

April - June

Year 10

**KNOWLEDGEABLE
AND EXPERT
LEARNERS**



Self
Quizzing

Flash
Cards

Mind
Maps

Brain
Dumps

enjoylearn**succeed**

INDEPENDENT LEARNING BOOKLET

NAME:

TUTOR GROUP:

CONTENTS

- Using Class Charts Instructions
- Accessing SENECA
- Independent Learning log
- Brain-dump instructions
- Subject Knowledge Organisers

You will need an A4 application booklet.

HOMEWORK:

- Your teacher will set specific tasks, with a deadline, on Class Charts
- Instructions for your homework and how to access it are in this booklet
- You must complete and hand in the work by the deadline

INDEPENDENT LEARNING EXPECTATIONS AND REWARDS:

- You should complete 1 task per day, 5 days a week.
- The tasks will be set on Class Charts to help you keep track of what you need to do.
- You must bring your ILB and application book to school every day.
- You can choose the subject/topic you want to work on.
- Your tutor will check your ILB regularly to see how you are getting on.
- You will be rewarded for going above and beyond expectations.

SUBJECT KNOWLEDGE ORGANISERS CONTENTS

Business	8-10
Computer science	11-12
Economics	13-14
Engineering	15
English	16
French	17-20
Fine Art	21
Geography	22-26
German	27-30
Graphics	31
Health and Social	32
History	33-36
Maths	37-38
Music	39-40
GCSE PE	41-44
Performing Arts	45
Photography	46
RE	47
Science	48-54
Textiles	55
PSHCE	56

USING CLASS CHARTS



All of your homework will be set by your teachers using the Class Charts System. You should check Class Charts every day to make sure you are up to date, and that you meet all your deadlines. Below, shows you how to log on and track your homework.

Logging in to Class Charts

1. Enter your email address and password into the fields provided

Access code *
Your access code

Please enter the access code supplied by your teacher.

Remember me

2. Click on the Log in button



3. Enter your date of birth if prompted and click on the OK button

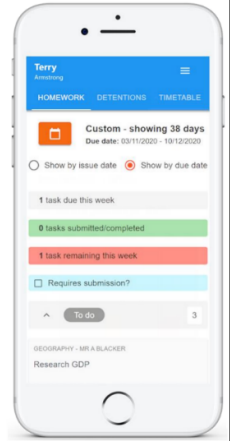
Date of birth

Please enter your date of birth below.

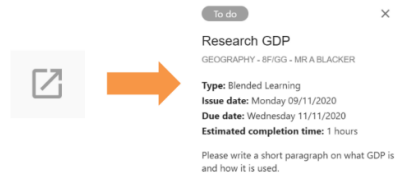
Date of Birth
12/06/2009

Homework

- Select the homework tab on our account.
- This will display a list of the homework tasks which you have been given.
- To change the date range for displayed homework tasks, click on the orange Date button.
- To display tasks in the order they are expected to be handed in, click on the Due date button.
- To mark a homework task as completed, view the homework task of your choice in more detail and tick the Completed checkbox.



To view a homework task in more detail, click on the expand icon in the bottom right hand corner of the homework tile. A popup will appear that contains the a description of the homework task, the estimated completion time and any links or attachments that may have been included.



Keeping track of homework

To track your homework use the three banners above the homework status. This shows the the number of homework tasks that are due that week, how many of those tasks you have completed and how many tasks you still need to complete.

1 task due this week

0 tasks submitted/completed

1 task remaining this week

To only see homework tasks that require an attachment submission, tick the checkbox labelled Requires submission.

Requires submission?

If you are viewing the Homework tab via a desktop or laptop, expanding a homework status category will display a table overview of each homework task for the selected date range.

To do 3								
Homework	Teacher	Lesson	Issued	Due	Estimated time	Type	Feedback	
<input checked="" type="checkbox"/>	Research GDP	Mr A Blacker	8F/Gg	Monday 09/11/2020	Wednesday 11/11/2020	1 hours	Blended Learning	
<input checked="" type="checkbox"/>	Write a soliloquy	Mr J Kato	8y/En2	Tuesday 10/11/2020	Tuesday 17/11/2020	30 minutes	Homework	
<input checked="" type="checkbox"/>	Create a poster on French food	Mrs A Abell	7YEL/Fr	Friday 06/11/2020	Thursday 19/11/2020	45 minutes	Homework	<input type="button" value="Feedback"/>

Homework attachment submissions

For certain homework tasks, you may be asked by your teacher to upload your work as an attachment. When viewing a homework task in more detail, you will see the Upload attachment button if your teacher is expecting your work to be uploaded. To submit a homework attachment, click on the Upload attachment button and select the files of your choice. Successfully uploaded files will then appear above the button

To do

Write a book review
RECREATION - CBR/RC5 - MRS A ABELL

Type: Homework
Issue date: Friday 20/03/2020
Due date: Friday 27/03/2020
Estimated completion time: 10

Completed?

Write a 500 word review on the book of your choice.

My attachments

My book review.doc

You can upload a maximum of 5 attachments, each up to 250mb in size.

Supported file formats: doc, docx, pdf, xls, xlsx, ppt, pptx, pub, txt, png, jpeg, jpg, gif, rtf, mp3, odt, odp, csv, mp4, mov, m4a, sb3

RECREATION - MRS A ABELL

Write a book review

Issued: Friday 20/03/2020
Due: Friday 27/03/2020

If your teacher leaves feedback on one of your homework attachments, you will see a Feedback icon appear on the associated homework task.

To view the feedback, click on the expand icon in the bottom right hand corner of the homework tile. Your teacher's feedback will appear directly below your homework attachment

To do

Completed

Submitted late

Not submitted

Submitted

To-Do: These are homework tasks that you need to complete. Once you have completed them, tick the checkbox

Completed: These are homework tasks that you have ticked as completed but have not been marked by your teacher

Late: These are homework tasks that have been handed in past the deadline.

Not submitted: These are homework tasks that were not handed in on time.

Submitted: These are homework tasks that have been handed in on time.

HOW TO ACCESS SENECA



Seneca learning is a free online platform that will help you revise for all your subjects.

1.

Go to
<https://senecalearning.com/en-GB/>

2.

Click 'Log In' at the top right hand corner.



Login

Sign up

3.

Select 'Continue with Microsoft'.



Continue with Microsoft

4.

Enter your school email and password.

5.

Select the course(s) you want to work on

If you need any help accessing SENECA please speak to your class teacher, or Miss Holmes.

You can also scan this QR code for a video walkthrough of how to log in as a student

SCAN HERE



INDEPENDENT LEARNING LOG



BRAIN DUMPS

Expectation this ½ term: Brain dumps

Complete 1 brain dump a day

- This should be done once a day, for approximately 20 minutes.
- All your Brain dumps should be evidenced in your application booklet.
- Use this log to track how what subjects you have done (see example)

Week Beginning	Monday	Tuesday	Wednesday	Thursday	Friday
EXAMPLE:	English: KG1 & 2	Science: KG2 & 4	History: KG4 & 5	PSHCE: KG 1 & 2	Drama: KG 1 & 3
13/04/26					
ILB CHECK (10 Brain Dumps) 20/04/2026					
27/04/2026					
04/05/2026					
ILB CHECK (30 Brain Dumps) 11/05/2026					
18/05/2026					

BRAIN DUMPS- INSTRUCTIONS

1.



Identify knowledge

Select a topic you wish to cover.

Do you have the resources you need?

Knowledge organisers

Textbooks

Lesson materials

Set your page up and make sure you have the correct equipment

2.



Write it down

Write down everything you can remember about that topic. (with no prompts)

Give yourself a maximum of 5 minutes. This is Quick recall.

3.



Check it

Once complete and you cannot remember any more use your knowledge organiser to check what you have written down.

Use green pen to tick anything correct, or add any information you have missed.

4.



Review

Use your brain dump to:

1 - Identify your strengths

2 - Identify the areas you need to revise

3 - Write down any key areas you missed

4 - Address how you will move forward on points 2 and 3.

5.



Revisit it

Keep your brain dump safe and revisit it.

Use your brain dump to **RAG** rate your knowledge organiser. This will help you prioritise your revision in the future.

Internal (Organic Growth)

1	Key idea	When a business grows naturally using its own resources
2	Methods	New Markets-targeting a different market segment or expanding overseas New products-R&D to develop brand new products New technology e.g., using internet to expand overseas
3	Key Idea	To help increase market share Leads to lower costs Results in more profit
4	Pros	Cheaper (financed through retained profit) Less risky (No culture clash) Keep control
5	Cons	Pace of growth is slower Might miss out on skills and expertise of other business

Key Vocabulary

1	Organic Growth	Grows naturally using its own resources
2	Inorganic Growth	Grows by joining another existing business
3	MNC	Multinational where a business with operations in more than one country

External (Inorganic Growth)

1	Key Idea	When a business grows by joining with or acquiring another existing business
2	Two ways for external growth	Merger- where businesses agree to join and work as one business Takeover-where one business buys another. To takeover a company you have to gain control by buying enough shares
3	Methods	Backward vertical is when a business joins with one at a previous stage Conglomerate-no common business interest join Horizontal-businesses at the same stage join Forward vertical- joins with one at a later stage
4	Pros	Allows businesses to grow quickly Share the skills and knowledge Leads to the business having more power in the market
5	Cons	Can lead to clash of culture Risky-faster growth can lead to more problems require more money than organic growth

Sources of finance (internal)

1	Sale of assets	Sell assets that it no longer needs e.g. machinery or excess stock. It is a quick way of raising capital but will lose the benefit of owning the asset it sells.
2	Retained Profit	Safest form of finance because there is no risk or debt. However, profit isn't guaranteed and may require an investment than it can make as profit.

Public Limited Companies (PLCs)

1	Key Idea	Can raise capital through selling shares on a stock exchange. Easier to raise money for growth
2	Pros	-Raise finance through share capital -Limited liability -Considered more reliable greater public awareness of business
3	Cons	-Risk of potential takeovers -increased public and media attention -Less privacy around financial performance -Greater influence on decision making by external shareholders
∞		

Sources of finance (External)

1	Loan Capital	Can be secured against the businesses assets but interest will be charged and the businesses will have to make fixed repayments for the debt.
2	Share Capital	A PLC can raise capital by selling shares. By doing this it is at risk of being taken over and shareholders are entitled to a share of the profit through dividends.

External Reasons

1	Key Idea	Market conditions (changes in size of market, competitors, changes in income even changes in interest and tax)
2	Key Idea	Technology (minimize costs using tech or expand into new markets) Legislation e.g. minimum wage law

Key Vocabulary

External sources of finance

Finance provided by people or institutions outside the business, creates a debt that will require payment

Internal Reasons

1	Key idea	Performance e.g. if it has done well may decide to expand or take on more staff and vice versa Change in leadership
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How businesses aims and objectives change

1	Focus on survival or growth	Focus on survival in the first year and then may wish to grow or expand
2	Entering or exiting markets	E.g. Nokia re-entering the mobile market
3	Growing or reducing the workforce	e.g. strawberry farm wants to grow and expand they may take on more pickers
4	Increasing product range	This allows more choice for customers which will make more sales and revenue will increase and so will profit
	Decreasing the product range	May decide to go back to core business to get rid of old products which are out of date, or not selling

Globalisation

Competing internationally

1	Benefits	Higher number of customers to sell to in new markets Lower costs of production in developing countries (wages lower)	1	Use of internet and E-commerce e.g selling online to an international market 4Ps; Product , Price , Place , Promotion
2	Drawbacks	Threat from foreign businesses Challenges of adapting products to meet foreign customer needs		
3	Business locations	Offshoring is when the business may decide to move the whole business overseas		
4	Multinationals	Advantages-wider target market, can take advantage of cheap labour and utilities abroad, spread risk between operations in different countries and reputation as a market leader Disadvantages- loss of focus on key markets, cultural and language differences between countries, uncertainty regarding profits based on exchange rates and change on a regular basis and damage to the reputation if found operating unethically.		

Protectionism

Key Vocabulary

1	Tariffs	A tax that raises the price on imported products and decreased its demand. It helps persuade consumers to switch to UK made goods. Advantages; UK goods will be cheaper, can sell more, protect new businesses from being swamped by competition and raise important tax revenue Disadvantages-wont put many customers off, may just increase prices for consumers and other countries may impose tariffs in response to this	1	International Trade	Flow of goods and services between countries e.g. Imports and exports
2	Trade Blocs	Group of countries who make a trade agreement to not place tariffs on imports	2	Imports	A good brought into the country (Money leaving UK)
3	Quotas	A physical limit on imports e.g. last bottle of milk in the shop	3	Exports	A good sold to another country (money coming into the UK)
4	Export subsidy	When the government or EU give businesses money to cover some of their costs so they will produce more and lower their price			

Ethics, the environment and business

Examples of ethical behavior

Pressure groups




Impact of pressure groups on the marketing mix

1	Treating workers and suppliers fairly Ethical sourcing of materials	1	Organised group that seek to influence business behavior which can show businesses in a negative light by doing protests, boycotts and petitions.	1	Product	Use sustainable resources and ensure products are safe
2	Being honest with customers Meeting government requirements and legislation			2	Price	Increase the price paid to small suppliers
3	Investing in the community Caring for the environment and operating sustainably			3	Place	Source local products
		4	Promotion	Obey advertising legislation and provide accurate information on packaging		
10		Key Vocabulary		Trade off	Finding a balance between achieving two objectives like profit and ethics	
				Ethics	Are moral principles that guide the way a business behaves	

Hardware, Operating Systems and Memory

- 1
1. What is hardware?
 - Input Devices
 - Output Devices
 - Specialist Devices
 - Assistive Technology
- Operating system functions
- Processor, memory, IO devices, applications and security
 - Random Access Memory [RAM]
 - Read Only Memory [ROM]
 - The difference between RAM & ROM.
 - Virtual Memory
 - Preventing the need for VM
 - Disk thrashing
 - Flash memory

Boolean Logic

- 1
- Logic Gates
- 


- AND OR NOT
- Truth tables
- Truth tables show all possible input combinations of 1s and 0s, and the corresponding outputs.
- Logic statements
- Circuits can be written as logical statements. Operations in brackets should be completed first, just like in Math's.

Secondary Storage and Memory

- 1
- Common types of storage
 - Optical Media
 - Magnetic Hard Drive
 - Solid State Drives
 - Suitable storage devices / media for a given application
 - Advantages / Disadvantages using the following characteristics:
 - Capacity
 - Speed
 - Portability
 - Durability
 - Reliability
 - Cost
 - Cloud storage

Systems Architecture

- The purpose of the CPU
- Von Neumann architecture
- Common CPU components and their functions
- Function of the CPU as fetch decode and execute
- How common characteristics of CPUs affect their performance:
- Embedded systems:

Key Vocabulary

1	Bus	A collection of wires that carry data, instructions and addresses between components of the CPU.
2	Embedded Systems	A computer built into another device e.g. Smart TV, dishwashers and microwaves.
3	Hardware	The physical components that make up a computer
4	Software	The program that runs on a computer system

Number Bases and Binary addition

1. Decimal - Base 10
 2. Binary - Base 2
 3. Hexadecimal - Base 16
- Converting from binary to denary.
 - Converting from denary to binary.
 - Converting between hex and denary.
 - Converting between hex and binary.
 - Adding binary numbers.
 - Overflow.

Binary Addition

- $0 + 0 = 0$
- $1 + 0 = 1$
- $0 + 1 = 1$
- $1 + 1 = 10$
- $1 + 1 + 1 = 11$

Units of Information

(1000)	(1024)
- Bit	- Bit
- Nibble	- Nibble
- Byte	- Byte
- Kilobyte	- Kibibyte
- Megabyte	- Mebibyte
- Gigabyte	- Gibibyte
- Terabyte	- Tebibyte

Data Compression

- What is data compression?
- Need for compression
- Types of compression
 - Lossy (example: image file)
 - Lossless (example: text file)
- Huffman Tree Coding
- Run Length Encoding (RLE)

Images and Sound

Images

- Image files are stored in binary on a computer.
- Metadata
 - Pixel
 - Colour depth
 - Resolution
 - Bitmap images
 - Vector images

Sound

- Sample rate
 - Quality of sound
 - File size
- Sample resolution: is the number of bits per sample
- Calculate file sizes:
 - File size (bits) = rate x res x secs

Key Vocabulary

1	Binary	The computers language. A counting system which uses 1s and 0s, also known as machine code.
2	Character Set	A group of characters that a computer recognizes from their binary representation.
3	Decimal	A digit represented in base ten
4	Hexadecimal	A digit represented in base 16

Hex	Decimal
A	10
B	11
C	12
D	13
E	14
F	15

What is market failure?

Market failure happens when the market fails to allocate scarce resources in the most efficient manner possible. Either too many resources are allocated to something or too few. The level of output/production in the market is not socially optimal.

Consequences of market failure

Costs to society and the general public - Society has to bear the consequences of pollution caused by factories or the congestion road users have to face due to too many cars on the road.

Fall in quality of life – Poor air quality or ill health due to pollution, time wasted due to being stuck in traffic, inhaling second hand smoke etc all lead to a fall in the quality of life due to misallocation of resources

Inequality – a misallocation of resources could lead to unequal distribution of income and wealth.

Reduced economic efficiency – Misallocation of resources can lead to inefficient use of resources, resulting in a lower level of economic efficiency than would be possible with an optimal allocation of resources.

Decreased competitiveness – markets may be less competitive due to a misallocation of resources resulting in higher prices for consumers and lower market share and profits for businesses

Government intervention to counter market failure

Indirect taxes – these increase costs for businesses who pass them onto consumers resulting in lower demand. This therefore helps reduce consumption of certain goods e.g. alcohol and tobacco

Subsidies – when the government wants to encourage the consumption of something they use subsidies. For example up until recently the government gave home owners subsidies to install solar panels.
Subsidies are direct payments to businesses or households which have the effect of encouraging consumption or production as it leads to lower costs of production or consumption.

Maximum and minimum prices
A maximum price may be used to encourage consumers to buy something and prevent monopolies from charging very high prices
A minimum price may be used to discourage consumption by keeping prices higher than the market rate

Government provision
The government may provide public goods because if left to the market they are either under provided or not provided at all. Education and health care are examples that would be under used if left to the market

Regulation
Laws might be imposed to ban consumers from using certain goods or making it illegal not to do something e.g. attending school or have age limits on purchase of alcohol and tobacco

What is an externality?

An externality is a cost or benefit to third parties from an economic transaction.
For example, consumption of junk food leads to health issues yet all tax payers pay higher taxes to fund the NHS to treat people who consume junk food

Positive externalities

These are caused by merit goods. They are the positive effects on third parties from the consumption or production of goods by someone else. These tend to be under consumed if left completely to the market. Education produces positive externalities

Negative externalities

These are caused by demerit goods and are the costs to innocent third parties of consumption or production by someone else. These tend to be over consumed if left completely to the market. Smoking produces negative externalities

Private costs

The costs to the individual consumer or business from consuming or producing a good or service e.g. ill health would be an example of a private cost for a smoker

Private benefits

The benefits to the individual consumer or business from consuming or producing a good or service. Better career prospects would be an example of a private benefit for someone that has a good education

Social costs

The total costs to society from consumption and production. They include private costs and negative externalities
Social costs = private costs + negative externalities

Social benefits

The total benefit to society from consuming or producing a good or service.
Social benefits = private benefits + positive externalities

EXAMPLE

Dave is a regular smoker, he easily consumes a packet of 20 cigarettes in 2 days. The private costs to Dave would be the cost of purchasing each pack of cigarettes, the to ill his health, the odour, damaged teeth and potential cancer! The private benefits to Dave would be the personal satisfaction he gets. The external costs of smoking would be: The litter caused by stubs, the huge costs to the NHS to treat smoking related illnesses, higher taxes for working people, cost for the council to unblock drains caused by cigarette stubs. Because of the externalities associated with smoking the government should intervene because the market leads to over consumption of cigarettes. Therefore there is a need for government intervention. (flip page to see methods of government intervention)

Positive Production & Consumption Externalities

Positive production externalities	Positive consumption externalities
• Flood defence projects benefit the whole community	• Healthcare / Childcare / flu and other vaccines made available to the population
• Projects to reduce deforestation	• Education / Learning / Community Work
• Apps that promote the "sharing" of scarce resources	• Pest control / gardening
• Research and development - spillovers for other businesses	• Usage of mass transport services instead of private motoring
• Bee-keeping and pollination	• Youth clubs and apprenticeships

Negative Production & Consumption Externalities

Negative externalities occur when production and/or consumption impose **external costs on third parties outside of the market** for which no appropriate compensation is paid.

Negative production externalities	Negative consumption externalities
• Air pollution from factories	• Fly-tipping of household waste
• Damage to the environment from industrial ocean fishing	• Effects of passing smoking
• External costs of fertilizers and pesticides used in farming	• Impact on family life of gambling and alcohol addiction
• Noise pollution from the airline industry	• Noise pollution from events such as sports matches and concerts

Scales Of Manufacture

One-Off	Birthday Cake, F1 Car, Specialist Jewellery, Large Buildings / Towers, Wedding Dress, Prosthetics For Limbs.	Traditional only one product is made
Batch	Flat Packed Furniture, Special Edition Cars, Baked Goods, Clothing, Computer Chips, Computer Software, Electrical Goods, Newspapers/Magazines	Traditionally where a group of products are made, it might be in groups of 10s or 100s
Mass	Recycling Centers, Paper Production, Canned Goods, Over-the-counter Drugs, Some Household Appliances.	Traditional where a group of products are made in 10,000 to 100,000. The emphasis in mass production is on keeping manufacturing costs low by producing the same product using repetitive and standardised processes.

Manufacturing Aids

Jig	Is used to help shape materials, it ensures repeatability
Fixture	Is used to keep components in position when being manufactured it ensures repeatability
Template	Is used to draw around to mark a repeatable shape
Mould	Is used to shape materials that have gone into liquid form, it can be used over and over again. Usually involves plastic materials
Die	1) Is used to bend, cut and shape materials that are usually flat 2) A die is also the equivalent of a mould but for metal, you pour molten metal into a die.

Features of Scales Of Manufacture

One-Off	<ul style="list-style-type: none"> - Very expensive - Custom made - Manufactured by skilled workers - Labour cost is high - Set up costs are low. - Efficiency of manufacture is low - Highest quality materials used
Batch	<ul style="list-style-type: none"> - Products usually have few components - Products are made to specified amount - Products go through a predetermined sequence. - The production line can be modified to suit the needs of the stage of manufacture.
Mass	<ul style="list-style-type: none"> - Products are made in very large quantities. - Labour skill level is low - Labour cost is low - Set up costs are high - Efficiency of manufacture is high - Cost per product is low - Products are made on a production line using CAM.

Advantages and limitations of jigs, fixtures, templates and moulds

The benefits of jigs and fixtures include:

- Increase in production
- The consistent quality of manufactured products
- Cost reduction
- Inter-changeability and high accuracy of parts
- The decrease in an accident with improved safety standards
- Semi-skilled workers can operate these tools, reducing the workforce's cost.
- Complex, rigid and heavy components can be easily machined

Question Summary

Q.	Skill(s) assessed	Marks, timings and question stems
1	Retrieval and inference	4 marks (10 minutes inc. reading source) "List four things..."
2	Language	8 marks (15 minutes) "How does the writer use language here to..." (2-3 PEA)
3	Structure	8 marks (15 minutes) "How has the writer structured the text to interest you as a reader?" (3 PEA)
4	Evaluation	20 marks (20 minutes) "Statement on an aspect of the text." To what extent do you agree? (3 PEA)
5	Creative Writing	40 marks <i>24 marks for content and organisation</i> <i>16 marks for technical accuracy</i> (45 minutes) Choice between writing based on a visual prompt or a written one.

Useful Approaches to Creative Writing (Q5)

1	Use an unreliable narrator	Give your reader reason to doubt the accuracy of the story told e.g. write as someone old or young
2	Choose an unexpected perspective	Obvious isn't always best. Find interesting perspectives!
3	Give your characters inner conflict	A difficult decision or social situation is just as interesting as a fight!
4	Use a cyclical structure	Can really help contain a story and give a powerful ending
5	Make your characters vulnerable	Weaknesses make your characters interesting!
6	Avoid using dialogue	Summarise conversations rather than write every word
7	Start at the end (and then flash back)	Confuse your reader to start with, then clear up the confusion bit by bit
8	Use a short timeline	Covering a single hour is usually better than a lifetime
9	Show, don't tell	"Tears streamed down her cheeks" is better than "she was crying"

Key Language Terminology (Q2 and Q4)

1	Atmosphere	The feeling associated with a piece of writing e.g. dark or oppressive	6	Connotation	What a word or phrase implies or suggests
2	Figurative language	Any language not meant literally e.g. metaphor and simile	7	Hyperbole	Strong exaggeration, not meant to be taken literally
3	Imagery	Visually descriptive language	8	Juxtaposition	Placing two things together to highlight their contrast
4	Lexis	Word choices – words chosen with specific effects in mind	9	Narrative Perspective	The viewpoint from which a text is written
5	Semantic field	Words and phrases with related meanings	10	Short sentences	Used for dramatic impact, often in moments or action

Key Structural Terminology (Q3 and Q4)

1	Ambiguity	Intentional withholding of information to keep a reader guessing	6	Analepsis	Flashback – moving to an earlier point in a narrative's chronology
2	Climax	The peak of tension within a story – it's most thrilling point	7	Cyclical	A structure that returns to where it started
3	Focus shift	Changes of location, character or subject as a story progresses	8	Foreshadowing	Hints of later events used to build tension and guide readers
4	Fragment	An incomplete sentence, usually missing a key part	9	Listing	Numerous similar items are ideas one after the other
5	Motif	A repeated image, words, phrase or idea in a text	10	Repetition	A word or phrase used multiple times throughout a text

Present Tense		
1	Je suis	I am
2	J'ai	I have
3	Je fais	I do/make
4	Je vais	I go
5	J'aime	I like
6	Je déteste	I hate
7	Je joue	I play
8	Je mange	I eat
9	Je bois	I drink
10	Je lis	I read
11	J'achète	I buy
12	Je trouve	I find
13	Je travaille	I work
14	Je pense	I think
15	c'est	it's

Perfect Tense		
1	Je suis allé(e)	I went
2	Je suis parti(e)	I left
3	J'ai fait	I did/made
4	J'ai aimé	I liked
5	J'ai détesté	I hated
6	J'ai joué	I played
7	J'ai mangé	I ate
8	J'ai acheté	I bought
9	J'ai trouvé	I found
10	J'ai travaillé	I worked
11	J'ai regardé	I watched
12	J'ai vu	I saw
13	J'ai bu	I drank
14	J'ai lu	I read

Near Future Tense – I am going to...		
1	Je vais être	be
2	Je vais avoir	have
3	Je vais aller	go
4	Je vais faire	do
5	Je vais jouer	play
6	Je vais regarder	watch
7	Je vais manger	eat
8	Je vais acheter	buy
9	Je vais travailler	work
10	Je vais voir	see
11	Je vais boire	drink
12	Je vais devenir	become
13	Je vais voyager	travel
14	ce sera	it will be

Conditional Tense – I would like to...		
1	Je voudrais être	be
2	Je voudrais avoir	have
3	Je voudrais aller	go
4	Je voudrais faire	do
5	Je voudrais jouer	play
6	Je voudrais regarder	watch
7	Je voudrais manger	eat
8	Je voudrais acheter	buy
9	Je voudrais travailler	work
10	Je voudrais voir	see
11	Je voudrais boire	drink
12	Je voudrais devenir	become
13	Je voudrais voyager	travel
14	ce serait	it would be

Il y a		
1	Il y a	There is/are
2	Il y avait	There was/were
3	Il y aura	There will be
4	Il y aurait	There would be

Structures with infinitives		
1	J'aime aller/faire	I like going/doing
2	Je n'aime pas aller/faire	I don't like going/doing
3	il faut aller/jouer	you have to go/play
4	on peut/doit aller	you can/must go

Imperfect Tense		
1	J'étais	I was/I used to be
2	J'avais	I had/I used to have
3	C'était	It was
4	il y avait	there was/were

Sentence Starters		
1	je pense que	I think that
2	je crois que	I believe that
3	à mon avis	in my opinion
4	selon moi	in my opinion
5	je dirais que	I would say that

Connectives		
1	et	and
2	ou	or
3	où	where
4	parce que	because
5	car	as
6	mais	but
7	pourtant	however
8	aussi	also

Intensifiers		
1	un peu	a bit
2	assez	quite
3	très	very
4	vraiment	really
5	beaucoup	much/ a lot
6	trop	too

Adjectives		
1	amusant	fun
2	intéressant	interesting
3	passionnant	exciting
4	utile	useful
5	beau	beautiful
6	fantastique	fantastic
7	incroyable	incredible
8	ennuyeux/ barbant	boring
9	fatigant	tiring
10	difficile	difficult
11	cher	expensive

Signposting Time Frames		
1	l'année dernière	last year
2	la semaine dernière	last week
3	hier	yesterday
4	normalement	normally
5	d'habitude	usually
6	ce soir	this evening
7	la semaine prochaine	next week
8	l'année prochaine	next year
9	dans l'avenir	in the future

Frequency		
1	tous les jours	every day
2	de temps en temps	from time to time
3	une fois par semaine	once a week
4	deux fois par mois	twice a month
5	ne...jamais	never
6	toujours	always
7	souvent	often
8	quelquefois	sometimes

Exclamations!!!		
1	Quel dommage!	What a shame!
2	Quel plaisir!	What a pleasure!

Perfect Phrases For Any Essay		
1	Hier je suis allé au cinema/au stade/au restaurant/au parc/au café/à la piscine et c'était...	Yesterday I went to the cinema/stadium/restaurant/park/ café/swimming pool and it was...
2	J'ai mangé une pizza/des frites/un hamburger/du jambon/du poisson/une glace et c'était...	I ate a pizza/fries/a hamburger/some ham/fish/an ice-cream and it was...
3	J'ai joué au foot/au tennis/au rugby/au golf et c'était...	I played football/tennis/rugby/golf and it was...
4	J'ai bu un coca/un jus d'orange et c'était...	I drank a coke/an orange juice and it was...

Fancy Phrases		
1	je l'ai trouvé génial	I found it great
2	je me suis bien amusé(e)	I really enjoyed myself
3	j'ai tellement hâte	I'm really looking forward to it

Present Tense - I			Perfect Tense (past)- I			Imperfect Tense - I used to			Future Tense – I will			Conditional – I would		
1	Je suis	I am	1	Je suis allé(e)	I went	1	J'étais	... be	1	Je serai	...be	1	Je serais	...be
2	J'ai	I have	2	Je suis parti(e)	I left	2	J'allais	... go	2	J'aurai	...have	2	J'aurais	...have
3	Je fais	I do/make	3	J'ai fait	I did/made	3	J'avais	... have	3	J'irai	...go	3	J'irais	...go
4	Je vais	I go	4	J'ai aimé	I liked	4	Je faisais	... do	4	Je ferai	...do	4	Je ferais	...do
5	Je bois	I drink	5	J'ai détesté	I hated	5	Je jouais	... play	5	Je jouerai	...play	5	Je jouerais	...play
6	Je lis	I read	6	J'ai joué	I played	6	Je regardais	... watch	6	Je regarderai	...watch	6	Je regarderais	...watch
7	Je vois	I see	7	J'ai mangé	I ate	7	J'écoutais	... listen	7	Je mangerai	...eat	7	Je mangerais	...eat
8	J'achète	I buy	8	J'ai acheté	I bought	8	Je mangeais	... eat	8	J'achèterai	...buy	8	J'achèterais	...buy
9	Je trouve	I find	9	J'ai trouvé	I found	9	Je buvais	... drink	9	Je travaillerai	... work	9	Je travaillerais	...work
10	Je travaille	I work	10	J'ai travaillé	I worked	10	J'achetais	... buy	10	Je verrai	...see	10	Je verrais	...see
11	Je pense	I think	11	J'ai regardé	I watched	11	J'aimais	... like	11	Je boirai	...drink	11	Je boirais	...drink
12	Je crois	I believe	12	J'ai vu	I saw	12	Je lisais	... read	12	Je lirai	...read	12	Je lirais	...read
13	Je dois	I have to	13	J'ai bu	I drank	13	Je travaillais	... work	13	Je partagerai	... share	13	Je partagerais	...share
14	Je peux	I can	14	J'ai lu	I read	14	Je détestais	... hate	14	J'écouterai	... listen	14	J'écouterais	...listen
15	Je veux	I want to												

Present Tense – We/they			Past Tense – We/they			Imperfect – We /they			Future – We /they			Conditional – We/they		
1	On va	We go	1	On a vu	We saw	1	On était	We used to be	1	On sera	We will be	1	On serait	We would be
2	On joue	We play	2	On a fait	We did	2	On avait	We used to have	2	On aura	We will have	2	On aurait	We would have
3	On peut	We/you can	3	On a joué	We played	3	On allait	We used to go	3	On ira	We will go	3	On irait	We would go
4	On fait	We do	4	On est allés	We went	4	Ils étaient	They were	4	Ils seront	They will be	4	Ils seraient	They would be
5	Ils sont	They are	5	On est partis	We left	5	Ils avaient	They had	5	Ils auront	They will have			

Sentence Starters

1	je pense que	I think that
2	je crois que	I believe that
3	à mon avis/selon moi	in my opinion
5	je dirais que	I would say that
6	il me semble que	it seems to me that
7	d'un point de vue personnel	from a personal point of view
8	bien que je sache que	although I know that
9	à cause du fait que	due to the fact that
10	Je considérerais que	I would consider that
11	il faut que je dise que	I have to say that

Connectives

1	mais	but
2	pourtant	however
3	en revanche	however
4	néanmoins	nevertheless
5	certes	admittedly
6	aussi	also
7	donc	therefore
8	d'ailleurs	besides

Intensifiers

1	un peu	a bit
2	assez	quite
3	très	very
4	vraiment	really
5	beaucoup de	Lots of
6	trop	too
7	tellement	so
8	extrêmement	extremely

Avoir/Etre/Faire

1	C'est	It is
2	Ce sera	It will be
3	C'était	It was
4	Ce serait	It would be
5	Il y a	There is
6	Il y aura	There will be
7	Il y avait	There was
8	Il y aurait	There would be
9	Il fait beau	It's nice
10	Il fera froid	It will be cold
11	Il faisait chaud	It was hot
12	Il ferait orageux	It would be stormy

Exclamations!!

1	Quel dommage!	What a shame!
2	Quel plaisir!	What a pleasure!

Pronouns

1	Mon/ma/mes	My
2	Son/sa/ses	His/her
3	Notre/nos	Our
4	Leur/leurs	Their
5	Lui/Elle/eux	Him/her/them

Frequency

1	tous les jours	every day
2	de temps en temps	from time to time
3	une fois par semaine	once a week
4	deux fois par mois	twice a month
5	ne...jamais	never
6	toujours	always
7	souvent	often
8	quelquefois/ parfois	sometimes

Signposting Time Frames

1	l'année dernière	last year
2	la semaine dernière	last week
3	hier	yesterday
4	normalement	normally
5	d'habitude	usually
6	ce soir	this evening
7	la semaine prochaine	next week
8	l'année prochaine	next year
9	dans l'avenir	in the future

Fancy Phrases

1	après avoir mangé	after having eaten
2	je l'ai trouvé génial	I found it great
3	je me suis bien amusé(e)	I really enjoyed myself
4	ça m'a vraiment plu	I really enjoyed it
5	ça en valait la peine	It was worth it
6	je n'aurais jamais pensé	I would never have thought
7	j'ai tellement hâte	I'm really looking forward to it
8	le jeu en vaudra la chandelle	it will be worth it

Knowledge Group 1: Preliminary Grid

1	Grid	A structure made up of a series of intersecting straight or curved lines used to structure content.
2	Parallel lines (borders)	Appearing along the edge of images when positioned side by side and having the same distance continuously between them.
3	Continuity of lines	When the lines and shapes of an image which are located along the edges appear to flow into another.
4	Compositional flow	Flow is about movement and direction, and leading the eye from one part of a composition to another in the direction you want it to move.
5	Elongated lines	Lines which have had their length extended.
6	Underlap	To extend partly under.
7	Overlap	To cover something partly by going over its edge

Knowledge Group 2: Painting

1	Gouache	An opaque water-medium paint consisting of natural pigment, water, and a binding agent.
2	Tint	A hue produced by adding white.
3	Shade	A hue produced by adding black.
4	Saturation	The intensity or purity of a hue.
5	Highlights	The areas on an object where light is hitting.
6	Shadows	The darker areas on an object where light is not hitting.
7	Detail	A distinctive feature on a piece of art which can be seen most clearly close up.
8	Complementary Colours	Colours located opposite one another on the colour wheel.

Key Vocabulary

1	Development (of ideas)	Selecting ideas, visual elements, compositions and techniques from initial work and using them in new ways.
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Knowledge Group 3: Artists/Periods

1	Jane Fielder	Painter and founder of the Bingley Gallery. Jane enjoys finding order out of chaos and works with acrylic paint and pens to produce layered and intricate mixed media compositions.
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A. UK physical landscape		
1	The UK has a range of diverse landscapes.	Major Upland areas in the UK: The Northwest Highlands, the Cairngorm Mountains, the Grampian Mountains and the Southern Uplands. Ben Nevis is the UK's highest peak and is found in the Grampian Mountains. Major lowland areas in the UK: The Fens in East Angular are the lowest areas of the UK.

B. The coast is shaped by a number of physical processes.

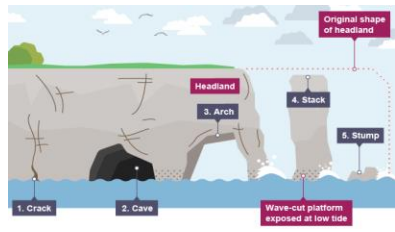
1	Wave types and characteristics.	<p>Constructive Wave Long wave length so low frequency (8-10 waves per minute) Water spreads a long way up the gently sloping beach. Low wave height (under 1 metre) Wave front is gently sloping Wave trough Gains a little height, breaks and spills on the beach Orbit becomes elliptical due to shore friction slowing the base of the wave Waves have a circular orbit Strong swash Weak backwash</p> <p>Destructive Wave Short wave length so high frequency (10-14 waves per minute) Wave plunges onto steep beach, energy directed downwards so does not travel far up the beach. Wave trough Steep wave front Wave height over 1 metre Breaking wave gains much height Orbit becomes elliptical due to shore friction slowing the base of the wave Waves have a circular orbit Offshore bar where sand is deposited Very strong backwash erodes sand Weak swash</p> <p>www.internetgeography.net</p>
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2	Coastal processes.	<p>weathering processes – mechanical, chemical mass movement – sliding, slumping and rock falls erosion – hydraulic power, abrasion and attrition transportation – longshore drift deposition – why sediment is deposited in coastal areas.</p>
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C. Distinctive coastal landforms are the result of rock type, structure and physical processes. EROSION

1	headlands and bays	Bands of alternating hard and soft rock that are perpendicular to the coast- soft rock erodes faster forming bays and hard rock erodes slower leaving headlands jutting out in to the sea.
2	Cliffs and wave cut platforms	Cliffs are steep areas of rock that fall to the sea below from this a wave cut platform maybe produced- a flat area in front of a cliff, just below the low tide mark. These were formed when the waves eroded the cliff, but left a flat platform behind.

3	Cave, arch, stack and stump	<ol style="list-style-type: none"> Cracks are widened in the headland through the erosional processes of hydraulic action and abrasion. As the waves continue to grind away at the crack, it begins to open up to form a cave. The cave becomes larger and eventually breaks through the headland to form an arch. The base of the arch continually becomes wider through further erosion, until its roof becomes too heavy and collapses into the sea. This leaves a stack (an isolated column of rock). The stack is undercut at the base until it collapses to form a stump.
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D. Distinctive coastal landforms are the result of rock type, structure and physical processes. DEPOSITION

1	Beaches	Beaches are made up from eroded material that has been transported from elsewhere and then deposited by the sea.
2	Sand dunes	Onshore winds depositing sand along the coast.
3	Spits and bars	Spits are formed by: 1. Sediment is carried by longshore drift . 2. When there is a change in the shape of the coastline, deposition occurs. A long thin ridge of material is deposited. This is the spit. 3. A hooked end can form if there is a change in wind direction. 4. Waves cannot get past a spit, therefore the water behind a spit is very sheltered. Silts are deposited here to form salt marshes or mud flats

E. Different management strategies can be used to protect coastlines from the effects of physical processes.

1	hard engineering – sea walls, rock armour, gabions and groynes	<p>Sea Wall: Placed at the base of a cliff to reflect the waves energy. Gabions: Cages of wire filled with rocks to absorb the waves energy. Groynes: Can be made of wood or rock and are long vertical structures placed at right angles to the beach to trap sediment. This builds up the beach and protects the cliffs from erosion Rock armour: Large rocks placed at the bottom of the cliff to absorb the wave energy.</p>
2	soft engineering – beach nourishment and dune regeneration	Less environmentally way of managing the coastline: Beach Nourishment : Large amounts of sand are added to beaches to build them up and help absorb wave energy. This protects tourism as well as the coast and is easy to carry out and fairly cheap. But it does not last very long as sand will continue to be transported along the coast by longshore drift.

1) Headlands and bays	A rocky coastal promontory made of rock that is resistant to erosion; headlands lie between bays of less resistant rock where the land has been eroded back by the sea.	6) Mechanical weathering	Weathering processes that cause physical disintegration or break up of exposed rock without any change in the chemical composition of the rock, for instance freeze thaw.	16) spit	A depositional landform formed when a finger of sediment extends from the shore out to sea, often at a river mouth. It usually has a curved end because of opposing winds and currents.
2) Hydraulic power	The process by which breaking waves compress pockets of air in cracks in a cliff. The pressure may cause the crack to widen, breaking off rock.	7) Rock armor	Large boulders dumped on the beach as part of the coastal defences.	17) stack	An isolated pillar of rock left when the top of an arch has collapsed. Over time further erosion reduces the stack to a smaller, lower stump.
3) Longshore drift	The zigzag movement of sediment along a shore caused by waves going up the beach at an oblique angle(wash) and returning at right angles(backwash). This results in the gradual movement of beach materials along the coast.	8) Sand dune	Coastal sand hill above the high tide mark, shaped by wind action, covered with grasses and shrubs	18) transportation	The movement of eroded material.
4) Managed retreat	Allowing cliff erosion to occur as nature taking its course: erosion in some areas, deposition in others. Benefits include less money spent and the creation of natural environments. It may involve setting back or realigning the shoreline and allowing the sea to flood areas that were previously protected by embankments and seawalls.	9) Sea wall	A concrete wall which aims to prevent erosion of the coast by providing a barrier which reflects wave energy.	19) Wave cut platform	A rocky, level shelf at or around sea level representing the base of old, retreated cliffs.
5) Mass movement	The downhill movement of weathered material under the force of gravity. The speed can vary considerably.	10) sliding	Occurs after periods of heavy rain when loose surface material becomes saturated and the extra weight causes the material to become unstable and move rapidly downhill, sometimes in an almost fluid state.	20) waves	Ripples in the sea caused by the transfer of energy from the wind blowing over the surface of the sea. The largest waves are formed when winds are very strong, blow for lengthy periods and cross large expanses of water.
		11) slumping	Rapid mass movement which involves a whole segment of the cliff moving down-slope along a saturated shear-plane or line of weakness.		
		15) Soft engineering	Managing erosion by working with natural processes to help restore beaches and coastal ecosystems.		

A. The shape of river valleys changes as rivers flow downstream:
The long profile and changing cross profile of a river and its valley

1	Long profile	Shows the height and gradient of a river from its source to mouth. Often depicted as a diagram: Useful to illustrate the upper, middle and lower course of the river.
2	Upper course	The upper section of a river and its valley. Includes the source. Usually located on high land where rainfall is plentiful. Dominant process is erosion as the river tries to 'cut down' to sea level (also known as base level). Most erosional landforms are found here, such as waterfalls and V shaped valleys. Has a steep gradient and a narrow valley.
3	Middle course	The middle section of the river and its valley. Found on lower land. Processes of both erosion <u>and</u> deposition are active here. Landforms such as meanders and ox-bow lakes are commonly found. Here the river channel and valley are wider and the gradient is more moderate.
4	Lower course	The final stage in the long profile. Located towards the mouth of the river on low-lying, flat land. Deposition is the dominant process creating landforms such as levees, floodplains and estuaries. As the river reaches its end the gradient becomes gentle and the river and its valley much wider.
5	Cross profile	Shows the shape of the river channel and/or valley from one side (bank) to the other. This changes drastically with middle distance downstream. Again, often shown as a diagram:
6	Fluvial processes	Processes of erosion, transportation and deposition that occur within a river system. They shape the river and its valley.

A. The shape of river valleys changes as rivers flow downstream: Fluvial Processes

1	Erosion	<p>Hydraulic Action: This is the force of the water in the channel hitting against the bed and banks, gradually wears them away – particularly occurs at high-velocity flows.</p> <p>Abrasion: This is the scraping away of the river bed and banks by stones picked up and carried in the rivers flow. Like a sandpaper effect.</p> <p>Attrition: Rocks bang against each other, gradually breaking down (rocks become smaller, smoother and less angular as attrition occurs)</p> <p>Solution: The dissolving of minerals in the rocks of the bed and banks which are carried away in solution in the water. Rocks such as limestone are easily dissolved.</p> <p>Vertical erosion: Occurs mostly in the upper course where the river is cutting down to base/sea level. Deepens the river valley and creates a 'V' shape.</p> <p>Lateral erosion: Occurs mainly in the middle and lower course. Here the river cuts sideways widening the channel and the valley.</p>		
		2	Transportation	<p>Traction: Large particles rolled along the river bed by the force of the water.</p> <p>Saltation: A bouncing or hopping motion by pebbles too heavy to be suspended.</p> <p>Suspension: Particles suspended within the water.</p> <p>Solution: Chemicals dissolved in the water.</p>
		3	Deposition	Involves the dropping of sediment that has been transported by the river. River sediment is deposited in low flow conditions when the river loses energy and the velocity is so slow that the river can no longer carry the sediment load. Usually happens on the inside bend of a meander, at the estuary and mouth where tidal influences slow the river flow or anywhere along the river's course at times of low discharge.

B. Distinctive fluvial landforms result from different physical processes

1	Characteristics and formation of landforms resulting from erosion.	<p>Interlocking spurs, waterfalls and gorges</p> <ol style="list-style-type: none"> The river uses its load to cut into the bedrock (vertical) Material loosened by weathering is washed into the river increasing its The river takes a winding path due to projections of hard rock. These form <u>interlocking spurs</u>: the river's forced to wind round them <p>The process of Waterfall Formation</p> <p>Gradually the waterfall retreats upstream leaving a steep-sided GORGE</p> <p>Eventually the overhang collapses due to lack of support</p> <p>A plunge pool is formed by the force of water hitting soft rock below and deepened by rocks rubbing against the bed (corrasion)</p>
2	Characteristics and formation of landforms resulting from erosion and deposition.	<p>Meanders and ox-bow lakes</p>
3	Characteristics and formation of landforms resulting from deposition.	<p>Levees, flood plains and estuaries.</p>

B. B. Distinctive fluvial landforms result from different physical processes: Example: River Tees

1	An example of a river valley in the UK to identify its major landforms or erosion and deposition.	
2	Location and Background	Located in the North of England and flows 137km from the Pennines to the North Sea (Tees estuary) at Red Car.
2	Upper course	The source is located at Tees Head, close to Cross Fell-altitude 893m ASL. Features include V-shaped valley, interlocking spurs, rapids and waterfalls. Highforce Waterfall-located close to Forest-in-Teesdale-drops 22m and consists of harder Whinstone cap rock with underlying softer limestone. An impressive 700m gorge has formed in front of the falls.
3	Middle course	Here the gradient becomes more moderate and the valley widens. Features include meanders and oxbow lakes created by lateral erosion and deposition. The meander near Yarm encloses the town.
4	Lower course	Greater deposition creates features such as floodplains & levees near Darlington. Mudflats form due to deposition at the river's estuary. Some areas of the estuary are designated SSSI's but there is also plenty of industry at the mouth of the river.

C. Different management strategies can be used to protect river landscapes from the effects of flooding.

1	How physical and human factors affect the flood risk: Precipitation, geology, relief and land use	<p>Physical: Prolong & heavy rainfall Long periods of rain causes soil to become saturated leading to runoff and increased flood risk.</p> <p>Physical: Geology Impermeable rocks cause surface runoff to increase river discharge. Permeable rocks allow water to pass through them and porous rocks absorb/hold water so reduce river discharge.</p> <p>Physical: Relief Steep-sided valleys channel water to flow quickly into rivers thus increasing discharge and flood risk.</p> <p>Human: Land Use Tarmac and concrete are impermeable. This prevents infiltration & causes surface runoff. Deforestation reduces interception and increases soil erosion. This causes surface runoff and increases flood risk.</p>
2	The use of Hydrographs to show the relationship precipitation and discharge	<p>Figure 11.42 A typical flashy response hydrograph</p>

C. Different management strategies can be used to protect river landscapes from the effects of flooding.

1	The costs and benefits of the following management strategies: Soft Engineering	<p>Floodplain zoning-restrict land use to certain locations. Place low risk uses such as sports fields in high risk areas.</p> <p>River restoration – return river to original course e.g. River Quaggy. Work to understand natural processes.</p> <p>Flood warnings and preparation-Environment Agency warns those in high risk areas which allows people/councils etc. to prepare for flood events.</p> <p>Planting trees-Tree planting within the catchment increases interception and absorption of water by trees. This reduces the speed/amount of runoff.</p>
2	The costs and benefits of the following management strategies: Hard Engineering	<p>Dams and reservoirs – regulate river flow and allow water to be held back during times of high flow.</p> <p>Straightening Channel – increases velocity to remove flood water; can create flooding issues downstream.</p> <p>Embankments (Artificial Levees) – heightens river banks so flood water is contained.</p> <p>Flood relief channel – man made channel to bypass an urban area e.g. Jubilee River.</p>
C. Different management strategies can be used to protect river landscapes from the effects of flooding.		
1	An example of a flood management scheme in the UK to show: Why the scheme was required.	The Jubilee River is a relief channel for the River Thames in south-east England. The area is part of the Thames flood plain and prone to flooding. It contains the royal settlement of Windsor, as well as Eton, home of a prestigious public school. Given the high-value property in this area, the EA decided to increase the level of flood protection.
2	Management Strategy - 2002	Funded by the Environment Agency (cost £10 million.) It is the UK's largest artificial channel (12km long and 50 m wide). The channel was designed to look like a natural river, so it has meanders and shallow reed beds and a nature reserve with bird hides has been created in the area. It has five weirs (large dams) along its course. The Jubilee River effectively diverts water from the River Thames and prevents the Thames from overflowing its banks.
3	Social, Economic and Environmental Issues	<p>Social -Is it ethical to protect some properties at the expense of others?</p> <p>Economic – cost £10 million, continual repair costs. Homes and businesses flooded downstream.</p> <p>Environmental – Flooding downstream. Natural eco systems disrupted. Algae collecting behind the weirs. Concrete weirs are unattractive.</p>

1) Abrasion Rocks carried along by the river wear down the river bed and banks.

2) Attrition Rocks being carried by the river smash together and break into smaller, smoother and rounder particles.

3) Cross profile The side to side cross-section of a river channel and/or valley.

4) Dam and reservoir A barrier (made on earth, concrete or stone) built across a valley to interrupt river flow and create a man-made lake (reservoir) which stores water and controls the discharge of the river.

5) Discharge The quantity of water that passes a given point on a stream or river-bank within a given period of time.

6) Embankments Raised banks constructed along the river; they effectively make the river deeper so it can hold more water. They are expensive and do not look natural but they do protect the land around them.

7) Estuary The tidal mouth of a river where it meets the sea; wide banks of deposited mud are exposed at low tide.

8) Flood Occurs when river discharge exceeds river channel capacity and water spills out of the channel onto the floodplain and other areas.

9) Flood plain The relatively flat area forming the valley floor on either side of a river channel, which is sometimes flooded.

10) Flood plain zoning This attempts to organise the flood defences in such a way that land that is near the river and often floods is not built on. This could be used for pastoral farming, playing fields etc. The areas that rarely get flooded would therefore be used for houses, transport and industry.

11) Flood relief channels Building new artificial channels which are used when a river is close to maximum discharge. They take the pressure off the main channels when floods are likely, therefore reducing flood risk.

12) Flood risk The predicted frequency of floods in an area.

13) Flood warning Providing reliable advance information about possible flooding. Flood warning systems give people time to remove possessions and evacuate areas.

14) Fluvial processes Processes relating to erosion, transport and deposition by a river.

15) Gorge A narrow, steep sided valley, often formed as a waterfall retreats upstream.

16) Hard engineering Involves the building of entirely artificial structures using various materials such as rock, concrete and steel to reduce, disrupt or stop the impact of river processes.

17) Hydraulic action The force of the river against the banks can cause air to be trapped in cracks and crevices. The pressure weakens the banks and gradually wears it away.

18) Hydrograph A graph which shows the discharge of a river, related to rainfall, over a period of time.

19) Interlocking spurs A series of ridges projecting out on alternate sides of a valley and around which a river winds its course.

20) Landscape An extensive area of land regarded as being visually and physically distinct.

21) Lateral erosion Sideways erosion by a river on the outside of a meander channel. It eventually leads to the widening of the valley and contributes to the formation of the flood plain.

22) Levees Embankment of sediment along the bank of a river. It may be formed naturally by regular flooding or be built up by people to protect the area against flooding.

23) Long profile The gradient of a river, from its source to its mouth.

24) Meander A pronounced bend in a river

25) Ox-bow lake An arc-shaped lake which has been cut off from a meandering river.

26) Precipitation Moisture falling from the atmosphere - as rain, hail, sleet or snow.

25) Ox-bow lake An arc-shaped lake which has been cut off from a meandering river.

26) Precipitation Moisture falling from the atmosphere - as rain, hail, sleet or snow.

27) Saltation Particles bouncing down the river bed.

28) Soft engineering Involves the use of the natural environment surrounding a river, using schemes that work with the river's natural processes. Soft engineering is usually much cheaper and offers a more sustainable option as it does not interfere directly with the river's flow.

29) Solution Soluble particles are dissolved into the river.

30) (Channel) straightening Removing meanders from a river to make the river straighter. Straightening the river (also called channelising) allows it to carry more water quickly downstream, so it doesn't build up and is less likely to flood

31) Suspension Fine solid material held in the water while the water is moving

32) Traction The rolling of boulders and pebbles along the river bed.

33) Vertical erosion Downward erosion of a river bed.

34) Waterfall Sudden descent of a river or stream over a vertical or very steep slope in its bed. It often forms where the river meets a band of softer rock after flowing over an area of more resistant material.

Present Tense		
1	Ich bin	I am
2	Ich habe	I have
3	Ich mache	I do/make
4	Ich gehe	I go
5	Ich fahre	I travel
6	Ich mag	I like
7	Ich hasse	I hate
8	Ich spiele	I play
9	Ich esse	I eat
10	Ich trinke	I drink
11	Ich lese	I read
12	Ich sehe	I see
13	Ich kaufe	I buy
14	Ich finde	I find
15	Ich arbeite	I work
16	Ich denke	I think
17	Ich muss	I have to
18	Ich kann	I can
19	Ich will	I want to
20	Es ist	it's

Perfect Tense		
1	Ich bin gegangen	I went
2	Ich bin gefahren	I travelled
3	Ich bin geflogen	I flew
4	Ich bin geblieben	I stayed
5	Ich habe gemacht	I did/made
6	Ich habe gespielt	I played
7	Ich habe gegessen	I ate
8	Ich habe getrunken	I drank
9	Ich habe gekauft	I bought
10	Ich habe gearbeitet	I worked
11	Ich habe gesehen	I watched
12	Ich habe gelesen	I read
13	Ich habe gefunden	I found
14	Ich habe besucht	I visited

Using Geben		
1	Es gibt	There is/are
2	Es gab	There was/were
3	Es wird...geben	There will be
4	Es würde...geben	There would be

Simple Past		
1	Ich war	I was
2	Es war	It was
3	Sie waren	They were
4	Ich hatte	I had
5	Es gab	There was/were

Conditional Fancy		
1	Ich wäre	I would be
2	Es wäre	It would be
3	Sie wären	They would be
4	Ich hätte	I would have
5	Es gäbe	There would be

Future/Conditional Tense		
Ich werde/möchte... = I will/would like to		
1	...sein	be
2	...werden	become
3	...gehen	go
4	...fahren	travel
5	...spielen	play
6	...essen	eat
7	...trinken	drink
8	...sehen	see
9	...arbeiten	work
10	...lesen	read
11	...machen	make/do
12	...besuchen	visit

Structures With Infinitives		
1	Ich muss...machen	I have to do
2	Ich darf...machen	I am allowed to do
3	Ich kann...machen	I can do
4	Ich soll...machen	I should do
5	Ich will...machen	I want to do
6	Man muss/kann/soll...machen	You must/can/should do

Sentence Starters		
1	Meiner Meinung nach	In my opinion
2	Meines Erachtens	In my opinion
3	Im Großen und Ganzen	All in all
4	Ich denke, dass...	I think that
5	Ich würde sagen, dass	I would say that
6	Ich muss sagen, dass	I have to say that

Connectives		
1	und	and
2	aber	but
3	denn	because
4	oder	or
5	jedoch	however
6	außerdem	furthermore
7	weil/da	because
8	dass	that

Intensifiers		
1	ein bisschen	a bit
2	ziemlich	quite
3	sehr	very
4	wirklich	really
5	echt	genuinely
6	zu	too
7	so	so
8	ganz	totally

Adjectives		
1	lustig	funny
2	interessant	interesting
3	spannend	exciting
4	nützlich	useful
5	schön	beautiful
6	toll	great
7	unglaublich	incredible
8	langweilig	boring
9	anstrengend	tiring
10	schwierig	difficult
11	teuer	expensive
12	billig	cheap

Signposting Time Frames		
1	letztes Jahr	last year
2	letzte Woche	last week
3	gestern	yesterday
4	normalerweise	normally
5	gewöhnlich	usually
6	heute Abend	this evening
7	nächste Woche	next week
8	nächstes Jahr	next year
9	in der Zukunft	in the future
10	am Wochenende	at the weekend

Frequency		
1	jeden Tag	every day
2	ab und zu	from time to time
3	einmal pro Woche	once a week
4	zweimal pro Monat	twice a month
5	nie	never
6	immer	always
7	oft	often
8	manchmal	sometimes

Exclamations!!!		
1	Wie Schade!	What a shame!
2	Wahnsinn!	Wow!

Fancy Phrases		
1	Es hat eine Menge Spaß gemacht	It was loads of fun
2	Es hat sich wirklich gelohnt	It was really worth it
3	Das hat mir gefallen	I liked it
4	Ich freue mich schon darauf	I am already looking forward to it
5	Ich werde mich amüsieren	I will enjoy myself

Perfect Past Examples		
1	Letztes Wochenende bin ich ins Kino/Café/Restaurant/Stadion/Museum gegangen und es hat eine Menge Spaß gemacht.	Last weekend I went to the cinema/café/restaurant/stadium/museum and it was loads of fun.
2	Ich habe Hähnchen, Pommes und Salat gegessen und ich habe Cola getrunken. Das Essen war sehr lecker und es hat sich wirklich gelohnt. Wahnsinn!	I ate chicken, chips and salad and I drank cola. The food was very tasty and it was really worth it. Wow!

Fantastic Future Examples		
1	Nächstes Jahr werde ich mit meinen Freunden nach Berlin fahren und ich freue mich schon darauf.	Next year I will travel with my friends to Berlin. I am already looking forward to it.
2	Ich möchte ins Café gehen und ich möchte Pizza essen. Ich werde mich amüsieren, weil ich Pizza liebe.	I would like to go to café and I would like to eat pizza. I will enjoy myself I love pizza.

Present Tense		
1	Ich bin	I am
2	Ich habe	I have
3	Ich mache	I do/make
4	Ich gehe	I go
5	Ich fahre	I travel
6	Ich mag	I like
7	Ich hasse	I hate
8	Ich spiele	I play
9	Ich esse	I eat
10	Ich trinke	I drink
11	Ich lese	I read
12	Ich sehe	I see
13	Ich kaufe	I buy
14	Ich arbeite	I work

Present tense other subjects		
1	Er/sie fährt Wir fahren	He/she travels We travel
2	Er/sie sieht Wir sehen	He/she sees We see
3	Er/sie isst Sie essen	He/she eats They eat
4	Er/sie liest Sie lesen	He/she reads They read

Perfect Tense		
1	Ich bin gegangen	I went
2	Ich bin gefahren	I travelled
3	Ich bin geflogen	I flew
4	Ich bin geblieben	I stayed
5	Ich habe gemacht	I did/made
6	Ich habe gespielt	I played
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8	Ich habe getrunken	I drank
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10	Ich habe gearbeitet	I worked
11	Ich habe gesehen	I watched
12	Ich habe gelesen	I read
13	Ich habe gefunden	I found
14	ich habe besucht	I visited

Past tense other subjects		
1	Er/sie hat...gespielt	He/she played
2	Sie/er ist...gegangen	She/he went
3	Wir haben...gemacht	We did/made
4	Sie sind...gefahren	They travelled

Simple Past		
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Sentence Starters

1	Meiner Meinung nach	In my opinion
2	Meines Erachtens	In my opinion
3	Im Großen und Ganzen	All in all
4	Auf der einen Seite	On the one hand
5	Aber auf der anderen Seite	But on the other hand
6	Es scheint mir, dass	It seems to me that
7	Ich denke, dass...	I think that
8	Ich würde sagen, dass	I would say that
9	Obwohl ich weiß, dass	Although I know that
10	Ich glaube, dass...	I believe that
11	Ich muss sagen, dass	I have to say that

Connectives

1	und	and
2	aber	but
3	denn	because
4	sondern (neg)	but
5	jedoch	however
6	deshalb	therefore
7	trotzdem	nevertheless
8	außerdem	furthermore
9	weil/da	because
10	dass	that
11	obwohl	although
12	wenn	if/when

Intensifiers

1	ein bisschen	a bit
2	ziemlich	quite
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Signposting Time Frames










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Fancy Phrases

1	es hat eine Menge Spaß gemacht	it was loads of fun
2	ich habe mich wirklich amüsiert	I really enjoyed myself
3	es hat sich wirklich gelohnt	it was really worth it
4	das hat mir gefallen	I liked it
5	ich hätte nie gedacht	I would have never thought
6	je (heißer), desto besser	the (hotter) the better
7	ich freue mich schon darauf	I am already looking forward to it
8	es wird bestimmt viel Spaß machen	it will definitely be lots of fun

Knowledge Group 3: Key Techniques			Knowledge Group 1: Logos		Knowledge Group 3: Drawing/Sketching	
1	Low Poly 	Low-poly is a modelling technique used to achieve stylistic, geometric recreations of real-life objects. The "poly" is short for polygon, and it refers to the number of shapes.	1	Target Audience A particular group at which a product such as a film or advertisement is aimed. For example: Peppa Pig young target audience. Horror films older target audience.	1	Tone  Smooth shading which fades gradually from dark to light.
2	Pen Tool 	A tool used to create paths and pressure sensitive lines that can be stroked or filled with colours. Used to recreate imagery for logos and illustrations.	2	Composition The term given to a complete work of art and, more specifically, to the way in which all its elements work together to produce an overall effect	2	Form  Curved shading around the outline of an object using tone.
3	Neon Glow 	Neon lighting - consists of brightly glowing effect created in photoshop with the help of gaussian blur to create an illuminated design style.	3	Aesthetics Aesthetics is a discipline concerned with the perception, appreciation, and production of art.	3	Pattern  A pattern is a design in which lines, shapes, forms or colours are repeated.
4	Layer Styles	Stylistic qualities that can be added to a layer to transform its appearance. E.g Colour overlay, drop shadow, outer glow, bevel & Emboss.	4	Imagery The use of pictures to create a vivid mental picture or a persons interpretation of art.	4	Line  Hard and soft lines controlled using pressure.
5	New Techniques	A new skill or ability applied and learned in a particular field.	5	Typography Font styles & layer styles Related typefaces which share common design traits used to create a themed design. Layers style are added to create effects on fonts for originality and purposed theme	5	Space  The space around and between the subject of an image.
			6	Symbolism The use of symbols/images to represent ideas or qualities.	6	Sketch  A rough or unfinished drawing or painting, often made to assist in making a more finished picture.
					7	Annotation A short note by way of explanation or comment added to a text or diagram.

Topic area 3 – Effective communication in health and social care settings

3.1	What is verbal communication?	<ul style="list-style-type: none"> Verbal communication involves communicating clearly through speech in a way that can be understood and that does not offend the service user. A practitioner will need to adapt their verbal communication to different circumstances.
3.2	What is non verbal communication	<ul style="list-style-type: none"> Non verbal communication is about how we use our eyes, facial expressions and gestures, and the way we position ourselves to communicate.
3.3	What is active listening?	<ul style="list-style-type: none"> Active listening skills positively influence communication as they allow a care practitioner to focus and pay attention to the service user. Active listening skills can both be used and interpreted by those involved in the communication.
3.4	What is special methods communication?	<ul style="list-style-type: none"> Special communication methods are important in health and social care as service users have a wide range of needs, and the care practitioners need to interact with them effectively.

Examples and importance		
3.1	Give examples of verbal communication	<ul style="list-style-type: none"> Type, clarity, empathy, patience, appropriate vocabulary, tone, volume, pace, willingness
3.2	Give examples of non verbal communication	<ul style="list-style-type: none"> Type, eye contact, facial expressions, gestures, positioning, space, height, personal space, positive body language, sense of humour
3.3	Give examples of active listening	<ul style="list-style-type: none"> Open posture, eye contact, nodding, empathy, clarifying, summarising
3.4	Give examples of special methods	<ul style="list-style-type: none"> Advocate, Braille, British Sign Language, Interpreters, Makaton, Voice Activated Software
3.5	The importance of effective communication	<ul style="list-style-type: none"> Supports the person-centred values Meets service users' needs Protects rights Empowers service users Makes a service user feel valued Makes a service user feel respected

Key words:	
Advocate	Independent people who act on behalf of a service user to ensure their views, wishes and beliefs are heard and listened to.
Braille	Braille is a tactile reading and writing system used by those who are blind or have a visual impairment.
Interpreters	Helps to support communication by translating spoken or sign language to another language.
Makaton	Makaton uses symbols, signs and speech to enable people to communicate so it can help with understanding what someone is saying if speech is unclear or they have limited speech.
Voice activated software	Helps individuals with physical or learning disabilities to communicate.

1. Who was Elizabeth I?

1	What was Elizabeth's parentage?	1. Elizabeth was the daughter of Henry VIII and his 2 nd queen, Anne Boleyn.
2	Who preceded Elizabeth as monarch?	2. She was preceded by her half brother Edward VI (1547-53) and her half-sister Mary (1553-58).

2. Why was it difficult to be a female ruler?

1	Succession	As Eliz never married and never produced an heir, it was unclear who would succeed. This alarmed people.
2	Foreign Policy	2. Eliz had to keep England secure against Catholic nations (France & Spain) who had the support of the Pope. They saw Eliz as potentially weak. The Netherlands was a point of conflict.
3	Ireland	3. Eliz was Queen of Ireland, but Irish rebellions occurred against her rule (e.g. 1559). She spent vast sums trying to subdue Ireland.
4	Taxation	4. Raising taxes was unpopular as poverty was widespread – yet Eliz needed income to ensure her government could achieve the things she wanted.
5	Religion	5. Elizabeth was a Protestant who wanted to end the see-sawing of religious policy. She was practical and allowed Catholics to practice privately. But some plotted against her, and the rise of Puritans was also a problem.
6	Mary Queen of Scots	6. Without a direct heir, Mary, A Catholic, was next in line to the throne. She was exiled from Scotland and under house arrest in England. As a focus for Catholic rebels, Mary was a massive problem for Elizabeth.

3. Who was powerful in Elizabethan England?

1	Parliament	1. Comprising the House of Lords and the House of Commons, Parliament was in charge of law-making and raising taxes. The queen decided when to call Parliament and whether to listen to their advice or not.
2	Privy Council	2. Made up Elizabeth's main advisors, mainly powerful nobles, the Privy Council was in charge of the day-to-day running of the country. The Council could meet over any issue. Councillors rarely all agreed with each other.
3	Lords Lieutenant	3. The Queen's representative in each county. They collected taxes and raised militias when needed. They had plenty of influence; some of them were also Privy Councillors.
4	Justices of the Peace	4. Each county had several JPs (or magistrates) to make sure order was kept. They were from a gentry background and ensured laws were complied with. They could sentence criminals to prison, etc.
5	The Royal Court	5. The Royal court was made up of government officials, ladies-in-waiting, advisors and servants – all the people who surrounded the monarch on a day to day basis. It was the centre of the social life of the monarch, but important Privy Councillors also attended.
6	KEY INDIVIDUAL: William Cecil (Lord Burghley) (1520-98)	6. Elizabeth's most trusted advisor. He was Secretary of State (i.e. leader of the Privy Council) during two different periods. He encouraged Elizabeth to fight Catholic rivals at home and abroad. He played a key role in Elizabeth's religious policies. His influence was massive.
7	KEY INDIVIDUAL: Francis Walsingham (c1532-90)	7. Walsingham was Elizabeth's "spy master" who made sure dissent was uncovered. He was a very close advisor who helped establish England as force at sea and played a key role in the execution of Mary Queen of Scots.

4.. Why was the marriage question important to Elizabeth?

1	What was the role of marriage?	1. Marriage could create an alliance with a foreign country or the support of a powerful noble family. It could prevent Mary Queen of Scots from ruling England. But it had risks: it could lead to England falling under a foreign king's control.
2	Who were Elizabeth's main suitors?	2. Robert Dudley, earl of Leicester. Childhood favourite. Key figure at court and in the Council. But scandal surrounded his former wife's death. King Philip II of Spain. He was Elizabeth's brother-in-law as he'd married her half sister Mary. Massively rich and powerful as Spain was exploiting south America's riches. But he was a Catholic Francis, duke of Anjou and Alencon. Brother to the French king and heir to the throne of France. But Elizabeth was 46 when this idea emerged, so a childless marriage could lead to England falling under French power.
3	Why was there controversy with Parliament over the Marriage?	3. By 1566 discussions about marriage happened in Parliament. Many MPs saw it as their role to secure the future of the country. But Peter Wentworth was arrested for ignoring the queen's orders on discussing a marriage. Elizabeth believed the decision was hers, without any interference from Parliament.

Key word	Definition
Catholic	To do with the religion of Roman Catholicism.
Clergy	Members of a religious order, e.g. priests.
Court	The queen's extended household, including all who attend on her.
Courtier	Person attending the royal court as companion or advisor to the queen.
Gentry	High social class, ranked below the nobility. They might serve the monarch as JPs, etc.
Heir	A person who has the legal right to receive property or title of another on that person's death.
Illegitimate	Born outside marriage. Illegitimate children could not be monarchs.
Justices of the Peace (JPs)	Judicial officer appointed by the monarch to help keep order in a county.
Legislation	Laws; the process of making and enacting laws.
Monopolies	The exclusive right to trade in a particular product.
Patriarchy	A system of government in which the power tends to reside with men.
Patronage	Land, titles or power given to ensure an individual's support.
Privy Council	A monarch's private counsellors.
Progress	A tour of their kingdom by a monarch and his or her retinue and entourage.
Suitor	A man who aims to marry a particular woman.

1. Nixon's War		2. Nixon's Strategies		Key word	Definition	
1	Who was Nixon?	1.	Johnson decided not to re-run for election in 1968	Khmer Rouge	A Communist organization in Cambodia	
		2.	The Republican candidate, Nixon, became president of the USA in 1969			
2	What were his views on the Vietnam War?	1.	Nixon promised an 'honourable peace' to end the war in Vietnam	Vietnamisation	Vietnamese Communist resistance forces, based in northern Vietnam and led by Ho Chi Minh	
		2.	He also claimed to have a 'secret plan' to end fighting			
3	What problems did Nixon face?	1.	He could not win the Vietnam War using normal tactics			
		2.	It was too much of a risk to use nuclear weapons with North Vietnam being backed by China and the USSR	3 Negotiation 1. Nixon visited the USSR in 1970 to discuss reduction of nuclear weapons and ask them to pressure North Vietnam to end the war 2. Nixon visited China in February 1972 and asked them to persuade North Vietnam to end the war 3. Nixon's adviser, Henry Kissinger, negotiated with North Vietnam to bring about a ceasefire		
		3.	If troops were withdrawn straight away communism would spread			
		4.	There was a growing anti-war movement in the USA	4 Renewed Bombing 1. Nixon ordered the increased bombing of North Vietnam 2. He also authorized the bombing of Laos and Cambodia 3. This was aimed to disrupt the Ho Chi Minh Trail and force the communists to look for peace		
3. Why and how did the US attack Laos and Cambodia?			3			Negotiation
1	Laos	1.	February 1971, the ARVE attacked North Vietnamese troops in Laos, supported by US helicopters and bombers	4. How effective was Nixon?		
		2.	The attack failed and communists in Laos gained more support	1	Was Vietnamisation successful?	1. By end of 1969, 85,000 US soldiers had returned home (16%) 2. By early 1972, it was clear that Vietnamisation was not working 3. Vietnamisation was seen as a failure because of increased bombings
2	Cambodia	1.	In March 1969, Nixon authorised the secret bombing of Cambodia	2	Did the war de-escalate?	1. In June 1972, the ARVN dropped a napalm bomb, which killed and injured innocent children – nothing had changed 2. The fighting continued until 1975 – a further 20,500 US soldiers died
		2.	In April 1970, Nixon ordered the invasion of Cambodia with troops	3	Was renewed bombing successful?	1. Nixon authorized 2 new bombing campaigns on North Vietnam – Operation Linebacker I in 1971 and Linebacker II in 1972 2. They did little to alter the eventual military outcome. 3. However, they did have some impact in pushing North Vietnam to the negotiating table 4. It also convinced President Thieu's South Vietnamese government that US support would continue after withdrawal of ground troops.
		3.	The Khmer Rouge gained more support because of US tactics			

5. Opposition to the War

1	The USA wasn't winning	<ol style="list-style-type: none"> The Vietcong and North Vietnamese army were still strong The USA was not close to winning the war despite all the lives lost and money spent - Events like the Tet Offensive proved this
2	US politicians	<ol style="list-style-type: none"> Some politicians started arguing that the money should be spent on domestic issues such as education, housing and healthcare
3	Lack of support for S. Vietnam	<ol style="list-style-type: none"> Many Americans felt that the government of South Vietnam was corrupt and brutal Photographs of ARVN tactics (like the Tet photograph) showed their brutality
4	The Draft System	<ol style="list-style-type: none"> The US army gained new recruits through the draft system. This was a lottery based on birthday and fitness for service Nearly 2 million men were drafted into the US army between 1964 and 1972 There was intense hatred of this system as it unfairly recruited men from poorer backgrounds Some people began to refuse or run away from the draft when their name was called. Many burned their draft cards
5	The Civil Rights Movement	<ol style="list-style-type: none"> Civil rights leaders like Martin Luther King spoke out against the war's cost They also objected to how the draft system disproportionately called black Americans into the army Mohammed Ali was famously arrested for refusing the draft when he was called
6	Casualties	<ol style="list-style-type: none"> There was shock at the number of dead and injured US soldiers Around 300 US soldiers died each week The average age of a US soldier killed was just 23
7	Student protest	<ol style="list-style-type: none"> Opposition to the war was particularly strong among college and university students To them the war symbolised the control and authority of the government Hippie culture was popular at this time and its key themes were peace and love

6. Anti-war protests

1	How did people protest?	<ol style="list-style-type: none"> In 1968 and 1969 there were many anti-war demonstrations The largest anti-war protest in US history took place in Washington on 15th November 1969 – 500,000 people Sometimes the protests ended in violence, when police and the students clashed
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7. The Kent State Shootings

1	What happened at Kent State?	<ol style="list-style-type: none"> Students at Kent State University arranged a protest for 4th May 1970 after the US invasion of Cambodia Around 3000 people gathered at the university (1500 demonstrators and 1500 bystanders) The Demonstration turned violent – rocks thrown by students and tear gas fired by the National Guard The National Guard opened fire on the crowd – 4 students killed and 9 more injured
2	What was the impact of the shooting s?	<ol style="list-style-type: none"> News of the shootings shocked the nation Across the USA, colleges and universities closed as 2 million students refused to attend classes A similar incident happened on 1st May at Jackson State College, killing 2 students and injuring 12.

Key word	Definition
Draft	A system of recruiting soldiers for the army involuntarily
Draft Dodging	When men would refuse to report for duty after being drafted

8. Impact of the Media

1	How did new technology impact how the war was reported?	<ol style="list-style-type: none"> By 1961, 93% of American homes had a TV and it became the main way people were getting their news New technology such as lightweight video cameras and voice recorders made news reporting easier The full-colour horror of war could be seen on American TV
2	How did the government try to control the media?	<ol style="list-style-type: none"> At first media coverage was positive, focusing on the brave US troops Independent reporters were flown into the war zone by helicopter and could report what they wanted Every day, the US army met with the journalists to update them on the progress of war As the war progressed, journalists joked that the army officials were covering up details. They started to call the briefings 5 O'clock follies
3	Impact of the media following the Tet Offensive	<ol style="list-style-type: none"> This shocked Americans who didn't realise how brutal the fighting was The trusted newsreader Walter Cronkite said that the only way out of the war was to negotiate peace
4	How did the media influence people's opinions?	<ol style="list-style-type: none"> Coverage of events like the My Lai massacre showed the poor behaviour of the troops The New York Times published leaked secret reports about the war in June 1971 Life magazine published the names and faces of 242 US troops killed in one week in June 1969
5	What was the Watergate scandal?	<ol style="list-style-type: none"> President Nixon was linked to a US government burglary at the Democrat offices When his role was discovered he was forced to resign It let many to question the government further

9. The Paris Peace Agreement

1	When did peace talks begin?	<ol style="list-style-type: none"> 1. January 1969 – as soon as Nixon became president 2. By December 1969 public peace talks broke down over disagreements 3. In February 1970 secret peace talks resumed
2	Who was involved in the talks?	<ol style="list-style-type: none"> 1. Nixon's key advisor Henry Kissinger 2. North Vietnam negotiator Le Duc Tho
3	When was it signed?	<ol style="list-style-type: none"> 1. 27th January 1973
4	What was agreed?	<ol style="list-style-type: none"> 1. Immediate ceasefire 2. All captured prisoners would be released within 60 days 3. All US troops withdrawn within 60 days 4. Free elections would be held in South Vietnam

10. The Fall of Saigon

1	What happened after peace was signed?	<ol style="list-style-type: none"> 1. Nixon promised to support South Vietnam with money and weapons after the troops left 2. The US government refused to support Nixon's plans
2	How did the ARVN cope without the US funding?	<ol style="list-style-type: none"> 1. The Communist forces from North Vietnam attacked in December 1974 2. A wave of South Vietnamese refugees called the Convoy of Tears travelled to Saigon 3. By April 1975, Saigon had fallen to the Communists 4. It was renamed Ho Chi Minh City and Vietnam was unified country under communist control
3	What was the impact of the Fall of Saigon?	<ol style="list-style-type: none"> 1. The fall of Saigon signaled the end of the US involvement in Vietnam - remaining officials fled in helicopters 2. It was a dramatic and embarrassing way for the Vietnam War to end

11. Impact of War for the US

1	How much did the war cost?	<ol style="list-style-type: none"> 1. The US government reported they spent \$170 billion on the war 2. There was an added cost of benefits and pensions paid to veterans and the widows of soldiers 3. Johnson had to divert money away from his Great Society Project, which hindered their effectiveness
2	How many US deaths?	<ol style="list-style-type: none"> 1. Around 58,000 US soldiers were killed in the war 2. 300,000 soldiers were wounded
3	What happened to soldiers returning home?	<ol style="list-style-type: none"> 1. Many soldiers faced negative reactions from anti-war public and those Americans who saw them as having lost 2. Many soldiers were affected psychologically by the horrors they'd seen 3. Around 30% of soldiers used heroine in the war and many returned with drug addictions
4	How did it affect the USA's reputation?	<ol style="list-style-type: none"> 1. At home, the war caused a split in US society with many Americans forming a deep suspicion and distrust of the government 2. The US reputation as a superpower was damaged 3. The US reputation as a leader of freedom and peace was damaged 4. The war proved that the US could not contain communism – it failed to stop Vietnam. Laos and Cambodia also had communist takeovers 5. Domino Theory proved wrong when Thailand didn't become communist

12. Impact of War for Vietnam

1	How many Vietnamese deaths and casualties were there?	<ol style="list-style-type: none"> 1. It is hard to give accurate figures because neither government kept good records 2. It is estimated around 1 million Vietnamese soldiers (North and South) were killed and 2 million wounded 3. Estimated 2 million Vietnamese civilians killed and 5 million injured
2	What were the social effects of the war?	<ol style="list-style-type: none"> 1. About 11 million people became refugees after their homes were destroyed 2. Refugees set up camp near US bases but poverty, drug abuse and prostitution were common here 3. Around 100,000 children are believed to have been born from relationships between Vietnamese women and US soldiers 4. In 1975, around 3000 of these infants adopted around the world 5. The remaining children faced difficult lives and some were sold as cheap labour 6. Over a million Vietnamese civilians moved away from the country in 1975 to escape communist rule
3	What was the environmental cost of the war?	<ol style="list-style-type: none"> 1. In 1969 alone, Agent Orange was used to kill over 1 million hectares of forest 2. Between 1962 and 1969 300,000 hectares of farmland was sprayed with Agent Blue, leaving it useless 3. A large number of soldiers developed cancer and other conditions from being in contact with the chemical weapons. 4. There are still children in Vietnam growing up with diseases and disabilities caused by the chemicals in the soil 5. Between 1964 and 1973 over 7 million tonnes of bombs were dropped – this destroyed roads, bridges and irrigation systems that watered farms 6. There are a large number of unexploded bombs that still cause injuries today
4	How did it affect Vietnam politically?	<ol style="list-style-type: none"> 1. Vietnam continued to face hostility from the USA 2. President Ford (after Nixon) opposed Vietnam joining the UN, isolating them from the world community 3. Although Vietnam was unified, many who lived in the south resented the communist rule that was imposed on them

Algebra Cubic Circular, Exponential Functions

1 Sketch
Sinx
Cosx

2 Sketch exponential graphs

Graphing Exponential Functions

$y = 2^x$

horizontal asymptote: $y = 0$
the function is always positive (owing to any exponent yields positive values)

$2^{-1} = 1/2^1 = 1/2$
 $2^{-2} = 1/2^2 = 1/4$
 $2^{-3} = 1/2^3 = 1/8$
 $2^{-4} = 1/2^4 = 1/16$

3 Graphs equations of circles

4 Recognise cubic & reciprocal graphs

Algebra – Co-ordinates and Graphs

1	Finding the gradient	$\frac{\text{Change in } y}{\text{Change in } x}$
2	Finding the Equation of a Line <u>given a point and a gradient</u>	Substitute in the gradient (m) and point (x,y) in to the equation $y = mx + c$ and solve for c.
3	7. Finding the Equation of a Line <u>given two points</u>	Use the two points to calculate the gradient . Then repeat the method above using the gradient and either of the points.
4	Parallel Lines	If two lines are parallel , they will have the same gradient . The value of m will be the same for both lines.

Geometry and Measures – Properties of Polygons

1	Sum of Interior Angles.	$(n - 2) \times 180$ where n is the number of sides.
2	Size of Exterior Angle in a Regular Polygon.	$\frac{360}{n}$
3	Angles in a quadrilateral add up to 360° .	e.g.

Key Vocabulary

2	Substitute	$a = 3, b = 2$ and $c = 5$. Find: 1. $2a = 2 \times 3 = 6$ 2. $3a - 2b = 3 \times 3 - 2 \times 2 = 5$ 3. $7b^2 - 5 = 7 \times 2^2 - 5 = 23$
3	Interior	Sum of the interior angles ÷ number of sides.
4	Exterior	If the side of a polygon is extended, the angle formed outside the polygon is the exterior angle.
5	Regular	If the angles are all equal and all the sides are of equal length.
6	Polygon	Is a 2D shape with at least 3 straight sides.

Ratio Proportion Rates of Change - Real Life Graphs

1 Calculate fastest average speed.

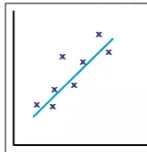
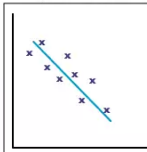
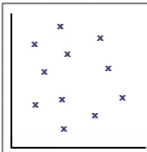
Break the graph down into smaller pieces to see what is happening

Gradient A = $1/3$ → 0.3m/s
Gradient B = $5/3$ → 1.7 m/s
Gradient C = $3/5$ → 0.6m/s

Geometry & Measure – Reflections, Rotations & Translations

1	Rotation - A “turning” movement of an image about a fixed point	Describe by - a) “Rotation” b) Angle of rotation c) Centre of rotation d) Direction of rotation
2	Reflection - A “flipping” movement across a mirror line	Describe by - a) “Reflection” b) The equation of the line of reflection
3	Translation - A “sliding” movement of an image	Describe by - a) “Translation” x is the horizontal movement b) The column vector y is the vertical movement

Statistics - Scatter Graphs

1	Causality	When one variable influences another variable
2	Line of best fit	A straight line that best represents the data on a scatter graph
3	Outlier	A value that “lies outside” most of the values in the data set
4	Positive, Negative or No Correlation	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Positive correlation</p>  </div> <div style="text-align: center;"> <p>Negative correlation</p>  </div> <div style="text-align: center;"> <p>No correlation</p>  </div> </div>

Key Vocabulary

1	Asymptote	a straight line that continually approaches a given curve but does not meet it
2	Perpendicular	Two lines are perpendicular if they meet at a right angle. Then have a gradient of m and $-\frac{1}{m}$

1. Instrumental families			2. Instrumental terms			3. Composing techniques				
1	Strings	Violin, Viola, Cello, Double Bass and Harp	1	Pizzicato	Plucking the strings	1	Theme	The main tune/melody.		
2	Brass	Trumpet, Trombone, French Horn and Tuba	2	Double stopping	Playing two strings at the same time	2	Motif	A short musical idea (melodic or rhythmic).		
3	Woodwind	Flute, Oboe, Clarinet, Bassoon and Saxophone	3	Arco	Using a bow to play a stringed instrument.	3	Leitmotif	A recurring musical idea linked to a character/object or place (e.g. Darth Vader's motif in Star Wars).		
4	Percussion	Bass drum, snare drum, Triangle, Cymbal, Drum kit, Timpani, Glockenspiel and Xylophone	4	Tremolo	A 'trembling' effect, moving rapidly on the same note or between two chords (e.g. using the bow rapidly back and forth).	4	Underscoring	Music playing underneath the dialogue		
			5			Tongued	A technique to make the notes sound separated (woodwind/brass).	5	Scalar	Melody follows the notes of a scale
5	Keyboards	Piano, Electronic keyboard, Harpsichord, Organ and Synthesizer	5	Slurred	Notes are played smoothly	6	Triadic	Melody moves around the notes of a triad.		
			5			Muted	Using a mute to change/dampen the sound (brass/strings).	7	Fanfare	Short tune often played by brass instruments, to announce someone/something important; based on the pitches of a chord.
4	Other	Electric guitar, Bass guitar, Spanish/Classical Guitar, Traditional world instruments.	5	Drum roll	Notes/beats in rapid succession.	8	Pedal note	A long, sustained note, usually in the bass/lower notes		
			9			Glissando	A rapid glide over the notes.	9	Ostinato/riff	A short, repeated pattern
			10			Trill	Alternating rapidly between two notes.	10	Conjunct	The melody moves by step
			11	Vibrato	Making the notes 'wobble' up and down for expression	11	Disjunct	The melody moves with leaps/intervals		
						12	Consonant harmony	Sounds 'good' together		
						13	Dissonant harmony	Sounds 'clashy'		
						14	Chromatic harmony	Uses lots of semitones/accidentals that's not in the home key		
						15	Minimalism	A style of music using repetition of short phrases which change gradually over time		

Listen to Film music by John Williams, Ennio Morricone, Thomas Newman, Hans Zimmer and Howard Shore for a range of different film music soundtracks.

1. Popular music styles

1	Pop	Popular music that started in the 1950s in the USA and UK.
2	Rock	A genre of popular music that evolved from rock and roll in the 1960s.
3	Rap / Hip hop	A musical style that features rhythmic and rhyming speech chanted to musical accompaniment.
4	Reggae	A popular style of music of Jamaican origin that combines native styles with elements of rock and soul music.
5	Fusion	Music that combines two or more styles.
6	Jazz fusion	Genre that combines elements such as improvisation, syncopation and blue notes with other popular styles.

3. Instrumental roles

1	Lead guitar	Plays the melody/solos/riffs
2	Rhythm guitar	Plays the chords/accompaniment
3	Bass guitar	Plays the bass line
4	Drum kit	Provides the beat
5	Lead singer	The main vocalist
6	Backing vocals	Singers who provide harmony
7	Acoustic instruments	Pop songs often feature acoustic instruments such as Saxophones, Trumpets and Trombones who play chords, hooks and solo lines.

5. Technology

1	Amplified	Made louder (with an amplifier)
2	Synthesized	Sounds created electronically
3	Panning	Moving the sound between left and right speakers
4	Phasing	A delay effect
5	Sample	A short section of music that is reused (e.g. looped, layered)
6	Reverb	An electronic echo effect

2. Song structure






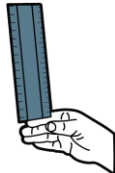

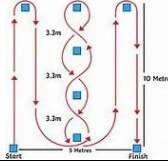



1	Intro	Short opening section, usually instrumental
2	Verse	same music but different lyrics each time
3	Chorus	The catchy, repeated section of a song that comes between the verses.
4	Middle eight	link section, often eight bars, with different musical ideas
5	Bridge	a link/transition between two sections
5	Outro	an ending to finish the song (coda)
5	12 bar blues	A 12 bar chord progression used in Blues, Jazz and Pop that repeats throughout the song.
5	Strophic songs	A song with one verse that repeats over and over, with different lyrics.






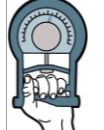






4. Features and techniques in popular music

1	Riff	A short, repeated pattern
2	Hammer on	Finger brought sharply down onto the string.
3	Pitch bend	Altering (bending) the pitch slightly
4	Power chords	A guitar chord using the root and 5th note (no 3rd).
5	Distortion	An effect which distorts the sound (creates a 'grungy' sound).
6	Slap bass	A percussive sound on the bass guitar made by bouncing the strings on the fret board.
7	Fill	A short, improvised drum solo.
8	Rim shot	Rim and head of drum hit at same time
9	Belt	A bright, powerful vocal sound, high in the chest voice
10	Falsetto	Male voice in a higher than usual range.
11	Syllabic	One note sung per syllable.
12	Melismatic	Each syllable sung to a number of different notes.
13	A Cappella	Voices singing without instrumental accompaniment.









Listen to Pop music from the 1950s onwards, including Elvis, The Beatles, Led Zeppelin, Guns n roses, AC/DC, Queen, Oasis and many more.








1.2.a. Components of Fitness

KG1 – Components of Fitness					
	Principle	Description	Sporting Example	Fitness test	Protocol (Main Points)
1	 Balance	The ability to maintain your center of mass over a base of support	A gymnast doing an arabesque on the beam A rugby player in a scrum to avoid falling over	Stork stand test	 <ol style="list-style-type: none"> 1. Hands on hips 2. One foot against knee of standing leg 3. Raise the heel of standing leg 4. Time until heel drops or moves from knee
2	 Coordination	The ability to move different body parts together effectively	A tennis player serving, coordinating the racket with the ball A cricketer batting, coordinating the bat with the ball	Wall throw test	 <ol style="list-style-type: none"> 1. Stand 2m from wall 2. Throw underarm against wall with left hand 3. Catch with right hand 4. Throw with right hand 5. Catch with left 6. Time for 30s 7. Count number of completed catches
3	 Reaction Time	The time taken to respond to a stimulus	A sprinter reacting to a gun at the start of the race A goal-keeper reacting to the ball from a shot	Reaction time ruler test	 <ol style="list-style-type: none"> 1. Partner holds ruler between outstretched index finger and thumb of dominant hand 2. Top of thumb level with 0cm line 3. Partner randomly drops ruler 4. Catch as soon as possible 5. Record distance from 0cm line to top of thumb in cm
4	 Agility	The ability to change direction at speed	A rugby player weaving through defenders A boxer dodging a punch	Illinois Agility Test	 <ol style="list-style-type: none"> 1. Lie on front with head facing start line 2. On 'go' start timing 3. Runner runs around course in direction shown 4. Record time taken to reach finish line (in secs)
5	 Power	The product of strength and speed	A basketballer to jump to block a shot A high jumper to jump as high as possible	Vertical / Sargent Jump Test	 <ol style="list-style-type: none"> 1. Stand side on to wall 2. Reach up with hand closest to wall 3. Measure point where top of fingers touch 4. With chalk on fingers, jump and touch wall at highest point of jump 5. Repeat 3 times 6. Measure distance between standing reach and jump reach of best attempt (in cm)
				Standing Broad Jump Test	 <ol style="list-style-type: none"> 1. Stand with feet facing forward 2. From standing, jump as far as you can 3. Measure from start to closest landing point (usually back of heels)

KG1 – Components of fitness					
	Principle	Description	Sporting Example	Fitness test	Protocol (Main Points)
6	 Speed	The ability of the body to move quickly	A 100m Sprinter finishing as fast as they can A boxer throwing punches as fast as they can	30m Sprint Test	 <ol style="list-style-type: none"> 1. Mark 30m with two cones 2. Accelerate towards first cone 3. Start timing as you pass first cone 4. Sprint as fast as you can to second cone 5. Stop timer as you pass second cone
7	 Muscular endurance	The ability of a muscle(s) to repeatedly contract without fatigue	A rower to repeatedly row for the whole race A cyclist in Tour de France to keep pedalling for the whole race	Sit-up Test	 <ol style="list-style-type: none"> 1. Complete as many sit-ups or press-ups (or modified press-ups) as you can in one minute
				Press-up Test	
8	 Strength	The maximum force a muscle(s) can apply against resistance	A weightlifter to lift weight over the head A rock climber to pull themselves over an overhang	Grip Strength Dynamometer Test	 <ol style="list-style-type: none"> 1. Use grip dynamometer 2. Use dominant hand to squeeze as hard as possible 3. Repeat 3 times with 1 minute rest between 4. Record best result in KG
				1 Repetition Maximum (1RM)	 <ol style="list-style-type: none"> 1. Select appropriate exercise for target muscle group 2. Select a realistic, achievable weight and lift once 3. Rest for 2-3 minutes 4. Increase weight and lift again 5. Continue until can no longer lift weight 6. Record highest repetition (1RM)
9	 Flexibility	The range of movement possible at a joint	A gymnast to perform splits A high jumper to bend their back when going over the bar	Sit and Reach Test	 <ol style="list-style-type: none"> 1. Sit on floor, placing soles of feet against sit and reach box, making sure knees are flat against the floor 2. Gently reach forwards as far as possible 3. Practice 3 times and then hold the fourth for at least 2s 4. Record the distance in cm to the end of fingers
10	 Cardiovascular endurance	The ability to release energy aerobically over a long period of time	A marathon runner to be able to get O ₂ to leg muscles for whole race A long-distance swimmer to be able to get O ₂ to arm and leg muscles for whole race	12 minute Cooper run	 <ol style="list-style-type: none"> 1. Mark out a running area (e.g. 25m x 25m) 2. Run for 12 minutes 3. Count the number of laps completed 4. Measure the distance covered in m
				Multi-Stage Fitness Test	 <ol style="list-style-type: none"> 1. Set out cones 20m apart 2. Follow multi-stage fitness test recording to run 20m shuttles. 3. Arriving at the cone before or as the recording bleeps 4. If you fail to meet cones in time, two times in a row, stop. 5. Record level you last successfully completed






1.2.b. Applying the principles of training

KG1 – Principles of Training				KG2 – Optimising Training - FITT	
	Principle	Description	Example	Acronym	Description
1	 Specificity	Training must be matched to the needs of the sporting activity and individual.	Training matched to <ul style="list-style-type: none"> - components of fitness most needed or - the muscle groups required for the activity. 	5  Frequency	The number of times training takes place.
2	 Progression	Gradually increasing the frequency, intensity or time of exercise, or changing the type of exercise, in order for the body to continue to adapt through overload.	<ul style="list-style-type: none"> - Training 3 times a week rather than twice. - Running two miles rather than 1 in a single training run. 	6  Intensity	How hard the training is.
3	 Overload	A greater than normal stress that is applied to the body.	Working at challenging intensities e.g. challenging weights or heart rates.	7  Time	How long you train for.
4	 Reversibility	Any adaptation that takes place as a result of training will be lost if you stop training.	<ul style="list-style-type: none"> - When sports people cannot train because of injury, - When people don't train regularly enough, - During the off season. 	8  Type	The method of training being used.



KG3 – Methods of Training			
	Method	Description	Components targeted
9	 Continuous	Working at a steady intensity within the aerobic training zone with no rest.	CV endurance and Muscular endurance
10	 Fartlek	Training that varies in intensity consisting of different length bursts of highly intense work alternating with activity of lower intensity.	CV endurance and Muscular endurance
11	 Interval	Training that incorporates periods of exercise and periods of rest.	CV endurance and muscular endurance OR speed and power depending on length of intervals.
12	 HIIT	High Intensity interval training involves alternating between very intense periods of work, in the anaerobic zone, and periods of active recovery, in the aerobic zone.	CV endurance and muscular endurance OR speed and power depending on length of intervals.
13	 Weight Training	Training that uses free weights or resistance machines.	Strength, power or muscular endurance depending on weight, reps and sets.
14	 Circuit Training	Series of exercises performed one after the other in stations, which focus on different muscle groups.	Can improve all components depending on stations.
15	 Plyometrics	Training that involves jumping, bounding, hopping exercises.	Power

1.2.b. Applying the principles of training

KG4 – Components of a Warm Up

	Component	Benefit	Example
16	 Pulse raising	<ul style="list-style-type: none"> - Increases HR, - kick starts vascular shunt mechanism therefore increasing O₂ to working muscles, - raises body temp, - improves blood flow by reducing viscosity of blood. 	Jogging
17	 Mobility	<ul style="list-style-type: none"> - Ligaments and tendons warmed – the increased pliability reduces risk of injury. 	Shoulder circles, arm swing, lunge
18	 Stretching	<ul style="list-style-type: none"> - Stretched muscles less prone to tears - Speed and strength of muscle contractions increased. 	Triceps stretch, hamstring stretch etc
19	 Dynamic movement	<ul style="list-style-type: none"> - Pliability of muscles and range of movement at joints is increased. 	High knees, heel flicks, high skips.
20	 Skill rehearsal	<ul style="list-style-type: none"> - Time to 'get in the zone' and psychologically prepare. 	Shooting drill, passing drill, ball handling skill

KG5 – Components of a Cool Down

	Component	Benefit	Example
21	 Low intensity exercise	<ul style="list-style-type: none"> - HR, BR and body temp drop gradually therefore... - Maintains circulation of blood and o₂ and - Encourages removal of lactic acid. 	VERY slow jogging, swimming or cycling.
22	 Stretching	<ul style="list-style-type: none"> - Reduces muscle soreness, - Aids recovery. 	Similar to warm up BUT held longer.

BACKGROUND INFORMATION	
FOUNDED	2003 by 6 women who rained together at Bretton Hall University, Leeds
ARTISTIC DIRECTORS	Jemma McDonnell & Kylie Perry
AIM OF WORK	Explore social issues happening in the world today, often political.
STYLE	They use real interviews from everyday people to inform their work and place real testimonies directly into their pieces, often using movement and visual imagery .
QUOTES	' Changing the world, one encounter at a time ' ' We are quiet rebels, amplifying the voices of everyday people. We provoke and inspire change through the theatre we create '

KEY WORDS	
1	Umbrella Theme Used to describe the chosen topic or theme of the piece.
2	Function Every scene serves a function. If the scene has no function – it doesn't make the cut. Everything placed on stage is there for a reason. Functions may include obvious things like 'introduce main character' or 'get that block to stage right in time for the next scene'.
3	Frame Used to describe how all the scenes sit together. What does the material 'hang on to?' In 'Broke', the frame is fast forwarding and rewinding through research to find the crux of the story.
4	Strand There are always several strands that layer together to create a complex exploration of the theme. Each performer has a different strand that relates to their individual intentions and journey throughout the piece. There can be 4 or 5 strands that all contribute to the overall theme.
5	KEY WORKS 40 Feathered Winks (2007), In a Thousand Pieces (2008), Others (2010), Thirsty (2011), On the One Hand (2013), Broke (2014), Ask Me Anything (2020)

5 KEY INGREDIENTS		
1	Verbatim	<ul style="list-style-type: none"> • Uses real people's actual words to create the script. • Theatre-makers collect these words in different ways, such as: One-to-one interviews, group workshops or seminars, questionnaires, asking people to complete tasks (e.g., writing a letter or leaving a voicemail)
2	Exposing the Method	<ul style="list-style-type: none"> • Showing the making of the play during the performance -They highlight decisions, edits, and creative choices made while creating the show. • This style links to Brechtian techniques: Reminding the audience they are watching a piece of theatre, encouraging them to think about real social issues, not just watch passively • They often "break" the smooth action on stage to make the audience think. • Examples of techniques they use: <ul style="list-style-type: none"> ➢ Performers interrupting or disagreeing with each other ➢ Stopping the action suddenly ➢ Breaking the fourth wall (speaking directly to the audience) ➢ Commenting on the scene, staging, or costume ➢ Purposeful "non-acting" ➢ Multi-rolling or swapping characters in front of the audience
3	Character & Narrative	<ul style="list-style-type: none"> • Sometimes both the characters and narratives that feature in their productions are real – they might be people they've met throughout the research phase, or they might be stories that they've collected. • However, they often need to fill in the gaps to create interesting and relevant characters that will feature in the story.
4	Movement	<ul style="list-style-type: none"> • Movement is used to create a non-naturalistic setting for naturalistic dialogue and verbatim. • They use movement as a mode of conveying parts of the story to heighten or accentuate the spoken word. • For example, in Thirsty, repetitious movement depicts the characters becoming more drunk; or in Broke (2014), the performers fast forward and rewind through scenes to depict the verbatim editing process.
5	Motif	<ul style="list-style-type: none"> • A repeating idea throughout a production. The motifs they incorporate can take the form of text or language references, physical or movement, sound or musical, or symbolic or visual recurring motifs. • In each production they choose a selection of motifs that suit the content and the style of the piece. • For example, in 'Broke', they incorporated several versions of motif: <ul style="list-style-type: none"> ➢ Textual – found text from Roald Dahl's Charlie and the Chocolate Factory which depicted a fairytale take on poverty. ➢ Visual – imagery of 'golden tickets'. ➢ Movement – fast forwarding and rewinding through scenes. ➢ Sound and music – childlike music created on toy xylophone and rubber piano.

Knowledge Group 1 Abstract Collage

1	Collage	The process of combining different elements together to form a new whole.
2	Variety	A wide range of things showing different forms and types.
3	Geometric patterns	Patterns showing regular lines and shapes. Forms and objects arranged in organised ways.
4	Verticals	Lines that travel up and down in a composition, for example the edge of a building. These can create a sense of height and scale in a picture.
5	Horizontals	Lines that follow side to side within a composition for example the ground, or flat sections on top of structures. These create width in an image.
6	Diagonals	Lines that lead up or down at an angle within a composition. These create a sense of depth within an image.
7	Overlap	Where sections of images are layered on top of each other hiding parts of the image below. This creates a layered effect and can help build complexity in an image.
8	Negative Space	Gaps left around the edges of objects or between objects placed apart. Often blank space, in the collage this will be the white paper of the background. Use negative space to contrast with crowded areas.

Knowledge Group 2 Drawing

1	Sketch	The process of marking out the main basic structures and outlines of a composition. Normally done lightly in pencil to allow for improvements or alterations at a later stage.
2	Detail	The next step after the initial sketch is to add the smaller and finer shapes and forms to the image. Done once the sketch has been checked and completed.
3	Tone	The amount of dark or light in a given section. This can be added when drawing through use of shading in pencil, hatching with pen, or using higher concentration of ink with ink wash.
4	Texture	The effect of mark-making that creates the impression of a particular surface or material. For example, smooth, rough, ridged, rusted, bumpy etc.

Knowledge Group 3 Experimental drawing

1	Continuous line	A type of line drawing where the pen/pencil does not leave the page and flows from one shape to the next without stopping. Good for creating a sense of movement and connection in an image.
2	Colour choices	Specific choices about the colours to pair for a more creative drawing style. These can be colours that match or contrast for extra effect.
3	Mixed media	A piece of drawing or artwork that makes use of a range of different materials and approaches. This technique can result in very eye-catching results.

Key Vocabulary

1	Cartridge paper	A stronger type of paper for artworks involving a wide range of materials.
2	Complexity	Having a high level of detail and a wide range of distinct and eye-catching elements all combined into one image together.
3	Leading Lines	Lines in an image that direct the eye of the viewer through the composition to the focal point.
4	Focal Point	The main focus, or centre of an image. The section that the photographer wants to bring to the attention of the viewer.
5	Contrast	Where two visual elements have striking difference or character. For example light and dark, smooth and textured, detail and plain. Often used to create impact.
6	Scale	The relative differences in size between objects that can give a sense of distance or perspective in images.
7	Ink and wash	Using a mixture of water and ink to create a range of tones and applying using a paint brush to create tonal images.
8	Shading	Creating a chosen tone using pencil or graphite when drawing.
9	Hatching/ Cross Hatching	Hatching: Using neat lines together to create tone and texture in drawing. Cross Hatching: lines neatly crossed to give a darker tonal value.
10	Abstract	When an image no longer clearly resembles the object from which it was photographed.
11	Architecture/ Architectural	Relating to the design and construction of buildings and the build environment.
12	Modern	Relating to art and design, work that shows technological innovation and a departure from classical form.

Origins of the Universe		
1	What is creationism?	The idea God created the world and everything on it
2	Where in the Bible is the creation story?	Genesis chapter 1 which is the Old Testament
3	Give two contrasting views on the creation story	1. God created the world in 7 days 2. It happened by chance.
4	What is the Big bang theory?	The scientific theory of the creation of the world
5	Give two reasons the Big Bang and Creationism are different	1. Big Bang happened by chance and had no purpose 2. God designed and created the world with a purpose for humanity
6	What is awe and wonder?	Sense of wonder at nature, feeling the power of God

Origins of human life		
1	What does Christianity say about the origins of human life?	God created humans in the perfect form, the first humans were Adam and Eve
2	What are humans made in?	The image of God
3	Give two different interpretations on the story of Adam and Eve	1. It's a story to teach about obedience to God 2. It's the truth on how humanity originated
4	What is the theory of evolution?	The idea humans evolved from apes through natural selection
5	Give two reasons evolution and creationism object on another	1. Creationism says humans were created perfect 2. Evolution says humans slowly evolved, it was not God.

Key Vocabulary	
Abortion	The deliberate ending of a pregnancy.
Afterlife	Beliefs about what happens to 'us' after our body has died; in many religions this relates to life after death or immortality in some form
Animal experimentation	The use of animals for medical research and product testing
Awe and wonder	Sense of wonderment at nature; often linked to the feeling that God is involved/revealed through it.
Big Bang Theory	Scientific theory about the origins of the universe; belief that the universe began almost 14 billion years ago with a reaction of particles from a singularity followed by a process of inflation and expansion.
Death	The end of the physical, bodily life.
Dominion	Belief that humans have been given control of the world.
Environment	The world around us; natural or artificial surroundings.
Euthanasia	Assisting with the ending of life for a person who is terminally ill or has degenerative illness
Evolution	Scientific theory of the development of species which involves a process of natural selection and survival of the fittest.
Natural resources	Resources which are found in nature – fossil fuels (eg coal, oil, natural gas), plants et
Pollution	Contamination of an environment with harmful substances
Quality of life	The standard of health, comfort and happiness/fulfilment experienced by a person or group
Responsibility	Having a duty or obligation to act in a certain way
Sanctity of life	Belief that life is sacred/special because it was created by God, or because we are each unique individuals
Scientific	Knowledge based on what can be seen and experimentation.
Stewardship	Duty given by God to humankind to look after the created world, and all life within it.

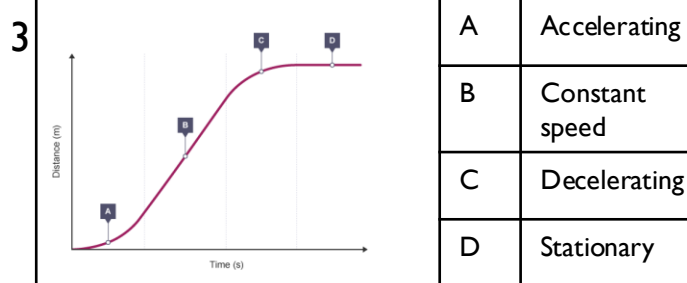
Animals and the environment		
1	What is the value of the world?	The idea the world is special and must be admired
2	What does stewardship mean?	Duty and responsibility to take care of Gods creation
3	How does stewardship influence religious followers?	They need to actively help the environment and stop its destruction, e.g.: recycling
4	What is dominion?	The idea humans have control over other living things
5	Give two ways the world is being abused	Pollution, fossil fuel, litter, wastefulness
6	Give two religious teachings on animal experimentation	1. Its wrong as animals are special creations of God 2. Acceptable if it helps humans= illness
7	Give two religious teachings on using animals for food	1. Animals are sacred 2. God gave humans dominion to use animals

Medical ethics		
1	What is the sanctity of life?	Life is sacred and a gift from God
2	What is the quality of life?	Life should be of a high standard and include happiness
3	What is abortion?	The purposeful ending of a pregnancy
4	What is euthanasia	Ending the life of someone who is terminally ill
5	Give two contrasting religious views on abortion	1. Its is murder, only God can give or take life. Its always wrong. 2. In extreme cases it's the most loving action
6	Give two contrasting religious views on euthanasia	1. Its always wrong because of the sanctity of life 2. If someone has lost quality of life then euthanasia is the most loving action
7	How do the beliefs on the afterlife impact the beliefs about the value of human life?	Humans want to be good and fulfil their lives such as being stewards so they are rewarded by going to heaven. They reject bad actions to avoid hell.

Students should study religious teachings, and religious, philosophical and ethical arguments, relating to the issues that follow, and their impact and influence in the modern world. They should be aware of contrasting perspectives in contemporary British society on all of these issues.

Distance – time graph

- The **gradient** of a distance-time graph is equal to the **speed** of the object. Steeper line = faster object.
- | | |
|------------------------|----------------|
| Flat line | Stationary |
| Straight diagonal line | Constant speed |
| Curve steeping | Acceleration |
| Curve levelling off | Deceleration |



Velocity – time graph

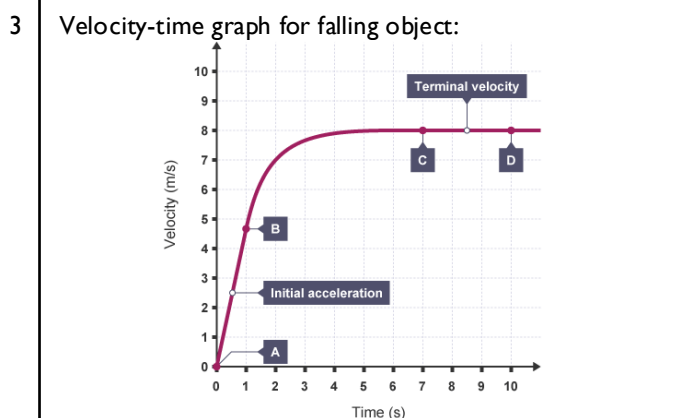
- The **gradient** of a velocity-time graph is equal to the **acceleration** of the object.
- The **area** under the line is equal to the **distance** travelled.
- | | |
|-----------------------------|-----------------------|
| Flat line | Constant speed |
| Straight diagonal line up | Constant acceleration |
| Straight diagonal line down | Constant deceleration |
| Curve | Changing acceleration |

Common speeds

1	Walking	1.5 m/s
2	Running	3 m/s
3	Cycling	6 m/s

Terminal velocity

- Terminal velocity is the maximum speed an object reaches when falling.
- When terminal velocity is reached the resultant force on the object is zero.



- | | |
|-----|---|
| A-B | Accelerating due to gravity. The resultant force is down as weight is greater than resistive forces. |
| B-C | Accelerating but at a slower rate. Resultant force is still down but it is decreasing because the resistive force is increasing as speed increases. |
| C-D | Moving at constant speed. Has reached terminal velocity. Weight = resistive forces so resultant $F=0$. |

Key Vocabulary

1	Scalar	A quantity with a size but no direction.
2	Vector	A quantity with a size and a direction.
3	Speed	The distance travelled in a fixed period of time.
4	Velocity	Speed in a given direction, A vector quantity.
5	Acceleration	The rate of change in speed (or velocity).
7	Displacement	The distance from the start of the journey to the end in a straight line with a described direction.
8	Resultant force	The overall force. The single force that could replace all the forces acting on an object.
9	Terminal velocity	The maximum speed objects reach when falling. When weight = resistive forces.
10	Momentum (HT)	The product of mass and velocity.
11	Inertia	The tendency of an object to continue in its current state unless acted on by a resultant force.
12	Inertial mass	How difficult it is to change the velocity of an object. Ratio of force over acceleration.

Newton's Laws

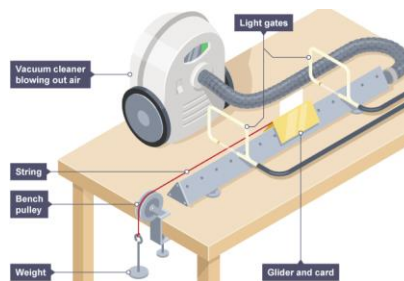
1	1 st law	An object remains in the same state of motion unless acted on by a resultant force.
2	2 nd law	$F = ma$. The resultant force on an object is directly proportional to acceleration.
3	3 rd law	Whenever two objects interact, they exert equal and opposite forces on each other.

Stopping distances

1	Stopping distance	Stopping distance = thinking distance + braking distance
2	Thinking distance	The distance a vehicle travels during the driver's reaction time.
3	Reaction time	The time it takes for a person to respond to an event.
4	Braking distance	The distance a vehicle travels whilst braking.
5	Factors affecting thinking distance: Speed of vehicle, drugs, alcohol, tiredness.	
6	Factors affecting braking distance: Speed of vehicle, weather, condition of tyres, condition of brakes.	
5	What happens when braking?	
	a. Friction between wheels and brakes causes work to be done.	
	b. Kinetic energy of wheels transferred to thermal energy of brakes causing brakes to heat up.	
	c. Large decelerations can be dangerous as brakes can overheat & the vehicle could skid.	

Required practicals

1	How mass affects acceleration	
	Independent variable	Mass
	Dependent variable	Acceleration
	Mass and acceleration are inversely proportional.	
2	How force affects acceleration	
	Independent variable	Force
	Dependent variable	Acceleration
	Force and acceleration are directly proportional.	



Forces equations

1	Speed	Speed (m/s) = distance (m) ÷ time (s)
2	Acceleration	Acceleration (m/s ²) = change in velocity (m/s) ÷ time (s)
3	Force	Force (N) = mass (kg) x acceleration (m/s ²)
4	Force	Force (N) = Change in momentum (kgm/s) ÷ time (s)
5	Momentum (HT)	Momentum (kgm/s) = mass (kg) x velocity (m/s)
6	Uniform acceleration	$v^2 - u^2 = 2as$
7	Stopping distance	Stopping distance = Thinking distance + braking distance

Momentum

1	Momentum is given by multiplying mass and velocity.
2	It is a vector.
3	The conservation of momentum says: In a closed system, the total momentum before an event is equal to the total momentum after.
4	A closed system is one in which no external forces act.

Symbols

s	Displacement
v	(Final) velocity
t	Time
a	Acceleration

Symbols

p	Momentum
u	Initial velocity
m	Mass
F	Resultant force

Order of cells in a reflex action

1	Stimulus	A change in the environment. E.g heat
2	Receptor	Detects the stimulus
3	Sensory Neurone	Carries the impulse from receptor to the CNS
4	Relay neurone	Located in the CNS
5	Motor Neurone	Carries the impulse from the CNS to the effector
6	Effector	Eg. muscle or gland
7	Response	Eg muscle in arm contracts and you pull your arm away

Glands and the hormones they release and role

1	Pituitary gland: LH, FSH	Important in the menstrual cycle
2	Pancreas :Insulin and Glucagon-	controls blood sugar levels
3	Thyroid :Thyroxine	-Stimulates the Metabolic rate, important in growth and development
4	Adrenal Glands: Adrenaline	Released during fear and stress causes an increase in heart rate release more glucose and oxygen
5	Ovary: Oestrogen, Progesterone	Inhibits FSH and stimulates LH Maintains the lining of the womb
6	Testes	Testosterone

Control of blood sugar level by pancreas

1	If blood Glucose level is too high the pancreas produces insulin that causes glucose to move from the blood into the cells . In the liver and muscle cells the excess glucose is converted to glycogen for storage
2	HT If the blood glucose is too low the pancreas produces the hormone glucagon that causes the glycogen to be converted into glucose and released into the blood and how glucagon and insulin interact in a negative feedback cycle

Comparing type 1 and 2 Diabetes

	Type 1	Type 2
Cause	The pancreas fails to produce any or very little levels of insulin	The body cells no longer respond to the insulin produced by the pancreas
Treatment	It is treated with insulin injections or a fitted insulin pumps	A carbohydrate controlled diet and exercise

Key Vocabulary

1	Homeostasis	Regulation of the internal conditions in the body
2	Hormone	A chemical messenger released from a gland into the bloodstream
3	Reflex	An automatic rapid response to a stimulus
4	Stimulus	A change in the environment that stimulates a sense organ
5	Receptor	Cells which detect a stimulus
6	Neurone	A nerve cell
7	Pancreas	A gland that controls blood glucose levels releasing insulin and Glucagon
8	Liver	An organ that stores glucose as Glycogen
9	Glucose	A soluble sugar
10	Glycogen	An insoluble sugar stored in the liver
11	Insulin	A hormone released by the pancreas
12	Diabetes	A condition whereby your pancreas produces very little or no insulin

Additional Information (HT highlighted in red)

Hormones in the Reproductive cycle and their role

1	Oestrogen	Produced in the Ovary and causes the release of an egg
2	Testosterone	Produced in the testes and stimulates sperm production
3	Follicle Stimulating Hormone (FSH)	Causes the egg to mature in the ovary
4	Luteinising Hormone (LH)	Causes the release of an egg
5	Oestrogen	Maintains the lining of the womb
6	Progesterone	Maintains the lining of the womb

Control of the menstrual cycle and the use of hormones

1	FSH	Stimulates the eggs to mature Stimulates oestrogen production
2	LH	Cause the gg to be released from the ovary
3	Oestrogen	Inhibits FSH and stimulates LH
4	Progesterone	Maintains the lining of the womb if an egg is fertilised

Different types of contraception

Hormonal Non Hormonal Both	How they work
Oral contraceptives (the pill)	Contain hormones to inhibit FSH production so no more eggs mature
Injection, skin patches Implants	Release progesterone into the blood to inhibit the maturation and release of eggs for months or years
Barrier method Condom (male) Diaphragm (female)	Prevents the egg and sperm from meeting each other
Intrauterine devices Eg Coil	Prevent the implantation of an embryo or release a hormone
Spermicidal Agents	Kill or disable sperm
Surgical Methods Sterilisation	In females the oviduct are tied to prevent the egg reaching the uterus In males the sperm ducts are cut to prevent the sperm being released
Abstain from sexual intercourse (don't do it)	Not having sexual intercourse when an egg may be in the oviduct

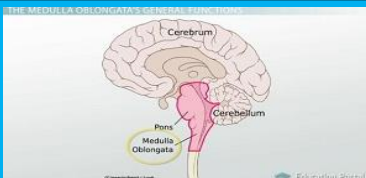
Key Vocabulary

1	Ovulation	Release of a mature egg from the ovary
2	Hormone	A chemical messenger released from a gland into the bloodstream
3	Implantation	When a fertilised egg attaches to the lining of the womb
4	Embryo	A fertilised egg that has divided into a ball of cells
5	IVF	In Vitro fertilisation
6	Zygote	A fertilised egg

Stages in IVF

1	Mother is given FSH and LH to stimulate the maturation of several eggs	
2	The eggs are collected from the mother and fertilised by the father in the laboratory	
3	The fertilised eggs develop into embryos	
4	At the stage when they are tiny balls of cells one or two embryos are inserted into the mothers uterus or womb	
	Disadvantage : very emotional, stressful, success rate is not high, lead to multiple births with high risk to mother and baby	

The Brain



1	Cerebral Cortex	Responsible for intelligence, memory and our ability to use language .
2	Cerebellum	controls and coordinates the movement of your muscles
3	Medulla	Control involuntary functions such as breathing, heart rate and heart rate

The Eye –structure and function

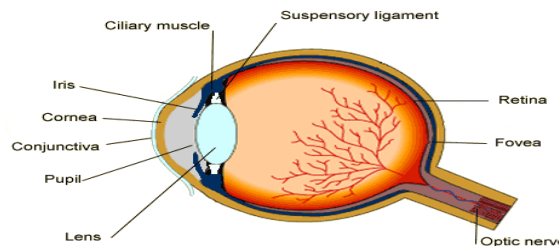
1	Retina	senses light using light receptors
2	Optic Nerve	transmits impulses to the brain
3	Sclera	
4	Cornea	protects eye surface and focuses light rays
5	Iris	regulates amount of light entering eye
6	Ciliary Muscles	change shape of the lens
7	Suspensory ligaments	hold lens in place
8	Lens	focuses light on retina

Control of Body Temperature

1	If the temperature is too high, blood vessels dilate(vasodilation) and sweat is produced by sweat glands
2	If body temperature is too low blood vessels constrict (vasoconstriction) , sweating stops and skeletal muscles contract (shiver)

Accommodation and ways to correct sight

To focus on near objects	The Ciliary muscles contract The suspensory ligaments loosen The lens is thicker and refracts light rays strongly
To focus on far objects	The Ciliary muscles relax The suspensory ligaments are pulled tight The lens is then pulled thin and only refracts light rays
Corrective treatment of eyesight	Use of spectacle lenses which refract light to focus on the retina Hard and soft contact lens Laser surgery Replacement lens in the eye



Additional Information

Key Vocabulary

1	Accommodation	To focus on near and far objects
2	Vasodilation	Blood vessels dilate
3	Vasoconstriction	Blood vessels constrict
4	Myopia	Short sightedness rays focus before the retina
5	Hyperopia	Long sightedness rays focus behind the retina
6	Refracts	Bends light rays
7	ADH (released by the pituitary gland)	Anti diuretic hormone causes the reabsorption of water back into the bloodstream via the kidney tubules
8	Phototropism	Growth and response to light
9	Geotropism	Growth and response to gravity
10	Auxin	Plant hormones found in shoots and roots

Plant Hormones (HT)

1	Gibberellins	Initiate seed germination. Promote flowering Increase fruit size
2	Ethene	Control cell division and ripening of fruits during storage and transport
3	Auxins	Used as weed killer As rooting powder's To promote growth in tissue culture

Finite and renewable resources

1	Finite resources	Can't be replaced as quickly as they are being used.
2	Example for finite	Fossil fuels and metals
3	Renewable resources	We can replace them as quickly as we use them. Will never run out
4	Examples for renewable	Wood,

Synthetic replacements

Common examples of synthetic replacements

1	Wool is replaced by acrylic fibres.
2	Cotton is replaced by polyester.
3	Wood for use in construction is replaced by PVC and MDF composites

Reuse and recycling

Importance of reuse and recycling and examples of materials reused and recycled

1	Help save limited resources and energy.
2	Reduce the amount of hazardous waste produced and less harmful effect on the environment. Quarrying causes habitat loss, noise pollution and release carbon dioxide.
3	Glass bottles can be reused- they can be crushed or melted to make different types of jars.
4	Plastic bottles are recycled to make fleece jackets and carpets.
5	Melt and recast metals into different products. The problem is different metals need to be separated before being recycled.

Potable water

Steps to obtain potable water

1	Choose a source of water
2	Remove solids such as dirt and mud
3	Remove bacteria and unwanted minerals such as salt.
4	Add chlorine to kill germs
5	Salt water must be desalinated to provide potable water. Distillation can be used to desalinate sea water. Sea water can also be treated by reverse osmosis, but this is expensive as it uses a lot of energy.

Treating waste water

Stages of sewage treatment

1	Screening and grit removal.
2	Sedimentation to produce sewage sludge and effluent.
3	Anaerobic digestion of sewage sludge – biogas produced/ remaining sludge can be used as fuel.
4	Aerobic biological treatment of effluent. Effluent can be discharged back into rivers.

Extraction of copper from low-grade copper ores (H)

1	Bioleaching	Bacteria is added to water from the lakes. Leach out copper from the bacteria.
2	Phytomining	Grow plants in copper containing soil. Plants absorb copper ions. Cut down plants and burn. Extract copper from the ash by electrolysis. The disadvantage of phytomining is plants grow slowly.

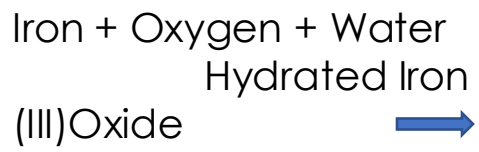
Key Vocabulary

1	finite	Will run out eventually
2	renewable	We can replace them as we use them
3	sustainable	Generation to meet the needs of the current population and future generations without causing long term damage to the environment.
4	Potable water	Water that is naturally safe for humans to drink
5	Life cycle assessment (LCA)	LCA is the environmental impact of a product.

Life cycle assessment

Stages of a product's life		Impact on the environment
1	Extracting and processing raw materials	Large amount of energy required, causes pollution and damaging habitat through quarrying, mining or felling of trees.
2	Manufacturing and packaging	Use a large amount of energy and causes pollution. Use up land for factories. Releases harmful products.
3	Use of the product	It depends on the product- use a lot of energy, release toxic waste or damage the environment
4	Product disposal	Use up landfill sites. This takes up space and pollute land and water. Products might be burnt which could cause pollution.

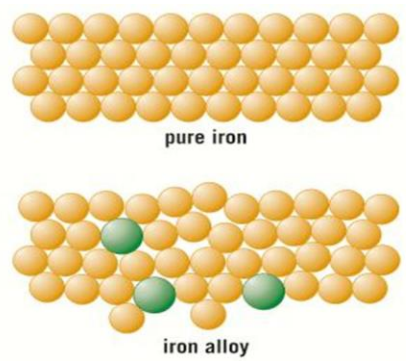
Corrosion



How to protect metals from corrosion

- 1 Coatings- Grease, paint or electroplate
- 2 Natural coatings (Aluminium Oxide)
- 3 Sacrificial protections

Alloys



Ceramics

ceramic		manufacture	properties	uses
1	Soda-lime glass	Heat a mixture of sand, sodium carbonate and limestone	Transparent and brittle	Everyday glass objects
2	Borosilicate glass	Heat sand and boron trioxide.	Higher melting point than soda lime glass	Oven glassware and test tubes.
3	Clay ceramics (pottery + bricks)	Shape wet clay then heat in a furnace	Hard, brittle, easy to shape before manufacture, and resistant to corrosion	Crockery, construction and plumbing fixtures.

Alloys- properties and use

Alloy		composition	properties	use
1	bronze	Copper and tin	Resistant to corrosion	Statues, decorative items and ship propellers.
2	brass	Copper and zinc	Very hard but workable	Door fittings, taps and musical instruments.
3	Gold	Mostly gold with copper, silver and zinc.	Lustrous, corrosion resistant, hardness depends on carat.	Jewellery- 24 carat is 100% gold.
4	High carbon steel	Iron with 1-2% carbon.	Strong but brittle	Cutting tools and metal presses.
5	Low carbon steel	Iron with less than 1% carbon	Soft, easy to shape	Cars, machinery, ships, containers and structural steel
6	Stainless steel	Iron with chromium and nickel	Resistant to corrosion, hard	Cutlery and plumbing.
7	Aluminium	Over 300 available	Low density	Aircraft and military uses.

Composites

- 1 Composites are mixtures of material for specific uses.
- 2 The main material is called the matrix or binder.
- 3 Second material is added as threads or fragments.
- 4 Examples- concrete (cement and gravel), reinforced concrete(concrete and steel rods) , plywood (thin sheets of wood and glue) and MFD(woodchips in polymer resin)

Haber Process

- $N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)$
- 1 Nitrogen and Hydrogen are pumped through pipes.
 - 2 Pressure of the gas mixture is increased to 200 atmospheres.
 - 3 Pressurised gases are heated to 450°C and passed through a tank containing Iron catalyst
 - 4 Reaction mixture is cooled, ammonia liquifies and then removed.
 - 5 Unreacted Nitrogen and hydrogen are recycled.

NPK Fertilisers


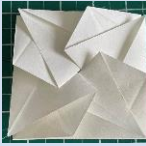
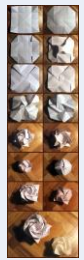
- 1 **Nitrogen-** From Ammonia. Used to manufacture Ammonium salts and Nitric acid.
- 2 **Phosphorus-** Comes from mined phosphate rock. Treat the rock with nitric or sulfuric acid
- 3 **Potassium-** Potassium chloride and potassium sulphate. Common sources -Obtained by mining

NPK fertilisers provide plants with the essential elements for growth.

1. Contextual Links

1	Zoe Bradley	Zoe Bradley is a UK fashion designer known for her constant exploration and discovery of new and exciting materials,	
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2. Technical Knowledge Origami

1	Origami	The Japanese art of folding paper into decorative shapes and figures	
2	Sonobe origami modular unit.	A process of folding 3 singular units that slot together to create the Sonobe unit. Easy	
3	Tato Envelope origami singular unit	A process of folding and scoring an individual piece of paper to create an envelope. Medium	
4	Kawasaki Rose origami singular unit	A process of folding and scoring an individual piece of paper to create a rose Hard	

3. Key Vocabulary

1	Body Adornment	Body adornment is something that a person puts on or changes to embellish themselves.
2	Manipulation	A process of playing with a fabric to change its appearance.
3	Paper Folding	A process of transforming a flat square of paper into a finished sculpture through folding and sculpting techniques.
4	Sublimation Printing	A process of transferring an image onto fabric using a heat press.
5	Free Machine Embroidery	A process of using a sewing machine to add detailed patterns and textures. This technique will use a free machine embroidery foot.
6	Hand Embroidery	A process of using a embroidery threads and an embroidery needle to add detailed patterns and textures.
7	Geometric	A pattern that involves regular lines and shapes.
8	Insects/insect wings	A small arthropod animal that has six legs and generally one or two pairs of wings. The wings can be studied as part of the structures project due to the lines and geometric shapes that are formed in the veins.
9	Repeat Pattern	A rigid motion of repeating a motif over and over along horizontal or vertical lines.
10	Distortion	Something that is not clear to the eye, may trick the eye into thinking it is seeing something else.
11	Repetition	A process of repeating a process or motif over and over again.
12	Symmetry	An identical motif or product that is repeated.

Managing yourself: Impact of drugs and alcohol

1	Ways in which drugs and alcohol can affect decision making.	They can 'doud' thinking, lower 'inhibitions' and lead to risky behaviour. Alcohol changes brain chemistry. It changes the way people think and feel, and therefore influences how people act. Makes it harder to make good decisions (including about sex).
2	Impact of drugs and alcohol on consent.	People incapacitated by drugs or alcohol cannot consent to sex. Clear, voluntary, coherent, and ongoing consent must be given by all participants.

Consent

1	What is consent?	Giving someone permission to do something
2	How can you give consent?	Consent should always be verbal or written never assumed.
3	The law on consent	The age of consent to any form of sexual activity is 16 for both men and women.

Resisting peer pressure: Gang Crime

1	Personal consequences of joining a gang.	Constant feeling of stress/fear Criminal record Being injured, Knowing someone who has been murdered
2	Consequences of gang crime on family members	Worried parents Younger siblings afraid Drug addicts turning up at the house (putting younger children in danger)
3	Consequences of gang crime on the community	Visits from social workers and police Area feels more dangerous School worried about truancy
4	Strategies to exit being in a gang.	Plan exit strategies, such as creating excuses that can be used to leave any situation in which they are feeling pressure. Avoid spending time with known members of the gang. Avoid areas where the gang meet/gather. Tell someone else what is happening so they can look out for them

Digital Citizenship

1	The physical world vs online world	We can categorise how we interact and connect with people into the physical world (offline) and the online world. The physical and online world maybe different but they are both still real.
2	What are the benefits of digital media?	-Connect with lots of people of a similar interest. -Curate (gather) lots of information -Socialise easily online. -Carry out hobbies online such as gaming. -Shop online. -Relax: reading or watching videos
3	What are the dangers of digital media?	-Phishing: emails that are designed to trick you into giving away personal information. -Cyberbullying. -Trolling. -Malware. -Posts that could come back to haunt you
4	How to protect yourself	Do not give out your passwords to anyone. Be careful when sharing personal information. Only use websites that you trust. Where possible limit access to your social media accounts. Know who you are talking to.
5	How to protect your computer	Do not download things until an adult has checked to see if it is safe. Do not open emails that you do not recognise. Use a spam filter on your emails. Install antivirus software. Ensure you have a firewall.

Bullying

1	Verbal bullying	Using words directly to someone
2	Physical bullying	Physically attacking someone
3	Emotional bullying	Not usually directed to the person but designed to isolate them
4	What is sexual bullying?	Sometimes, people who harass and bully do it with sexual comments or actions
5	What is a bystander?	Someone who is there when bullying occurs or knows that bullying is happening but chooses not to do or say anything about it.
6	What is an upstander?	Anyone who helps the person being bullied.
9	How can bullying impact the victim?	This person wants the bullying to stop. They are feeling down and bad about themselves. Their health is suffering. They have low self esteem.

Respect: Stereotyping

1	What is stereotyping?	Holding a mistaken idea or belief that people have about a thing or group that is based upon how they look on the outside, which may be untrue or only partly true.
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