
- How did Hitler's mistakes contribute to the failure of the Putsch?
- In what ways were the consequences of the Putsch negative for Hitler and the NSDAP?
- In what ways were the consequences of the Putsch positive for Hitler and the NSDAP?
- What were the differences between the short and long term consequences of the Putsch for Hitler and the NSDAP?
- Why was Hitler's Mein Kampf so important for the NSDAP?
- What were the important lessons that Hitler took from the Munich Putsch?
- How did Hitler build a national Nazi Party after he was released from prison?
- How did Hitler use the party reorganisation, 1924-26, to strengthen his own control and power?
- Why did Hitler create the SS?
- Why did Guleiters pose a threat to Hitler and the NSDAP?
- How did Hitler overcome the threat posed by the Guleiters?
- Why was the Bamberg Conference of 1926 so significant?
- Why did the support for the Nazi Party remain so small during 1923-29, despite all the changes that Hitler made?
- Why were the May 1928 election results so disappointing for the Nazi Party?

The Recovery of the Republic 1924-29

- Why was the Rentenmark introduced and what were the consequences of its creation?
- How did the Dawes Plan of 1924 improve the economy and political stability of the Weimar Republic?
- Why did some people support and some oppose the Young Plan of 1929?
- Why did Stresemann regard the Locarno Pact of 1925 a success?
- Why did Stresemann think it was important that Germany join the League of Nations?
- How did the Kellogg-Briand Pact help to revive the reputation of Germany across the world?
- How did Stresemann's actions help to recover and stabilise the Weimar Republic between 1924-29?
- Why did the support of moderate parties increase in the Reichstag between 1924 and 1928?

Growth in Nazi Support, 1929-32

- What were the economic consequences of the Wall Street Crash on Germany?
- Why was Germany so hard hit by the Wall Street Crash?
- How did the Wall Street Crash increase unemployment in Germany?
- Why were the social consequences of unemployment so severe?
- Why was Brüning's response to the Great Depression so unsatisfactory and unsuccessful?
- Why was Brüning's use of Article 48 so detrimental to the credibility of the Weimar government?
- Why did support for the KPD increase as a result of the Great Depression?
- Why did support for the NSDAP increase as a result of the Great Depression?
- Why did so many German people increasingly regard Hitler as a viable alternative to Weimar after 1929?
- How, and for what reasons, did the SA increase German's support for the Nazi Party?
- Why did big businesses support the Nazi Party? How did this benefit the Nazi Party both politically and financially?
- How did the Nazi Party try to gain the support of working-class Germans?
- Why was the Nazi Party so popular amongst middle-class Germans after 1929?
- Why in the 1930 elections were the Nazis successful in winning over 60% of the vote in rural areas?
- Why were some young people attracted to support the Nazi Party after 1929?
- How did Hitler use propaganda to win over the support of different social groups?

Changes in Society, 1924-29

- Why did unemployment reduce in the years 1924-29?
- How did changes in the length of the working week and real wages change the living standards of ordinary people?
- Why did housing provision improve in the years 1924-29?
- Why did some groups oppose the changes in social conditions in the Weimar Republic, 1924-29?
- Why did some people argue that changes in social conditions were fragile?
- Why did the involvement and engagement of women in politics in the Weimar Republic improve, 1924-29?
- Why did the employment opportunities of women actually reduce after World War One?
- Why did some Germans resent the Weimar Republic for the growing equality and independence afforded to women?
- How did society become more divided as a result of the changes to the status of women, 1924-29?
- Why did a range of new artistic movements spread in Germany in the 1920s?
- How did the Weimar government support the growth of artistic movements in the 1920s?
- Why did the KPD and the NSDAP oppose the cultural and artistic changes during Weimar's "golden years"?

How Hitler became Chancellor, 1932-33

- Why did so few Germans think that at the start of 1932 Hitler would have become Chancellor by 1933?
- How did Hindenburg standing for re-election in both March and April hinder Weimar and help the Nazi Party?
- Why did the Nazi's support increase by 2 million votes between March and April 1932?
- How and why did Brüning's actions in April 1932 to bring political stability to Weimar Germany backfire?
- How did the political infighting and mistakes of Weimar's politicians in 1932 result in Hitler becoming Chancellor in 1933?
- How did Von Schleicher's actions as Chancellor undermine the Weimar Republic and boost the support for the Nazi Party?
- Why was von Papen's government so unsuccessful and unpopular?
- Why did Hindenburg feel compelled to make Hitler the Chancellor in January 1933?
- How was Hindenburg responsible for Hitler's appointment as Chancellor?
- How was Von Schleicher responsible for Hitler's appointment as Chancellor?
- How was von Papen responsible for Hitler's appointment as Chancellor?

Tier 3 Vocabulary

	Key word	Definition
1	Democracy	A system of government where people vote for their leaders.
2	Republic	A nation without a monarchy.
3	Uprising	An attempt to take power by force.
4	Putsch	An attempt to take power by force.
5	Hyperinflation	When prices start to rise rapidly.
6	Constitution	The rules of how a country should be governed.
7	Proportional Representation	A voting system where every vote is counted equally.
8	Kaiser	The German King.
9	Coalition	When a government is made up of a number of different parties.
10	Conservative	People who oppose change and want to continue with old traditions.

Notes:

Quiz QR Code



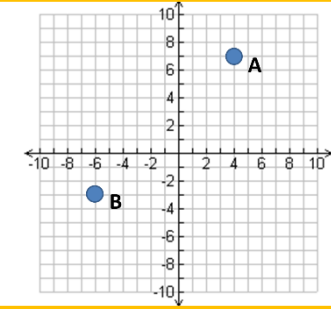
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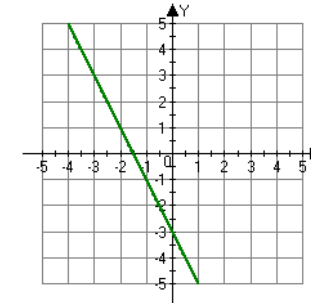
Topic/Skill	Definition/Tips
1. Coordinates	Written in pairs . The first term is the x-coordinate (movement across). The second term is the y-coordinate (movement up or down)
2. Linear Graph	Straight line graph. The equation of a linear graph can contain an x-term , a y-term and a number .
3. Quadratic Graph	A ' U-shaped ' curve called a parabola . The equation is of the form $y=ax^2+bx+c$, where a , b and c are numbers, $a \neq 0$. If $a < 0$, the parabola is upside down .
4. Cubic Graph	The equation is of the form $y=ax^3+k$, where k is an number . If $a > 0$, the curve is increasing . If $a < 0$, the curve is decreasing .
5. Reciprocal Graph	The equation is of the form $y=A/x$, where A is a number and $x \neq 0$. The graph has asymptotes on the x-axis and y-axis .

A: (4,7)

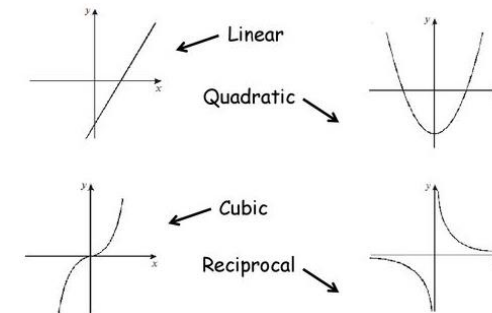
B: (-6,-3)



Examples:

 $x=y$ $y=4$ $x=-2$ $y=2x-7$ $y+x=10$ $2y-4x=12$ 

Types of Graphs



Extra resources:

[Corbett
Maths](#)

[BBC
Bitesize](#)

[Oak
Academy](#)


Tier 3 Vocabulary

Key word		Definition
1	Graph	A diagram showing the relation between variable quantities, typically of two variables.
2	Axis	A fixed reference line for the measurement of coordinates.
3	Coordinate	A point on a grid has two numbers to identify its position. These numbers are known as coordinates.
4	Quadratic	In mathematics, the term quadratic describes something that pertains to squares, to the operation of squaring
5	Solution	A solution is an assignment of values to the unknown variables that makes the equality in the equation true.
6	Cubic	A cubic is a polynomial which has an x^3 term as the highest power of x .
7	Reciprocal	A reciprocal graph is of the form $y = \frac{a}{x}$, where a is a constant.
8	Gradient	The gradient is the amount of vertical movement for each unit of horizontal movement to the right.
9	Perpendicular	Two lines are perpendicular if they meet at a right angle.
10	Parallel	Parallel lines are a fixed distance apart and will never meet, no matter how long they are extended.
11	Equation	In its simplest form in algebra, the definition of an equation is a mathematical statement that shows that two mathematical expressions are equal.

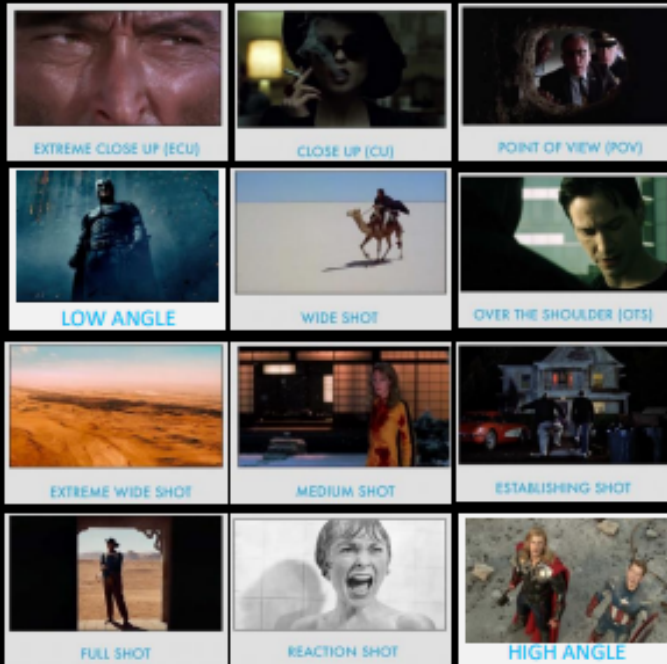
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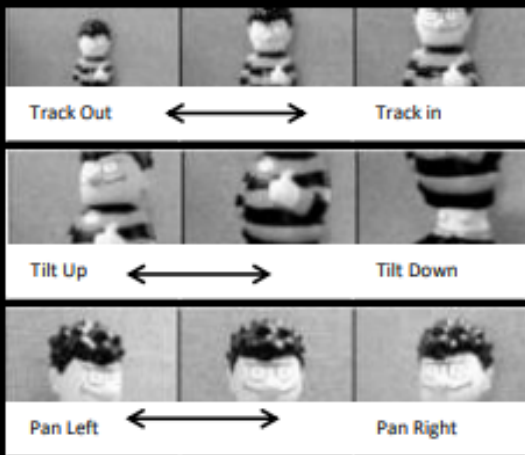
CAMERA SHOTS

Match on action

A technique used to smooth the transition between shots and break one action up into more than one action.



CAMERA MOVEMENT



OTHER CAMERA TERMS

Camera Movement	Camera Angles & shots
Crane	High angle
Hand-held	Low angle
Zoom in	Worms eye view
Zoom out	Canted angle
Shaky cam	Wide-shot
	Aerial-shot

MISE EN SCENE

Mise-en-scène is a French term and originates in the theatre. It means, literally, "put in the scene."

- Elements of Mise En Scene
- Location
- Setting
- Costume
- Props
- Lighting/colour

High Key and Low Key Lighting



SOUND

How is sound/music used to create a mood or atmosphere?

- Diegetic
- Non-diegetic
- Theme tune
- Voice over
- Ambient sound
- Sound bridge
- Dialogue

EDITING

Continuity editing	Parallel editing
Non-continuity editing	Cutaway
Shot/reverse shot	Dissolve
Eyeline match	Fade-in/out
Graphic match	Wipe
Jump cut	Slow motion
Crosscutting	Visual effects

COSTUMES

The costumes the characters are wearing communicates with the audience what type of role they have in the narrative.



LIGHTING

The lighting can tell the audience the type of genre or the mood and theme of the media product.

ACTING

The casting of the characters can say a lot about them. Also the facial expressions, body language & gesture codes tells the audience about the characters and their roles.



MAKE-UP & HAIR

The make up and hair can tell the audience the type of genre or the role of the character.



PROPS

The props and objects could indicate the genre. It could also connote action or be iconic to the genre.



SETTINGS

The settings could indicate the genre. The settings could also help communicate the narrative and themes.

WATERSHED = the time when TV programmes, which might be unsuitable for children, can be broadcast. Begins at 9pm and material unsuitable for children should not be shown before 9pm or after 5.30am. Unsuitable material is everything from sexual content to violence, graphic or distressing imagery and swearing.



PUBLIC -FUNDED BY TV LICENSE



Tier 3 Vocabulary

	Key word	Definition
1	Denotation	The literal meaning of a sign, symbol or image.
2	Connotation	The associations of a sign, symbol or image.
3	Narrative	How the events in a story are ordered and told.
4	Genre	A specific type of media form or product.
5	Conventions	Elements that we would expect to see in a particular genre.
6	Representation	The way aspects of society, such as gender, age or ethnicity, are presented to audiences in media texts.
7	Mise-en-scene	The visual codes or elements in a media product – costumes, lighting, acting, make-up, props and setting. In French it means 'to put in the scene'
8	Camera shots	How much space the audience sees in a particular frame.
9	Camera angles	The position at which the camera is pointed at the subject of the shot.
10	Camera movement	How the camera moves as it is capturing a shot.
11	Diegetic sound	Diegetic sound is anything the characters can hear within a film (dialogue, ambient sound).
12	Non diegetic sound	Non-diegetic sound is any sound that only the audience can hear (soundtrack, theme tune).

Notes:

Quiz QR Code



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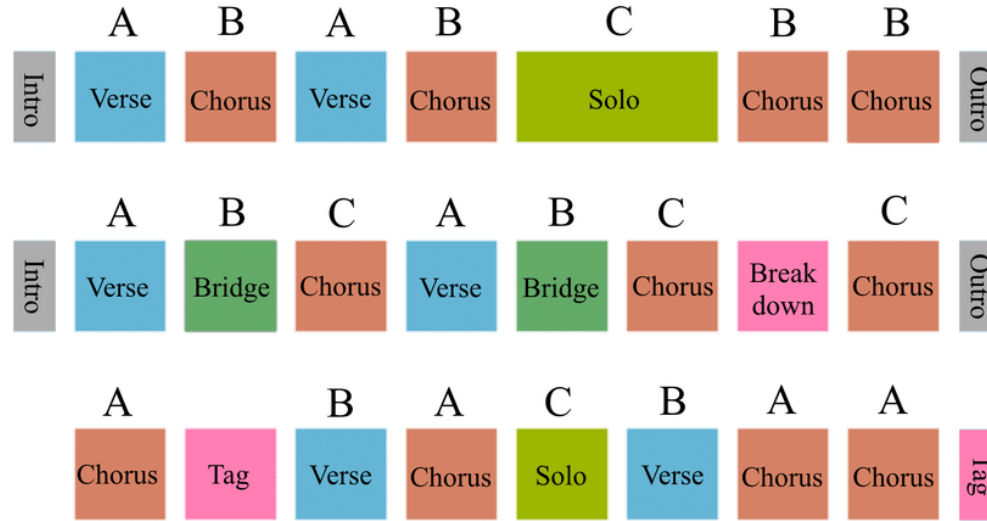
[QUIZ LINK](#)

Music Analysis

Musical analysis is a way to study a piece of music to try and understand it and make sense of the following:

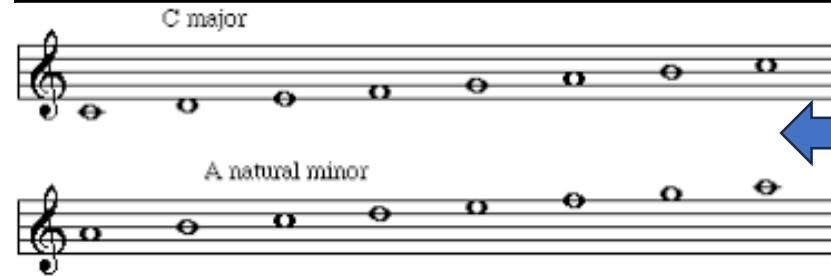
1. The structure
2. The time signature
3. The key signature
4. The instrumentation
5. The tempo
6. The harmony of the music (the chords used)
7. The melody of the music (the tune)
8. The lyrical content and meaning (if any).
9. The style/genre
10. The social/political/cultural impact on the music.
11. The effects the music on social/political/cultural

Song Structure Examples



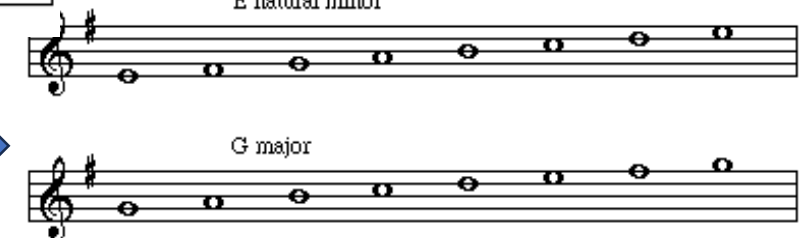
Examples of some common song structures in popular music.

Example of (relative) major and minor key signatures



C major and a minor are 'related'. They both have the same notes. There are no #'s or b's.

E natural minor



G major and e minor are 'related'. They both have the same notes, including F#.

Tier 3 Vocabulary

	Key word	Definition
1	Tempo	The speed of the music.
2	Dynamics	The volume of the music.
3	Chord	3 or more notes played at the same time.
4	Melody	1 note played at a time to make a tune.
5	Structure	Playing all strings at the same time.
6	Key Signature	The notes used in the music.
7	Time Signature	The number of beats in a bar.
8	Major	Refers to the 3rd note of the scale being a major 3rd above the root. 'Happy'
9	Minor	Refers to the 3rd note of the scale being a minor 3rd above the root. 'Sad'
10	Common Time	4/4 time.
11	Compound Time	E.g. 6/8, 12/8 time signature.
12	Circle of 5ths	Shows the relationship between 12 musical keys.

Notes:

Quiz QR Code







Quiz Link

[QUIZ LINK](#)

Invasion Games...

1. Invasion games are team games in which the aim is to attack the opposing teams **space**.
2. Usually there is two teams and two goals. The aim is to try and **score the most goals or points** in a set time period.
3. You should begin to learn the **rules and regulations** of the following invasion games; Football, netball, rugby, basketball.
4. You should also learn the roles of the official in each sport.
5. The basis of invasion games come from good sportsmanship.
6. Success in invasion games is achieved by;
 - Using the space available to your advantage.
 - Working as a team to find space.
 - Marking your opponents.
 - Creating space to help other members of your team.

Invasion Games- Autumn Term Focus Sports Star		
Football	Netball	Hockey
Georgia Stanway- Born in Barrow	Helen Housby- Born in Carlisle	Fiona Crackles- Born in Kirkby Lonsdale
		
Positions: Attacking midfielder First National team- England U15'S 2014 UEFA Women's Championships 2022- Winners	Positions: GA & WA First senior international debut- 2015 Netball world cup 2019- Bronze Won BBC sporting moment of the year- 2019 Commonwealth games 2018- Gold	Position: Defender First senior international debut- 2020 Olympic 2020- Bronze Captained England's U18 team to bronze in the EuroHockey Youth Championships- 2018

Football: Sedbergh wanderers	Football: Kendal United	Netball: Kirkby Lonsdale	Hockey: Kendal
			

Tier 3 Vocabulary

Key word		Definition
1	Agility	The ability to move and change direction quickly whilst maintaining control.
2	Passing	To give the ball to another member of your team using power whilst maintaining accuracy.
3	Receiving	Take possession of the ball from a teammate.
4	Intercepting	To gain possession of the ball during a pass by the opposition.
5	Defending	Protect your goal/area. Stop the other team from scoring.
6	Attacking	To try and score a goal/point in the other teams area.
7	Goal	The way in which most points are recorded in games.
8	Offside	The player is in a position where playing the ball or puck is not allowed.
9	Foul	An unfair act by a player, deemed by the referee to break the rules of the game.
10	Travel	Travel occurs when an offensive player who is possession of the basketball takes an extra step.
11	Substitution	A substitution is when a player is replaced with a teammate who started the game on the bench.
12	Tackle	A tackle is when an opposing player dispossess you to win the ball fairly.

Notes:

Quiz QR Code



Quiz Link

[QUIZ LINK](#)

Muscular strength/endurance

Feelings

Healthy diet

Support

Hygiene

Hobbies/interests

Hearing

Mood

BMI

Self care

Self image

Positivity

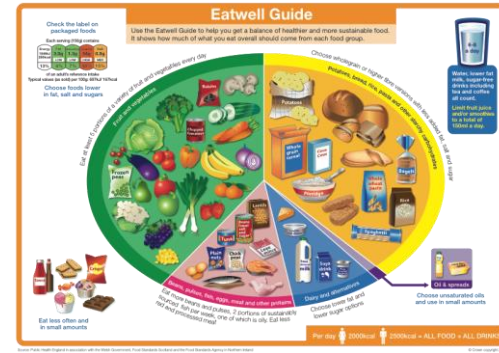
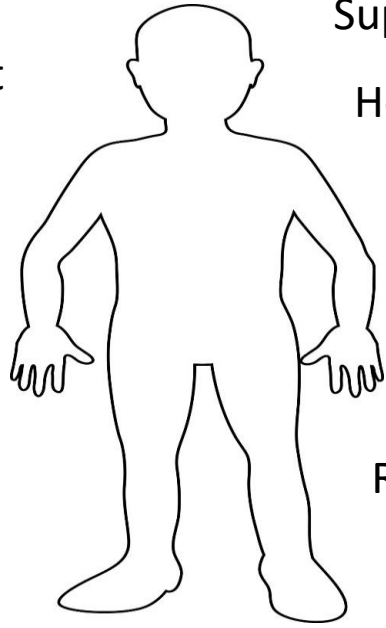
Hair

Relationships with others

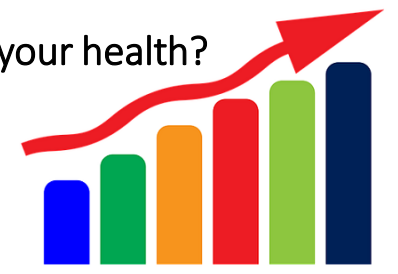
Cardiovascular fitness

Emotions

Sleep



How can you improve your health?



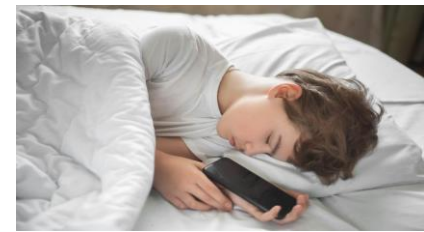
Eat a balanced diet

Exercise regularly

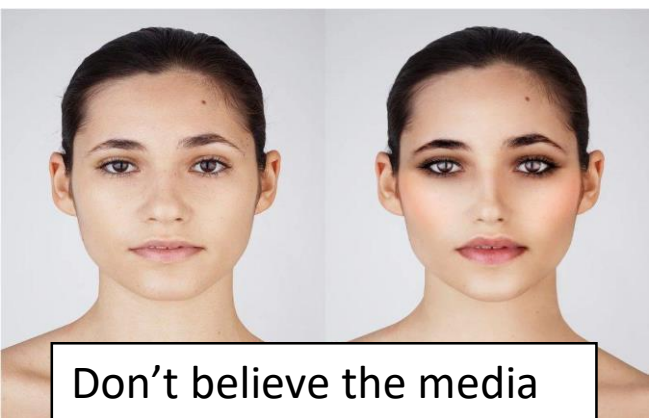
Don't smoke or abuse alcohol/drugs

Socialise

Reduce/manage stress



[The Wellbeing Hub - Schools - Teen Tips](#)



Don't believe the media

- Sleep is a really important part of a healthy lifestyle
- Sleep improves your memory
- Improves concentration
- improves your mood
- Improves performance
- Linked to longer life
- A minimum of eight to nine hours' good sleep on school nights is recommended for teens.

ONLINE, ON THE PHONE, ANYTIME
childline.org.uk | 0800 1111

Tier 3 Vocabulary

Key word		Definition
1	BMI	The body mass index (BMI) is a measure that uses your height and weight to work out if your weight is healthy.
2	Self Image	One's self-image is their view or concept of them self. Self-image is a fundamental aspect of someone's personality that can determine the success of relationships and a sense of general well-being.
3	Cardiovascular fitness	Cardiovascular fitness is a measure of how well the heart, lungs, and blood vessels can transport oxygen to the muscles during exercise. It is an important component of overall fitness and has been linked to numerous health benefits
4	Oral health	Oral health is multi-faceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expressions with confidence and without pain, discomfort and disease.
5	Self care	The ability of individuals, families, and communities to promote health, prevent disease, maintain health, and to cope with illness and disability with or without the support of a healthcare provider.
6	Balanced diet	A balanced diet is the same as a complete diet because it has the right proportion of minerals, vitamins, other essential nutrients, and optimal calories for your body's makeup.
7	Eat well Guide	The Eat well Guide shows how much of what we eat overall should come from each food group to achieve a healthy, balanced diet.
8	Concentration	The ability to give your attention or thought to a single object or activity : the ability to concentrate. the power of concentration.
9	Resilience	Being able to return quickly to a previous good condition after problems.
10	Endurance	The fact or power of enduring or bearing pain, hardships, etc. the ability or strength to continue or last, especially despite fatigue, stress, or other adverse conditions.

- Jesus grew up in a Jewish family and community in Nazareth.
- Age 30, **Jesus was baptised by John the Baptist and began teaching** and performing **miracles**, such as **healing a blind man**. This is known as his ministry.
- He recruited his disciples and together they taught God's message to many people.
- Jesus demonstrated God's love and gave teachings throughout his life.
- One of his key teachings was the Parable of the Good Samaritan, which teaches Christians to love thy neighbour (Luke 10:30-37)

God placed sins of world on **Jesus (God the Son)** at his crucifixion – this **sacrifice** meant humans could **reconcile** with God.

Through Law please God by following his teaching and carrying out good deeds (give to charity).

Through Grace -salvation doesn't need to be earned. Belief in God and Jesus enough.

Salvation

Through Holy Spirit –

helps Christians seek forgiveness for sin "turn to God in repentance" (Acts)

Sin separates humans from God.

Original Sin = the first sin, committed by Adam & Eve disobeying God in the Garden of Eden by eating from **The tree of Knowledge** (after being tempted by the **Devil**).

Stewardship and dominion Christians believe that God appointed **human beings to rule the world**, and to care for the world as responsible custodians. God said, 'Let them have dominion' (Genesis 1:26). This could suggest that humans have **dominion** over God's world and its resources, but it does not mean that humanity should exploit the Earth's resources. This teaching suggests that humanity's purpose is to look after the world that God has created. This is known as **stewardship**.

The nature of God and Jesus in Christianity

Almost all Christians believe in the **Trinity** - Father, Son and Holy Spirit, who were present at the creation and who each take on different roles:-

God the Father = creator

Jesus (God the Son) = teacher/saviour

Interpretations Christian beliefs differ depending on **denomination** but also on **personal** belief.

Literal = Interpret the creation stories in Genesis literally.

Inspirational = Bible was inspired by God; inconsistencies because it was written by humans.

The bible is open to interpretation.

Metaphorical = Stories are metaphors or symbolic so may accept scientific theories, such as the Big Bang.

Genesis is the **first book of the Bible**. **Genesis 1** describes the creation of the heavens and the earth. **Genesis 2** focuses on the creation of the first humans, Adam and Eve

Omnipotence - God is all-powerful. The evidence includes creation of the world and the resurrection of Jesus.

Omnibenevolence - God is all-loving. God sacrificed his own son for humanity.

Just - God is fair to all and he forgives those who say sorry for. The Psalms say, God is fair and just (Psalm 25:8).

Omniscience - God knows everything; every person's inner thoughts as well as knowing all that has happened and all that will happen in the future.

Transcendence - God exists outside of our worldly constraints and physical laws. Complete understanding of God is beyond the human intellect.

Most Christians believe that death is not the end. They believe in the resurrection of the body on the **Day of Judgement**, when they will be sent to Heaven or Hell (**Book of Revelation**). **The Parable of the Sheep and Goats (Matthew)** explains the idea of judgement.

Some Christians **do not believe that Heaven and Hell** are necessarily **physical places**.

Roman Catholics believe in a place called **Purgatory**, where sins are punished and where a person's soul undergoes purification before it can go to Heaven.

Many also argue that the existence of **Hell would contradict God's omnibenevolent** nature. These Christians believe that everyone will eventually repent and be forgiven.

Christians believe that **Jesus was resurrected**, and because of this, **Christians will be too**.

MORAL EVIL = HUMAN MADE
NATURAL EVIL = NATURAL DISASTERS

Solutions to **the problem of evil**

The idea that evil can exist alongside an all-loving God produces a **problem** for Christians. They have developed a few different solutions to this problem:

- God gave humans **free will**. Any suffering humans experience is a result of choices they have made or **consequences** from the natural world.
- Experiencing **bad things** could be a **test of faith**. For example, in the **Bible**, **Job** is tested on many occasions but keeps his faith in God, ultimately receiving a reward.
- Humans need evil to appreciate good. **Balance** is essential.
- God is **beyond human understanding**.

Tier 3 Vocabulary

	Key word	Definition
1	Denomination	A branch of the Christian Church.
2	Dominion	Control, leadership or sovereignty.
3	Stewardship	Supervising or taking care of something.
4	Original Sin	The first sin created by Adam and Eve, inherited by humans.
5	Salvation	Deliverance from harm, ruin or loss.
6	Reconcile	Positively restore a relationship.
7	Purgatory	A place where sins are purified before going to heaven.
8	Omnipotent	All-powerful.
9	Omnibenevolent	All-loving/good.
10	Trinity	The father, the son and the holy spirit in one form.
11	Resurrection	Coming back to life.
12	Metaphor	An object or action that represents something else.

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Year 9 And Year 10 Knowledge Goals: Science (Ecology)

Ecosystems are the interactions between all of the living things in their environment, and the environment itself.

Organisms within the ecosystem are in **competition** for the resources they need to be able to survive.

Animals compete for; space, territory, food, water and mates.

Plants compete for; light space, water and mineral ions
Driven by natural selection, organisms have evolved over time to have specific **adaptations** which increase their chances of success and survival.

These are split into three main categories.

Structural – anything to do with shape, size or colour.

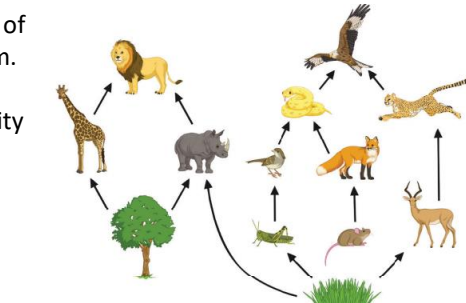
Behavioural – changes to behaviour patterns.

Functional/physiological – changes to internal processes of the organism.

Interdependence is the mutual dependence of the different organisms within the ecosystem.

Biodiversity is the variety of different living things in the ecosystem. The more biodiversity the more stable the ecosystem will be.

Organisms will rely on each other for **food, shelter, seed dispersal and pollination.**



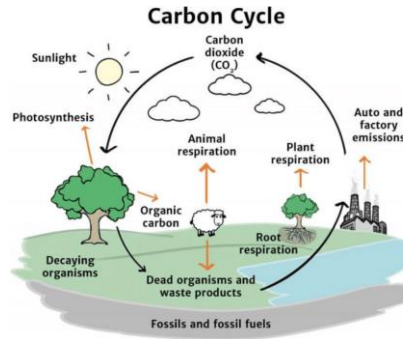
The feeding relationships within an ecosystem are complex A food web is used to show the different food chains within the ecosystem.

Producers – fix energy from the Sun into glucose through photosynthesis.

Primary consumers – herbivores which eat the producers

Secondary consumers – Carnivores which eat the primary consumer.

Tertiary consumer – eat the secondary consumer. These are often the **apex predator.**



Carbon is cycled in different forms throughout an ecosystem. It is important to learn the form it is found, the key processes and the organisms involved.

Investigating an ecosystem

Quadrats are used to measure the abundance of an organism in an ecosystem.

A **transect line** is used to measure the **distribution** of an organism in an ecosystem.

If we want to **estimate** the number of an organism in an ecosystem then we follow these steps:

1. Split the ecosystem into a grid
2. Use a **random number generator** to determine where to place our quadrat
3. Count the number of organisms in the quadrat
4. Repeat. The more times we repeat, the more accurate our answer
5. Find a mean number of organisms per quadrat
6. Calculate how many quadrats would be needed by dividing the whole area of the ecosystem by the area of one quadrat
7. Multiply our answers from steps 6 & 7

Remember an **estimate** is **not a guess.**

Human interaction is leading to an imbalance in the carbon cycle. More carbon is being released than absorbed. This results in **global warming.**

Causes of global warming are why it is happening, including:

- Burning more fossil fuels
- Cattle farming releasing methane
- Anaerobic respiration in rice paddy fields releasing methane
- Deforestation

Effects are what happens due to global warming, including:

- Ice caps melting
- Sea levels rising and low level land flooding
- Extreme weather patterns
- Changes to migration patterns
- Changes to the distribution of species

Due to an increase in the human population we are needing more land for **farming, building, quarrying and landfill sites.** This demand is met through **deforestation** and **peat bog draining** Both of these **reduce biodiversity.** Some scientists are working hard to stop this reduction in biodiversity through **breeding programmes, regenerating and protecting rare habitats, reintroducing hedgerows and field margins and encouraging recycling.**

Structural Adaptations
Sharp quills for protection from predators
Protruding snout (for accessing termite mounds)
Sharp claws for digging / burrowing
Behavioural Adaptations
Curts into ball when threatened (exposes quills)
Digs burrows in which to nest and rest
May hibernate during winter in very cold regions
Physiological Adaptations
Ears sensitive to low frequencies (detect ant sounds)
Well developed olfactory system (used for detection)
Tongue can stiffen and penetrate soil due to blood flow



The hedgehog has examples of all three types of adaptation. It is important to remember that it has taken millions of years for the evolution process to take its course. They do not just adapt to a changing environment in a short time which is why a rapidly changing world could potentially cause mass **extinction.**

Extremophiles are organisms which have adapted to survive in extreme conditions such as **high temperatures, high salt concentrations or high pressure.** They are usually simple microorganisms such as bacteria.

Ecosystems are varied and determined by the **abiotic and biotic** factors that make them up.

Abiotic factors are non living;

- Moisture levels
- Light intensity
- Temperature
- Wind intensity
- Soil pH
- Atmospheric gas concentrations

Biotic factors are living;

- Predators
- Competition
- Pathogens
- Food availability

Any change to the ecosystem such as the introduction of a new pathogen can result in huge knock on effects for the rest of the ecosystem.

Year 9 and 10 Knowledge Goals: Science (Ecology)

Spring Term: Tier 3 Vocabulary

Key word	Definition	
1	Biodiversity	The variety of living things within an ecosystem.
2	Breeding programme	Planned breeding of animals that are close to extinction.
3	Community	All of the living things within an ecosystem.
4	Deforestation	The cutting down of large amounts of trees. Typically so the land can be used for farming, building, quarrying or landfill sites.
5	Food web	A diagram which shows the different feeding relationships within an ecosystem.
6	Global warming	The overall increase of the temperature of the Earth.
7	Habitat	The non-living parts of an ecosystem.
8	Interdependence	The mutual reliance of two or more organisms on each other for survival.
9	Peat bog	Dense wetlands that store carbon. These are drained for land. The peat is often burnt or used as compost, releasing carbon dioxide.
10	Population	The amount of one particular species with an ecosystem.
11	Random sampling	A small representation of a larger area taken at random, without any bias.
12	Recycling	Reusing materials or reprocessing waste materials to produce new materials.

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Year 9 and 10 Knowledge Goals: Science (Ecology)

Further explanations.

Extreme animal adaptations

[Top 5 Animal Adaptations | BBC Earth - YouTube](#)

Biodiversity and interdependence – David Attenborough

[Why is biodiversity important - with Sir David Attenborough | The Royal Society – YouTube](#)

The Carbon Cycle

[The carbon cycle - Nathaniel Manning – YouTube](#)

Investigating ecosystems

[Sampling with Quadrats - GCSE Biology Required Practical – YouTube](#)

Deforestation and climate change

[The Tragedy Of Deforestation | Climate Change: The Facts | BBC Earth – YouTube](#)

Maintaining biodiversity

[GCSE Biology - Maintaining Biodiversity #90 - YouTube](#)



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AQA Exam Questions

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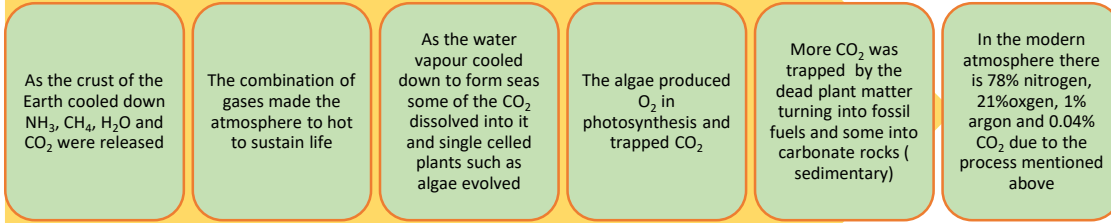
Finite resources from the Earth's crust, oceans and atmosphere will one day run out. They can be processed to provide **energy** and useful materials. **Renewable** resources are those which will not run out in the foreseeable future.

Life-cycle assessment:

LCA is a 'cradle to grave' analysis of the impact of a manufactured product on the environment. There are many detailed stages but the main ones are:

- **extracting** and processing the raw materials needed
- **manufacturing** the product and its packaging
- **using** the product during its lifetime
- **disposing** of the product at the end of its useful life

Evolution of the early atmosphere



Reducing waste	Advantage	Disadvantage
<ul style="list-style-type: none"> • Recycling • Reducing • Reusing 	<ul style="list-style-type: none"> • Fewer quarries and mines are needed to extract finite reserves of metal ores. • Less crude oil needs to be extracted from the crust as a raw material for making plastics. • Less energy is needed for recycling compared with making a new product from natural resources, so the emission of greenhouse gases is reduced. • The amount of waste that is disposed of in landfill is reduced. 	<ul style="list-style-type: none"> • The collection and transport of used items needs organisation, workers, vehicles and fuel. • It can be difficult to sort different metals from one another. • The sorted metal may need to be transported to where it can be turned into ingots.

Present day atmosphere

Pollutant	Source
Carbon dioxide, CO ₂	Complete combustion of any fuel containing carbon atoms
Carbon monoxide, CO	Incomplete combustion of any fuel containing carbon atoms
Particulate carbon, C (soot)	Incomplete combustion of any fuel containing carbon atoms
Unburned hydrocarbons	Hydrocarbon fuel molecules which have not been oxidised at all
Sulfur dioxide, SO ₂	Combustion of a fossil fuel which contains sulfur impurities
Nitrogen oxides, NO _x	Oxidation of atmospheric nitrogen inside the engine of a car, lorry, etc

Drinking (Potable) Water



Sea water can be made into potable water by **Desalination** can be done by **distillation** and by **reverse osmosis**, however it requires more energy and is therefore more expensive.

Waste water treatment

Waste water from **homes**, **industry** and **agriculture** must be treated before being released into the environment.

Sewage treatment involves the following steps:

- Screening and grit removal to remove large particles.
- Sedimentation allows tiny particles to settle out from still water, which produces sewage sludge and effluent (the liquid which remains on top).
- The sewage sludge is digested anaerobically by specific bacteria.
- The effluent is treated with aerobic bacteria to reduce the volume of solid waste.

Polluting the atmosphere:
Green house gases (Carbon dioxide CO₂, Methane CH₄, Water vapour H₂O) - Absorb heat radiated from the Earth then release energy in all directions, which keeps the Earth warm. Human activities which increase these gases are farming cattle, paddy fields, burning fossil fuels and deforestation.

Tier 3 Vocabulary

Key word		Definition
1	Finite	Resource that can only be used once and is in limited supply. For example, oil is a finite resource.
2	Desalination	The process of removing salt from sea water.
3	Reverse osmosis	A method of purifying water by forcing it under pressure through a membrane which has tiny holes in it.
4	Climate change	Describes global warming—the ongoing increase in global average temperature and weather patterns.
5	Acid rain	Rain that contains dissolved acidic gases such as nitrogen oxides and sulphur dioxide.
6	Carbon footprint	A measure of how much carbon is used through the activities of a person, company or country.
7	deforestation	The cutting down of trees and forests to allow a different land use.
8	Global Dimming	The gradual reduction in radiation energy which reaches the Earth's surface from the Sun due to small particles in the atmosphere which have almost certainly been produced by human activities such as burning fossil fuels.
9	Synthetic	A material made by a chemical process, not naturally occurring.
10	Sterilise	To kill any living organisms, usually microbes that might cause disease, on an object or in a substance.
11	Precipitate	A suspension of particles in a liquid formed when a dissolved substance reacts to form an insoluble substance.
12	Potable	Water that is safe to drink.

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Test your
knowledge:

[Exam
Questions](#)

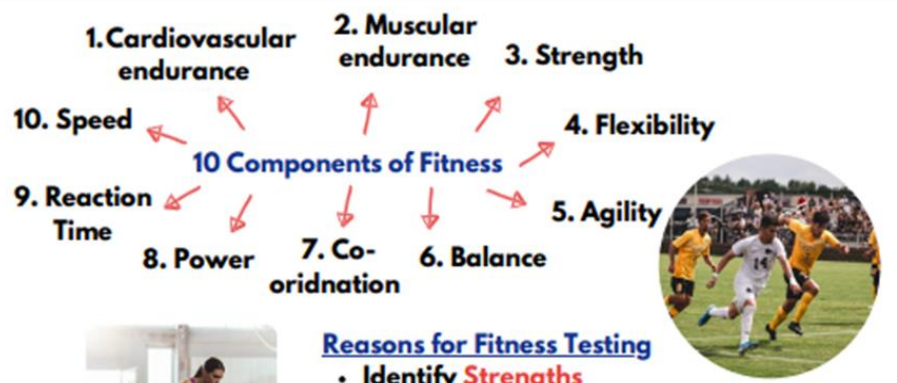


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Reasons for Fitness Testing

- Identify **Strengths**
- Compare score against **normative** table of data
- Give yourself an **incentive**
- To monitor **progress**



TOPIC AREA 1

SPORT SCIENCE R181 PART 1

- Fitness Tests:
- Balance → Stork Stand Test → Gymnastics
 - CV Fitness → Multistage Fitness Test → Marathon
 - Maximal Strength → One Rep Max Test → Rugby
 - Reaction Time → Ruler Drop Test → Sprinting
 - Speed → 30m Sprint → Sprinting
 - Power → Vertical Jump → Football
 - Flexibility → Sit & Reach → Gymnastics
 - Agility → Illinois Agility Test → Tennis
 - Co-ordination → Wall Toss Test → Cricket
 - Muscular Endurance → One Minute Sit Up → Swimming



For Topic area 1, you need to know:

- Link a range of skills to components of fitness with relevant examples given for each.
- Demonstrate skills relevant to the components of fitness.
- Describe a fitness test in detail, providing relevant examples of how it also measures an appropriate component of fitness.
- Analyse the strengths and weaknesses of the data from each test and what it means to your fitness for your activities.

Fitness tests for components of fitness. Fitness tests are important and are used to:

- Identify the performers strengths and weaknesses.
- Inform what the training programme should include.
- Compare performances' fitness scores to national averages.
- Provide a benchmark figure to refer to after training to determine if improvement has taken place.

Tier 3 Vocabulary

Key word		Definition
1	Cardiovascular endurance	The ability of the heart and lungs to get oxygen to the working muscles for the body to use.
2	Stamina	The ability to sustain activity without fatigue.
3	Muscular endurance	The ability of a muscle to sustain repeated contractions.
4	Agility	The ability to move and change directions quickly while maintaining control.
5	Balance	The ability to maintain a position; this involves maintaining the center mass over the base support.
6	Speed	The maximum rate at which an individual is able to perform a movement.
7	Power	The exertion of rapid muscular strength; it can be remembered as speed x strength.
8	Strength	The extent to which a muscle or muscle group can contract against resistance.
9	Flexibility	The range of movement possible at a joint.
10	Co-ordination	The ability to use two or more body parts together (simultaneously) smoothly and efficiently.
11	Reaction time	The time taken from the onset of a stimulus to the start of the reactive movement.
12	Aerobic	With oxygen; oxygen is used to produce energy during low intensity, long distance aerobic exercise.

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11 th September	18 th September	25 th September	2 nd October	9 th October	16 th October
					
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- Each Microsoft Form will open on the date above and be available for you to complete.
- You can earn house points for uploading your work.
- You will be entered into a prize draw if you upload evidence (question 2) to show the work you have been doing independently at home to increase your knowledge (e.g. mind maps/brain dumps/flash cards).