



Yate Academy

High Expectations, High Achievement

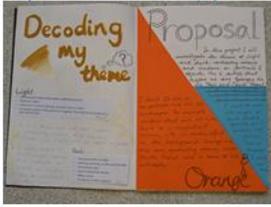
Year 10

Knowledge
Organisers

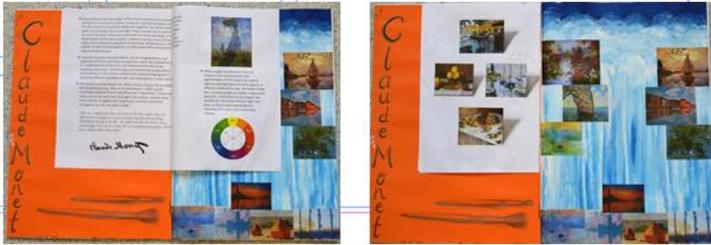
Module 4

"AQA Art Fine GCSE. Yr10 Investigating and research . Investigating Portraits, A01 Module 4 Organiser

Moodboard image	Moodboard image	Moodboard image	Moodboard image
Moodboard image	<p>Decoding my theme-- Define the key words that interest you when you look at your mood board of ideas?</p>		Moodboard image
Moodboard image	<p>Proposal- How are you going to explore the visual world of portraits, what techniques will you use? What artists are you going to research and explore? (see proposal help sheet provided).</p>		Moodboard image



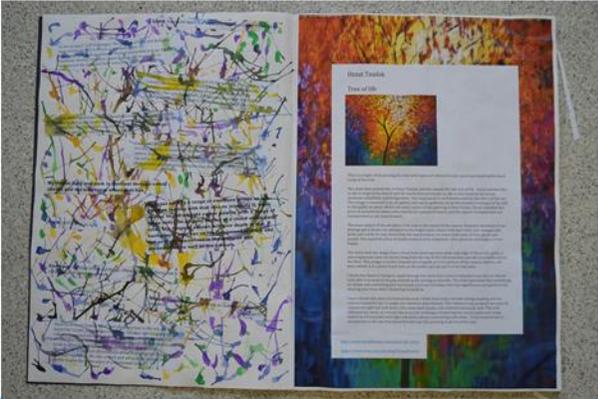

Artist name ? Dates Birth, is he/she a contemporary artist? Country of origin?	<p>Information about the artist? Artist research</p>
Photo of artist.	Artist work
<p>How, what, when, where, who... (refer to artist research help sheet provided). How has this artist inspired you? What is it about their work that you are attracted to? Please include quotes. what does the artist say about their work?</p>	
Artist work	Artist work
Artist work	Artist work



Artist No 2 Artist name ? Dates Birth, is he/she a contemporary artist? Country of origin?	<p>Information about the artist? Artist research</p>
Photo of artist.	Artist work
<p>How, what, when, where, who... (refer to artist research help sheet provided). How has this artist inspired you? What is it about their work that you are attracted to? Please include quotes. what does the artist say about their work?</p>	
Artist work	Artist work
Artist work	Artist work



Artist name ? Name the piece of work that you have chosen to write an essay on.	<p>Deconstruction of an art piece--(refer to essay help sheet provided).</p>
Image of your chosen piece.	Do not guess the answers please research them.



Year 10 Construction

Module 4 Knowledge Organiser – Unit 2 Practical Construction Skills

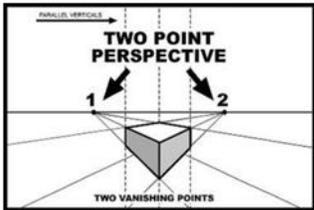
HOUSE STYLES

TRADITIONAL - something that is in keeping with long-standing tradition, style or custom.

CONTEMPORARY - "existing, occurring, or living at the same time; belonging to the same time." And that is exactly the same for the use of the term in interior design. **Contemporary** design refers to what is popular or used right now.

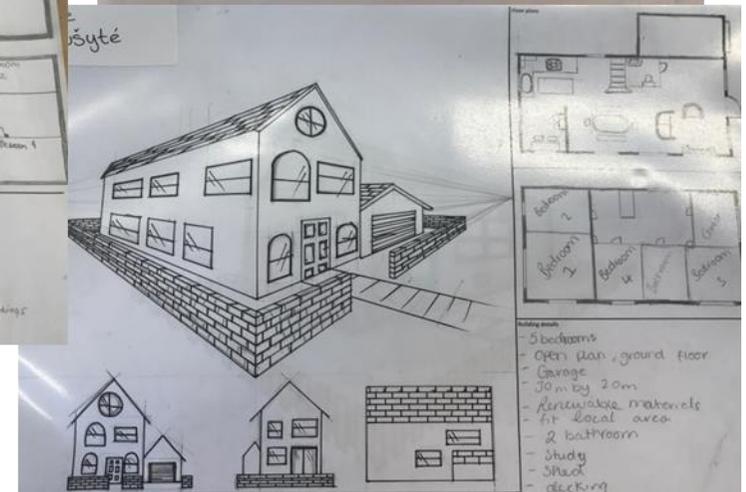
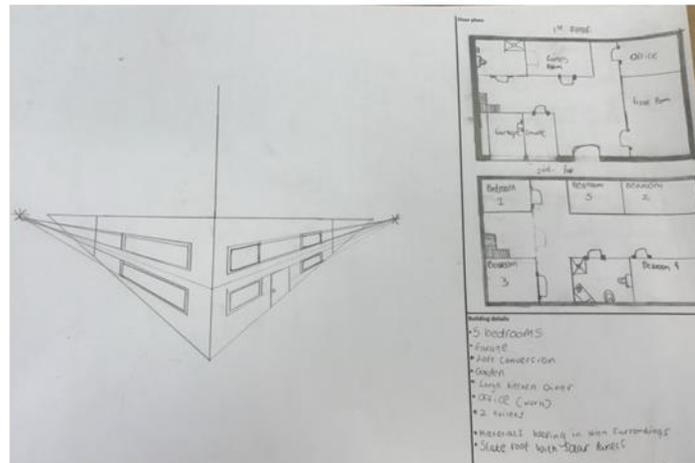
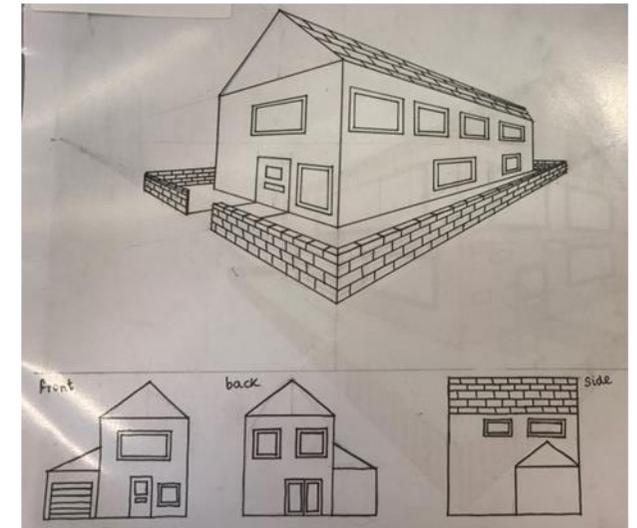
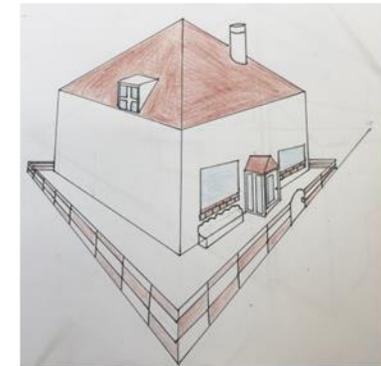
2 POINT PERSPECTIVE

Definition of two-point perspective: linear perspective in which parallel lines along the width and depth of an object are represented as meeting at **two** separate **points** on the horizon that are 90 degrees apart as measured from the common intersection of the lines of projection.



USEFUL TUTORIALS CAN BE FOUND ON YOUTUBE

FLOOR PLAN - a scale diagram of the arrangement of rooms in one storey of a building.



Btec First Award in Engineering Module 4 Knowledge Organiser

– UNIT 1 THE ENGINEERED WORLD EXAM PREPARATION.

What is Engineering?

“the branch of science, maths and technology concerned with solving problems through the design, manufacture, evaluation of solutions.”

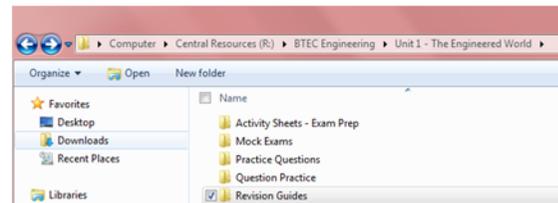
Applications of Engineering

- Buildings
- Engines
- Machines
- Structures

Engineering Sectors

Aerospace	The design, development and manufacture of products through flight.	Aeroplanes, Helicopters
Automotive	The design, development and manufacture of vehicles.	Cars, Motorbikes, Lorries
Biomedical	The development of devices and procedures that solve medical problems.	Hip Replacements, prosthetic legs
Chemical	The design, processing and manufacture of equipment for the chemical industry and chemical products	Petrol, Diesel, Bleach, Medicines
Communication	The way information is used around the globe.	Mobile Phones, Social Media, Sat Nav
Electrical	The design, developments and manufacture of electrical products.	Television, Games Console, Laptop
Mechanical	The design, manufacture and testing of machines and other mechanical devices.	Engines, Machines, Gearboxes

UNIT 1 EXAM RESOURCES



PAPER COPIES OF REVISION GUIDES AND PAST PAPERS CAN BE FOUND IN THE CUPBOARDS IN G24.



CASTING

an object made by pouring molten metal or other material into a mould.



FORGING

make or shape (a metal object) by heating it in a fire or furnace and hammering it.



Processes	Examples	Description	Examples	Advantages
Machining	<u>TURNING</u>	Uses a <u>LATHE</u> a <u>CYLINDRICAL SHAPE</u> . Materials are <u>ROTATED</u> at speed and <u>MACHINED</u> into shape.		
	<u>MILLING</u>	<u>REMOVES EXCESS</u> material using a <u>ROTATING CUTTER</u> . Materials are <u>CLAMPED</u> . <u>HORIZONTAL / VERTICAL</u> types.		
	<u>DRILLING</u>	Creates <u>CIRCULAR HOLES</u> . Uses a <u>DRILL BIT</u> . Good outcome = <u>SHARP CUTTING EDGE</u> tools.		
Forming	<u>CASTING</u> • SAND • INVESTMENT • DIE	<u>POURING / INJECTING LIQUID METAL</u> into a <u>MOULD</u> . Mould has a <u>CAVITY</u> to create the shape of the final product. Metal <u>COOLS</u> and <u>SOLIDIFIES</u> . Casting is removed from mould.	WHEELS CAR PARTS MAN HOLE COVERS TOY CARS	<ul style="list-style-type: none"> • <u>INTRICATE SHAPES</u> can be made. • <u>GOOD SURFACE FINISH</u> • <u>LITTLE/NO WASTE</u>
	<u>FORGING</u> • DROP • PRESS • UPSET	Metal being <u>HEATED UP</u> and <u>SHAPED</u> by <u>PLASTIC DEFORMATION</u> . Applying <u>SQUEEZING FORCES</u> e.g. <u>HAMMER BLOWS – POWER PRESS</u>	BOLT HEADS LANDING GEAR ENGINE CAM SHAFT	Improves the <u>PHYSICAL PROPERTIES</u> – changing the <u>GRAIN FLOW</u> to improve <u>STRENGTH, TOUGHNESS</u> and <u>DUCTILITY</u> .

Year 10 Drama Component 1 Knowledge Organiser

Key Skills

Hot Seating

The process of asking questions to an actor in role to develop imagination and character

Role on the Wall

A character study looking at the inner emotional and outer given circumstances for the character

Space and Levels

Using staging, space and levels to develop meaning for the audience

Thought Track

A characters private thoughts communicated directly to the audience

Still Image

A still picture of a scene often used to mark a moment during a thought track or cross cut scene

Cross Cut

The stage is split into two showing contrasting scenes

Monologue

One character delivering a speech / scene to the audience

Duologue

Two characters on stage during a scene

Physical Theatre

The use of physical movement to communicate meaning, often symbolically, to the audience

Proxemics

The space between characters on stage to create meaning for the audience

Theatre Practitioner **Berlot Brecht** **(1898 – 1956)**

He created the Distancing effect using the following skills:

- Narration
- Use of projections and signs
- Harsh / bright lighting
- Speaking stage directions
- Multi Roles
- Visible scene changes
- Breaking the forth wall
- Spass (Silly Comedy)
- Minimal sets / costumes
- Songs interrupting the action

Theatre Practitioner **Stanislavski** **(1863 – 1938)**

He created the Naturalism approach to acting using the following skills:

- The 'System' Technique
- Emotion Memory
- Actioning
- Given Circumstances
- Magic If
- Physical Action
- Creating the Forth Wall
- Improvisation
- Emotional connection for the audience

Characterisation: Key Skills

Body Language: The way the actor uses Movement, Posture, Stance and Gestures to communicate meaning to the audience

Facial Expressions: The use of expression on the actors face to communicate emotions to the audience

Voice: The way the actor uses Volume, Pitch, Tone, Accent and Pace to communicate character intentions to an audience

Movement: The use of Pace, Staging, Space and Levels

Question	Key Skill	Top Tips/Useful Sentences	Layout/Text Type/Format	Purpose and Techniques/Tips
1	Choose 4 statements (4 marks)	<p>Top Tips: Examiners like to trap. Read very carefully. They are counting on you misreading 1 or 2 words or skipping over something small. They often:</p> <ul style="list-style-type: none"> • Use key information but changing one small detail • Combine information from 2 sentences • Focus on the meaning of a more complex word 	<p>Letter</p> <ul style="list-style-type: none"> • Address and date • Formal mode of greeting—Dear sir/madam • Effectively linked paragraphs • Appropriate signing off—Yours sincerely 	<p>Explain</p> <ul style="list-style-type: none"> • Explain what you think about... • Be factual • Use statistics • Give a balanced view • Use evidence
2	Use details from both extracts to write a summary (8 marks)	<p>Useful Phrases: Text A/B describes... Text A/B says... Text A/B is about... On the other hand However But</p>	<p>Speech</p> <ul style="list-style-type: none"> • Clear address to audience—Good morning ladies and gentlemen/fellow students • Use of 1st person—you, we Clear sign off—Thank you for listening 	<p>Advise/Instruct</p> <ul style="list-style-type: none"> • Advise the reader of the best way... • Be factual • Use present tense • Use connectives • Use technical terms • 2nd person (you) • Imperatives
3	How does the writer use language to... (12 marks)	<p>Useful phrases: One way the writer... is through... For example... This shows/suggests/implies... This creates the impression that... The effect on the reader is...</p>	<p>Article</p> <ul style="list-style-type: none"> • Subheadings and strapline • Introductory overview paragraph • Effectively linked paragraphs <p>Leaflet</p> <ul style="list-style-type: none"> • Clear and original title • Subheadings or boxes • Bullet points • Effectively linked paragraphs <p>Essay</p> <ul style="list-style-type: none"> • Clear introduction • Effectively linked paragraphs 	<p>Argue</p> <ul style="list-style-type: none"> • Argue the case for or against... • Rhetorical questions • Emotive language • Counter arguments • Statistics • Triplets • Imperatives • Expert opinion
4	Compare how writers convey their different perspectives on... (20 marks)	<p>Useful phrases: One view the writer of text A/B One idea the writer has about...is The writer thinks that...is The writer of text A/B has the opinion that... However On the other hand In comparison...</p>	<p>Essay</p> <ul style="list-style-type: none"> • Clear introduction • Effectively linked paragraphs 	<p>Persuade</p> <ul style="list-style-type: none"> • Persuade X that... • Imperatives • Triplets • Statistics • Rhetorical Q • Expert opinion • Imperatives • Hyperbole
5	Argue/Persuade/Advise?Explain (40 marks)	See right column for writing ideas		

Structure Idea for Descriptive Writing

Paragraph 1- Weather/Environment: Describe the weather and the environment (around the main character—or use the picture) in order to give a sense of place. Use pathetic fallacy.

Paragraph 2- Location: Describe the setting in which the action takes place. **Zoom in** on a particular feature such as a park bench or a lamp-post and describe it in meticulous detail.

Paragraph 3- Main Character: Describe your main character using physiognomy and metaphorical language to describe their personality.

Paragraph 4- Feelings of main character through personification. Example: Fear stalked me. It was the predator and I was its prey.

Paragraph 5- The meeting: Have your character come across another and describe their interaction using sensory language. End on a piece of dialogue. The first and last piece of speech.

<p>Purpose</p> <ul style="list-style-type: none"> You are writing to describe, entertain and impress. show how impressively you can describe the picture in front of you show you can create imagery in the reader’s mind through your use of the English language. 	<p>Techniques to use</p> <ul style="list-style-type: none"> Simile- Example: He was as timid as an urban fox. Metaphor- Example: He was a night owl. Pathetic Fallacy- Example: The sky became cloudy and darkness fell. Personification-Example: The thorns gripped my shirt as I ran through. 	<p>Sentence Starters</p> <p>1 word sentence-- Breathless. I gulped for air and looked behind me...</p> <p>Verb—Running quickly she...</p> <p>Adverb—Darkly, the night sky...</p> <p>Preposition—Down there, everything is...</p> <p>Connective—However, his life...</p>
<p>SPaG</p> <ul style="list-style-type: none"> Vary sentence structure try beginning a sentence with an adverb or a verb use a semicolon to replace a conjunction like “and” or” but” <p>Example: I am going to the shops and I am going to buy some pears. I am going to the shops; I am going to buy some pears.</p> <p>Example 2: Suddenly, there came a tapping.</p> <p>Example 3: Running closer and closer to my target, I was almost with reach.</p> <ul style="list-style-type: none"> Use paragraphing separating these based on changing focus or theme ensure you make your writing flow coherently. 	<ul style="list-style-type: none"> Impressive Vocabulary-Example: Guile, Radiant, Irksome, Serpentine. Noun, Adjective, Noun- Example: Blood red shoes Alliteration- Example: Colin can’t catch! Sensory Language- Example: I could taste blood streaming from my lip. Physiognomy—Example: Scrooge’s nose was pointed and his thin lips blue. 	<p>Top Tips</p> <ul style="list-style-type: none"> Avoid action—stay still and describe what’s around you. Use structural features like: flashback, flash forward, character’s thoughts Keep to one or two characters Keep dialogue short and small

Question	Key Skill	Top Tips and useful sentences	Accuracy Issues
1 (4 marks)	Identify 4 things about...	Read the question properly Make sure your answers make sense Make sure you are answering the question	<ul style="list-style-type: none"> • Capital letters (names of places, titles, people, months, days, abbreviations, after full stop/question mark etc. • Full stops not commas • Paragraphing (time, place, speaker, topic, sudden event) <p>Spelling</p> <ul style="list-style-type: none"> • Homophones (there, their, they're, to, too, two etc.) • Words ending in -y (family—families etc.) • Double consonants (success, unnecessary etc.) <p>Range of Punctuation ; : , ? ! “”</p> <p>Range of sentences Short (1 word), complex, compound</p> <p>Parts of a story: Complicating incident – Initial event/question/idea Rising Action – adds tension/information Climax – highest point of tension Resolution – questions answered/reader finds things out</p>
2 (8 marks)	Write about how language is used	Useful phrases: One way the writer... is through... For example... This shows/suggests/implies... This creates the impression that... The effect on the reader is... The writer is symbolising...	
3 (8 marks)	Write about how structure is used	At the start the writer focuses on..... In the middle the writer focusses on.../ At the end, the writer... The writer changes the focus.... The writer zooms in/ zooms out... The writer repeats the idea	
4 (20 marks)	Evaluate the extract in response to a statement	I agree that the writer... because... At this part in the extract, the reader feels... The text states... This can be seen where... The writer is trying to... This is effective because... The writer is successful because...	
5 (40 marks)	Write a story or description	Think about your structure: Plan! Use a range of sentences Interesting words Use descriptive devices: simile, personification etc. Sensory descriptions	

Technique	Definition	Example	Further vocab: <ul style="list-style-type: none"> • Protagonist • Antagonist • Tension • Evaluate • First Person (I, Me) • Second person (You) • Third Person (They/he/Name) • Flashback • Narrator
Simile	A figure of speech in which two unlike things are compared using the words 'like' or 'as'	"Relief swept over me like a tidal wave"	
Metaphor	The comparison of one thing to another without the use of 'like' or 'as'	"The road was a ribbon of moonlight."	
Personification	When you give human qualities to an inanimate objects or emotions	"Sadness gripped me and held me in a pitiful embrace"	
Noun	A word which names a thing, a person, a place, a state or a quality	"The table", "My happiness"	
Verb	A word which expresses an action or a state of being	"Walk, run, swim, be"	
Adjective	A word which describes a noun	"Red, happy, thriving, tricky"	
Adverb	A word which describes a verb	"carefully, ominously, strangely, fast"	
Alliteration	Repetition of the initial consonant sound in more than one word	"The flag fluttered in the light of the full moon"	
Onomatopoeia	A sound word	"The gurgle of the coffee, brewing in the machine"	
Exclamatory	A sentence using an exclamation mark—shows excitement or heightened emotion	"That happened to me too!" said Bruno delighted.	
Declarative	A statement with no room for argument	"The train was horrible" said Shmuel	
Imperative	A command/order	"You have to wear one of these armbands" said Shmuel's mother.	
Interrogative	A question (includes rhetorical questions)	"All of you?" asked Bruno "In one room?"	
Triplet	Pattern of 3	We went to school; my father mended watches; my mother stayed at home	
Repetition	Words or phrases repeated for effect	"There weren't any doors" said Shmuel. "There weren't any doors" insisted Shmuel.	
Lists	4 or more ideas/items	He was a squeezing, wrenching, grasping, scraping, clutching, covetous old sinner.	

Intro to Sauces

The main functions of a sauce are to add flavour, colour, moisture (texture) and additional nutrients.

They can be added as an extra to a meal e.g. apple sauce with roast pork or horseradish sauce with roast beef...

or mixed in with a dish e.g. cheese sauce with macaroni to make 'macaroni cheese'.

There are several types of sauces and they can be classified depending upon the way in which they are thickened:

- with coagulating egg protein such as custard
- emulsification, e.g. mayonnaise
- with vegetable or fruit puree such as tomato sauce / apple sauce
- with starch – these can be white or brown sauces with gelatine, e.g. glaze on a flan.

Gelatinisation

Many sauces are thickened by gelatinisation of starch. When mixed with a liquid and heated, starch thickens the liquid.

During gelatinisation the following occurs:

1. starch particles form a suspension in the liquid (they do not dissolve)
2. Stirring the liquid keeps the starch particles suspended – if the suspension isn't stirred they stick together and sink to the bottom – forming lumps. This will then not cook correctly.
3. When the liquid reaches approximately 60°C the starch grains begin to swell as they absorb the water.
4. As heating continues (approx 80°C) the particles break open and release starch. This makes the mixture thick and viscous. This is gelatinisation.

The Roux Method

The fat is melted and the flour is then stirred in and cooked on a medium heat. The liquid is added gradually off the heat. The sauce is then returned to the heat and brought back to the boil.

Sauces covered this module include -

Stock

A Stock is a liquid that has been formed by extracting flavours, nutrients and salts during the cooking process from bones, vegetables and herbs and spices. They should be: Clear in appearance, delicate in flavour and clear of grease



Mayonnaise:

Mayonnaise is a thick, creamy dressing often used as a condiment. It is a stable emulsion of oil, egg yolk, and either vinegar or lemon juice, with many options for embellishment with other herbs and spices

Bolognese Sauce:

Tomato-based and mixed with herbs and garlic. Used in spaghetti Bolognese and lasagna.



Lemon Curd:

A thick conserve made from lemons, butter, eggs, and sugar.



Chocolate Sauce

Pouring	Coating	Binding
A pouring sauce, at boiling point, should just glaze the back of a wooden spoon, and should flow freely when poured.	A coating sauce, at boiling point, should coat the back of a wooden spoon, and should be used as soon as it is ready, to ensure even coating over the food.	A binding sauce should be thick enough to bind dry ingredients together, so that they can be handled easily to be formed into croquettes, cakes etc
		

Modifying sauces

Modifying sauces is easily done...

- using different milks e.g. replace full fat milk with semi skimmed resulting in a reduced fat product
- adding different herbs for additional colour and flavour e.g. parsley,
- sweetening the sauce – add sugar
- enriching the sauce – add cheese (also adds colour)
- altering the flavour – add chocolate (also sweetens the sauce)

FRENCH YEAR 10 MODULE FOUR : DE LA VILLE À LA CAMPAGNE - MO 1 – 10 : (KPI 1 Know the key vocabulary for the module)

<p>Où j'habite J'habite ... Ma famille et moi habitons ... On habite ... dans une ville historique/touristique dans un petit village au bord de la mer au centre-ville à la campagne/montagne en ville en Angleterre/Écosse/Irlande (du Nord)/ Afrique au Maroc/pays de Galles aux Antilles à Paris/Birmingham</p>	<p>Where I live I live ... My family and I live ... We live ... in an historic/touristy town in a small village at the seaside in the town centre in the countryside/mountains in town in England/Scotland/(Northern) Ireland/Africa in Morocco/Wales in the West Indies in Paris/Birmingham</p>	<p>dans le nord-est du/de la/de l'/des ... le nord/le nord-est l'est/le sud-est le sud/le sud-ouest l'ouest/le nord-ouest Dans ma région, il y a ... des vignobles/stations de ski des collines/forêts des fermes/champs un port de pêche un lac C'est super parce qu'en hiver/en été, on peut (faire du ski/de l'escalade).</p>	<p><i>in the north-east of ...</i> <i>north/north-east</i> <i>east/south-east</i> <i>south/south-west</i> <i>west/north-west</i> <i>In my region there is/are</i> <i>vineyards/ski resorts</i> <i>hills/forests</i> <i>farms/fields</i> <i>a fishing port</i> <i>a lake</i> <i>It's great because in winter/summer,</i> <i>you can (go skiing/climbing).</i></p>
<p>Le temps Il fait beau/mauvais. Il fait chaud/froid. Il y a du soleil. Il y a du brouillard/du vent. Il y a un orage. Il pleut/neige/gèle.</p>	<p>Weather The weather's good/bad. It's hot/cold. It's sunny. It's foggy/windy. There's a storm. It's raining/snowing/icy.</p>	<p>Ici, le climat est humide/sec. Il peut faire très chaud/froid/doux. Il ne fait pas trop chaud/froid ... au printemps en été/automne/hiver</p>	<p><i>Here, the climate is wet/dry.</i> <i>It can be very hot/cold/mild.</i> <i>It's not too hot/cold ...</i> <i>in spring</i> <i>in summer/autumn/winter</i></p>
<p>Les transports Je vais/peux aller au collège ... à pied/vélo en train/métro/car/ voiture/bus</p>	<p>Transport I go/can go to school ... on foot/by bike by train/underground/coach/ car/bus</p>	<p>Les transports en commun sont bons.</p>	<p><i>The public transport is good.</i></p>
<p>En ville Il y a ... un château un centre de loisirs un marché un musée un parc/jardin public un stade un supermarché un théâtre une bibliothèque une cathédrale une église une gare (SNCF) une mairie une mosquée une pharmacie une poste (un bureau de poste) des hôtels</p>	<p>In town There is/are ... a castle a leisure centre a market a museum a park a stadium a supermarket a theatre a library a cathedral a church a (train) station a town hall a mosque a chemist a post office hotels</p>	<p>beaucoup de magasins Il n'y a pas de ... Est-ce qu'il y a un/une/des ... près d'ici/ par ici? Va/Allez tout droit. Tourne/Tournez à droite/gauche. Prends/Prenez la première/deuxième rue à droite/gauche. Continue/Continuez jusqu'au carrefour/ jusqu'aux feux. Traverse/Traversez la place/le pont. Descends/Descendez la rue. C'est ... (assez) loin/tout près sur ta/votre droite/gauche au coin en face (du/de la/de l'/des) à côté (du/de la/de l'/des)</p>	<p><i>lots of shops</i> <i>There isn't a/aren't any ...</i> <i>Is/Are there a/some ... near here/ round here?</i> <i>Go straight on.</i> <i>Turn right/left.</i> <i>Take the first/second road on the right/left.</i> <i>Continue as far as the crossroads/ traffic lights.</i> <i>Cross the square/bridge.</i> <i>Go down the road.</i> <i>It's ...</i> <i>(quite) a long way/very close</i> <i>on your right/left</i> <i>on the corner</i> <i>opposite</i> <i>next to</i></p>

Ma région	My region		
Ma région/Une région que je connais bien, c'est ...	<i>My region/A region that I know well is ...</i>	Le paysage/La côte est vraiment magnifique/impressionnant(e).	<i>The landscape/coast is really wonderful/impressive.</i>
C'est dans le (nord/sud) de ...	<i>It's in the (north/south) of ...</i>	On peut y faire/visiter/voir ...	<i>You can do/visit/see ... there.</i>
près de la Manche/la frontière allemande/espagnole	<i>near the English Channel/the German/Spanish border</i>	La région est connue pour ...	<i>The region is known for ...</i>
J'y habite depuis .../J'y vais ...	<i>I have lived there since .../I have been visiting there ...</i>	Une personne célèbre qui est née en ..., c'est ...	<i>A famous person who was born in ... is ...</i>

Les renseignements	Information		
Qu'est-ce qu'on va faire à ...?	<i>What are we going to do in ...?</i>	Je ne veux pas rater/manquer (l'exposition sur) ...	<i>I don't want to miss (the exhibition on) ...</i>
Je veux absolument (faire une promenade en bateau).	<i>I definitely want to (go on a boat trip).</i>	Bonne idée. Pourquoi pas?	<i>Good idea. Why not?</i>
J'ai envie de (louer un bateau).	<i>I feel like (hiring a boat).</i>	Je veux bien faire ça aussi.	<i>I want to do that too.</i>
Ça m'intéresse de voir ...	<i>I'm interested in seeing ...</i>	D'accord. Ça m'est égal.	<i>OK. I don't mind.</i>
Je tiens à (visiter l'aquarium).	<i>I'm keen on (visiting the aquarium).</i>	Ça ne me dit rien.	<i>I don't fancy that.</i>
Je voudrais aller au/à la/à l'/aux ...	<i>I would like to go to ...</i>	Je n'en ai pas tellement envie.	<i>I don't really feel like it.</i>
J'aimerais bien monter à la/au ...	<i>I would like to go up ...</i>	Ça a l'air nul!	<i>That sounds rubbish!</i>

Ville de rêve ou ville de cauchemar?	Dream town or nightmare town?		
J'habite à...	<i>I live in ...</i>	Il y a ...	<i>There is/are ...</i>
C'est un petit village/une grande ville dans ...	<i>It's a small village/big town in ...</i>	beaucoup de monde/de voitures trop de circulation/de gens tellement de bruit/de gens au chômage	<i>lots of people/cars too much traffic/too many people so much noise/so many people out of work</i>
J'habite dans la banlieue/un quartier de ...	<i>I live in the suburbs/a district of ...</i>	peu de travail/de transports en commun/commerces	<i>not much work/public transport/not many businesses</i>
Ce qui me plaît ici, c'est qu'il y a ...	<i>What I like is that ...</i>	toujours des déchets par terre	<i>always litter on the ground</i>
En été/hiver, on peut ...	<i>In summer/winter, you can ...</i>	plusieurs boîtes de nuit/cafés/restaurants	<i>several nightclubs/cafés/restaurants</i>
Le problème, c'est que/qu' ...	<i>The problem is that ...</i>	Le bowling a fermé.	<i>The bowling alley has closed down.</i>
il n'y a pas assez de (magasins/espaces verts)	<i>there is/are not enough ... (shops/green spaces)</i>	C'est sale/(trop) tranquille/très animé.	<i>It's dirty/(too) quiet/very lively.</i>
il n'y a plus de (cinéma)	<i>there is/are no longer (a cinema)</i>	Ce n'est jamais tranquille.	<i>It's never quiet.</i>
il n'y a ni (parc) ni (aire de jeux)	<i>there is neither (a park) nor (a playground)</i>	Je trouve ça triste/déprimant/affreux/nul/désagréable.	<i>I find that sad/depressing/awful/rubbish/unpleasant.</i>
il n'y a aucun (bowling)	<i>there isn't a (single) (bowling alley)</i>	En général, je (ne) suis (pas) content(e) de mon village/quartier/ma ville.	<i>In general, I am (not) happy with my village/district/town.</i>
il n'y a aucune (zone piétonne)	<i>there isn't a (single) (pedestrian area)</i>		
il n'y a qu'un seul (magasin)	<i>there is only one (shop)</i>		
il n'y a qu'une seule (rue)	<i>there is just one (street)</i>		
il n'y a rien pour les jeunes	<i>there is nothing for young people</i>		
il n'y a pas grand-chose à faire	<i>there's not a lot to do</i>		

Les projets	Plans		
Qu'est-ce qu'on fera?	<i>What shall we do?</i>	Je regarderai un film.	<i>I will watch a film.</i>
On ira pique-niquer dans le parc.	<i>We'll have a picnic in the park.</i>	Je jouerai à des jeux vidéo/au football.	<i>I will play video games/football.</i>
Ce sera génial!	<i>That will be great!</i>	On ne fera pas de barbecue.	<i>We won't have a barbecue.</i>
Je resterai à la maison.	<i>I will stay at home.</i>	On mangera dans un restaurant.	<i>We will eat in a restaurant.</i>

Quel temps fera-t-il?

Il y aura ...
 du vent
 du soleil
 du tonnerre
 de la grêle
 de la pluie
 des averses
 des éclairs
 des éclaircies

What will the weather be like?

There will be ...
wind
sun
thunder
hail
rain
showers
lightning
sunny intervals

Il fera ...
 beau/chaud/froid/frais
 Le temps sera ...
 brumeux/ensoleillé
 nuageux/orageux
 variable
 Le ciel sera bleu/gris/couvert.
 Les températures seront en baisse/
 en hausse.

It will be ...
fine/hot/cold/cool
 The weather will be ...
misty/sunny
cloudy/stormy
changeable
 The sky will be blue/grey/overcast.
 The temperatures will be going down/
 going up.

En pleine action!

J'ai/Nous avons ...
 collecté de l'argent
 vendu nos vieux jeux et jouets
 lavé des voitures
 acheté (de la peinture)
 planté des arbres
 lancé une pétition en ligne
 obtenu presque 2 000 signatures
 écrit un article dans le journal local

Taking action

I/We have ...
collected money
sold our old games and toys
washed cars
bought (paint)
planted trees
launched a petition online
obtained nearly 2,000 signatures
written an article in the local newspaper

Le week-end prochain, nous irons
 là-bas pour ...
 ramasser les déchets
 nettoyer la salle
 repeindre les murs
 La semaine prochaine, on finira
 d'installer/de construire ...
 un passage piéton
 un panneau
 une aire de jeux

Next weekend, we will go there to ...
pick up litter
clean the room
repaint the walls
 Next week, we will finish installing/
 building ...
a pedestrian crossing
a sign
a playground

Les mots essentiels

ailleurs
 ne ... aucun(e)(s)
 ne ... jamais
 ne ... ni ... ni ...
 ne ... personne
 ne ... plus
 ne ... que
 ne ... rien
 non plus
 alors
 donc
 de plus
 en plus
 également

High-frequency words

elsewhere
not any, not a single
never
neither ... nor ...
nobody, not anyone
no longer, no more
only
nothing
nor/either
so, therefore
so, therefore
what's more, moreover
also
equally, also

d'ailleurs
 par contre
 malheureusement
 enfin
 plein de
 tellement
 le lendemain
 selon
 plusieurs
 quelques
 trop (de)
 peu (de)
 assez (de)
 tellement (de)

moreover, besides
on the other hand
unfortunately
finally
lots of
really/so
the next day
according to
several
some
too much/many
little/not much
enough
so much/many

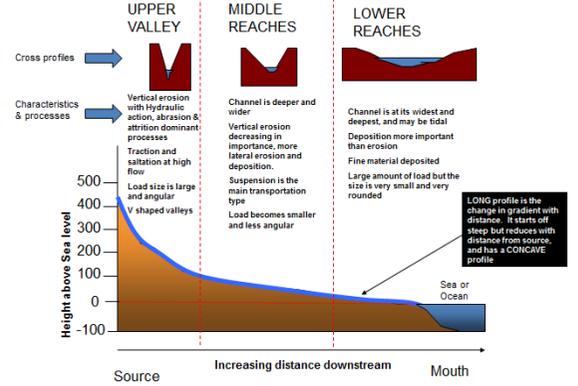
Paper One- Living with the Physical Environment- Section C- River Landscapes in the UK

Key words

Hydraulic action	Waves crash against rocks and compress air in the cracks which puts pressure on the rocks. Repeated compressions widens the cracks and causes part of the rock to break away
Abrasion	Eroded particles in the water scrape and rub against the rock
Attrition	Eroded particles in the water smash against each other and break in to smaller fragments
Solution	Chemicals in the water dissolve the rock
Vertical erosion	This deepens the river channel making it V shaped in the upper course of the river
Lateral erosion	This widens the river channel in the middle and lower courses of the river
Traction	Large particles like boulders are rolled along the river bed
Saltation	Pebble sized particles are bounced along the river bed
Suspension	Small particles like silt and clay are carried along by the water
Solution	Soluble materials dissolve in the water
Deposition	Sediment is dropped by the sea when it loses energy

KPI 1 Describe and explain the changing features of a rivers long and cross profile (pg.66)

Long and cross profiles on a TYPICAL river



KPI2 Describe and explain the formation of landforms in the upper course of the river (pg68)

Interlocking Spurs

- In the upper course of the river most of the erosion is vertical which creates V shaped valleys.
- Rivers aren't powerful enough to erode laterally which means they have to wind around the high hillsides in their path.
- The hillside interlock with each other and the river winds around them.

Waterfalls

- Formed when a river flows over an area of hard rock followed by softer rock.
- The softer rock is eroded quicker (by hydraulic action and abrasion) creating a step in the river.
- As water goes over the step the erosion continues which creates steep drop.
- The hard rock is eventually undercut and collapses.
- The collapsed rock swirls around the foot of the water fall eroding the rock (abrasion) creating a plunge pool.
- Overtime the waterfall retreats leaving a gorge.

KPI3 Describe and explain the formation of landforms in the middle course of the river (pg69)

Meander

- Rivers develop large bends called meanders in the middle and lower course.
- The current is faster on the outside of the bend because the channel is deeper and there is less friction. This means there is more erosion in this area.
- The current is slower in the inside of the bend because the channel is shallower. This means there is deposition in this area forming slip-off slopes.

Oxbow lakes

- Meanders get larger over time.
- Erosion causes the outside of the bends to get closer until there is a small piece of land left between them called the neck.
- The river eventually breaks through his land and the river flows along the shortest course.
- Deposition eventually cuts off the meander forming an oxbow lake.

KPI4 Describe and explain the formation of landforms in the lower course of the river (pg. 70)

Floodplains

A wide flat valley floor on either side of the river. When a river floods the water deposits material making the floodplain higher.

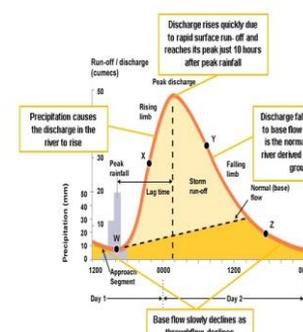
Levees

Natural embankments (raised bits) along the edges of the river. During flooding material is deposited with the largest pieces closets to the river. Over time this builds up.

Estuaries

Found at the mouth of the river when it enters the sea. Water is tidal and floods the banks. Material is deposited which creates mudflats.

KPI5 Describe and explain the key characteristics of a storm hydrograph (pg. 73)



Rivers flood due to both human and physical factors.

Physical;

Prolonged and/or heavy rain
Geology- impermeable rocks prevent infiltration which increases run-off.
Relief- the change in the height of the land.

Human;

Land use- buildings are made of impermeable rock
Trees intercept water and deforestation increases the volume of water reaching the river.

KPI6 Evaluate the techniques used to reduce the risk of flooding (pgs.74-77)

Method	Benefits	Disadvantages
Dams and reservoirs (hard)	Reservoirs store water reducing the volume of water downstream. Water can be used for drinking and HEP.	Dams are very expensive to build and reservoirs can flood existing settlements. Material is deposited in the reservoir affecting farmland downstream
Channel straightening (hard)	Water moves quickly reducing the risk of flooding	Flooding risk and erosion rates increase downstream as the water ins moving faster.
Embankments (hard)	Increasing the volume of the channel	Very expensive and they can break
Flood relief channel (hard)	River discharge is reduced and gates can control the release of water	There is increased discharge as the water is released after the flood
Flood warnings (soft)	People have time to move belongings upstairs and evacuate	They don't prevent flooding and people may not hear them
Flood plain zoning (soft)	The risk of flooding is reduced as building work does not happen on the floodplain	Space is limited in some urban areas which can cause conflict and some floodplains are already built on
Afforestation (soft)	Interception increases which reduces discharge. Creates habitats.	Less land available for farming
River restoration (soft)	Removing land made levees allows flood plains to flood. River is in its natural state	Local flood risk increases if nothing else is done

Module 4- Career Pathways within the hair and beauty sector

Job roles in hair and beauty

Hairdresser, Beauty Therapist, Spa Therapist, Barber, Massage therapist, Nail technician, Makeup artist

Key words	Description of key word
Career	An occupation undertaken for a significant period of a person's life with opportunities for progress
Job role	An overall description of what a person is expected to do in their job position.
Job responsibilities	Specific tasks a person is expected to do as part of their job role
Salary	A fixed regular payment, typically paid on a monthly basis but often expressed as an annual sum, made by an employer to an employee.
Skill set	A skill set is a particular category of skills necessary to acquire a job.
Education and training	College, Schools and private academy's offer hair and Beauty courses/apprenticeships
Attributes	Features or qualities that are part of someone's character

Job Role	Description of job role
Assistant	Is a person who is not yet qualified but may have started their training
Junior	Could be a newly qualified person or about to finish their training
Senior	Is a fully qualified person with a minimum of one- two years' experience
Consultant	Is a fully qualified person, with a least three years' experience
Salon manager/owner	Is a fully qualified person with at least 5 years employment and some management experience

Employment status	Description
Self-employed	<ul style="list-style-type: none"> Do not have a contract of employment You must pay your own income tax and NI You decide how much to charge for your work You choose your own hours and choose your own holiday You do not get paid for sickness and holiday You must be entitled to a safe and healthy working environment Your maternity allowance is slightly different
Employed	<ul style="list-style-type: none"> You work under a contract of employment that states all the terms and conditions relating to your job role Your employer is obliged by law to deduct tax and NI from your wages before paying them to you You are entitled to maternity leave, adoption leave and paternity leave. You cannot be unfairly dismissed and you should get statutory redundancy pay. You are entitled to holiday pay Some employers pay sick pay but not all of them

Data protection Act- Only relevant information should be collected, the information should only be used by the professionals involved and not with a third party, information should be held securely and should be updated regularly and available for the client if they wish to see their own.

BTEC Assignment Brief

Qualification	Pearson BTEC Level 1/ Level 2 Tech Award in Health and Social Care
Unit number and title	Component 1- Human Lifespan Development
Learning aim	A: Understand human growth and development across life stages and the factors that affect it
Assignment title	Understanding how life affects our growth and development
Assessor	
Issue date	
Hand in deadline	
Vocational Scenario or Context	For this Assignment, you will need to base your evidence on a famous individual or celebrity. Alternatively, you could base your evidence on someone you know-a family friend or a relative, as long as you keep all personal details confidential. You can choose the person, but you must be able to find out enough information to meet the assessment criteria. You must also check with your teacher that the chosen individual is suitable for your study.
Task 1	<p>You must write a report on your chosen individual that is divided into three main parts.</p> <ol style="list-style-type: none"> 1. The process of growth and development through three, different life stages showing how growth and development changes over time 2. The factors that have had an effect on each of the three, different life stages 2. How the impact of the different factors has changed across the different life stages for your chosen individual <p>The first part of your report should focus on describing the three life stages that your chosen individual has been through.</p> <p><u>Part 1</u></p> <p>For each life stage, you should describe the physical, intellectual, emotional and social development that your chosen individual has experienced. Your report should show how the development in one area, for example physical, can lead to development in another, for example, intellectual.</p> <p><u>Part 2</u></p> <p>The second part of your report should focus on the different factors which have had an effect on your chosen individual, throughout the three, different life stages.</p> <p>You must select at least two, relevant factors for each area of development and describe how they have affected the individual at each life stage.</p> <p><u>Part 3</u></p> <p>For the third part of your report, you must assess how the impact of the factors you have selected has changed over the different life stages. You will need to give examples and compare the effects of the factors on the individual at the different life stages</p>
Checklist of evidence required	A report
Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
A.1P1	Identify aspects of growth and development for a selected individual
A.1P2	Identify factors that have had an effect on growth and development of a selected individual
A.1M1	Outline different aspects of growth and development across three life stages for a selected individual
A.1M2	Outline the ways that different factors have affected growth and development of a selected individual
A.2P1	Describe growth and development across three life stages for a selected individual
A.2P2	Explain how different factors have affected growth and development of a selected individual
A.2M1	Compare the different factors that have affected growth and development across three life stages for a selected individual
A.2D1	Assess the changing impact of different factors in the growth and development across three life stages of a selected individual.

Sources of information to support you with this Assignment	Books Boyd D., Bee H., <i>Lifespan Development</i> , (2015), Pearson Education Limited, ISBN: 9781292065625 Journals Community Care Magazine The Nursing times Websites https://www.citizensadvice.org.uk www.communitycare.co.uk/2010/09/20/what-is-the-role-of-social-workers
Other assessment materials attached to this Assignment Brief	N/A

Scenario	<p>The Assignment Brief has a context rather than a scenario, to support learners in selecting an individual of interest to them.</p> <p>Guidance will need to be given with regard to the choice of celebrity for example with regard to the amount of available information about the chosen individual.</p> <p>Alternatively, learners could elect to produce their evidence on an individual known to themselves, for example a family friend or relative. In this case, all names and essential details will need to be changed, in order to preserve confidentiality.</p> <p>Written consent should also be obtained to enable learners to use the information in their reports.</p>
Task 1	<p>It will be advisable to discuss learner choices before work is begun for this task. Preliminary research using appropriate internet websites, to ensure sufficient available information is recommended, in order that learners obtain sufficient information.</p> <p>Learners will need guidance with regard to selecting facts, rather than cutting and pasting information from the autobiographies of selected celebrities.</p> <p>To achieve the higher grading criteria at level 2, learners will need to demonstrate their understanding of how the impact of different factors can change at different life stages.</p>

BTEC Assignment Brief

Qualification	Pearson BTEC Level 1/ Level 2 Tech Award in Health and Social Care
Unit number and title	Component 1-Human Lifespan Development
Learning aim(s) (For NQF only)	B: Investigate how individuals deal with life events
Assignment title	Coping with life
Assessor	
Issue date	
Hand in deadline	
Vocational Scenario or Context	<p>As part of your studies, you are asked to produce some materials about the way in which different life events, such as getting married or losing a loved one, can affect individuals.</p> <p>You will also be considering the way in which support can help people to cope with the different life events.</p> <p>In order to get your information, you will need to interview the two individuals you have chosen.</p> <p>You should discuss your questions with your teacher, before you start.</p>
Task 1	<p>For this task, you must choose two people who are willing to be interviewed about their life and events that have affected them. Your individuals could include:</p> <ul style="list-style-type: none"> • Yourself • Friends • Relatives • Individuals taken from case studies provided by your teacher <p>Your work will focus on how your two people were affected by the same life event.</p> <p>Please remember that if you use real people, you must maintain confidentiality by changing names and places. You will also need to obtain written permission from them to use their information in your work.</p> <p>Your work, based on your interviews, should be presented as an information pack and divided into three sections.</p> <ol style="list-style-type: none"> 1. The actual life event and the impact of this on each of the individuals 2. How each individual adapted to the life event 3. The role that support played in helping them to adapt and the value of the support to the individuals <p><u>Section 1</u></p> <p>The first section of your information pack should begin by introducing the individuals and the life event you have selected.</p> <p>You should then explain the impact of the life event on each individual, giving examples of the different ways in which each person was affected by the same event.</p> <p><u>Section 2</u></p> <p>The second section of your information pack should explain how your two, chosen individuals adapted to the life event using support from agencies, families other organisations, giving examples of the sources of support used by each individual</p> <p><u>Section 3</u></p> <p>The third section of your information pack should assess how well each individual adapted to the selected life event, the role support played in helping each one to adapt and how valuable this was. You should also compare the ways in which each individual adapted to the changes brought about by the life event</p>

Checklist of evidence required	Information pack
Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
B.1P3	Identify relevant information about a life event experienced by two individuals
B.1P4	Identify sources of support that were available to two individuals experiencing a life event
B.1M3	Outline the impact of a life event on the development of two individuals
B.1M4	Outline what support was given to two individuals experiencing a life event
B2.P3	Explain the impact of a life event on the development of two individuals
B2.P4	Explain how two individuals adapted to a life event, using support
B2.M2	Compare the ways that two individuals adapted to a life event and the role that support played.
B2.M3	Assess how well two individuals adapted to a life event and the role and value of support in this.
B2.D2	Assess how well two individuals adapted to a life event and the role and value of support in this
Sources of information to support you with this Assignment	<p>Books Boyd D., Bee H., <i>Lifespan Development</i>, (2015), Pearson Education Limited, ISBN: 9781292065625</p> <p>Journals Community Care Magazine The Nursing times</p> <p>Websites https://www.careforthefamily.org.uk/Family-life/bereavement https://www.mind.org.uk/information-support</p>
Other assessment materials attached to this Assignment Brief	N/A
Scenario	The evidence is based around either real individuals known to the learner or case studies provided by yourself as the teacher. Alternatively, learners could base the evidence on themselves and one other person who has experienced the same life event. Interviews will need to be conducted, prior to the learners compiling their evidence for assessment.
Task 1	The task could take the form of an information file divided into three sections. Guidance will be needed, with regard to the suitability of some information obtained by learners. Confidentiality must be maintained when using information from real individuals and it is recommended that a consent slip is provided and signed by participants.

N.B. Notes to assessors should be removed before distributing the assignment to learners

Scenario	<p>The evidence is based around either real individuals known to the learner or case studies provided by yourself as the teacher.</p> <p>Alternatively, learners could base the evidence on themselves and one other person who has experienced the same life event.</p> <p>Interviews will need to be conducted, prior to the learners compiling their evidence for assessment.</p>
Task 1	<p>The task could take the form of an information file divided into three sections.</p> <p>Guidance will be needed, with regard to the suitability of some information obtained by learners. Confidentiality must be maintained when using information from real individuals and it is recommended that a consent slip is provided and signed by participants.</p>

This option focuses thematically on the main trends in the history of health and medicine in Britain from c.500 to the present day. Candidates will be required to consider the causes, treatment and prevention of illness and disease, advances in medical knowledge, developments in patient care and advances in public health and welfare over time. Candidates will also be required to examine the major political, social, economic and cultural perspectives which have contributed to the development of health and medicine from c.500 to the present day. In this option, centres should ensure that they focus, where appropriate, on the issues of change, continuity, significance and turning points. As part of this option candidates will investigate an historic site connected with this theme. *The required content in italics shows which key features and characteristics of the period must be studied.*

Key questions	Required Content
<u>Causes of illness and disease</u> What have been the causes of illness and disease over time?	<i>Problems in the medieval era: poverty, famine, warfare: lack of hygiene in the medieval and early modern eras with reference to the Black Death of the fourteenth century and the Great Plague of the seventeenth century; the effects of industrialisation and the incidence of cholera and typhoid in the nineteenth century; the spread of bacterial and viral diseases in the twentieth century</i>
<u>Attempts to prevent illness and disease</u> How effective were attempts to prevent illness and disease over time?	<i>Early methods of prevention of disease with reference to the Black Death: alchemy, soothsayers and medieval doctors; the application of science to the prevention of disease in the late eighteenth and early nineteenth centuries: the work of Edward Jenner and vaccination; the influence and spread of inoculation since 1700; the discovery of antibodies and developments in the field of bacteriology</i>
<u>Attempts to treat and cure illness and disease</u> How have attempts to treat illness and disease changed over time?	<i>Traditional treatments and remedies common in the medieval era: herbal medicines, barber surgeons, use of leeches; Joseph Lister and the use of antiseptics in the later nineteenth century; James Simpson and the development of anaesthetics; twentieth century developments: Marie Curie and the development of radiation; the roles of Fleming, Florey and Chain regarding antibiotics; Barnard and transplant surgery; modern advances in cancer treatment and surgery; alternative treatments</i>
<u>Advances in medical knowledge</u> How much progress has been made in medical knowledge over time?	<i>Common medical ideas in the medieval era: the influence of alchemy, astrology and the theory of the four humours; the influence of the medical work of Vesalius, Pare and Harvey in the sixteenth and seventeenth centuries; nineteenth century advances in medical knowledge: improved knowledge of the germ theory: Pasteur and Koch; the development of scanning techniques in the twentieth century: X-rays, ultrasound and MRI scans; the discovery of DNA and genetic research in the later twentieth century</i>
<u>Developments in patient care</u> How has the care of patients improved over time?	<i>The role of the church and monasteries from medieval times up to the mid sixteenth century; the roles of voluntary charities in patient care after the mid sixteenth century; science and the development of endowed hospitals in the late eighteenth century; Florence Nightingale and the professionalisation of nursing in the nineteenth century; the impact of the early 20th century Liberal reforms; the Beveridge Report of 1944 and provision under the NHS after 1948</i>
<u>Developments in public health and welfare</u> How effective were attempts to improve public health and welfare over time?	<i>Public health and hygiene in medieval society; public health and hygiene in the sixteenth and seventeenth centuries; the impact of industrialisation on public health in the nineteenth century; the work of Edwin Chadwick leading to Victorian improvements in public health; efforts to improve housing and pollution in the twentieth century; local and national government attempts to improve public health and welfare in the twenty-first century: campaigns, fitness drives, healthy eating</i>

Health and Medicine 1: Causes of illness and disease		KPI 1 Medieval causes		KPI 2 Case Study: The Black Death							
1069	The Harrying of the North	<p>Poverty Most people in England worked in agriculture. Only 25% of families had enough land to grow their own food, which meant they needed a job, which were hard to find. Most people lived on the poverty line, eating pottage. Some ate animals but there were harsh fines for poaching.</p> <p>Famine In 1069, William I punished Anglo-Saxons in the north of England for rebelling against him by ploughing salt into their fields so crops would not grow. Thousands died of hunger. This was called the Harrying of the North. All of Europe went through a hard famine from 1315-17 in which 15% of the population died.</p>		<p>What was it? In 1348 a ship arrived in Melcombe in Dorset. The ship brought with it a deadly disease - known as the Black Death - that killed over 50% of the population of Britain, sometimes wiping out entire villages.</p> <p>What did people think caused the Black Death? People at the time had no idea about the causes of the Black Death. Some argued that it was caused by:</p> <ol style="list-style-type: none"> 1. Bad smells, caused by rotting food 2. God's anger at people not going to church 3. Jews poisoning the wells 4. The movement of the planets 							
1315	Famine across Europe										
1348	The Black Death arrives in Britain	<p>War In the later Middle Ages, armies were very large and fighting was bloody. In the Battle of Townton in 1461, for example, 28,000 died. Armies also relied on the local population for food. If an army passed through a village, villagers were left hungry by soldiers stealing food and animals</p>		<p>What actually caused the Black Death? The Black Death was a disease called the bubonic plague. The cause of the disease was the 'Yersina pestis bacterium' which was carried by fleas. The fleas lived in the fur of black rats and could easily jump onto humans.</p>							
1389	Johanna Appulton dies in a well										
1461	Battle of Townton kills 20,000	<p>Accidents Everyday life was dangerous. In 1389 Johanna Appulton was killed after falling into a well. Two servants came to rescue her but they also fell in.</p> <p>Towns Medieval towns were badly planned because the causes of disease were not well understood. For example, wells for drinking water were often placed next to cesspools for storing human waste.</p>		<p>KPI 3 The Plague and Renaissance ideas about causes of disease</p> <table border="1"> <thead> <tr> <th>What was it?</th> <th>What did people think caused it?</th> <th>What actually caused it?</th> </tr> </thead> <tbody> <tr> <td>The plague was a deadly disease that came frequently to major towns and cities. In 1665, for example, 100,000 people died of the plague in London, nearly a quarter of the city's population.</td> <td>Renaissance doctors were equally as clueless as people in the Medieval period. Suggested causes included: <ol style="list-style-type: none"> 1. A punishment from God 2. Bad air or 'miasma' 3. Cats and dogs spread the disease </td> <td>The cause of the disease was the 'Yersina pestis bacterium' which was carried by fleas. The fleas lived in the fur of black rats and could easily jump onto humans.</td> </tr> </tbody> </table>		What was it?	What did people think caused it?	What actually caused it?	The plague was a deadly disease that came frequently to major towns and cities. In 1665, for example, 100,000 people died of the plague in London, nearly a quarter of the city's population.	Renaissance doctors were equally as clueless as people in the Medieval period. Suggested causes included: <ol style="list-style-type: none"> 1. A punishment from God 2. Bad air or 'miasma' 3. Cats and dogs spread the disease 	The cause of the disease was the 'Yersina pestis bacterium' which was carried by fleas. The fleas lived in the fur of black rats and could easily jump onto humans.
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1665	The Plague hits London										
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1854	Cholera epidemic kills 60,000										
1861	Prince Albert dies of cholera										
1918	Spanish flu kills 40 million world wide	<p>KPI 4 Industrial causes</p> <p>Industrialisation</p> <p>During the 19th Century, more and more people began to work in factories, exposing themselves to new diseases. Girls making matches developed 'phossy jaw' caused by the phosphorous used to make match heads. Coal miners developed pneumoconiosis, a lung disease caused by breathing in coal dust. Machines in the new factories were unsafe and often crushed limbs.</p>		<p>KPI 5 20th Century causes</p> <p>Urbanisation</p> <p>People moved to towns to find work in factories. Conditions in the slum housing of industrial towns were terrible: whole families lived in one room, toilets were shared by many families, and smog filled the air. In 1842, the life expectancy of a worker in London was just 16. These conditions led to diseases such as rickets, a bone disease caused by a lack of fresh air and sunlight.</p>							
1980	AIDS pandemic begins										
Agriculture	Farming	<p>KPI 4 Industrial causes</p> <p>Industrialisation</p> <p>During the 19th Century, more and more people began to work in factories, exposing themselves to new diseases. Girls making matches developed 'phossy jaw' caused by the phosphorous used to make match heads. Coal miners developed pneumoconiosis, a lung disease caused by breathing in coal dust. Machines in the new factories were unsafe and often crushed limbs.</p>		<p>KPI 5 20th Century causes</p> <p>Urbanisation</p> <p>People moved to towns to find work in factories. Conditions in the slum housing of industrial towns were terrible: whole families lived in one room, toilets were shared by many families, and smog filled the air. In 1842, the life expectancy of a worker in London was just 16. These conditions led to diseases such as rickets, a bone disease caused by a lack of fresh air and sunlight.</p>							
AIDS	Virus that destroys immune system										
Bacterial	Spread by bacteria	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
Black Death	Plague that hit Britain in 1348										
Bubonic Plague	Disease spread by fleas on rats	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
Battle of Townton	1461 battle that killed 20,000										
Cholera	Bacterial disease spread in water	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
Contaminated	Infected										
Epidemic	Widespread disease	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
Famine	Shortage of food										
Harrying of the North	When William I punished the North of England for rebelling	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
Miasma	Medieval name for 'bad smells'										
Pandemic	Disease spread across the world	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
Phossy Jaw	Disease caught in match factories										
Phosphorous	Chemical causing phossy jaw	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
The Plague	1665 outbreak of bubonic plague										
Pneumoconiosis	Lung disease common in coal miners	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
Poaching	Killing animals illegally										
Pottage	Stew	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
Rickets	Disease caused by a lack of sunlight										
Sanitation	Cleanliness / hygiene	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
Slum Housing	Poor quality and overcrowded housing										
Typhoid	Bacterial disease in food/water	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
Transmit	Spread										
Virus	Infectious disease	<p>KPI 4 Industrial causes</p> <p>Cholera and Typhoid</p> <p>New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.</p>		<p>KPI 5 20th Century causes</p> <p>Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.</p> <p>AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:</p> <ol style="list-style-type: none"> 1. Having unprotected sex with someone who has AIDS 2. Sharing needles whilst injecting drugs with someone who has AIDS 3. Being born to a mother with AIDS <p>Just like the Black Death, many people did not know how AIDS was spread, they worried that:</p> <ol style="list-style-type: none"> 1. AIDS was God's punishment for modern attitudes to sex and drugs 2. AIDS could be caught from simply touching someone with the virus 							
William I	King of England 1066-1087										

Health and Medicine 2: Preventing illness and disease		KPI 6 Preventing the Black Death			KPI 7 Other Medieval methods of prevention	
410 1348	Romans leave Britain Black Death arrives in Britain	Lost knowledge The Arabs understood the importance of hygiene and the Romans built aqueducts to bring fresh water to their towns. However, this knowledge was lost when the Romans left Britain in 410. Attempts to prevent the Black Death included:			Alchemy Alchemy was the attempt to turn other metals into gold through scientific experiments. Although no one managed to do this, lots of useful scientific discoveries were made in this way. Many alchemists claimed to be searching for the Elixir of Life: a medicine to keep you young forever. The medicine - known as quintessence - was made from vinegar and usually just made the patient violently sick.	
1753 1795 1694 1796	James Lind discovers the cause of scurvy Charles Gordon discovers cause of 'child bed fever' Queen Mary dies of smallpox Edward Jenner develops smallpox vaccine	The role of the Church The church argued that the Black Death was caused by people not praying enough. To stop the disease, the church ordered people to march through towns praying for forgiveness. The most extreme group was the flagellants who whipped themselves to show God that they were sorry for their sins.	Hygiene Some came close to effective preventions, without knowing why. King Edward III thought that the Black Death came from bad smells so ordered the streets of London to be cleaned. Red crosses were painted on the doors of victims, warning others to stay away.	Other preventions Some less effective preventative methods included: 1. Having a bath in urine three times a day 2. Cutting yourself and letting the cut bleed to let out evil spirits 3. Carrying a bunch of sweet smelling flowers to keep bad smells away	Soothsayers Soothsayers claimed to have powers of prophesy. They collected herbs and plants to be used as charms. People could pay for a charm that would protect them against illness. The most famous soothsayer was Mother Shipton who lived in Yorkshire. Shipton used mineral water from a deep well to heal her patients.	
1840 1854 1866 1871	Government makes smallpox vaccine free for kids John Snow prevents cholera in London Anti-Vaccine League formed Fines introduced for not vaccinating children				Medieval doctors The few doctors that existed were trained in Italy and France but were ineffective because so little was known about the causes of disease. Some monks in monasteries provided medical care. Apothecaries made up herbal remedies.	
1955 1993 1994 1998 2012	Polio vaccine introduced Measles vaccine introduced Hepatitis B vaccine introduced Link between MMR and autism 'identified' First measles outbreak in Britain	KPI 8 Renaissance prevention			KPI 9 Industrial prevention	
Alchemy Antibodies Apothecaries Bacteria Bacteriology Bloodletting Child-bed fever Cowpox Elixir of Life Eradicate Fad Flagellants Germ theory Hygiene Inoculated Microscope Milkmaids MMR vaccine Monasteries Prophecy Quintessence Scurvy Smallpox Soothsayers Spa Teetotalism Vaccination Yorkshire	Turning metal into gold Cells defending against germs People who sell natural cures Tiny cells spreading diseases The study of bacteria and disease Bleeding to stop disease Deadly infection caught in childbirth Mild disease caught from cows Medicine to make you live forever Completely get rid of A craze Group who whipped themselves Idea that disease is spread by germs Keeping clean Given a mild disease to protect against a more serious disease Machine for studying germs Women who milk cows measles, mumps, and rubella vaccine Where monks live Predicting the future So-called elixir of life A disease caused by a lack of Vitamin C A deadly infectious disease Wise women who predicted the future Water spring Not drinking alcohol Inoculating against disease County in the North of England	Fads The Renaissance saw the development of health fads, often inspired by knowledge of Greek and Roman medicine. For example: 1. Vegetarianism 2. Teetotalism 3. Bloodletting	Cold Water During the eighteenth century, wealthy people believed that 'taking the cure' (bathing in cold water) would keep them healthy. Spa and seaside towns like Bath and Brighton became popular. The rich built 'plunge pools' of cold water in their gardens.	The Scientific Method The scientific method meant using experiments to work things out. The Renaissance was the first time that science became important in medicine. For example, in 1795 Alexander Gordon worked out that 'child-bed fever' was spread by midwives and doctors. Gordon advised that doctors wash their clothes regularly and wash their hands in before treating patients, although he was mocked at the time. In 1753, James Lind discovered that a lack of fruit caused scurvy and recommended that British sailors drink lime juice.	The industrial age saw many inventions that helped stop the spread of disease, including the microscope and stethoscope. In general, science became a much bigger influence on medical practice. For example: John Snow and Cholera In 1854, John Snow, a doctor in London, demonstrated the link between poor quality water and cholera. He recorded the location of each cholera death on a street plan. There were over 500 deaths focussed on his street - Broad Street - in just two weeks. Snow removed the handle from the water pump on Broad Street and the disease declined. The water company had been using polluted water from the River Thames in the pump. Germ Theory During the 19 th Century, Louis Pasteur, a French doctor, discovered germ theory: the idea that tiny bacteria spread diseases. A German, Robert Koch, developed the science of bacteriology and worked out that antibodies - the body's natural defence against germs - could destroy bacteria.	
		KPI 10 Case study: Vaccination				
		Edward Jenner and Smallpox Smallpox was a deadly disease, killing 35,000 in 1796 and even killing Queen Mary in 1694. In 1796, Edward Jenner, a country doctor from Gloucestershire, noticed that milkmaids who had caught cowpox never caught smallpox. Jenner worked out that having cowpox inoculated patients against smallpox. He proved this by injecting his own 11-month-old son with cowpox and then smallpox: the boy survived. Jenner had discovered vaccination.	Impact of vaccination In 1840, after a deadly smallpox epidemic, the government made vaccination free to all children and in 1871 introduced fines for parents who didn't vaccinate their children. Many opposed vaccination, claiming that it was wrong to inject children with a disease or interfere with God's plan, and formed the Anti-Vaccine League in 1866. However, vaccination was very successful: completely eradicating smallpox by the 1920s. In the 20 th Century, more vaccines were introduced for diseases such as: polio (1955), measles (1993), and Hepatitis B (1994). As a result, child mortality has fallen from 150 per thousand in 1800 to 4 per thousand today.		MMR debate In 1998 Dr. Wakefield published research showing that the MMR vaccine could lead to autism. This caused a widespread rejection of the MMR vaccine, a real danger because 95% of children need to be vaccinated for a disease to be eradicated. Wakefield's research has been rejected but vaccination rates are only 93% and Britain had its first measles outbreak in 2012.	

Health and Medicine 3: Treating and curing illness and disease		KPI 11 Medieval treatments																											
1628	William Harvey publishes study of circulation	Herbal Medicines Herbs were widely used to cure diseases. Herbal remedies included a mixture of honey and plants and were written down with strict instructions about which herbs to pick and when. Some recipes would only work if the herbs were picked on the night of the full moon.		Bleeding Many people thought that illnesses were caused by the body creating too much blood so curing disease often involved letting a patient bleed. This was either done by cupping (sucking blood out of the body) or with leeches were thought to only suck impure blood out of the body.	Barber Surgeons There were few trained surgeons in the Medieval period so people went to barber surgeons . As well as cut your hair, barber surgeons mended broken limbs, pulled teeth, and carried out surgery. Barber surgeons had no medical knowledge and very little training.	Urine Urine was vital for diagnosing illness and working out what remedy to give a patient. A physician would check the colour, smell, and taste against a chart to help decide how to treat a patient.																							
1847	James Simpson first uses chloroform on a patient	<table border="1"> <thead> <tr> <th colspan="3">KPI 12 Renaissance treatments</th> <th colspan="2">KPI 13 Industrial treatments</th> </tr> </thead> <tbody> <tr> <td>Continuity Many treatments from the Medieval period continued to be used in the Renaissance. For example, the use of herbal medicines continued with the Nicholas Culpeper's doctrine of signatures: the idea that plants could be used to treat body parts that they looked like!)</td> <td>New ingredients The discovery of America and exploration around the world provided new ingredients for medicine. Rhubarb, for example, was greeted as a miracle cure when it was first imported from Asia. Smoking tobacco every day was also supposed to stop you getting the plague.</td> <td>The Scientific Method The most significant change in the Renaissance was the use of science - doing experiments and recording results - to better cure diseases. 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Health and Medicine 4: Advances in Medical Knowledge		KPI 15 Medieval knowledge					
460 BC	Hippocrates born in Greece	<p>Hippocrates and Galen</p> <p>Medical knowledge in the Middle Ages was based on the work of Hippocrates and Galen. Both had written their ideas over a thousand years before and their knowledge had been lost in Europe. However, Islamic doctors such as Ibn Sina had translated their work into Arabic. Medicine in the Islamic World was much more advanced than in Europe during the Middle Ages.</p>		<p>The Four Humours</p> <p>Both Hippocrates and Galen believed the body contained four humours: blood, phlegm, yellow bile, and black bile. A healthy body had a balance of humours. Illness was caused when the humours were out of balance. Different foods and seasons could affect the humours.</p>	<p>Astrology</p> <p>Medieval doctors also believed that the movements of the stars influenced the human body. Each part of the body was associated with an astrological sign. In many European countries, surgeons were required to check the position of the moon before carrying out surgery.</p>	<p>The Role of the Church</p> <p>The Church was at the centre of Medieval life and taught that prayer and pilgrimage were the most effective way of treating disease. The Church set up medical schools to teach Galen's ideas. The church held back advances in medical knowledge because they defended Galen. For example, Roger Bacon - a medical lecturer at Oxford University - was arrested in 1277 for challenging Galen's views.</p>	
130 AD	Galen born in Roman Empire						
900 1277	Galen's work translated from Arabic Roger Bacon arrested for challenging Galen	<p>Hippocrates was a doctor from Ancient Greece. He believed in the theory of the four humours. Hippocrates is known as 'the father of modern medicine'.</p>		<p>Galen was a Roman doctor. He dissected animals to understand how the body worked and took the ideas of Hippocrates further. His work arrived in Europe in 900 via Arabic translations, which were then translated into Greek at the University of Salerno. The Church approved of Galen's ideas because he mentioned 'the Creator'.</p>			
1525 1543 1575 1628	Galen's complete works published in Greek Vesalius publishes <i>De humani corporis</i> Paré publishes <i>Les Oeuvres</i> Harvey publishes <i>On the Motion of the Heart</i>						
1880 1882 1895 1910	Pasteur discovers rabies vaccine Koch discovers tuberculosis vaccine X-rays invented Ehrlich develops Salvarsan 606						
1953 1970s 1980s 2003	Crick and Watson discover DNA Ultrasound used to check unborn babies MRI machines commonly used Human genome mapped	KPI 16 Renaissance Knowledge		Background	Challenge to Galen	Key work	Influence
Anatomy Amputation Arabic Astrology Astrological sign Bacteriology Cauterizing Circulation Classical Dissect DNA Four Humours Galen Genetic Disease Hippocrates Human Genome Ibn Sina Ligatures Micro-organisms MRI Pilgrimage Salvarsan 606 Syphilis The Creator Theory Tuberculosis Ultrasound	Science of how the body works Removing limbs Muslim language Movements of the planets Signs of the zodiac, like pisces/leo Study of bacteria and disease Using hot oil to stop a wound bleeding Movement of blood around the body From ancient Greece and Rome Cut up a dead body Carrier of human genes Blood, phlegm, yellow bile, black bile Roman doctor An illness caused by DNA Greek doctor Complete DNA of a human Islamic doctor who translated Galen String used to tie up a vein Germs Magnetic scanning technique A journey to a holy site Drug used to treat syphilis Sexually transmitted infection God Idea Deadly infectious disease of the lungs Scanning technique	<p>Challenging Galen</p> <p>The Renaissance saw the rebirth of classical knowledge and by 1525 Galen's complete works had been republished in Greek. However, as Renaissance surgeons studied anatomy and performed operations of humans, they noticed differences between Galen's ideas and what they saw. This led to a split between supporters and critics of Galen.</p>	<p>Andreas Vesalius 1514-64</p>	<p>Professor of Surgery at Padua in Italy. He carried out his own dissections on humans and believed this was the best way to understand how the body worked.</p>	<p>Vesalius's dissections of the human body showed that Galen's ideas about anatomy, based on animal dissections, were inaccurate.</p>	<p><i>De humani corporis fabrica libri septem</i> (1543)</p>	<p>Vesalius's work gave surgeons more accurate knowledge of anatomy and encouraged others to challenge Galen.</p>
		<p>Ambroise Paré 1510-90</p>	<p>A surgeon in the French Army for 30 years. He developed new techniques including using ligatures to tie off wounds after amputation and the use of artificial limbs.</p>	<p>Relied on experiments, not just Galen. he ran out of hot oil for cauterising wounds, so he used a mixture of egg yolks and rose oil which was more effective.</p>	<p><i>Les Oeuvres</i> (1575)</p>	<p>The father of modern surgery. Encouraged surgeons to use techniques that reduced the amount of pain.</p>	
		<p>William Harvey (1578-1657)</p>	<p>Physician to King James I. Harvey discovered circulation: the idea that blood is pumped around the body by the heart. Previously, Galen had thought that blood was made in the liver and went one way.</p>	<p>Harvey's experiments showed that Galen was wrong about how blood travelled. He also showed that the heart was the centre of the body, not the liver as Galen thought.</p>	<p><i>On the Motion of the Heart</i> (1628)</p>	<p>Harvey's work revolutionised medicine. Galen's supporters, however, totally rejected his work and he lost many patients.</p>	
		KPI 17 Industrial knowledge		KPI 18 20 th Century knowledge			
		<p>Germ Theory, the idea that micro-organisms spread disease, replaced the four humours as the way disease was understood. These scientists were important in the development of germ theory:</p> <p>Louis Pasteur: identified the link between micro-organisms and disease and developed a vaccine against rabies in 1880</p> <p>Robert Koch: worked on bacteriology, linking germs to diseases, and identified the bacteria responsible for cholera, tuberculosis, and typhoid.</p> <p>Paul Ehrlich: a student of Koch who developed drugs to treat specific diseases, for example in 1910 Ehrlich developed Salvarsan 606 which killed the bacteria causing syphilis</p>		<p>Scanning Technologies</p> <p>In the late 20th Century, medical scans have improved care:</p> <p>X-Rays: first developed in 1895 to show broken bones, used in WW1 to better treat wounds, although initial doses of radiation were high</p> <p>Ultrasound: can detect organs/muscles, used to check health of unborn babies since 1970s</p> <p>MRI: uses magnets to give a very clear image, can be used to examine any disease, since 1980s</p>		<p>The use of DNA</p> <p>The scientists Crick and Watson discovered DNA, which carries genetic information, in 1953. In 2003 scientists mapped the human genome. By modifying DNA, scientists have been able to eliminate some genetic diseases and ensure babies are born without genetic disease.</p>	

Health and Medicine 5: Patient Care		KPI 19 Medieval patient care			
1536	The Dissolution of the Monasteries	Monasteries Medieval hospitals were run by the church and were more concerned with religion than healthcare. Most hospitals were part of monasteries , such as Tintern Abbey. Over 1100 hospitals were built in this period.	Christian hospitals Only 10% of medieval hospitals actually cared for the sick. In fact, seriously ill people were often not allowed in because they distracted from worship. Patients were expected to spend their day praying for forgiveness so God would cure them. They were looked after by monks and nuns. There were few doctors.	Different types of Christian hospitals Lepor Hospitals provided a home for people with leprosy. People feared contact with lepers so Lepor Hospitals were built on the outskirts of towns. Almshouses were medieval care homes and provided the elderly with sheltered accommodation. Almshouses also cared for orphaned children and poor travellers.	
1546	Endowment of St Bartholomew's Hospital				
1662	Royal Society set up				
1724	Thomas Guy donates money to set up Guy's Hospital				
1854	Florence Nightingale serves in the Crimean War	Dissolution of the Monasteries In 1536, Henry VIII dissolved the monasteries. This had a dramatic impact because the church no longer supported hospitals. Charities had to step in to keep hospitals open.	Royal Hospitals In London, the government granted endowments to hospitals to keep them open. Five London hospitals were given endowments, including St. Bartholomew's Hospital which was endowed in 1546 to help serve the poor and sick of Smithfield in London.	Endowed Hospitals During the 18 th Century, the role of hospitals changed to places where illnesses could be treated. The number of hospitals also grew, with 11 new hospitals set up in London and 46 in the rest of the country. There were several reasons for this: 1. Renaissance doctors applied the scientific method to treatments. Scientific societies were set up, such as the Royal Society in 1662, which spread scientific knowledge about medicine. 2. Urbanisation meant larger towns, each needing a hospital 3. Industrialisation allowed industrialists to become very wealthy. Some industrialists became philanthropists and used their wealth to set up hospitals. For example, Thomas Guy donated money to found Guy's Hospital in London in 1724.	
1856	Nightingale School of Nursing set up				
1859	Notes on Nursing Published				
1911	National Insurance Act (sick pay)				
1942	Beveridge Report	KPI 20 Renaissance patient care			
1946	National Insurance Act (pregnant women/unemployed)	KPI 21 Industrial patient care			
1948	Founding of the NHS	KPI 22 20th Century patient care			
Almshouses	Care homes for the elderly	New Hospitals The 19 th Century saw a great expansion in the number of hospitals, caused by population increase. Hospitals also began to specialise in areas such as maternity care or cancer treatment.		During the 19 th Century, governments followed a policy of <i>laissez-faire</i> and did not believe it was the government's role to interfere in people's lives. In the 20 th Century the government's role increased:	
Conservative	UK political party representing the rich	Florence Nightingale Before 1850, nursing was not seen as a respectable job. Nurses were untrained and often drunk. Nursing improved dramatically after the Crimean War. In 1854, a British nurse - Florence Nightingale - took 38 nurses to a military hospital in Scutari. She reduced the death rate from 42 of 100 to just 2 of 100 in six months by: 1. Washing patients regularly 2. Spacing beds out 3. Opening windows to circulate air	Professionalisation Nightingale returned to Britain and set new standards for nurses. In 1856 she raised £50,000 to set up the Nightingale School of Nursing. In 1859 she wrote <i>Notes on Nursing</i> which said: - Nurses must live at the hospital - Nurses had to keep a work diary which was inspected each month By 1901 there were 68,000 trained nurses in Britain. Nightingale wrote <i>Notes on Hospitals</i> in 1863 which proposed the 'pavilion design' with separate wards linked by a long corridor to allow air flow	Liberal Reforms 1906-14 David Lloyd-George, the Liberal Chancellor, introduced the National Insurance Act in 1911. This provided sick pay and free treatment. Workers received 10 shillings per week for 26 weeks although this did not cover their wives/children or the unemployed.	
Crimean War	War between UK and Russia, 1854-6			Beveridge Report 1942 William Beveridge identified 'Five Giants' that needed to be tackled by government: Want, Disease, Ignorance, Squalor, and Idleness . After 1945, the Labour government led acted on Beveridge's recommendations, for example: - 1946 National Insurance Act provided benefits for pregnant women/the unemployed - 1949 Access to Countryside Act gives public access to national parks	
Dissolved	Shut down			The founding of the NHS 1948 The Labour Minister for Health, Aneurin Bevan, set up the NHS in 1948. This meant: - Free medical treatment to all British citizens 'from the cradle to the grave' - All hospitals brought under government control, paid for by taxes - National system of GPs set up to provide free treatment in local areas Doctors, led by the BMA, opposed the plans because they worried they would lose income. The Conservative Party opposed the NHS because it went against <i>laissez-faire</i> . However, by 1949, 187 million free prescriptions had been written.	
Endowed	Given land and money			Changes to the NHS 1948-today Several changes have been made to the NHS since 1948: 1. In 1952 charges for spectacles and dental treatment were introduced 2. A new building programme was introduced in the 1960s to replace out of date hospitals 3. The Conservative government led by Margaret Thatcher (1979-90) tried to cut the cost of the NHS but met public opposition	
Endowments	Land and money				
Idleness	Unemployment				
Ignorance	Lack of education				
Industrialists	Factory owners and businessmen				
Insurance	Benefits				
Laissez-faire	Belief that government shouldn't interfere				
Labour	UK political party representing the workers				
Lepers	People with Leprosy				
Leprosy	Contagious disease that deforms limbs				
Liberal	UK political party representing the rich who want to help the poor				
Maternity	Related to childbirth				
Monasteries	Large religious buildings where monks live				
NHS	National Health Service, free for all				
Philanthropists	Rich people who give money to help poor				
Prescriptions	Medicines				
Scutari	Town in Turkey				
Squalor	Poor, dirty housing				
Want	Hunger				

Health and Medicine 6: Public Health		KPI 23 Medieval Public Health		KPI 24 Case Study: Medieval Coventry	
1489	Henry VII bans slaughterhouses in towns	<p>Waste There was no waste collection so rubbish just built up in the streets. There were no sewers, so human waste was either thrown into the street or into a cesspit, often located near wells, which led to contamination. Water for drinking and washing was often taken from the same stream that people used to dispose of waste.</p> <p>Animals Medieval towns were full of animals: horses for transport, cows for milk, etc. Animals created dung and attracted fleas, which spread disease. Butchers slaughtered animals in towns and left the waste to rot.</p> <p>Town layout There was no regulation about where you could build so houses were crowded together and sanitation was limited. There was no 'zoning' of towns, so industry and houses were mixed, leading to water pollution by processes like tanning. Homes were covered with straw, providing a perfect breeding ground for rats.</p>		<p>Not all towns were unhealthy, however. In Coventry, the council put measures in place to improve public health:</p> <ol style="list-style-type: none"> 1. Every man had to clean the street in front of his house every Sunday or pay a 12 penny fine 2. Specified waste-disposal locations around the edge of the city 3. All latrines over local streams were ordered to be removed 	
1532	Henry VIII allows the building of sewers				
1666	Great Fire of London				
1844	Chadwick sets up the Health of Towns Association	<p>Government Action</p> <p>Towns during the Renaissance period were just as unhealthy as before, with regular outbreaks of the plague killing thousands. However, during the 16th and 17th centuries, the government took action to make towns more hygienic. For example:</p> <ul style="list-style-type: none"> - In 1489, Henry VII banned slaughterhouses from towns to stop the spread of disease - In 1532, Henry VIII gave town councils permission to introduce taxes to pay for sewers 		<p>The Great Fire of London</p> <p>In 1666, the Great Fire of London destroyed most of the buildings in London. After the fire, the city authorities ordered that homes should be rebuilt on wider streets to limit the spread of fire and disease. There were no major plague outbreaks in London after 1666.</p>	
1848	Public Health Act gives councils permission to act				
1875	Public Health Act forces councils to act				
1875	Housing Act allows for demolition of slums	<p>KPI 25 Public Health in the Renaissance</p>			
1889	Charles Booth publishes poverty maps of London	<p>KPI 26 Industrial Public Health</p> <p>Laissez-Faire Although urbanisation led to people living in cramped housing during the Industrial period, the government believed in laissez-faire and did not do anything about poor conditions. As a result of overcrowding, poor water and gas supply, in 1842 the average Manchester labourer could expect to live to the age of just 17.</p> <p>Edwin Chadwick was a member of the Clean Party, a group of politicians who believed people were poor because of ill-health and urged the government to improve living conditions. Chadwick set up the Health of Towns Association in 1844. He was opposed by the Dirty Party, who thought clean up was too expensive for ratepayers.</p> <p>Government Action Chadwick and the cholera epidemic forced the government to abandon laissez-faire and pass legislation to improve public health:</p>		<p>KPI 27 20th Century Public Health</p> <p>Social Surveys When the Boer War broke out in 1899, the army rejected one in three recruits because they were unfit. This led to surveys investigating poverty, eg: Charles Booth (1889) found that 35% of London's population were living in poverty Seebohm Rowntree (1901) found that half of the population of York lived in poverty</p> <p>Impact of World War I After WW1, the Prime Minister David Lloyd-George promised 'Homes for Heroes' and built 250,000 modern homes. Although the Great Depression limited progress, by 1939 councils had built over 1 million new homes with electricity, running water, and indoor toilets.</p> <p>New Towns During the 1960s, slum clearance programmes destroyed cramped and unsanitary housing in city centres. New towns such as Yate outside Bristol were developed to allow people to live in greener and less polluted environments, with gardens, public parks, and pedestrian walkways separated from roads. The population of Yate quadrupled between 1965 and 2000.</p>	
1899	Boer War begins				
1901	Seebohm Rowntree publishes York poverty survey				
Boer War	British war in South Africa, 1899-1903	<p>KPI 28 21st Century Public Health</p> <p>Campaigns In the 21st Century, governments have taken action to improve public health by encouraging people to live healthier lifestyles, for example by stopping smoking.</p> <p>Fitness Drives The NHS has attempted to reduce costs by encouraging people to live healthier lives. For example, 'Walking for Health' encourages people to walk 10,000 steps per day and provides support to help them meet this target.</p> <p>Healthy Eating Governments have also targeted diet. The 'Five-a-Day' campaign attempted to get people to eat five fruit or veg a day to reduce the risk of heart disease or cancer.</p>			
Cesspit	Pit for collected sewage				
Clean Party	Group of politicians urging government to improve conditions in towns				
Contamination	Infection				
Demolish	Knock down				
Dirty Party	Group of politicians opposing government action to improve public health				
Great Depression	1930s economic crisis				
Fitness Drives	Government attempts to make people do exercise				
Health inspector	Local government official in charge of health				
Laissez-Faire	Political ideology opposing government interference in economy or society				
Latrines	Toilets				
Legislation	Laws				
Public health	The way the government keeps the whole population healthy				
Quadrupled	Increased x 4				
Ratepayers	People who pay council tax				
Sanitation	Hygiene / cleanliness				
Slaughterhouses	Buildings where animals are killed for meat				
Slum Clearance	Government programme to demolish slums				
Unsanitary	Unclean				
Zoning	Putting factories etc in different areas to homes				

Module 4 Knowledge Organiser

KP1: Understand the tools and techniques that can be used to initiate and plan solutions:

1.1

The phases of the project life cycle and the tasks carried out in each phase i.e.

- a. initiation
- b. planning
- c. execution
- d. evaluation

2. the advantages of following a project life cycle

KP1.2 The interaction and iteration between the phases of the project life cycle

KP1.3 The inputs and outputs of each phase of the project life cycle.

Resources / Information

<http://www.ocr.org.uk/qualifications/vocational-education-and-skills/cambridge-nationals-information-technologies-level-1-2-j808/>

KP2(2.2)

Undertake iterative testing for i.e.

1. functionality, how the various aspects of the solution work
2. usability, how easily the user can use the aspects of the solution
3. accessibility, how the solution caters for 'users with a variety of different needs and abilities'
4. creating and using a test plan i.e.
 - a. test number
 - b. test type (e.g. what are you testing)
 - c. expected result
 - d. actual result/evidence
 - e. resolution
 - f. retest number/evidence
 - g. using i.e.
 - i. normal data
 - ii. erroneous data

KP3 (5.1)

Use most of the functions mentioned below: date, edit, delete and process data using appropriate software tools and techniques including:

1. spreadsheet software i.e.
 - a. functions i.e.
 - i. arithmetic and rounding (SUMPRODUCT, ROUNDUP, ROUNDOWN, ROUND)
 - ii. decision making and error-trapping (IF, IFERROR)
 - iii. lookup (VLOOKUP, INDEX, INDIRECT, MATCH)
 - iv. joining/splitting and presenting text (CONCATENATE/CONCAT, TEXTJOIN, LEFT, RIGHT, UPPER, PROPER)
 - v. date/time (DATE, NOW)
 - vi. counting and adding cells that meet certain criteria (COUNTIF, SUMIF, SUBTOTAL)
 - b. absolute cell referencing
 - c. linking worksheets
 - d. what if analysis
 - e. macros i.e.
 - i. close/open objects
 - ii. carry out repetitive processes
 - iii. print and close
 - f. import data from different sources i.e.
 - g. Hyperlink internal and external documents
 - h. Password protect appropriate documents

KP4 (4.5) Current legislation, its implications and applications i.e.

- ☑ Current relevant IT legislation at time of delivery i.e.
 - o Legal i.e. protection of; individuals, organisations, technological equipment, information, and intellectual property
 - o Ethical and moral i.e. avoiding defamation of character, misuse of information and equipment
- KP 4.6 Importance of validity, reliability and bias when collecting and using data and information

Year 10 Crafts- Development of Design Proposals & Making

Module 4 Knowledge Organiser

Modelling:

- Model your idea in cheap, easy to use materials (Lego, card, MDF). The model should show how the parts fit together and may only show a part you need to work out.
- Photograph it and explain what you have found out from the model. It may be you have changed how it fits together, how to make parts, sizes etc. "From my modelling I have found out...."



Part no	Number of part	Material	Form (if relevant)	Colour	Thickness (mm)	Dimensions (mm)	Quantity
1	Stand 1	Aluminium	Rod	n/a	12 (Diameter)	300	1
2	Stand 2	Aluminium	Rod	n/a	12 (Diameter)	250	1
3	Stand 3	Aluminium	Rod	n/a	12 (Diameter)	200	1
4	Base	Plywood	Sheet	n/a	16	130x130	2
5	Leaf sheets	Polystyrene	Sheet	Clear Green Yellow	n/a	130x130	3
6	Speaker	n/a	Standard component	n/a	18	85x45	2
7	Speaker frame	Acrylic	Sheet	White Green Yellow	3	80 x 80	1
8	Stand nuts	Aluminium	Rod	n/a	12 (Diameter)	40	3

Materials order and costing:

Objective: To specify materials to be ordered.

- Show a list of materials and components you will need to produce your prototype (first one you make).
- Remember to include all components (parts purchased to make the design).
- For materials which need to be cut for you to use list them using the cutting list table below (printed copies are available). You may need to add more lines to include all the materials.

Part name	Material	Sizes	Quantity needed	Notes

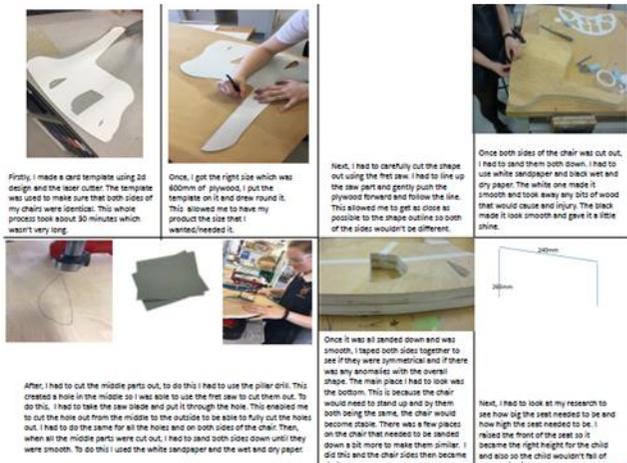
Top marks: The design has potential to be **commercially viable** and is suitable for the target market

Final Design drawings:

Objective: To show a detailed, possible, final design.

- Show your design in detail, including exploded views, sections and detailed views.
- Remember to show how the parts fit together and show materials.
- The drawing should be clear, well presented and in colour.

Top marks: The design proposal needs to have enough information for someone else to be able to manufacture the idea.



Making diary:

Objective: To show how the product was made and demonstrate our skills.

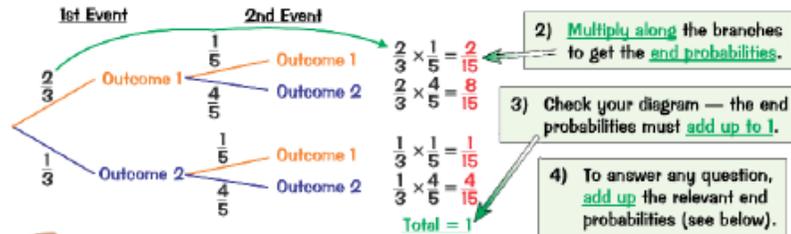
- Show the processes you are using to make your design. This page (or pages) will be a series of photographs taken as you work with notes to explain what you have done.
- As this is done whilst making you should use time at home to write up what you have done and use lessons in the workshop to complete the practical work.

HT4 Foundation Year 10 KPI 2 Probability

Tree diagrams:

Tree diagrams help us to answer what can seem like complex probability problems. They let us systematically list all the possible outcomes of a set of events and then work out the probability of each case happening. See Example 1:

1) On any set of branches which meet at a point, the probabilities must **add up to 1**.



“at least” Questions:

When a question asks you to find the probability of “at least” so many events happening you can speed up the process by doing: $1 - P(\text{less than at least so many events happen})$. See Example 2:

Conditional Probability and Tree diagrams:

Watch out for conditional probability and tree diagrams. The denominator of your fractions will change depending on the previous event!! For an example look at the dependent probability knowledge organiser.

Theoretical Probability:

Theoretical Probability is what we expect the probability of an event to be. Eg the theoretical probability of rolling a 1 on a regular 6 sided dice is $\frac{1}{6}$

Estimating Outcomes:

We can estimate the number of times we expect to get a result by multiplying the number of trials by the theoretical probability of the event happening. This is the same process as finding a fraction of an amount.

Example: I am going to roll a dice 60 times, how many times would I expect to roll a 1?

$$60 \times \frac{1}{6} = 60 \div 6 \times 1 = 10.$$

I would expect to get 10 results of a 1.

Experimental probability:

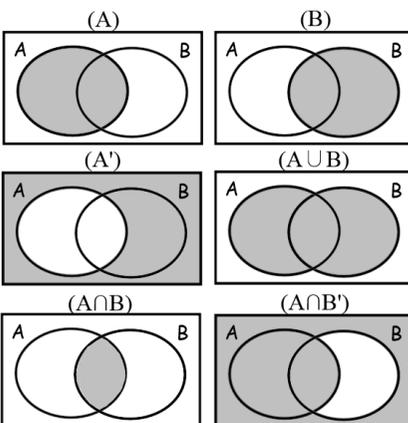
Is when you calculate the probability of an event based on data that has been collected.

Example: a dice is rolled 60 times. The results are in the table:

Result	1	2	3	4	5	6
No of Result	20	5	12	10	7	6
Experimental Probability	$\frac{20}{60}$	$\frac{5}{60}$	$\frac{12}{60}$	$\frac{10}{60}$	$\frac{7}{60}$	$\frac{6}{60}$

Experimental Probability =
number of times result
happened / total trials

Venn Diagrams and Set Notation



Vocabulary: Probability, event, outcome, result, likelihood, chance, impossible, certain, fraction, decimal, percentage, theoretical, expected, experimental, trials, independent, mutually exclusive, sets, Venn Diagrams, subsets, compliment, union, and, or

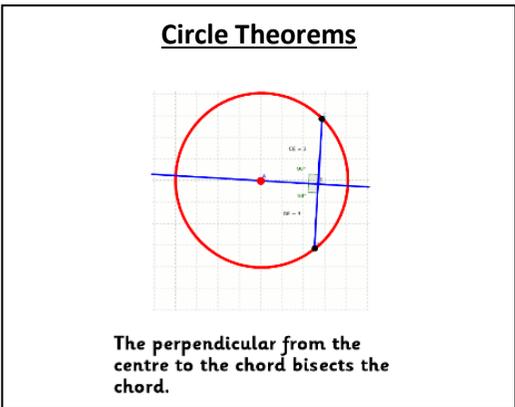
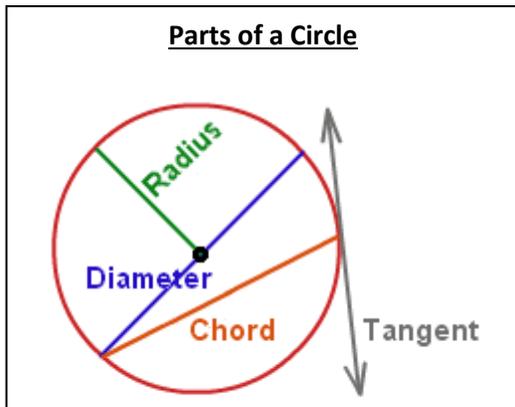
$$P(\text{event not happening}) = 1 - P(\text{event happening}).$$

$$P(\text{event}) = \frac{\text{Number of ways the event can occur}}{\text{Total number of outcomes}}$$

Independent vs Dependent Events:

The probability of 2 events is dependent if the probability of one event changes depending on the outcome of the other. If neither event affects the probability of the other then they are independent.

Circle Theorems Knowledge Organiser



Circle Theorems

- The angle in a semi-circle is 90°** : A diagram of a circle with a diameter and a right-angled triangle inscribed in it. Text: "Look out for a diameter."
- Angles at the circumference are equal**: A diagram showing two angles subtended by the same arc. Text: "They must come from the same arc."
- The angle at the centre is twice the angle at the circumference**: A diagram showing a central angle $2x$ and an inscribed angle x subtending the same arc. Text: "They must come from the same arc."
- Cyclic Quadrilateral**: A diagram of a quadrilateral inscribed in a circle. Text: "Opposite angles add up to 180° ".
- The angle between a tangent and a radius is 90°** : A diagram showing a radius and a tangent line meeting at a right angle. Text: "Look out for radii."
- Alternate Segment Theorem**: A diagram showing a tangent and a chord, with angles marked as equal. Text: "From any point you can only draw two tangents... and they'll be equal."

Vocabulary

Centre, arc, circumference, diameter, tangent, radius, isosceles, perpendicular bisector, chord, segment, opposite, cyclic quadrilateral, alternate.

Congruence and Similar Shapes Knowledge Organiser

Congruent Shapes

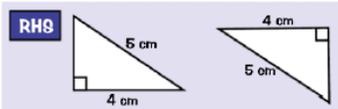
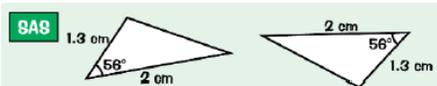
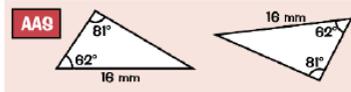
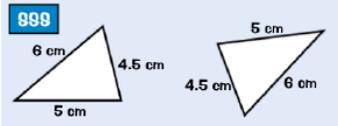
Proving Triangles are Congruent

CONGRUENT
— same size,
same shape



To prove that **two triangles** are **congruent**, you have to show that **one** of the conditions below holds true:

- 1) **SSS** **three sides** are the same
- 2) **AAS** **two angles** and a **corresponding side** match up
- 3) **SAS** **two sides** and the **angle between them** match up
- 4) **RHS** a **right angle**, the **hypotenuse** and one other **side** all match up



Similar Shapes

SIMILAR — same shape,
different size

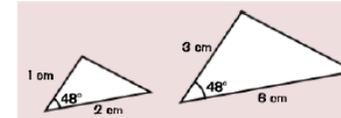
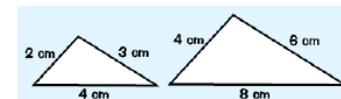
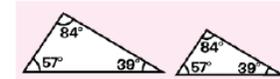


Similar Shapes Have the Same Angles

Generally, for two shapes to be **similar**, all the **angles** must match and the **sides** must be **proportional**.
But for **triangles**, there are **three special conditions** — if any one of these is true, you know they're similar.

Two triangles are similar if:

- 1) All the **angles** match up i.e. the angles in one triangle are the same as the other.
- 2) All three **sides** are **proportional** i.e. if **one** side is twice as long as the corresponding side in the other triangle, **all** the sides are twice as long as the corresponding sides.
- 3) Any **two sides** are **proportional** and the **angle between them** is the **same**.



Linked Prior Topics

Triangles
Constructions
Transformations
Scale factors

Vocabulary

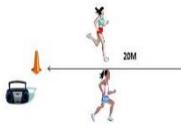
Congruence
Similarity
Proportional

Corresponding
Hypotenuse

Linked Future Topics

Proofs

Year 10 BTEC Sport Knowledge Organiser Module 3– Fitness Testing

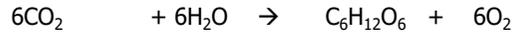
Component of Fitness	Fitness test		Advantages	Disadvantages
Body Composition	<p>Body Mass Index (BMI) - Measured in Kg/m²</p> $\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m)} \times \text{Height (m)}}$		Easy to carry out	Results can be misleading as muscles weigh more than fat
	<p>Bioelectrical Impedance Analysis (BIA)</p> <p>BIA = electricity passed through body from WRIST to ANKLE. Measures the resistance from muscle and fat</p>		Quick and gives instant results Can be repeated over time with no bad effects	Needs expensive equipment
	<p>Jackson Pollock Skinfold Test</p> <p>Use CALLIPERS to measure skin . Males; chest, abdominal, thigh. Females; triceps, suprailiac & thigh. Add measurements together and use to the JACKSON-POLLOCK nomogram (4 lines)</p>		Provides accurate percentages of body fat	Needs specialist equipment Problems with people revealing bare skin
Aerobic Endurance	<p>Multi Stage Fitness Test</p> <p>Cones/Lines 20m apart, run in-between to the sound of a beep. Gradually gets faster. Longer you can keep up the higher the level Measures VO₂ Max Measured in ml/Kg/min</p>		Can test a large group at once Tests to maximum effort	Practice can affect score If outside environment may affect Easy to give up
	<p>Forestry Step Test</p> <p>Step/ bench- 33cm for females and 40cm for males. Step up and down for 5 minutes to a metronome. (90bpm/22.5steps a min). Record pulse and compare to table. Measured in ml/Kg/min</p>		Low cost Can be performed inside or outside Can test on your own	People may struggle to keep with the stepping pace on metronome
Speed	<p>35m sprint test</p> <p>Sprint from one line/cone to another in a straight line over 35m. Record time and compare to normative data</p>		Little equipment so cheap to run	Human error when timing can affect results
Strength	<p>Grip dynamometer</p> <p>3 attempts, squeeze grip dynamometer measure result in Kg or KgW.</p>		Simple and easy test Lots of normative data	Must be adjusted for hand size which may affect results

<p>Flexibility</p>	<p style="text-align: center;">Sit and Reach test</p> <p>Both feet against the sit and reach box, reach forward and measure result in centimetres</p>		<p>Well known test Quick and easy to perform</p>	<p>measures lower back & hamstrings only length of arms and legs affect results</p>
<p>Muscular Endurance</p>	<p style="text-align: center;">Sit up and press up tests</p> <p>Count how many sit ups or press-ups completed in 1 minute</p>		<p>Quick and easy Little equipment Large groups at once</p>	<p>Arguments of correct technique can affect results</p>
<p>Agility</p>	<p style="text-align: center;">Illinois Agility test</p> <p>Cones set up as in the image, lie face down on the floor at the start, measure time to complete course in seconds</p>		<p>Cheap and easy to conduct</p>	<p>Human error with timing can affect results Weather or surface conditions can affect results</p>
<p>Power</p>	<p style="text-align: center;">Vertical Jump test</p> <p>Stand side on to wall reach up and mark/set the measure. Standing jump as high as possible touching wall. Measure between two marks/measures</p>		<p>Quick and easy</p>	<p>Technique can affect result as need to jump and mark wall</p>

Biology 4: Bioenergetics TRILOGY BIOLOGY KNOWLEDGE ORGANISER

KPI B23: Photosynthesis Equation p50

Carbon dioxide + water $\xrightarrow{\text{light}}$ glucose + oxygen



KPI B23: Key terms p50

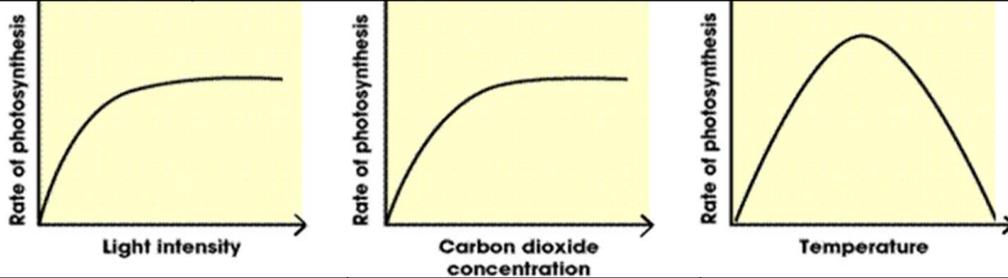
Chloroplast	The plant organelle where photosynthesis takes place.
Chlorophyll	The green pigment that absorbs energy from light .
Endothermic	Photosynthesis takes energy in (in the form of light). It is an endothermic reaction.
Diffusion	The spreading out of particles by random motion from where they are in high concentration to a low concentration. Occurs in gases and liquids.

KPI B26: Uses of Glucose p50

- Used in **respiration** to provide **energy**.
- Converted into **starch** for **storage**.
- Converted into **fats** and **oils** for **storage**.
- Produce **cellulose** to **strengthen** the **cell wall**.
- Produce **amino acids** to **make proteins** (also needs nitrate ions from the soil)

KPI B24 & B25: Limiting Factors p51-52

Limiting Factor	The factor that stops the rate of photosynthesis from increasing; could be light intensity, CO ₂ concentration, temperature or amount of chlorophyll.
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Light Intensity Initially light is the limiting factor. When the graph plateaus something else (e.g. CO ₂ concentration, temperature) is limiting the rate.	CO₂ concentration Initially CO ₂ concentration is the limiting factor. When the graph plateaus something else (e.g. light intensity, temperature) is limiting the rate.	Temperature As temperature increases, the rate of photosynthesis increases. Above the optimum there is a decrease in photosynthesis. Enzymes needed for photosynthesis become denatured.
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KPI B27: Respiration p54-55

Energy	Energy in organisms is needed for chemical reactions to build larger molecules, movement and keeping warm .
Aerobic Respiration	Aerobic respiration provides energy . It requires oxygen . It is an exothermic reaction (produces heat). In mitochondria . Glucose + oxygen → carbon dioxide + water C₆H₁₂O₆ + 6O₂ → 6CO₂ + 6H₂O
Anaerobic Respiration (muscles)	No oxygen needed. Provides less energy than aerobic respiration as glucose not fully oxidised . Occurs during intensive exercise . In cytoplasm . Glucose → lactic acid
Lactic Acid	Produced in anaerobic respiration in muscles . Build up of lactic acid causes fatigue . Lactic acid must be taken to the liver by the blood so that it can be oxidised back to glucose .
Oxygen Debt	The amount of extra oxygen the body needs after exercise to react with the lactic acid and remove it.
Anaerobic Respiration (plant and yeast cells)	No oxygen needed. In yeast cells it is called fermentation – economically important for manufacture of bread and alcoholic drinks . In cytoplasm . Glucose → ethanol + carbon dioxide

KPI B28: Response to Exercise p56

Increase in breathing rate	Increases rate at which oxygen is taken into the lungs.
Increase in heart rate	Oxygenated blood is pumped around the body at a faster rate. Carbon dioxide is removed at a faster rate.
Increase in breath volume	A greater volume of oxygen is taken in with each breath.

KPI B29: Metabolism p54

Metabolism	The sum of all the reactions in a cell or body . Some of these reactions require the energy released from respiration .
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KPI B29: Metabolic Reactions p54

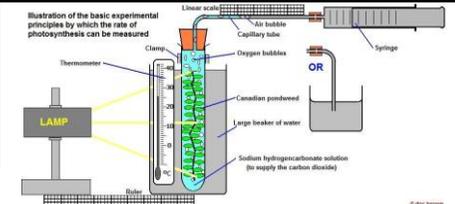
- Conversion of glucose to starch, cellulose or glycogen.
- Formation of lipids from glycerol and fatty acids
- Use of glucose and nitrates to make amino acids (plants only)
- Respiration
- Breakdown of proteins to urea

KPI B24: Investigating Limiting Factors p52-53

$$i = \frac{1}{d^2}$$

illumination decreases by square of the distance

distance x 2 = 1/4
distance x 3 = 1/9
distance x 4 = 1/16
distance x 5 = 1/25



Biology 7: Ecology TRIPLE BIOLOGY KNOWLEDGE ORGANISER

KPI B51: Key terms p106-107

Ecosystem	The interaction of a community of living organisms (biotic) with the non-living (abiotic) parts of their environment.
Habitat	The area in which an organism lives .
Community	Two or more different species in an ecosystem. A stable community is one where all the species and environmental factors are in balance so that population sizes remain fairly constant .
Population	The total number of organisms of one species in an ecosystem.
Competition	Plants often compete for light, space, water and mineral ions . Animals often compete for food, mates and territory
Interdependence	Within a community each species depends on other species for food, shelter, pollination etc.
Adaptations	A feature that an organism has that allows it to survive in its ecosystem.
Biodiversity	The variety of all the different species of organisms on Earth , or within an ecosystem .

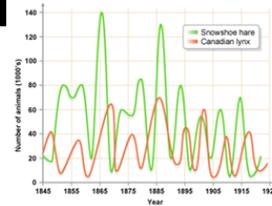
KPI B55: Predator-Prey Relationships p109

The population of the **prey increases**

More food is available for the **predators**, so their population increases.

There are **more predators** so the **population of the prey decreases**.

There is **less prey to feed on** so the population of **predators decreases**.



KPI B50: Measuring biodiversity p110-111

	Random Sampling	Systematic Sampling (transect)
Purpose	Estimate the size of a population in an area.	See how populations and communities change over a distance .
Method	Choose a suitable number of quadrats to use. Assign co-ordinates to the area that you are sampling. Randomly choose co-ordinates. Place the quadrats and count organisms present. Calculate the mean number of organisms.	Use a tape measure to create a long line (transect). Put quadrats at set distances. Count organisms present. Repeat in a different place/ different time of year. Draw graphs to see how communities change over a distance.

KPI B52: Carbon cycle steps p113

Photosynthesis	Plants absorb CO₂ from atmosphere.
Respiration	Animals, plants and micro-organisms respire, releasing CO₂ into the atmosphere.
Decay	The carbon in dead organisms is released to the atmosphere by micro-organisms respiring .
Combustion	Carbon locked in fossil fuels is released as CO ₂ when fuels are burned .

KPI B52: Water cycle steps p112

Evaporation	Liquid water is turned into water vapour in the atmosphere .
Condensation	Water vapour condenses to form clouds .
Precipitation	Water is deposited from clouds as rain .

KPI B53: Human effects on biodiversity p116-119

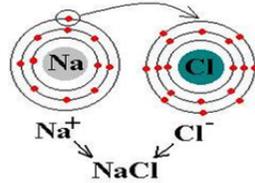
Human activity	Why it happens	Effects
Polluting water with fertiliser and sewage	Farmers spread fertiliser on fields. Rain washes fertiliser into rivers and ponds. Sewage is released directly into rivers.	Fertilisers and sewage cause an increase in growth of algae . When the algae die , they are decomposed by bacteria that use oxygen . Other animals die due to a lack of oxygen .
Using land	Humans construct buildings , create quarries and farm .	Habitat for plants and animals is reduced .
Destroying peat bogs	Humans use peat to provide compost to increase food production.	Removes habitat, reducing biodiversity . Decay or burning of peat produces CO₂ .
Deforestation	To provide land for cattle and rice fields . To grow crops for biofuels .	Burning or decomposing trees releases CO₂ . Fewer trees to remove CO₂ from the atmosphere . Loss of biodiversity .
Producing acidic gases	Combustion of fossil fuels releases carbon dioxide, sulfur dioxide and nitrogen oxides . These gases dissolve in water making it acidic .	Acid rain. Damages plants . Can cause rivers and lakes to become acidic, killing animals and plants.
Polluting water with toxic chemicals	Pesticides and other toxic chemicals (e.g. from landfill) are washed into rivers and lakes by rain .	Toxic chemicals accumulate in animals. The further up the food chain , the greater the accumulation . Top predators die or fail to breed.
Increasing temperature of the planet (global warming)	Humans release extra greenhouse gases (CO₂ and methane) into the atmosphere and less CO₂ is absorbed by plants through photosynthesis. Greenhouse gases absorb heat and stop it escaping to space.	Loss of habitat as sea levels rise ; animals and plants can no longer survive in certain areas; reduced biodiversity ; change in migration patterns of animals.

Chemistry 2: Bonding KNOWLEDGE ORGANISER (trilogy)

KPI:C8 (p112 - 114)

Describe ionic bonds and ionic compounds

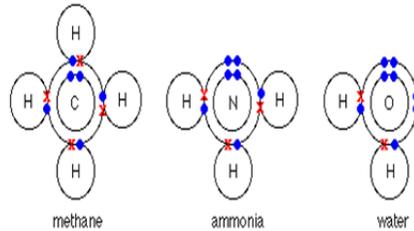
Ionic Compounds Are Balanced. Table salt is an example of an ionic compound. Sodium and **chlorine** ions come together to form **sodium chloride**, or **NaCl**. The sodium atom in this compound loses an electron to become Na^+ , while the **chlorine** atom gains an electron to become Cl^- .



KPI:C9 (p115)

Formation of covalent compounds

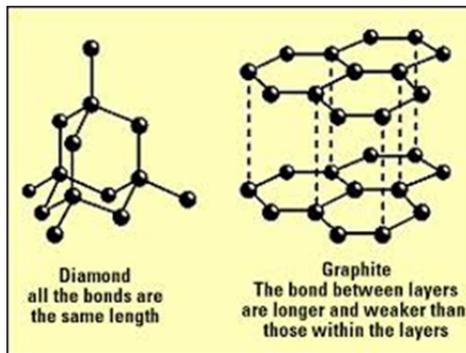
A **covalent compound** is made when two or more nonmetal atoms bond by sharing electrons. The shared electrons between two nonmetal atoms is called a **covalent bond**. **Covalent** bonds are formed when two atoms begin sharing electrons. The electrons are attracted to the positively charged nuclei of the atoms.



KPI:C10 (p117)

Describe the structure and property of giant covalent compounds

Giant covalent structures contain a lot of non-metal atoms, each joined to adjacent atoms by **covalent** bonds. The atoms are usually arranged into **giant** regular lattices - extremely strong **structures** because of the many bonds involved.



KPI:C11 (p117)

Polymers

Polymers are very large molecules made when many smaller molecules join together, end to end. The smaller molecules are called **monomers**.

In general:

lots of monomer molecules → a polymer molecule

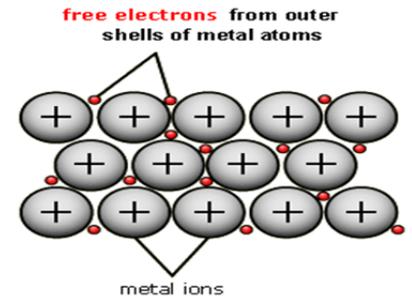
The polymers formed are long chains of repeating units. For example poly(ethane) has a molecular formula of the polymer is $(\text{C}_2\text{H}_4)_n$

KPI:C12 (p119)

Describe the structures and bonding in metals

Metallic bonding is the force of attraction between delocalised electrons and the metal atoms. There are strong forces of electrostatic attraction between the positive metal ions and the shared negative electrons

- Most metals are solid at room temperature
- They are good conductors of electricity and heat
- They are malleable
- Alloys are harder than pure metals



KPI: C13 (p120 - 121)

Describe the properties of the three states of matter

solid	liquid	gas
● rigid	● not rigid	● not rigid
● fixed shape	● no fixed shape	● no fixed shape
● fixed volume	● fixed volume	● no fixed volume
cannot be squashed	cannot be squashed	can be squashed

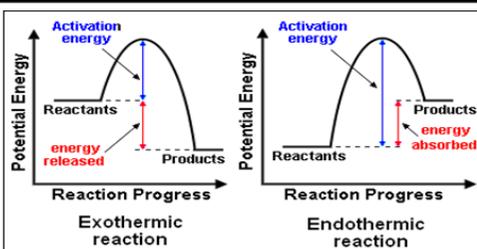
Chemistry 4: Energy Changes KNOWLEDGE ORGANISER (triple)

KPI:C32 (p61 - 62)

Describe energy changes in reactions as exothermic or endothermic and illustrate these as energy profile diagrams

Exothermic reactions transfer energy to the surroundings. Endothermic reactions take in energy from the surroundings.

Reversible reactions are where the products can react to remake the original reactants. If the forward reaction is exothermic, the reverse reaction is endothermic.



KPI:C33 (p63)

Explain energy changes in reactions in terms of activation energy, bond breaking and bond forming

Making and breaking chemical bonds

Most chemicals will break up (decompose) if they are heated strongly enough. This means that energy is needed to break chemical bonds – an **endothermic** process.

Because bond-breaking is endothermic, bond-making must therefore be **exothermic**. This means that energy is released when chemical bonds are made.

KPI:C34 (p63)

Calculate energy changes from bond energies



From the table of the values of bond enthalpy, the values we need are:

Bond	Enthalpy (kJ/mol)
H—H	432
Cl—Cl	239
H—Cl	427

KPI:C35 (p64)

Describe simple cells and the difference between rechargeable and non-rechargeable batteries

Non-rechargeable batteries

Ordinary 'dry-cell' batteries are non-rechargeable. As the reactants inside them become used up in chemical reactions, the output from these batteries gradually falls. Once all the reactants have been used up, these batteries go 'flat' and cannot supply electrical energy anymore.

Rechargeable batteries

Rechargeable batteries usually maintain a constant output until just before they go flat. They contain reactants that can be made again just by passing electricity through the products. Once the battery has gone flat, it can be connected to a recharger. This uses electrical energy to reverse the chemical reactions that happened in the battery while it was in use.

Car batteries are rechargeable batteries - they are constantly recharged while the car is moving, so the lights and horn will always work.

Mobile phones, many MP3 players and other portable devices use rechargeable batteries. They must be recharged at regular intervals. It is usually recommended that such batteries should almost be flat before recharging. This allows the battery to be fully charged again.

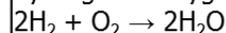
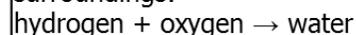
KPI:C36 (p65)

Describe fuels and evaluate their use

Fuel cells produce electricity through the reaction of a fuel with oxygen. Hydrogen-oxygen fuel cells use hydrogen as their fuel, and are useful in cars and spacecraft. Water is the only waste product from a hydrogen-oxygen fuel cell, so they cause less pollution when in use.

Hydrogen-oxygen fuel cell

The reaction between hydrogen and oxygen is **exothermic** - it releases energy to the surroundings:



Fuel cells use the reaction between a fuel and oxygen to produce electrical energy. They are efficient and convert a large proportion of the chemical energy in the fuel into electrical energy. Hydrogen-oxygen fuel cells use hydrogen as their fuel.

Chemistry 4: Chemical Changes KNOWLEDGE ORGANISER (trilogy)

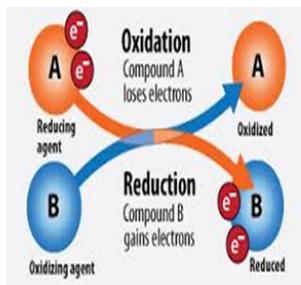
KPI:C19 (p132 - 134)

Describe the reactivity of metals and explain how metals are extracted by reduction reactions

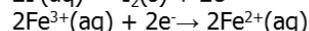
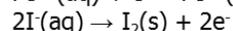
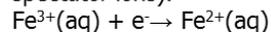
Reactivity series of metals			
Most reactive ↑ Increasingly reactive ↓ Least reactive	K	Potassium	} Extract by electrolysis
	Na	Sodium	
	Ca	Calcium	
	Mg	Magnesium	} Extract by carbon reduction
	Al	Aluminium	
	C	Carbon	} Heating directly in air
	Zn	Zinc	
	Fe	Iron	
	Sn	Tin	} Found as natural element
	Pb	Lead	
	Cu	Copper	
Hg	Mercury		
Ag	Silver		
Au	Gold		

KPI:C20 (p133)

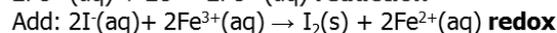
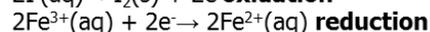
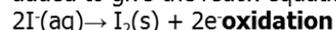
Write ionic equations and describe changes in terms of loss or gain of electrons



When iron(III) nitrate reacts with sodium iodide, the iron(III) ions are reduced to iron(II) ions, and the iodide ions are oxidised to iodine molecules (the nitrate and sodium ions are spectator ions).

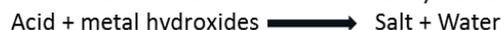


The balanced reduction and oxidation equations can now be added to give the redox equation.



KPI:C21 (p131)

Describe the production of salts from reactions of acid with metals, metal oxides, metal hydroxides and metal carbonates



KPI:C22 (p129 - 130)

Explain acidity, alkalinity and the pH scale in terms of hydrogen and hydroxide ions

In chemistry, **acids and bases** have been **defined** differently by three sets of theories. One is the Arrhenius **definition**, which revolves around the idea that **acids** are substances that ionise (break off) in an aqueous solution to produce hydrogen (H^+) ions while **bases** produce hydroxide (OH^-) ions in solution

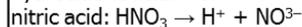
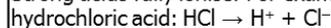
KPI:C23 (p130)

Explain the difference between strong and weak acids

Strong and weak acids

Acids ionise in water to produce **hydrogen ions**, H^+ .

Strong acids fully ionise. For example:



Weak acids **do not** fully ionise. Instead, they form an equilibrium mixture. For example:



At the same concentration, strong acids have lower pH than weak acids.

KPI:C24 (p134 - 135)

Explain the process of electrolysis in terms of movement of ions and the gain or loss of electrons

Ionic substances contain charged particles called ions. For example, lead bromide contains positively charged lead ions and negatively charged bromide ions.

Electrolysis is the process by which ionic substances are decomposed (broken down) into simpler substances when an electric current is passed through them.

For electrolysis to work, the ions must be free to move. Ions are free to move when an ionic substance is dissolved in water or when melted. For example, if electricity is passed through molten lead bromide, the lead bromide is broken down to form lead and bromine.

KPI:C25 (p135 - 136)

Describe the use of electrolysis to extract metals and predict the products of electrolysis of solutions

A molten ionic compound can be electrolysed because the ions can move freely and conduct electricity. Electrolysis is used to extract reactive metals. Aluminium bauxite contains Al_2O_3 , so at the negative electrode: reduction – a gain of electrons – $\text{Al}^{3+} + 3\text{e}^- \rightarrow \text{Al}$. At the positive electrode: oxidation – loss of electrons – $2\text{O}^{2-} \rightarrow \text{O}_2 + 4\text{e}^-$.

Chemistry 6: Rate and Extent of Reaction KNOWLEDGE ORGANISER (triple)**KPI:C37(p67)****Recall the equation and calculate rates of reaction**

The rate of a chemical reaction can be found by measuring the quantity of a reactant used or the quantity of product formed over time:

Mean rate of reaction = $\frac{\text{quantity of reactant used}}{\text{time taken}}$

Mean rate of reaction = $\frac{\text{quantity of product formed}}{\text{time taken}}$

KPI:C38 (p67)**Describe and explain the factors affecting reaction rates in terms of collision theory**

Particles must collide with enough energy in order to react.

Collision theory explains how various factors affect rates of reactions.

Chemical reactions can occur only when

reacting particles collide with each other and with sufficient energy.

The minimum amount of energy that particles must have to react is called the activation energy.

Increasing the concentration of reactants in solution, the pressure of reacting gases, and the surface area of solid reactants increases the frequency of collisions and so increases the rate of reaction.

Increasing the temperature increases the frequency of collisions and makes the collisions more energetic, and so increases the rate of reaction.

KPI:C39 (p68 - 71)**Describe and explain the effect of catalysts on reaction rates**

Catalysts speed up a reaction, without being used up in the reaction.

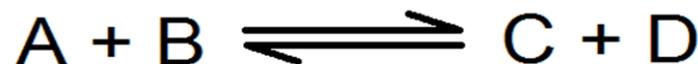
They are not part of the overall equation.

Different catalysts are needed for different reactions.

They all work by reducing the activation energy needed for a reaction to occur

KPI:C40 (p72)**Describe the energy changes in a reversible reaction**

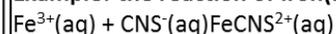
A **reversible reaction** is a **reaction** where the reactants form products, which **react** together to give the reactants back. A and B can **react** to form C and D or, in the **reverse reaction**, C and D can **react** to form A and B.

**KPI:C41 (p72)****Explain what equilibrium is**

When the rate of the forward reaction is equal to the rate of the reverse reaction, the reaction is said to have reached equilibrium.

At equilibrium, the concentrations of the reactants and products are constant, but are not necessarily equal.

Example: the reaction of iron(III) ions with thiocyanate ions.



Pale yellow iron(III) ions react with colourless thiocyanate (CNS) to produce red iron thiocyanate.

KPI:C42 (p73)**Describe and explain how Le Chatelier's principle affects equilibrium position when conditions change, including: temperature, pressure and concentration**

Le Chatelier's principle is an observation about chemical equilibria of reactions. It states that changes in the temperature, pressure, volume, or concentration of a system will result in predictable and opposing changes in the system in order to achieve a new equilibrium state.

Temperature increase = equilibrium will move in the endothermic direction

Pressure increase = the equilibrium tries to reduce it and moves to in the direction of fewer gas particles

Concentration = changing the concentration means the system is no longer at equilibrium

KPI 35 & 36 page 51 & 54	
Scalar	A physical quantity, such as mass or energy, that has magnitude only
Vector	A physical quantity, such as displacement or velocity, that has a magnitude and a direction
Displacement	Distance in a given direction
Speed	The speed of an object (metres per second) = distance moved by the object (metres) / time taken to move the object the distance travelled (seconds)
Velocity	Speed in a given direction (in metres/second, m/s)

KPI 37 page 52	
Weight	The force of gravity on an object (in newton's, N)
Mass	The quantity of matter in an object - a measure of the difficulty of changing the motion of an object (in Kilograms, Kg)
proportionality	When two quantities always have the same size in relation to each other. They have the same ratio.

KPI 42 page 57	
moment	The turning effect of a force defined by the equation $M=FD$
Parallelogram of forces	A geometrical method used to find the resultant of two forces that do not act along the same line
perpendicular	At right angles to
Load	The weight of an object raised by a device used to lift the object, or the force applied by a device when it is used to shift an object
Effort	Force applied to raise a weight.

KPI 38 pages 53	
Resultant force	A single force that has the same effect as all the forces acting on the object
Equilibrium	A state in which opposing forces are balanced.
Resolution of forces	The process of considering a force in terms of two perpendicular components, which together have the same effect on an object as the force.
Newton's first law of motion	If the resultant force on an object is zero, the object stays at rest if stationary, or it keeps moving with the same speed in the same direction
Force diagram	A diagram showing the forces on an object.

KPI 39 page 53	
work	The energy transferred by a force. Work done(joules J) = force (N) x distance moved in the direction of the force (m)

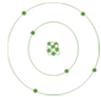
KPI 36 page 51	
Contact force	The objects are physically touching
Non - contact force	The objects are physically separated
force	A force (in Newton's N) can change the motion of an object
Friction	The force opposing the relative motion of two solid surfaces in contact
Gravitational force	The force of gravity on an object of mass 1 Kg it is also the acceleration of free-fall.

KPI 40 page 55-56	
Hooke's law	The extension of a spring is directionally proportional to the force applied. As long as the limit of proportionality is not exceeded.
Elastic	A material is elastic if it is able to regain its shape after it has been squashed or stretched.
Spring constant	Force per unit extension of a spring
Limit of proportionality	The limit for Hooke's law applied to the extension of a stretched spring
compression	Squeezing together

KPI 40 page 56	
extension	The increase in length of a spring (or strip of material) from its original length
errors	Sometimes called uncertainties

Equations to know	
Weight of an object	Weight = mass x gravitational field strength $W = mg$
Work done by a force	Work done = force x distance $W = Fs$
Joule to Newton's	1 joule = 1 newton - metre
Extension of an object	Force = spring constant x extension $F = ke$
Stretching force	Elastic potential energy = 0.5 x spring constant x (extension) ² $E_e = \frac{1}{2} k e^2$

Radius of an atom
 $1 \times 10^{-10} \text{m}$



Electrons gained
Negative ion

Electrons lost
Positive ion

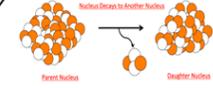
Atom	Same number of protons and electrons
Ion	Unequal number of electrons to protons
Mass number	Number of protons and neutrons
Atomic number	Number of protons

Particle	Charge	Size	Found
Neutron	None	1	In the nucleus
Proton	+	1	
Electron	-	Tiny	Orbits the nucleus

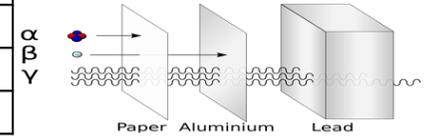
Isotope	${}^6_3\text{Li}$		${}^7_3\text{Li}$	
Different forms of an element with the same number of protons but different number of neutrons				

Discovery of the nucleus

Democritus	Suggested idea of atoms as small spheres that cannot be cut.
J J Thomson (1897)	Discovered electrons— emitted from surface of hot metal. Showed electrons are negatively charged and that they are much less massive than atoms.
Thomson (1904)	Proposed 'plum pudding' model – atoms are a ball of positive charge with negative electrons embedded in it.
Geiger and Marsden (1909)	Directed beam of alpha particles (He^{2+}) at a thin sheet of gold foil. Found some travelled through, some were deflected, some bounced back.
Rutherford (1911)	Used above evidence to suggest alpha particles deflected due to electrostatic interaction between the very small charged nucleus, nucleus was massive. Proposed mass and positive charge contained in nucleus while electrons found outside the nucleus which cancel the positive charge exactly.
Bohr (1913)	Suggested modern model of atom – electrons in circular orbits around nucleus, electrons can change orbits by emitting or absorbing electromagnetic radiation. His research led to the idea of some particles within the nucleus having positive charge; these were named protons.
Chadwick (1932)	Discovered neutrons in nucleus – enabling other scientists to account for mass of atom.

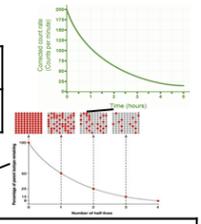
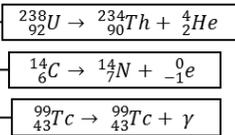


Decay	Range in air	Ionising power	Penetration power
Alpha	Few cm	Very strong	Stopped by paper
Beta	Few m	Medium	Stopped by Aluminium
Gamma	Great distances	Weak	Stopped by thick lead



Radioactive decay	Unstable atoms randomly emit radiation to become stable
Detecting	Use Geiger Muller tube
Unit	Becquerel
Ionisation	All radiation ionises

Decay	Emitted from nucleus	Changes in mass number and atomic number	
Alpha (α)	Helium nuclei (${}^4_2\text{He}$)	-4	-2
Beta (β)	Electron (${}^0_{-1}\text{e}$)	0	+1
Gamma (γ)	Electromagnetic wave	0	0
Neutron	Neutron	-1	0



Atoms and Isotopes

Atoms and Nuclear Radiation

Contamination	Unwanted presence of radioactive atoms
Irradiation	Person is in exposed to radioactive source

AQA ATOMIC STRUCTURE

PHYSICS ONLY: Hazards and uses of Radioactive emissions and of background radiation

Half life	The time taken to lose half of its initial radioactivity
Sievert	Unit measuring dose of radiation
Background	Constant low level environmental radiation, e.g. from nuclear testing, nuclear power, waste

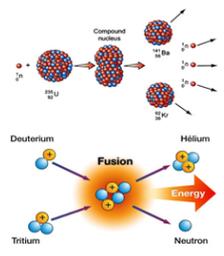
Nuclear fission and fusion

Uses	Different isotopes have different half lives	Short half-lives used in high doses, long half lives used in low doses.
Tracers	Used within body	Isotope with short half life injected, allowed to circulate and collect in damaged areas. PET scanner used to detect emitting radiation. Must be beta or gamma as alpha does not penetrate the body.
Radiation therapy	Used to treat illnesses e.g. cancer	Cancer cells killed by gamma rays. High dose used to kill cells. Damage to healthy cells prevented by focussed gamma ray gun.

Fuel rods	Made of U-238, 'enriched' with U-235 (3%). Long and thin to allow neutrons to escape, hitting nuclei.
Control rods	Made of Boron. Controls the rate of reaction. Boron absorbs excess neutrons.
Concrete	Neutrons hazardous to humans – thick concrete shield protects workers.

PHYSICS ONLY: Nuclear energy

Nuclear fission	One large unstable nucleus splits to make two smaller nuclei	Neutron hits U-235 nucleus, nucleus absorbs neutron, splits emitting two or three neutrons and two smaller nuclei. Process also releases energy.	Process repeats, chain reaction formed
Nuclear fusion	Two small nuclei join to make one larger nucleus	Difficult to do on Earth – huge amounts of pressure and temperature needed.	Occurs in stars



SPANISH YEAR 10 MODULE 4 : INTERESES E INFLUENCIAS – MO 1 – 9 Know the key vocabulary for the module

<p>La paga Mis padres me dan... Mi madre / padre me da... ...euros a la semana / al mes Gasto mi paga en... También compro...</p>	<p>Pocket money My parents give me... My mum / dad gives me... ...euros a week / a month I spend my pocket money on... I also buy...</p>	<p>saldo para el móvil ropa / joyas / maquillaje zapatillas de marca videojuegos / revistas</p>	<p>credit for my phone clothes / jewellery / make-up designer trainers computer games / magazines</p>
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<p>Mis ratos libres las actividades de ocio Tengo muchos pasatiempos. A la hora de comer... Cuando tengo tiempo... Después del insti... Los fines de semana... Mientras desayuno / como... juego al billar / fútbolin monto en bici / monopatín quedo con mis amigos voy de compras mi pasión es la música / la lectura Suelo... descansar escuchar música / la radio</p>	<p>My free time leisure activities I have lots of hobbies. At lunchtime... When I have time... After school... At weekends... Whilst I have breakfast / lunch... I play billiards / table football I ride my bike / I skateboard I meet up with friends I go shopping my passion is music / reading I tend to / I usually ... rest listen to music / the radio</p>	<p>hacer deporte ir al cine leer libros / revistas / periódicos salir con amigos usar el ordenador ver la tele Es divertido / relajante / sano Soy creativo/a / perezoso/a / sociable Soy adicto/a a... me ayuda a relajarme me ayuda a olvidarme de todo me hace reír necesito comunicarme / relacionarme con otra gente</p>	<p>do sport go to the cinema read books / magazines / newspapers go out with friends use the computer watch TV It's fun / relaxing / healthy I'm creative / lazy / sociable I'm addicted to... it helps me to relax it helps me to forget everything it makes me laugh I need to have contact with other people</p>
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<p>La música Me gusta el soul / el rap / el dance / el hip-hop / el pop / el rock / el jazz / la música clásica / electrónica asistir a un concierto cantar (una canción) tocar el teclado / el piano /</p>	<p>Music I like soul / rap / dance/ hip-hop / pop / rock / jazz / classical / electronic music to attend a concert to sing (a song) to play the keyboard / the piano /</p>	<p>la batería / la flauta / la guitarra / la trompeta mi cantante preferido/a es... un espectáculo una gira (mundial)</p>	<p>the drums / the flute / the guitar / the trumpet my favourite singer is... a show a (world) tour</p>
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<p>El deporte Soy / Era... (bastante / muy) deportista miembro de un club / un equipo aficionado/a / hincha de... un(a) fanático/a de... juego al... jugué al... jugaba al... bádminton / baloncesto béisbol / balonmano críquet / fútbol hockey / ping-pong rugby / tenis / voleibol hago... hice... hacía... baile / boxeo / ciclismo deportes acuáticos equitación / escalada gimnasia / judo kárate / natación patinaje sobre hielo piragüismo / remo</p>	<p>Sport I am / I used to be... (quite / very) sporty a member of a club / a team a fan of... a ... fanatic I play... I played... I used to play... badminton / basketball baseball / handball cricket / football hockey / table tennis rugby / tennis / volleyball I do... I did... I used to do... dancing / boxing / cycling water sports horseriding / climbing gymnastics / judo karate / swimming ice skating canoeing / rowing</p>	<p>submarinismo tiro con arco voy... fui... iba... a clases de... de pesca ya no (juego)... todavía (hago)... batir un récord correr entrenar jugar un partido contra... marcar un gol montar a caballo participar en un torneo patinar mi jugador(a) preferido/a es... su punto culminante fue cuando... el campeón / la campeona la temporada</p>	<p>diving archery I go... I went... I used to go... to ... classes fishing (I) no longer (play)... (I) still (do)... to break a record to run to train to play a match against... to score a goal to go horseriding to participate in a tournament to skate my favourite player is... the highlight (of his/her career) was when... the champion the season</p>
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La tele

(No) Soy teleadicto/a.

Mi programa favorito es...

un concurso

un programa de deportes

un reality

un documental

un culebrón / una telenovela

una comedia

una serie policíaca

el telediario / las noticias

Me gustan las comedias.

TV*I'm (not) a TV addict.**My favourite programme is...**a game / quiz show**a sports programme**a reality TV show**a documentary**a soap**a comedy**a crime series**the news**I like comedies.*

Es / Son...

aburrido/a/os/as

adictivo/a/os/as

divertido/a/os/as

entretenido/a/os/as

tonto/a/os/as

informativo/a/os/as

malo/a/os/as

emocionante(s)

interesante(s)

It is / They are...

*boring**addictive**fun**entertaining**silly**informative**bad**exciting**interesting***Las películas**

un misterio

una película de amor

una película de terror

una película de acción

una película de aventuras

Films*a mystery**a love film**a horror film**an action film**an adventure film*

una película de animación

una película de ciencia ficción

una película de fantasía

una película extranjera

*an animated film**a sci-fi film**a fantasy film**a foreign film***Nacionalidades**

americano/a

argentino/a

británico/a

chino/a

griego/a

italiano/a

mexicano/a

sueco/a

Nationalities*American**Argentinian**British**Chinese**Greek**Italian**Mexican**Swedish*

alemán/alemana

danés/danesa

español(a)

francés/francesa

holandés/holandesa

inglés/inglesa

irlandés/irlandesa

japonés/japonesa

*German**Danish**Spanish**French**Dutch**English**Irish**Japanese*

Temas del momento

he compartido...
 he comprado...
 he jugado...
 he leído...
 he oído...
 he roto...
 he subido...
 ¿Has probado...?
 mi hermano ha descargado...
 se ha estrenado...
 la nueva canción
 el último libro
 Ya lo/la/los/las he visto.
 No lo/la/los/las he visto todavía.
 acabo de ver / jugar a...

Trending topics

*I have shared...
 I have bought...
 I have played...
 I have read...
 I have heard...
 I have broken...
 I have uploaded...
 Have you tried...?
 my brother has downloaded...
 ...has been released.
 the new song
 the latest book
 I have already seen it/them.
 I haven't seen it/them yet.
 I have just seen / played...*

cuenta la historia de...
 trata de...
 combina el misterio con la acción
 el argumento es fuerte / débil
 la banda sonora es buena / mala
 los actores...
 los efectos especiales...
 los gráficos...
 los personajes...
 las animaciones...
 las canciones...
 son guapos/as / guay
 son estupendos/as / impresionantes
 son originales / repetitivos/as

*it tells the story of...
 it's about...
 it combines mystery with action
 the plot is strong / weak
 the soundtrack is good / bad
 the actors...
 the special effects...
 the graphics...
 the characters...
 the animations...
 the songs...
 are good looking / cool
 are great / impressive
 are original / repetitive*

Ir al cine, al teatro, etc.

¿Qué vamos a hacer...
 esta tarde?
 esta noche?
 mañana / el viernes?
 ¿Tienes ganas de ir...
 a un concierto / un festival?
 a un espectáculo de baile?
 al cine / al teatro / al circo?
 ¿Qué ponen?

Going to the cinema, theatre, etc.

*What are we going to do...
 this afternoon / evening?
 tonight?
 tomorrow / on Friday?
 Do you fancy going...
 to a concert / a festival?
 to a dance show?
 to the cinema / theatre / circus?
 What's on?*

Es una película / obra de...
 ¿A qué hora empieza / termina?
 Empieza / Termina a las...
 Dos entradas para..., por favor.
 para la sesión de las...
 No quedan entradas.
 ¿Hay un descuento para estudiantes?
 Aquí tiene mi carné de estudiante.

*It's a ... film / play
 What time does it start / finish?
 It starts / finishes at...
 Two tickets for ..., please.
 for the ... showing / performance
 There are no tickets left.
 Is there a discount for students?
 Here is my student card.*

¿En el cine o en casa?

(No) Me gusta ir al cine porque...
 Prefiero ver las pelis en casa
 porque...
 el ambiente es mejor
 hay demasiadas personas
 la imagen es mejor en la gran
 pantalla
 las entradas son muy caras

At the cinema or at home?

*I (don't) like going to the cinema
 because...
 I prefer watching films at home
 because...
 the atmosphere is better
 there are too many people
 the picture is better on the big screen
 the tickets are very expensive*

las palomitas están ricas
 los asientos no son cómodos
 los otros espectadores me
 molestan
 ponen tráilers para las nuevas pelis
 si vas al baño te pierdes una parte
 tienes que hacer cola
 una corrida de toros
 en directo

*the popcorn is tasty
 the seats aren't comfortable
 the other spectators annoy me
 they show trailers for new films
 if you go to the toilet you miss part
 of it
 you have to queue
 a bull fight
 live*

Los modelos a seguir

Admiro a...
 Mi inspiración / idolo es...
 ...es un buen / mal modelo a seguir
 Un buen modelo a seguir es
 alguien que...
 apoya a organizaciones benéficas
 recauda fondos para...
 tiene mucho talento / éxito
 trabaja en defensa de los animales
 usa su fama para ayudar a los demás
 se emborrachan
 se comportan mal
 se meten en problemas con la policía
 es amable / cariñoso/a / fuerte
 lucha por / contra...

Role models

*I admire...
 My inspiration / idol is...
 ...is a good / bad role model
 A good role model is someone who...
 supports charities
 raises money for...
 is very talented / successful
 works in defence of animals
 uses his / her fame to help others
 they get drunk
 they behave badly
 they get into trouble with the police
 he/she is nice / affectionate / strong
 he/she fights for / against...*

la pobreza / la homofobia
 los derechos de la mujer
 los derechos de los refugiados
 los niños desfavorecidos
 la justicia social
 a pesar de sus problemas...
 ha batido varios récords
 ha creado...
 ha ganado ... medallas / premios
 ha sufrido varias enfermedades
 ha superado sus problemas
 ha tenido mucho éxito como...
 siempre sonríe
 solo piensa en los demás

*poverty / homophobia
 women's rights
 the rights of refugees
 underprivileged children
 social justice
 despite his/her problems...
 he/she has broken several records
 he/she has created...
 he/she has won ... medals / awards
 he/she has suffered several illnesses
 he/she has overcome his/her problems
 he/she has had lots of success as...
 he/she always smiles
 he/she only thinks of other people*

