Knowledge Organiser

Autumn Term – Year 10

PARK HOUSE SCHOOL

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2D MEDIA – MAN MADE OBJECTS | YEAR 10 | ART | TERM 1

KEYWORDS

Proportion	The size of one thing compared to the size of another
Centre Line	A line of symmetry can help you draw objects that are the same on both sides
Line drawing	Drawing made with lines only
Shading	Adding different tones to create 3D effect
Composition	he arrangement of different parts of an art piece
Pattern	A symbol or shape that is repeated
Line	A mark which can be used to make a drawing
Shape	A 2D area that is enclosed by a line
Tone/value	The lightness or darkness of something
Form	Something that has 3 dimensions
Texture	How something feels or looks
Pattern	A symbol or shape that is repeated
Colour	What we see when light reflects off something.
Negative Space	Space around and in between subject matter
Photogram	A photographic image produced without a camera.

ARTIST INSPIRATION

Pop Art	Art movement based on popular culture, often seeking its inspiration in everyday objects. One of the main goals of Pop Art making art accessible to masses. It utilised printing processes to mass produce art. Main features of Pop art are bright colours with minimal tone and often strong lines.
Michael Craig-Martin	Irish painter known for his elaborate line paintings of ordinary objects using bold colours.
Jim Dyne	An American artist who has produced an extensive body of work based on tools. He considers tool fascinating extension of his hands.

PROCESSES

1	**Stencil**	A shape used to create a cut out design
2	**Pen wash**	A technique that combines line drawing with shadows added with diluted ink or watercolour
3	**Digital Art**	Art created using software, computer or other electronic devices
4	**Photoshop**	Industry standard image editing software
5	**Watercolour wash**	Layer of transparent colour applied over a large area using diluted paint.
6	**Wet on wet**	Process involving the application of wet paint to a wet surface
7	**Wet on Dry**	Process involving wet paint application to dry surface
8	**Experimental**	Process that involves pushing the boundaries of media and involves a level of chance.
9	**Print**	Art process that involves transfer of art media from one surface to another.
10	**Monoprint**	A printing method that results in a single print

AO	DESCRIPTION	INCLUDES
1	**Artist Research and responding to artists**	Research on general ideas/ topic theme you might be exploring Research on camera techniques Research on techniques for specific art media
2	**Idea development and use of media**	Your experiments in variety of media Design sketches, collages, digital designs etc
3	**Recording and Gathering**	First-hand observations: Photos you take, observational drawings, written comments and observations. Second-hand observations: Photos and information from the internet or books
4	**Final Outcomes**	Final outcomes from each section and outcomes for whole project

Key Terms

BUSINESS: *Creating informed, discerning employees, consumers and future leaders*

Business – an organisation that seeks to satisfy the needs and wants and wants of consumers through the production of goods and services

Dynamic – continual change

Consumer – the end user of the product or service

Obsolete – outdated; a product that has declining sales or come to an end

Entrepreneur – an individual who comes up with a business idea and is willing to take a risk to develop it.

Risk – something bad / negative that could happen

Reward – something good / a positive effect

Financial – related to money

Non-financial – non-money related

Profit – what a business has left from its income after paying all of its costs

Core Knowledge

Marketing – the product life cycle states that all products eventually need to be removed from sale

Technology – changes in technology have led to obsolete products and changes in consumer tastes

Role of enterprise – entrepreneurs are the individuals who develop new ideas

Ownership – different types of ownership have different levels of risk for the owner

Customer needs – knowing what these are helps to reduce risk

Wider Business World

Apple – great example of business that continually adapts products

Iceland – changed from frozen only foods to non-frozen and non-food goods because this is what consumers want when they shop

Thomas Cook, BHS – businesses that have failed.due to the internet & changes in shopping habits

Richard Branson – an entrepreneur worth billions, but he still takes risks when starting new ventures. Why would this be?

Core Knowledge

The world changes constantly, and therefore so do consumer needs, and so businesses must therefore be dynamic to respond to these changes, or they risk failure.

Business ideas come about because of:
- Changes in technology
- Changes in what consumers want

Business ideas come about because:
- An entrepreneur has a completely original idea – this is invention
- Adapting an existing idea – this is innovation

Adaptations to products can be:
- New flavours
- Different colours / pack sizes

Starting and running a business are risky activities. A large percentage of start-up businesses fail in the first five years.

Risks are things that can go wrong
- Business failure
- Financial loss
- Lack of security due to not having a regular income

Business can fail because:
- An entrepreneur does not know the market well
- Not having enough capital to start the business
- Poor decision making
- Competition from other businesses
- Not meeting the needs of customers

Rewards are what can be achieved through business success. These include:
- Profit
- Personal independence

Key Terms

Customer reviews – feedback from customers, which can be online

Word of mouth – when a customer tells another person about a business

Repeat purchase – when a customer returns to the same business

Market research – this is how a business finds out customer needs

Market segmentation – how we divide up customers into smaller groups with similar needs

Added value – meeting customer needs can allow a business to charge higher prices, i.e. add value to a product

Market research – the process of gathering, processing and interpreting information about consumers' behaviour

Secondary research – using research that has already been carried out for another purpose

Primary research – collecting new information

Qualitative data – research into opinions and views

Quantitative data – data that is numerical

Focus group – a small number of consumers who have a discussion

Market trends – an overall pattern related to products

Market gap – where demand is not being met by the existing products available

Bias – a one-sided view

Sample-size – the number of consumers that are involved in market research

Links

Price that reflects the quality of the product, and is low enough to match consumer incomes

Quality – usually more important for those with higher income levels

Choice – consumers like to select from a range of options, e.g. different flavours, colours or packet sizes

Convenience – making life easier for customers

Efficient and reliable service – such as having enough stock, or longevity of a product

Design – how good a product looks

Market segmentation – how we divide up customers into smaller groups with similar needs

Customer needs – market research aims to find out what these are, if they are being met, and what else is wanted

Risk and reward – market research can reduce the risk

Business Examples

Aldi & Lidl versus Tesco – meet different need through the price level and choice available

Banks – a variety of ways to access your funds is convenience

Takeaways – offer convenience so we pay more

Innocent Smoothies – conducted initial market research at a festival using two bins – Yes or No to launching their business

Survey monkey – a free online survey platform making it easier to conduct research

Core Knowledge

Customer needs are the specific wants or needs that buyers have when purchasing goods

Different customers have different needs

If a business knows and understands its customers' needs it is in a better position to produce the products that customers want, in the way that they want them, leading to increasing sales, and so contributing to long term survival

Customer needs are:**Price, Quality, Choice, Convenience Efficient, Reliable service and Design**

The purpose of market research is:
- To identify and understand customer needs
- Identify market gaps
- Reduce risk
- Inform business decisions

Methods of research are:
- **Primary** – collecting brand new data to meet the specific needs of the business
- **Secondary** – using research that has already been gathered
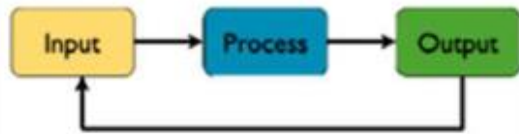
Social media has made it easier to collect data using comments, reviews, surveys, and online focus groups

Trends can be identified from tracking hashtags

What is a computer?

A computer is any device take takes an input, processes it and then outputs infor-

Input → Process → Output

Input Devices

An input device is a piece of hardware that can be used to enter data into a computer

Output Devices

An output device is a piece of hardware that can be used to represent information in a variety of ways

Fetch, Decode, Execute

The main function of the CPU is to run an endless fetch-execute cycle.

FETCH instructions
EXECUTE instructions
DECODE instructions

The speed of the FDE cycle is measured in cycles per second (hertz). This is known as the clock speed.

Processors are usually measured in giga-hertz (GHz)

1GHz = 1 billion instructions processed.

Key terminology

Term	Definition
Central processing unit (CPU)	The main component in a computer for processing data and instructions.
Control unit (CU)	Directs the flow of instructions and/or data and coordinates the other parts of the CPU. It generates clock ticks.
Arithmetic logic unit (ALU)	The ALU performs all the mathematical calculations / logical operations in the CPU.
Cache	Incredibly fast, but very expensive volatile memory used by the CPU.
Registers	Fast access storage locations found on the CPU where data or control information is temporarily stored.
Program counter (PC)	A counter that keeps track of the memory address of the instruction to be executed next.
Current instruction register (CIR)	A temporary holding area for the instruction that has just been fetched from memory.
Accumulator (ACC)	A register for temporary storage of arithmetic and logic data in the CPU.
Memory address register (MAR)	Stores the address in the main memory that is currently being read or written.
Memory data register (MDR)	Stores the data in the main memory that is currently being read or written.
Memory	Used for the temporary storage of currently running programs and data.
Clock speed	The number of FDE cycles that a CPU can carry out per second.
Cores	Some processors have multiple processors (cores) which can work in parallel, sequentially or can multitask.

Components

Computer components are all the different internal parts of a computer system that help it to operate. Each component has its own purpose and functions.

Central Processing Unit
The CPU is the brain of the computer. It does all the processing and calculating for the computer.

Heat sink
A heat sink is used to draw heat away from important components such as the CPU that can get quite hot. If a component gets too hot then it won't be able to perform its job as well.

Motherboard
The motherboard is what connects all the other components. It helps keep them secure and allows the components to communicate.

Power Supply
A power supply helps to convert electricity to a suitable voltage to power the computer safely.

Hard Drive
A Hard Drive is where all the computers long term data is stored i.e. data you want to keep for in the future, such as your own documents, music, films and games.

Random Access Memory
RAM is where temporary data is stored while the computer is currently being used. Once a computer is switched off this data is lost

Network Interface Card
A network interface card (NIC) enables a computer system to connect to a network. Some allow access wirelessly.

Year 10 | Computer Science | Python Programming

Programming Constructs

Sequence

Start program
Complete action 1
Complete action 2
End program

Selection

Start program
IF condition is TRUE:
    Complete action 1
ELSE:
    Complete action 2
End program

Iteration
For loop

Start program
FOR x number of times:
    Complete action 1
    Complete action 2
End program

While loop

Start program
WHILE condition is TRUE:
    Complete action 1
    Complete action 2
End program

Zero index

Lists have a place order starting at 0

Index	0	1	2
Value	3	"A"	8.7

Data Types

String - str()	"A sequence of characters inside quotation marks usually words or sentences."
Character – char()	Single character inside quotation marks: **"A"**
Integer – int()	Whole numbers: **7**
Float – float()	Decimal numbers: **7.5**
Boolean – bool()	Can only be: **TRUE** or **FALSE**

Logical Operators

Less than	5 < 10
More than	10 > 5
Equal to	5 == (2+3)
Less than OR equal to	5 <= 10
NOT equal to	5 != 10

Data Structures

Lists or arrays are like variables that store more than one value. Lists change in size and store any data types. Arrays have a fixed size, and all data must be the same type

myList = [5, "B", 1.6, "Hello"]
myArray = [5, 33, 100, 3]

List Methods

MyList.append(x)	Adds x to the end of the list
MyList.pop(index)	Removes the item at the index
len(myList)	Returns the list length
x in myList	Checks if x is in the list
.insert(x, index)	Inserts x at the index

Variables

Variables are used to **store** some data that we can use later in our code. Remember to:
- Use a descriptive name.
- No spaces in the name.
- Use one equals sign to store something in it.
- Call it by name to reuse it

age = 50
name = "Bob"
print(**name**, " is ", **age**, " years old")

Inputs and Outputs

We show information to the user with the keyword **print**.

print("This is a message")
print(5 + 5)

We get information from the user with the keyword **input**. Here the user is asked to enter their name, whatever they type in as an input is stored in the

ariable **myName**.
myName = input("What is your name?")

Design & Technology　　　| Year 10 |　　　Term 1

Material Properties

1	Absorbency	The ability of a material to absorb light, heat or moisture
2	Corrosion resistance	The ability of a material not to be damaged by its environment
3	Density	Mass of a material per unit volume.
4	Durability	The ability of a material to last a long time without being damaged.
5	Elasticity	The ability of a material to return to its original shape when a force on it is removed.
6	Hardness	The resistance of a material to wear and abrasion.
7	Malleable	Pliable, the ability of a material to be pressed or forced into shape without breaking.
8	Plasticity	The ability of a material to be shaped or moulded.
9	Stiffness	How rigid an object is.
10	Strength	The ability of a material to withstand a force that is applied to it.
11	Toughness	The ability of a material to absorb an impact without rupturing.

Terms related to Stakeholder

1	Primary Stakeholder	The main person or user group a product is designed for
2	Wider Stakeholder	The wiser audience who have an invested interest in the product being developed – manufacturers, retailer – online or shops, charities, councils, clubs or fan groups, etc.
2	Anthropometric Data	Measurements taken from many different people and many different limbs or body areas. Collated in age groups and 5th, 50th and 95th percentiles.
3	Ergonomic Data	Measurements of the environment a product will interact with, ensuring the product is fit for purpose.
4	Ethical Design	Designing with regard to people's principals, beliefs and morals.
5	End User	The person or people that will use a product when it is completed.
6	Exclusive design	Design of products for a limited audience.
7	Inclusive design	Design of products that can be used by everyone without special adaptations.
8	Product Analysis	Analysing existing products to gain useful information and opportunities for your own designs
9	User Centred Design	A design approach where the needs and wants of the end user are considered extensively at each stage of the design process.
10	Viability	When a product is not only purchased initially but performs well enough for it to be recommended to others, and for sales to continue.

Manufacturing Considerations

1	Economies of Scale	A saving in cost per product gained by making a higher number of products.
2	One-off/ Bespoke Production	Making a single product to a customer specification.
3	Batch Production	Making a series of groups of identical products.
4	Mass Production	Making the same product on a large scale.
5	Just-in-Time Manufacturing/ JiT	Manufacturing system where items from suppliers are delivered only when they are needed.
6	Lean Manufacturing	A systematic approach to eliminate all forms of waste in manufacturing.
7	Rapid Prototyping	An additive manufacturing technology, such as 3D printing, used to produce a 3D product in a single operation from a CAD model.
8	Jig	A custom-made tool designed to achieve accuracy, repeatability and interchangeability during product manufacture.
9	Pattern	A type of template that is used to trace the shape of parts of a garment onto fabric before it is cut.
10	Standard Components	Common parts that are commercially available in specific sizes. E.g nuts and bolts, rivets, hinges, etc
11	Template	Used to draw a shape on material which can then be cut around.
12	Tolerance	The permissible limits of variation in the dimensions or physical properties of a manufactured product or part.
13	Circular Economy	A model that aims to increase the use of renewable energy and design products that are 'made to be made again'.
14	Lifecycle Assessment/LCA	A tool for systematically evaluating the environmental impact of a product at all stages of it's life.

Characters	
Inspector	Priestley's mouthpiece; advocates social justice
Mr Birling	Businessman, capitalist, against social equality
Mrs Birling	Husband's social superior, believes in personal responsibility
Sheila	Young girl, comes to change views and pities Eva, feels regret
Eric	Young man, drinks too much, rapes Eva, regrets actions
Gerald	Businessman, engaged to Sheila, politically closest to Birling
Eva	Unseen in play, comes to stand for victims of social injustice

Plot	
Act 1	Sheila and Gerald's engagement is celebrated
Act 1	Birling says there will be no war; references Titanic
Act 1	Inspector arrives; a young girl has committed suicide
Act 1	Birling threw her out after strike; Sheila had her fired for laughing
Act 2	Gerald had an affair with Daisy Renton
Act 2	Mrs Birling refused to give charity to Eva; blames father
Act 3	Eric's involvement revealed; possible rape hinted at
Act 3	Inspector leaves. Gerald returns; met policeman, no Inspector G
Act 3	Telephone rings; an inspector is coming

Key quotes	
Birling's confidence	'We're in for a time of steadily increasing prosperity'
Birling on society	'the way some of these cranks talk and write now, you'd think everybody has to look after everybody else'
Sheila's recognition	'but these girls aren't cheap labour – they're *people*'
Sheila's regret	'it's the only time I've ever done anything like that, and I'll never, never do it again to anybody'
Sheila on the Inspector	'we all started like that – so confident, so pleased with ourselves until he began asking us questions'
Sheila on Eric	'he's been steadily drinking too much for the last two years'
Inspector on guilt	'I think you did something terribly wrong – and that you're going to spend the rest of your life regretting it'
Mrs Birling defends herself	'she was claiming elaborate fine feelings and scruples that were simply absurd in a girl in her position'
Eric explains	'I'm not very clear about it, but afterwards she told me she didn't want me to go in but that – well, I was in that state when a chap easily turns nasty – and I threatened to make a row'
The Inspector says	'but each of you helped to kill her. Remember that'
Inspector's message	'there are millions and millions and millions of Eva Smiths and John Smiths still left with us, with their lives, their hopes and fears, their suffering, and chance of happiness, all intertwined with our lives, with what we think and say and do. We don't live alone.'
Birling's confidence	'the famous younger generation who know it all'

Theatrical Stagecraft: Dramatic Devices	
1. Dramatic irony	the audience knows what the characters don't
2. Stage directions	Instructions for the actors; often revealing
3. Setting	Constant throughout but subtle changes e.g. lighting
4. Tension	Builds up throughout the play
5. Cliff-hanger	The ending allows the audience to make up their minds

Key concepts and context	
1912	Play is set here; just before WWI and sinking of the Titanic
1945	Priestley wrote the play then; start of the welfare state and ideals of social equality made real
Social responsibility	Or socialism; we must all look after each other
Capitalism	Business should make money no matter the human cost; we are all responsible only for ourselves
Class	Upper and lower social classes are segregated
Age	Old vs young; new and old ideas counterposed
Attitudes to women	Patriarchal leading to misogyny

Year 11- An Inspector Calls

Language Paper 1 – Knowledge Organiser

Section A - Reading

15 Mins	<u>As you read the extract, underline and annotate any words or phrases that spark an idea</u> • What is the writer writing about? • How has the writer presented their ideas? • Why has the writer explored this in the text? •Ensure that you have come up with 10-15 words when you do this.
Q 1 – 5 mins	**Example Question: List four things from this part of the text about the coach and the horses [4 marks]** • This will always focus on a small section of the text. • Identify four things you can list. • Look for the literal (what it literally says). Be careful not to be tricked!
Q2 – 10 mins	**Example Question: How does the writer use language to describe the storm [8 marks]** • This question wants you to analyse LANGUAGE. •This question will ask you to analyse specific lines. • Analyse WHAT, HOW, WHY. • Link directly back to focus on the question. • Try and think what big idea is the writer exploring so you can start with an overview.
Q3 – 10 mins	**Example Question: How is the text structured to interest you as a reader? [8 marks]** • This question wants you to analyse STRUCTURE. • This will be analysing the whole text. •Analyse how the writer has structured the text – beginning, middle and end. • Use the 3ws – WHAT is it, WHERE is it and WHY is it there. • Analyse any other structural features.

Q4 – 20 mins

Example Question: A reader said: 'This part of the story, where Alice decided to continue digging for the object is very mysterious' To what extent do you agree?   [20 marks]

•Focused on a section of the text and it is asking you to evaluate
•Decide whether you agree, partially agree or disagree with the statement – you can focus on part of it.
•Come up with 3-4 big ideas –WHAT, and focus on HOW and WHY to support your opinion.

Section B – Writing – 45 mins

Example Question: Write a story about time travel as suggested by the picture OR Describe life as you imagine it in 200 years' time.

• Ensure you spend 5-10 minutes creating a really clear plan.
• You should have a clear narrative voice and mood throughout.
• If you use the picture, use it as a springboard for bigger ideas that link to what you see.
• Use techniques and imagery delicately so that you achieve a specific effect.
• Make sure that your writing is creative and controlled – around 2 to 2.5 pages.
• Your writing should be well structured and your ideas connected together.
• You should use a range of sentence structures to add to the mood/effect you are trying to achieve.
• You should use a range of vocabulary.
• Leave time at the end to proof reading and check your work, particularly your SPAG – remember editing is key.

Structure Strip – Sentence Stems

Q1. List **four** details.

Q2. LANGUAGE FOCUS
• *The author's employment of [method] in: "XXXXXXX" cleverly conveys an impression to the reader that … …*
• *The use of [method] by the author in: "XXXXXXXX" subtly evokes an idea to the reader that … …*
• Write using the **What/How/Why** method of analysis; **Methods** – *Words/phrases; metaphor; symbolism; simile; verbs; adjectives and sentence forms*

Q3: STRUCTURE FOCUS
• The author first focuses the reader's attention on … …
• The *focus then shifts* … …
• The *narrative focus narrows* (or *widens*) on … … …
• *Dialogue* is used to … (advance the plot? Revelatory detail?)
• The *climax* of the *episode* is … … …
Structure - Beginning, Middle, End, Shifts, Patterns Flashbacks/forwards; interior monologue; tension escalates …

Q4: EVALUATE METHODS
• The author uses a variety of methods to **[link to focus of the question]**
• *Use evaluative adverbs* when explaining effects of methods: *skilfully; cleverly; subtly; powerfully; deliberately; effectively.*
• Write using the **What/How/Why** method of analysis; **Methods** – *Words/phrases; metaphor; symbolism; simile; verbs; adjectives and sentence forms*

Language Paper 1 – Knowledge Organiser

Key Images - Skills	Key Vocabulary and Subject Terminology		
Q1 – Listing	**Evaluate -** To judge or assess what your opinion is based on the evidence.	**Anaphora –** a repetition of sentence openers or a repetition of the beginning of successive clauses (parts of the sentence separated by commas).	**Foreshadowing -** Warning or hint towards a future event
Q2 -Language Analysis	**Narrative Voice -** The perspective a story is told from.	**Epiphora/Epistrophe –** the repetition of a word or phrasing at the end of successive clauses or sentences.	**Cyclical –** The text has a circular pattern (there are connections between the beginning and the end)
	Describe – to say or write what someone or something is like.	**Metaphor –** this describes a person or object by linking it to something that is thought to have similar qualities to that person or object.	**Tension -** a feeling of nervousness before an important or difficult event.
	Connotations – a feeling or idea that is suggested by a particular word or phrase.		**Shift –** to move or change from one focus in the text to another.
	Protagonist – one of the main characters in a story or a play.	**Extended Metaphor –** a metaphor that is repeated across the text.	**Interior monologue –** is where the text describes the thoughts passing through the minds of the characters.
Q3 – Structural Analysis	**Concrete Noun –** A noun (person , class of people, place, thing or name) that can be identified through one of the senses (touch, taste, smell, hearing and sight).	**Imperative verb –** a type of verb that is used to give orders.	**Climax –** the most important or exciting point in story or situation, especially when this happens near the end.
	Abstract Noun – A noun that you cannot perceive through one of the five sense. Things like ideas, states of mind and emotions are examples of abstract nouns.	**Motif –** is a repeated theme, image, idea or character in a text because it stands for/symbolises something.	**Exposition –** are the passages/part of the text, which explains where events take place, what happened before the story begins and the background or the characters.
		Personification – giving a human quality or feature to something which not human.	
Q4 – Evaluation	**Symbolism -** the use of symbols to represent/mean an idea.	**Simile –** where you compare one thing with another, always including the words 'as' or 'like'.	**Cliffhanger –** a story that is exciting because its ending is uncertain.
	Mood – the emotional features of the text or the way the writer intends you to feel	**Semantic Field –** are a group of words which are linked to one another because they have similar meanings or similar themes/abstracts.	**Evaluative Verbs**
			Reflects– shows a similar idea/theme.
Q5 – Creative Writing	**Oxymoron –** two words used together that have, or seem to have, opposite meanings.	**Juxtaposition –** putting things close together to create a contrasting effect) showing their differences.	**Indicates –** shows or points to something in a clear way.
			Emphasises – draws attention to something.
	Hyperbole - a way of speaking or writing that makes someone or something sound bigger, better, more, etc, than they are (exaggeration).	**Chronological –** following the order in which a series of events happened.	**Connotes –** creates a deeper metaphorical or symbolic meaning.

KEYWORDS

Macronutrients: A type of food (e.g. fat, protein, carbohydrate) required in large amounts in the diet.

Carbohydrates: Macronutrients required by all animals; made in plants by the process of photosynthesis.

Protein: A macronutrient that is essential to building muscle mass.

Amino Acid: The building blocks of proteins

Essential amino acids: 8 of the different amino acids found in proteins from plants and animals that have to be provided by the diet

Protein complementation: Combining different protein types at the same meal to ensure all EAAs are ingested

Fat: Macronutrient which supplies the body with energy.

PROTEIN

Made up of building blocks called amino acids.

There are 20 amino acids found in protein.

Eight amino acids must be provided by the diet (called essential amino acids). The essential amino acids (EAAs) are isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine.

In young children, additional amino acids, e.g., histidine and tyrosine, are sometimes considered to be essential (or 'conditionally essential') because they may be unable to make enough to meet their needs.

0.75g/kg bodyweight/day in adults.

Animal sources: meat; poultry; fish; eggs; milk; dairy food.

Plant sources: soya; nuts; seeds; pulses, e.g., beans, lentils; mycoprotein.

CARBOHYDRATES

All types of carbohydrate are compounds of carbon, hydrogen and oxygen.

They can be divided into three main groups according to the size of the molecule.

These three types are:
• monosaccharides (e.g., glucose);
• disaccharides (e.g., lactose);
• polysaccharide (e.g., sucrose).

The two types main of carbohydrate that provide dietary energy are starch and sugars.

Starchy carbohydrate is an important source of energy.

Starchy foods - we should be choosing wholegrain versions of starchy foods where possible.

Total carbohydrate - around 50% of daily food energy.

Free sugars include all sugars added to foods plus sugars naturally present in honey, syrups and unsweetened fruit juice (<5% daily food energy).

DIETARY FIBRE

Dietary fibre is also a type of carbohydrate.

Fibre is a term used for plant- based carbohydrates that are not digested in the small intestine (30g/day for adults).

Food examples include wholegrain cereals and cereal products; oats; beans; lentils; fruit; vegetables; nuts; and seeds.

Dietary fibre helps bulk up stools and improves gut health.

Dietary fibre helps reduce the risk of heart disease.

Dietary fibre helps disease, diabetes and some cancers.

Dietary fibre helps help weight control

Dietary fibre helps prevent constipation.

FAT

Sources of fat include saturated fat; monounsaturated fat; polyunsaturated fat.

Fats can be saturated, when they have no double bonds, monounsaturated, when they have one double bond, or polyunsaturated, when they have more than one double bond.

<35% energy, Saturated fat <11% energy.
A high saturated fat intake is linked with high blood cholesterol levels.

Saturated fat: fatty cuts of meat; skin of poultry; butter; hard cheese; biscuits, cakes and pastries; chocolate.

Monounsaturated fat: edible oils especially olive oil; avocados; nuts.

Polyunsaturated fatty acids: edible oils especially sunflower oil; seeds; margarine; spreadable fats made from vegetable oils and oily fish.
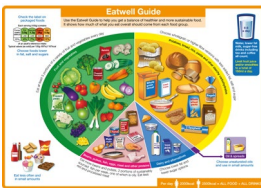
The Eatwell Guide shows how much of what we eat overall should come from each food group to achieve a healthy, balanced diet.

1.1	Qu'est-ce que tu fais en ligne? *What do you do online?*		
Present tense verbs (regular)	**Nouns**	**Extra detail**	**Verb + Time phrase**
J'écoute *I listen* Je télécharge *I download*	du rap *to rap* de la musique *to music* des chansons *to songs*	avec mes écouteurs *on my headphones*	je fais ça… *I do that (it)…* souvent *often*
Je regarde *I watch* Je partage *I share*	des clips sur TikTok des clips des chaînes YouTube *YouTube channels* des photos des selfies	avec mon ami *with my friend*	parfois *sometimes* tout le temps *all the time* tous les jours *every day* tous les soirs *every evening*
Je parle *I talk*			tous les week-ends *every weekend*
J'envoie *I send*	de la musique des clips des photos des selfies des messages	à mes copains et copines *to my friends*	de temps en temps *from time to time*
J'achète *I buy*	des vêtements *clothes*	en ligne *online* sur Vinted *on Vinted*	
Je joue *I play*	à des jeux vidéo *video games* à des jeux en ligne *online games*	sur ma console *on my console* sur ma tablette *on my tablet* sur mon portable *on my phone* sur mon ordinateur *on my computer*	
Je cherche *I look for*	des idées *ideas* des informations	sur Internet *on the internet*	
Je passe *I spend*	beaucoup de temps *a lot of time* trop de temps *too much time*	devant un écran *in front of a screen* devant un appareil *in front of a device* sur des réseaux sociaux *on social media*	

Est-ce que tu es pour ou contre Internet? *Are you for or against the internet?*					
À mon avis, Internet, c'est *In my opinion, the internet is* très *very* vraiment *really* trop *too*	amusant *fun* formidable *terrific* génial *great* hyper-cool *ultra-cool* super *super* affreux *awful* dangereux *dangerous* ennuyeux *boring* inquiétant *worrying* nul *rubbish* mauvais pour la santé *bad for your health*	car *because* parce qu' *because* puisqu' since mais *but* cependant pourtant *however* toutefois *(and) yet* malgré cela *in spite of that* même si *even if*	il y a *there is/are*	des applis *apps* des dangers *dangers* des risques de sécurité/cybercriminalité *security/ cybercrime risks* des risques d'harcèlement *bullying risks* des vols d'identité/de données *identity/data theft*	pour tout *for everything* pour la musique *for music* pour les jeux *for games* pour les achats *for shopping* surtout pour la jeunesse *especially for young people*

1.2	Tu as une vie active? *Do you have an active life?*			
Time phrase	**Present tense verbs**	**Extra detail**	**Verb**	**Time phrases**
D'habitude *Usually* Parfois *Sometimes* Souvent *Often* Normalement *Normally* Le soir *In the evenings* Le samedi *On Saturdays*	je joue *I play* nous jouons *we play*	au basket *basketball* au foot(ball) *football* au rugby *rugby* du piano *the piano* du violon *the violin* de la guitare *the guitar* de la flûte *the flute*	dans l'équipe du college *in the school team* dans un groupe de musique *in a music group*	
	je lis *I read* nous lisons *we read*	un (bon) livre *a good book*	chez moi *at home* au collège *at school* à la bibliothèque *at the library* aux jardins publiques *at the park (public gardens)*	
	Present tense verbs (irregular)			
	je fais *I do/make* nous faisons *we do/make* je ne fais pas de/d' (du/de la/des/ un/une) *I don't do/make* je ne fais jamais de/d' (du/de la/des/ un/une) *I never do/make*	du sport *sport* du vélo *cycling* de l'athlétisme *athletics* de la cuisine *cooking* de la danse *dancing* de la natation *swimming* une promenade *a walk* un effort *an effort*	avec mon meilleur ami *with my best friend* avec ma meilleure amie *with my best friend* avec mes copains / copines *with my friends*	
	je vais *I go* nous allons *we go*	au centre sportif *to the sports centre* au théâtre *to the theatre* au cinema *to the cinema* au gymnase *to the gym* à un concert *to a concert* à la piscine *to the swimming pool* à la plage *to the beach*	ensemble *together* seul(e) *alone*	
	j'ai *I have* nous avons *we have*	un cours de musique *a music lesson* un concert *a concert*	au collège *at school*	
	je suis *I am* je ne suis pas *I am not* nous sommes *we are*	très *very* assez *quite* membre(s) *a member*	actif(s) / active(s) *active* sportif(s) / sportive(s) *sporty* de l'équipe de handball *of the handball team* d'un groupe de musique *of a music group*	

Geography I Y10

Relief of the UK

Relief of the UK can be divided into uplands and lowlands. Each have their own characteristics.

Areas +600m: Peaks and ridges cold, misty and snow common.

Areas -200m: Flat or rolling hills. Warmer weather. i.e. Fens

Key

Lowlands

Uplands

Types of Erosion

The break down and transport of rocks – smooth, round and sorted.

Attrition	Rocks that bash together to become smooth/smaller.
Solution	A chemical reaction that dissolves rocks.
Abrasion	Rocks hurled at the base of a cliff to break pieces apart.
Hydraulic Action	Water enters cracks in the cliff, air compresses, causing the crack to expand.

Types of Transportation

A natural process by which eroded material is carried/transported.

Solution	Minerals dissolve in water and are carried along.
Suspension	Sediment is carried along in the flow of the water.
Saltation	Pebbles that bounce along the sea/river bed.
Traction	Boulders that roll along a river/sea bed by the force of the flowing water.

Mass Movement

A large movement of soil and rock debris that moves down slopes in response to the pull of gravity in a vertical direction.

1	Rain saturates the permeable rock above the impermeable rock making it heavy.
2	Waves or a river will erode the base of the slope making it unstable.
3	Eventually the weight of the permeable rock above the impermeable rock weakens and collapses.
4	The debris at the base of the cliff is then removed and transported by waves or river.

Original position / Slumped mass

Formation of Coastal Spits - Deposition

Example: Spurn Head, Holderness Coast.
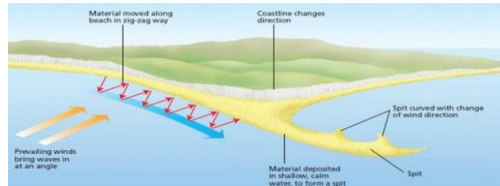
1) Swash moves up the beach at the angle of the prevailing wind.
2) Backwash moves down the beach at 90° to coastline, due to gravity.
3) Zigzag movement (Longshore Drift) transports material along beach.
4) Deposition causes beach to extend, until reaching a river estuary.
5) Change in prevailing wind direction forms a hook.
6) Sheltered area behind spit encourages deposition, salt marsh forms.

Types of Weathering

Weathering is the breakdown of rocks where they are.

Carbonation	Breakdown of rock by changing its chemical composition.
Mechanical	Breakdown of rock without changing its chemical composition.

What is Deposition?

When the sea or river loses energy, it drops the sand, rock particles and pebbles it has been carrying. This is called deposition.

Formation of Bays and Headlands

Bay / Soft rock / Hard rock / Headland
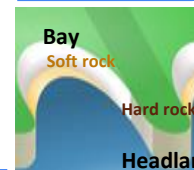
1) Waves attack the coastline.
2) Softer rock is eroded by the sea quicker forming a bay, calm area cases deposition.
3) More resistant rock is left jutting out into the sea. This is a headland and is now more vulnerable to erosion.

How do waves form?

Waves are created by wind blowing over the surface of the sea. As the wind blows over the sea, friction is created - producing a swell in the water.

Why do waves break?

1	Waves start out at sea.
2	As waves approaches the shore, friction slows the base.
3	This causes the orbit to become elliptical.
4	Until the top of the wave breaks over.

Motion of Individual Water Molecules / Direction of Waves / Shore
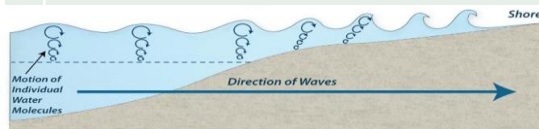
Mechanical Weathering Example: Freeze-thaw weathering

Stage One
Water seeps into cracks and fractures in the rock.

Stage Two
When the water freezes, it expands about 9%. This wedges apart the rock.

Stage Three
With repeated freeze-thaw cycles, the rock breaks off.

Size of waves

- **Fetch** how far the wave has travelled
- **Strength** of the wind.
- How long the wind has been blowing for.

Types of Waves

Constructive Waves	Destructive Waves
This wave has a **swash that is stronger** than the backwash. This therefore builds up the coast.	This wave has a **backwash that is stronger** than the swash. This therefore erodes the coast.

Formation of Coastal Stack

Example: Old Harry Rocks, Dorset

1) Hydraulic action widens cracks in the cliff face over time.
2) Abrasion forms a wave cut notch between HT and LT.
3) Further abrasion widens the wave cut notch to from a cave.
4) Caves from both sides of the headland break through to form an arch.
5) Weather above/erosion below –arch collapses leaving stack.
6) Further weathering and erosion eaves a stump.

Coastal Defences

Hard Engineering Defences

Groynes	Wood barriers prevent longshore drift, so the beach can build up.	• Beach still accessible. • No deposition further down coast = erodes faster.
Sea Walls	Concrete walls break up the energy of the wave . Has a lip to stop waves going over.	• Long life span • Protects from flooding • Curved shape encourages erosion of beach deposits.
Gabions or Rip Rap	Cages of rocks/boulders absorb the waves energy, protecting the cliff behind.	• Cheap • Local material can be used to look less strange. • Will need replacing.

Soft Engineering Defences

Beach Nourishment	Beaches built up with sand, so waves have to travel further before eroding cliffs.	• Cheap • Beach for tourists. • Storms = need replacing. • Offshore dredging damages seabed.
Managed Retreat	Low value areas of the coast are left to flood & erode.	• Reduce flood risk • Creates wildlife habitats. • Compensation for land.

Case Study: Hunstanton Coast

Location and Background
Located on the North-West coast of Norfolk. The town is a popular sea resort for tourists to visit all year round.
In 2013, the town suffered damage from a storm surge. The Sea Life Centre was flooded and closed for a number of months.

Geomorphic Processes
- Old Hunstanton is dominated by dunes that are formed when sand is trapped and built up behind objects.
- Hunstanton Cliffs are made from three different bands of rock (sandstone, red chalk and white chalk).
- Hunstanton Cliff are exposed to cliff retreat. This is when a wave-cut notch develops enough for the cliff face to become unstable and eventually collapses.
- Longshore drift travels from Sheringham in the north to the Wash in the south.

Management
- Hunstanton is protected by a number of groynes. These trap sand to build up the beach for better protection.
- The town is also protected by large sea walls to prevent flooding and deflect the waves energy.
- $15 million has been spent on beach nourishment to add sediment to beach for increased protection against flooding.

Water Cycle Key Terms

Precipitation	Moisture falling from clouds as rain, snow or hail.
Interception	Vegetation prevent water reaching the ground.
Surface Runoff	Water flowing over surface of the land into rivers
Infiltration	Water absorbed into the soil from the ground.
Transpiration	Water lost through leaves of plants.

Physical and Human Causes of Flooding.

Physical: Prolong & heavy rainfall
Long periods of rain causes soil to become saturated leading runoff.

Physical: Geology
Impermeable rocks causes surface runoff to increase river discharge.

Physical: Relief
Steep-sided valleys channels water to flow quickly into rivers causing greater discharge.

Human: Land Use
Tarmac and concrete are impermeable. This prevents infiltration & causes surface runoff.

Upper Course of a River

Near the source, the river flows over steep gradient from the hill/mountains. This gives the river a lot of energy, so it will erode the riverbed vertically to form narrow valleys.

Formation of a Waterfall

1) River flows over alternative types of rocks.

2) River erodes soft rock faster creating a step.

3) Further hydraulic action and abrasion form a plunge pool beneath.

4) Hard rock above is undercut leaving cap rock which collapses providing more material for erosion.

5) Waterfall retreats leaving steep sided gorge.
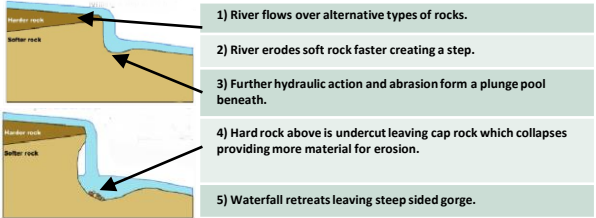
Middle Course of a River

Here the gradient get gentler, so the water has less energy and moves more slowly. The river will begin to erode laterally making the river wider.

Formation of Ox-bow Lakes

Step 1	Step 2
Erosion of outer bank forms river cliff. Deposition inner bank forms slip off slope.	Further hydraulic action and abrasion of outer banks, neck gets smaller.

Step 3	Step 4
Erosion breaks through neck, so river takes the fastest route, redirecting flow	Evaporation and deposition cuts off main channel leaving an oxbow lake.
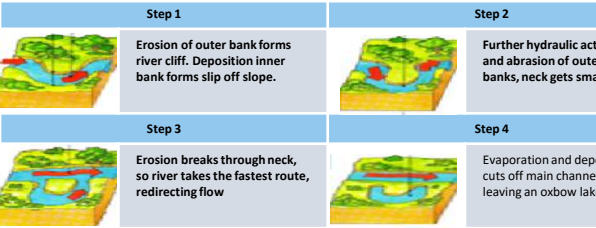
Lower Course of a River

Near the river's mouth, the river widens further and becomes flatter. Material transported is deposited.

Formation of Floodplains and levees

When a river floods, fine silt/alluvium is deposited on the valley floor. Closer to the river's banks, the heavier materials build up to form natural levees.

• Nutrient rich soil makes it ideal for farming.
• Flat land for building houses.

River Management Schemes

Soft Engineering

Afforestation – plant trees to soak up rainwater, reduces flood risk.
Demountable Flood Barriers put in place when warning raised.
Managed Flooding – naturally let areas flood, protect settlements.

Hard Engineering

Straightening Channel – increases velocity to remove flood water.
Artificial Levees – heightens river so flood water is contained.
Deepening or widening river to increase capacity for a flood.

Hydrographs and River Discharge

River discharge is the volume of water that flows in a river. Hydrographs who discharge at a certain point in a river changes over time in relation to rainfall

1. **Peak discharge** is the discharge in a period of time.

2. **Lag time** is the delay between peak rainfall and peak discharge.

3. **Rising limb** is the increase in river discharge.

4. **Falling limb** is the decrease in river discharge to normal level.

Case Study: The River Tees

Location and Background
Located in the North of England and flows 137km from the Pennines to the North Sea at Red Car.

Geomorphic Processes
Upper – Features include V-Shaped valley, rapids and waterfalls. High Force waterfall drops 21m and is made from harder Whinstone and softer limestone rocks. Gradually a gorge has been formed.
Middle – Features include meanders and ox-bow lakes. The meander near Yarm encloses the town.
Lower – Greater lateral erosion creates features such as floodplains & levees. Mudflats at the river's estuary.


Management
- Towns such as Yarm and Middleborough are economically and socially important due to houses and jobs that are located there.
- Dams and reservoirs in the upper course, controls river's flow during high & low rainfall.
- Better flood warning systems, more flood zoning and river dredging reduces flooding.

What is Urbanisation?

This is an increase in the amount of people living in urban areas such as towns or cities. In 2007, the UN announced that for the first time, more than **50 % of the world's population live in urban areas**.

Where is Urbanisation happening?

Urbanisation is happening all over the word but in LICs and NEEs rates are much faster than HICs. This is mostly because of the rapid economic growth they are experiencing.
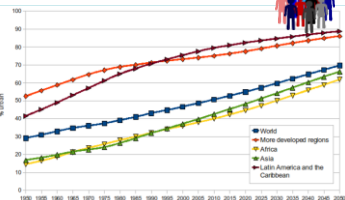
Causes of Urbanisation

Rural - urban migration (1)

The movement of people from rural to urban areas.

Push	Pull
• Natural disasters • War and Conflict • Mechanisation • Drought • Lack of employment	• More Jobs • Better education & healthcare • Increased quality of life. • Following family members.

Natural Increase (2)

When the birth rate exceeds the death rate.

Increase in birth rate (BR)	Lower death rate (DR)
• High percentage of population are child-bearing age which leads to high fertility rate. • Lack of contraception or education about family planning.	• Higher life expectancy due to better living conditions and diet. • Improved medical facilities helps lower infant mortality rate.

Types of Cities

Megacity   An urban area with over **10 million people** living there.

More than two thirds of current megacities are located in either NEEs (Brazil) and LICs (Nigeria). The amount of megacities are predicted to increase from 28 to 41 by 2030.

Sustainable Urban Living

Sustainable urban living means being able to live in cities in ways that do not pollute the environment and using resources in ways that ensure future generations also can use then.

Water Conservation

This is about reducing the amount of water used.
• Collecting rainwater for gardens and flushing toilets.
• Installing water meters and toilets that flush less water.
• Educating people on using less water.

Energy Conservation

Using less fossil fuels can reduce the rate of climate change.
• Promoting renewable energy sources.
• Making homes more energy efficient.
• Encouraging people to use energy.

Creating Green Space

Creating green spaces in urban areas can improve places for people who want to live there.
• Provide natural cooler areas for people to relax in.
• Encourages people to exercise.
• Reduces the risk of flooding from surface runoff.

Waste Recycling

More recycling means fewer resources are used. Less waste reduces the amount that eventually goes to landfill.
• Collection of household waste.
• More local recycling facilities.
• Greater awareness of the benefits in recycling.

Unit 2a

Urban Issues & Challenges

Sustainable Urban Living Example: Freiburg

Background & Location

Freiburg is in west Germany. The city has a population of about 220,000. In 1970 it set the goal of focusing on social, economic and environmental sustainability.

Sustainable Strategies

• The city's waste water allows for rainwater to be retained.
• The use of sustainable energy such as solar and wind is becoming more important.
• 40% of the city is forested with many open spaces for recreation, clean air and reducing flood risk.

Integrated Transport System

This is the linking of different forms of public and private transport within a city and the surrounding area.

Brownfield sites is an area of land or premises that has been previously used, but has subsequently become vacant, derelict or contaminated.

Traffic Management

Urban areas are busy places with many people travelling by different modes transport. This has caused urban areas to experience different traffic congestion that can lead to various problems.

Environmental problems

• Traffic increases air pollution which releases greenhouse gases that is leading to climate change.

Economic problems

• Congestion can make people late for work and business deliveries take longer. This can cause companies to loose money.

Social Problems

• There is a greater risk of accidents and congestion is a cause of frustration. Traffic can also lead to health issues for pedestrians.

Congestion Solutions

• Widen roads to allow more traffic to flow easily.
• Build ring roads and bypasses to keep through traffic out of city centres.
• Introduce park and ride schemes to reduce car use.
• Encourage car-sharing schemes in work places.
• Have public transport, cycle lanes & cycle hire schemes.
• Having congestion charges discourages drivers from entering the busy city centres.

Traffic Management Example: Bristol

In 2012 Bristol was the most congested city in the UK. Now the city aims to develop it's integrated transport system to encourage more people to use the public transport. The city has also invested in cycle routes and hiring schemes.

Greenbelt Area

This is a zone of land surrounding a city where new building is strictly controlled to try to prevent cities growing too much and too fast.

The investment in the revival of old, urban areas by either improving what is there or clearing it away and rebuilding.

Urban Change in a Major UK City: Sheffield Case Study

Location and Background | City's Importance

Sheffield is a city in South Yorkshire in the North of England. The population of the city is 575,000, making it the fifth largest in the UK. The city grew during the industrial revolution.

- The city enjoys a large sporting heritage with famous athletes and football clubs.
- Sheffield is famous for being described as the greenest city in Europe.
- Sheffield has a thriving community of international students.
- Sheffield has two major UK universities popular with young students.
- Fastest growing city outside of London.

Migration to Sheffield | City's Opportunities

During the industrial revolution, the population dramatically increased with people migrating from nearby rural communities.

With the attraction of working in the large steelworks or mines, international migrates from Ireland, Pakistan and the Caribbean came to work in Sheffield from 1900-1960.

More recently, refugees have arrived from Syria and Iraq. Also Sheffield has attracted thousands of students from the UK & abroad.

Social: Sheffield has various cultural attractions such as the Crucible Theatre & museums. Also Meadowhall is very popular with shoppers.

Economic: The retail sectors contribute to thousands of jobs. The Universities and advanced manufacturing contributes to the city's economy.

Environmental: Sheffield is described as being the greenest city in Europe. It's close to the Peak District and has various open spaces (i.e. the Peace Garden) for residents to enjoy.

City Challenges | Sheffield City Centre Regeneration Projects

Social: House prices have increased along with greater house shortages.
A third of households live in the 10% of the most deprived wards in the UK.

Economic: Closure of the steelworks and factories caused large scale unemployment.
Poor transport connections to large economic hubs such as London and Manchester.

Environmental: Urban sprawl has led to increased pressure and decline of greenfield sites around the city.

Aims: Sheffield wanted to attract investment in more businesses and job opportunities. Also the projects aim to improve public spaces with more green urban environments.

Main features: Brownfield sites and derelict buildings pulled down, £50 million invested on its train station to improve connections, £120 million on green open spaces with the construction of the Winter Gardens and Peace Gardens, £430m to improve the retail quarter and attract shoppers away from Meadowhall.

Urban Change in a Major NEE City: RIO DE JANEIRO Case Study

Location and Background | City's Importance

Rio is a coastal city situated in the South East region of Brazil within the continent of South America. It is the second most populated city in the country (6.5 million) after Sao Paulo.

- Has the second largest GDP in Brazil It is headquarters to many of Brazil's main companies, particularly with Oil and Gas.
- Sugar Loaf mountain is world heritage site
- One of the most visited places in the Southern Hemisphere.
- Hosted the 2014 World Cup and 2016 Summer Olympics.
- Christ the Redeemer is a new 7 wonder.

Migration to Rio De Janeiro | City's Opportunities

The city began when Portuguese settlers with slaves arrived in 1502. Since then, Rio has become home to various ethnic groups.

However, more recently, millions of people have migrated from rural areas that have suffered from drought, lack of services and unemployment to Rio. People do this to search for a better quality of life.

This expanding population has resulted in the rapid urbanisation of Rio de Janeiro.

Social: Standards of living are gradually improving. The Rio Carnival is an important cultural event for traditional dancing and music.

Economic: Rio has one of the highest incomes per person in the country. The city has various types of employment including oil, retail and manufacturing.

Environmental: The hosting of the major sporting events encouraged more investment in sewage works and public transport systems.

City Challenges | Self-help schemes - Rocinha, Bairro Project

Social: There is a severe shortage of housing, schools and healthcare centres available. Large scale social inequality, is creating tensions between the rich and poor.

Economic: The rise of informal jobs with low pay and no tax contributions. There is high employment in shanty towns called Favelas

Environmental: Shanty towns called Favelas are established around the city, typically on unfavourable land, such as hills.

- The authorities have provided basic materials to improve peoples homes with safe electricity and sewage pipes.
- Government has demolished houses and created new estates.
- Community policing has been established, along with a tougher stance on gangs with military backed police.
- Greater investment in new road and rail network to reduce pollution and increase connections between rich and poor areas.

Life stages

Life stage	Age	Example
Infancy	0 – 2 years	A rapid increase in PIES growth and development. Individuals are dependent on carers.
Early childhood	3 – 8 years	Physical skills rapidly develop and are mastered. Children become more independent.
Adolescence	9 – 18 years	Huge physical and emotional changes occur in this life stages as individuals begin puberty. Start to form a wide range of relationships.
Early adulthood	19 – 45 years	Peak physical maturity occurs here . This life stage often has a number of major life events, such as marriage and children.
Middle adulthood	46 – 65 years	Usually in this life stage adults change emotionally and socially due to the ageing process beginning.
Later adulthood	65 + years	All types of development can decline in this life stage eg reduction of social circles and cognitive ability as people become physically weaker.

Key terminology

Life stage = distinct phases of life that each person passes through
Characteristic = something that is typical of people at a particular life stage
P.I.E.S = physical, intellectual, emotional, social
Growth = describes increased body size in terms of height and weight
Development = involves gaining new skills and abilities such as riding a bike
Classification – involves grouping similar things into a category
Milestone – significant change in development
Puberty = process towards sexual maturity, preparing adolescents for reproduction
Menopause – ceasing of menstruation (periods)
Mobility = use of gross motor skills
Dexterity = use of fine motor skills
Contentment = feeling happy in environment
Self-esteem = how a person feels about themselves
Self-image = how a person sees themselves
Attachment/bonding = emotional ties an individual forms with others

Types of physical development

Gross motor development	The skills acquired to control and coordinate large muscles – legs, arms and torso.
Fine motor development	The skills acquired to control and coordinate small muscles – hands, fingers and toes.
Top to toe	Development starts from the head down – gaining control of the head before their back muscles and legs
Inner to outer	Control starts from the body and moves out to the limbs , toes and fingers.
Same patterns at different rates	All infants and children pass through the same stages but they may do so at different ages – they cannot skip a stage

Types of development

Physical	Describes growth patterns and changes in mobility of the large and small muscles in the body
Intellectual	Describes how people develop their thinking skills, memory and language
Emotional	Describes how people develop their identity and cope with feelings
Social	Describes how people develop friendships and relationships. Also, how to behave in society – 'societal norms'.

TOPIC: Factors

Factor	Definition	Example	Effects
Physical	Illness, inherited diseases and conditions that can affect development	Type 2 diabetes, cardiovascular disease, Cystic fibrosis, disability mental ill health	Pain, limited mobility, miss school/work, depression, anxiety, unable to socialise, delayed growth, loss of independence
Lifestyle	Choices by an individual which can affect growth and development	Exercise, diet, substance abuse eg drugs, alcohol, smoking	Cancers, type 2 diabetes, obesity, stiffness of joints, liver disease, lack of fitness, mood swings, infertility, delayed growth
Emotional	Learning how to cope with feeling and deal with relationships	Grief when a loved one dies	Mental ill health, turning to unhealthy lifestyle choices, contentment, attachment issues
Social	Experiences a person has with other people and the supportive and unsupportive relationship they have with them.	An unsupportive relationship with a sibling, bullying, discrimination	Social phobia, breakdown in relationships, trust issues, emotional security, dependant/independent, jealousy, rivalry
Cultural	Experiences a person has with groups of people, community groups or in a social setting	Being an active member of a religious community, gender roles, race, community participation	Inclusion/exclusion, proud, sense of belonging, security/insecurity, relationship issues
Environmental	The location, conditions, housing, pollution, environmental and amount a space a person lives in.	Growing up in a cramped flat, pollution	Low self-image/self-esteem, insecure, illness, accidents
Economic	The amount of money, income or savings a person has	Employment income, savings, retirement	Stress, anxiety, sense of achievement, security.

Key terminology

Chronic = long term illness. Symptoms may be eased but not cured.

Acute = illness comes on quickly, is short-term and can be cured eg flu

Pollution = harmful substances or irritants that cause damage to people

Lifestyle = involves the choices made that affect health such as diet and exercise

Gender role = is the role and responsibilities determined by a person's gender

Bullying = is the repetitive intention to harm, coerce or intimidate

Discrimination = treating a person or group of people differently from others

Physiological = relating to the function of parts of the body

Role model = someone a person admires and strives to be like

Type 2 diabetes = the level of sugar in the blood is too high

Obesity = someone who is an unhealthy weight

Cardiovascular disease = involves the heart and blood vessels

WHO / WHERE / WHAT / WHY

1	1914-1918	WW1 bloodiest war in history.
2	Aims of peacemakers	Although Britain, France & the USA had all fought together against Germany they all thought that lasting peace would be achieved in different ways. This led to disagreement between them. Ultimately, none of them got entirely what they wanted. No one satisfied.
3	Clemenceau's aims	1) Germany to pay to rebuild areas damaged by war; 2) Revenge; 3) Weakened Germany that could not attack again; 4) Buffer area between France & Germany for safety.
4	Lloyd George's aims	1) Cautious balance –punishment that didn't lead to Germany wanting revenge; 2) Strong Germany to trade with and to act as buffer against communism; 3) Gain German empire territories; 4) British naval supremacy.
5	Wilson's aims	1) Fair peace; 2) 14 points, including League of Nations and Self-determination; 3) USA to stay out of European politics.
6	9 Nov 1918	Kaiser Wilhelm II abdicates, to the Netherlands. Not involved in ToV.
7	11 Nov 1918	Armistice signed, ending WW1. Germany agreed to pay reparations, give Alsace-Lorraine back to France and move German army out of Rhineland. However, Germany did not believe it was the only country at fault.
8	28 June 1919	Treat of Versailles is signed at Palace of Versailles (outside Paris) in Hall of Mirrors.
9	Paris Peace Conference	32 countries met in Paris for 7 months to discuss how to settle the aftermath of the war.

KEY INDIVIDUALS

1	David Lloyd George	Prime Minister of Britain. Liked: British naval supremacy; Empire gained. Disliked: harsh reparations leading to loss of German trade; unhappy Germans likely to seek revenge.
2	Georges Clemenceau	Prime Minister of France. Nicknamed as 'Le Tigre' (the tiger). Army leader who had seen France invaded twice by Germany. Liked: gaining Alsace-Lorraine; weak German military. Disliked: low reparations; Germany having army at all; Rhineland still being German.
3	Woodrow Wilson	President of USA (only joined war in 1917). Like: LoN creation. Disliked: 14 points ignored; harsh treaty terms.

TERMS of ToV

1	War Guilt	Article 231. Germany forced to accept all responsibility for war.
2	Reparations	Article 232: amount set in 1921 at £6.6 billion.
3	Military	German navy limited to 15k men/1.5k officers/6 battleships. Army to 100k men. No tanks, submarines or airforce. Conscription banned. Rhineland demilitarised.
4	League of Nations	Set up, but Germany not allowed to join.
5	Land loss	Danzig taken & made into free port; Germany split in 2 by Polish corridor; Saarland (rich in coal) given to LoN control for 15 years; colonies given to LoN as mandates.
6	Anschluss	Union between Germany and Austria forbidden.

KEY TERMS & IDEAS

1	Armistice	Agreement to end fighting
2	Reparations	Payments demanded of defeated countries for damage caused by a war.
3	The Big Three/ Peacemakers	Terms used for the key countries/ polticians who led peace negotiations: Clemenceau (France), Lloyd-George (Britain) & USA (Woodrow Wilson).
4	14 Points	Wilson's principles on how to keep peace.
5	Self-Determination	Idea that people should decide for themselves who ruled them.
6	Diktat	Forced terms. Germany not allowed to negotiate.
7	'Stabbed in the back'	Germans were devastated by being blamed and the terms. Term used against German politicians who signed. Dolchstoss in German.

WHO / WHERE / WHAT / WHY

1	28 June 1919	Treaty of Versailles signed, committing to LoN.
2	1920-1	Poland invades Vilna, capital of Lithuania. The Polish army invaded but LoN did nothing as Poland strong ally vs Germany. FAIL.
3	1921	Aaland islands crisis. Sweden & Finland disputed. League gave to Finland, but forbade forts being built. Decision accepted. SUCCESS.
4	1921-3	Upper Silesia crisis. Plebiscite on if Upper Silesia to be German or Polish. Germany won 60% votes, but Poland claimed fixed. Upper Silesia split by LoN into areas according to how they had voted. Both countries unhappy but did accept. FAIL & SUCCESS.
5	Aug 1923	Corfu crisis. Italian general & team murdered in Greece. Mussolini demanded compensation, but Greece refused. Mussolini invaded Corfu. LoN condemned Mussolini, but he complained to the Conference of Ambassadors. Greece forced to apologise to Mussolini and to pay compensation. FAIL.
6	Oct 1925	Greek-Bulgarian dispute. Greece invaded Bulgaria when Greek soldiers killed on border. LoN forced Greece to withdraw & pay compensation. Hypocritical since LoN allowed Mussolini to get away with similar in Corfu. FAIL.
7	Oct-Dec 1925	The Locarno Treaties. France & Germany agreed to work peacefully together. Ger accepted ToV terms. Britain & Italy also signed, agreeing not to go to war. Proposed by Germany, rather than LoN. Positioned Ger, not LoN, as peaceful leader.
8	1928	Kellogg-Briand Pact signed by 65 countries, including Ger & USA in Paris. Agreed to settle disputes peacefully. Outside of LoN.
9	Other pacts	Washington Naval Conference 1921-2. GB, Fr, USA & Jap agreed to limit navy size. Outside of LoN. Rapallo Treaty 1922. Ger & Russia agreed to work together. Outside of LoN.

KEY TERMS & IDEAS
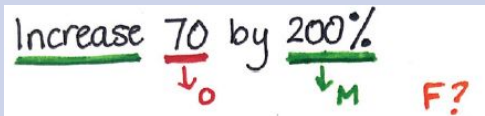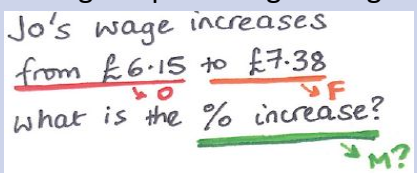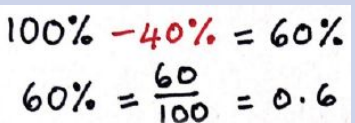
1	Principles	One of Wilson's 14 points at ToV.
2	Aims of LoN	1) Collective security; 2) Encourage disarmament; 3) Improve living & working conditions; 4) Tackle deadly diseases.
3	Collective Security	Get countries to work together to prevent war.
4	Covenant	Agreement on how LoN could deal with issues. Used 4 Ms: Mitigation, Moral Condemnation, Money (trade sanctions) and Military (provided by members, no army of its own).
5	Veto	To overturn/ stop a ruling going through.
6	Plebiscite	Vote of all people to decide issue.
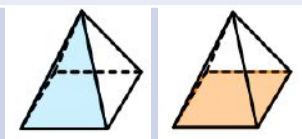
Structure of LoN

1	Membership	Initially 42 countries joined. Germany (defeated) and USSR (communist) not allowed to join. USA refused to join. Germany allowed to join after agreeing Locarno Treaty.
2	The Assembly	International parliament. Each member sent representative. Met once a year, making decision-making slow. Voted on issues, but had to be unanimous.
3	The Council	Met more frequently. 4 permanent members: Britain, France, Italy & Japan. +4 countries elected to sit on it for 3 years. Could veto rulings made by Assembly.
4	The Permanent Court of International Justice	International court of law. Could hold hearings and advise but rulings not compulsory so easily ignored.
5	The Secretariat	Administration and arrangement of any LoN action.
6	Special Commissions	Special groups such as ILO and Health Organisation, designed to tackle specific issues.

League's agencies
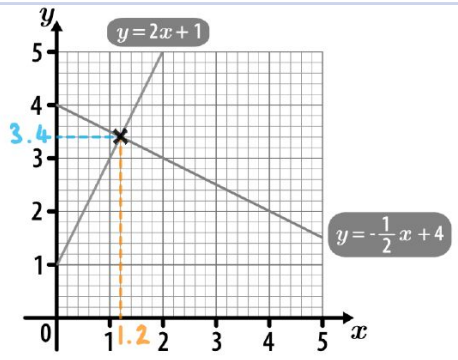
1	ILO (International Labour Organisation)	Aim: Improve working conditions. Success: 1920s death rate of Tanganyika rail workers 50% to 4%. Fails: Most members refused to stop children under 14 working as too expensive.
2	Commission for refugees	Aim: Help those displaced by war, either improving refugee camps, help return home or find new homes. Success: Returned 427k of 500k WW1 PoW still imprisoned. Fail: Jews 1930s Germany.
3	Slavery Commission	Aim: end slavery. Success: 200k set free in Sierra Leone in 1920s.
4	Economic & Finance Commission	Aim: improve living standards. Success: Financial advisors sent to Austria & Hungary in 1921. Fail: Unable to cope with global depression post 1929.
5	Organisation for Communications & Transport	Aim: improve how countries work together. Success: Introduced shipping lanes & international highway code.
6	Health Organisation	Aim: cure diseases. Success: Doctors sent to Turkish refugee camps.
7	Permanent Central Opium (Narcotics post 1925) Board	Aim: tackle illegal drug trade. Success: Blacklisted 4 large companies. Fail: Not all countries in LoN wanted to stop drug trade because of money made.

Year 10 Mathematics | Term 1 | Knowledge Organiser

Percentages

1		Finding final Increase 70 by 200% ↓O ↓M F?
2	Original x Multiplier = Final	Finding the original A TV is reduced by 15% → M It now costs £255 → F What was the price originally? → O?
3		Finding the percentage change Jo's wage increases from £6.15 to £7.38 ↓O ↓F what is the % increase? M?
4	For the multiplier	1. Start with 100 2. Go up or down 3. Turn into a decimal
5		The multiplier for a decrease of 40% $100\% - 40\% = 60\%$ $60\% = \frac{60}{100} = 0.6$
6	Compound interest	Original x Multiplier^{years} = Final Multiplier is greater than 1
7	Depreciation	Original x Multiplier^{years} = Final Multiplier is less than 1

Surface area and volume

1	volume of pyramid	$\frac{1}{3}$ × base area × perpendicular height
2	volume of cone	$\frac{1}{3}\pi r^2 h$ r = radius h = perpendicular height
3	volume of sphere	$\frac{4}{3}\pi r^3$ r = radius
4	volume of frustum	volume of large pyramid − volume of small pyramid
5	Surface area of a square based pyramid	 4 × △ + □
6	Surface area of a cone	surface area = △ + ⬭ $= \pi r l + \pi r^2$
7	surface area of a sphere	$4\pi r^2$ r = radius
8	curved S.A. of frustum	curved S.A. of large cone − curved S.A. of small cone

Simultaneous equations

1 Solve
$$8x + y = 46$$
$$7x + y = 41$$

① $8x + y = 46$
② $7x + y = 41$
① - ② $\quad x + 0 = 5$
$x = 5$

② $7x + y = 41$
$7×5 + y = 41$
$35 + y = 41$ | − 35
$y = 6$ | − 35

2 Solve
$$2g + 3h = 19$$
$$5g + 4h = 30$$

× 4 | ① $2g + 3h = 19$ |× 4
③ $8g + 12h = 76$

× 3 | ② $5g + 4h = 30$ |× 3
④ $15g + 12h = 90$

④ $15g + 12h = 90$
③ $8g + 12h = 76$
④ - ③ $\quad 7g + 0 = 14$
$g = 2$

① $2g + 3h = 19$
$2×2 + 3h = 19$
$4 + 3h = 19$
$3h = 15$
$h = 5$

3 Use the graphs to work out the solutions of these simultaneous equations
$$y = 2x + 1$$
$$y = -\frac{1}{2}x + 4$$

5 Make an equation and solve

The cost of a rucksack is 5 times the cost of a calculator.
1 rucksack and 4 calculators cost £54
How much does a rucksack cost?
r = cost of a rucksack
c = cost of a calculator

① r = 5c   ② r + 4c = 54
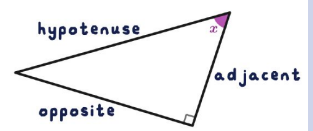
Formulae

1 Make x the subject of $3x + 7 = y$

− 7 | $3x + 7 = y$ | − 7
$3x = y - 7$
÷ 3 | $x = \frac{y - 7}{3}$ | ÷ 3

2 Make b the subject of $t = \frac{b+m}{c}$

× c | $t = \frac{b + m}{c}$ | × c
$ct = b + m$
− m | | − m
$ct - m = b$

3 Make h the subject of $y = 8 + \sqrt{h}$

− 8 | $y = 8 + \sqrt{h}$ | − 8
$y - 8 = \sqrt{h}$
□² | $(y - 8)^2 = h$ | □²

4 Make n the subject of $2n - p = b(3n - 2)$

$2n - p = b(3n - 2)$
$2n - p = 3bn - 2b$
−3bn | | −3bn
$2n - p - 3bn = -2b$
+p | $2n - 3bn = -2b + p$ | +p
$n(2 - 3b) = -2b + p$
÷(2 − 3b) | $n = \frac{-2b + p}{2 - 3b}$ | ÷(2 − 3b)

5 Make a the subject of $b = \frac{a-7}{a+1}$

× (a + 1) | $b = \frac{a - 7}{a + 1}$ | × (a + 1)
$b(a + 1) = a - 7$
$ab + b = a - 7$
−a | $ab + b - a = -7$ | −a
$ab - a = -7 - b$
−b | $a(b - 1) = -7 - b$ | −b
÷ (b − 1) | $a = \frac{-7 - b}{b - 1}$ | ÷ (b − 1)

Year 10 Mathematics | Term 1 | Knowledge Organiser

Trigonometry
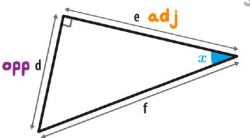
1	Label the triangle	
2	Use SOH CAH TOA triangles	
3	Write down an expression for tan(x)	
4	Work out the value of d	
5	Work out the angle r	
6	Exact trig values	
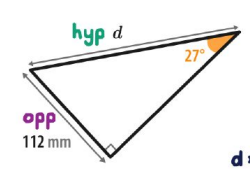
For step 4:

$$\sin \theta = \frac{opp}{hyp}$$

$$\sin(27°) = \frac{112}{d}$$

$$d \times \sin(27°) = 112$$

$$p = \frac{112}{\sin(27°)}$$

$$p = 246.701...$$

$$p = 247 \text{ to 3 s.f.}$$

For step 5:
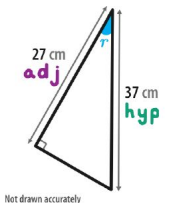
$$\cos r = \frac{adj}{hyp}$$

$$\cos r = \frac{27}{37}$$

$$r = \cos^{-1}\left(\frac{27}{37}\right)$$

$$r = 43.136...$$
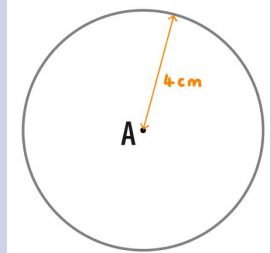
$$r = 43° \text{ to the nearest degree}$$

Exact trig values table:
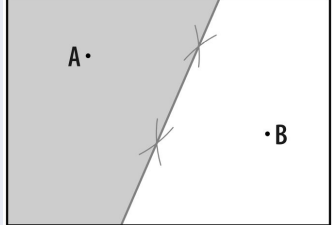
	0°	30°	45°	60°	90°
sin	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
tan	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	X

Constructions
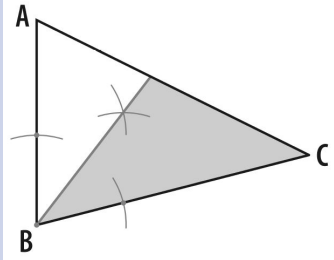
1	Construct a locus of points 4cm from A	
2	Shade the region closer to A than B	
3	Shade the region closer to BC than AB	
4	Construct and shade the region closer to A than B and less than 3cm from B	
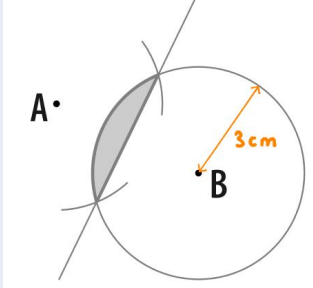
YEAR 10 & 11 | MEDIA STUDIES | 01 - MEDIA LANGUAGE

P1: Section A

P2: All

NEA

Media Language is all about how different types of media communicate their messages. Just like when we communicate with others, media products use a variety of tools and techniques to get their points across effectively. These tools include things like sound, editing, camera work, lighting, colours, shapes, language, genre, narrative, and characters - these things are known as "codes and conventions".
What things mean can be considered as what they signify (generally point to). Meaning can be literal (a denotation) or implied (a connotation)
When we analyse Media Language, we dig deeper into these elements and try to understand what they really mean. We look for the hidden messages, the symbolism, and the deeper layers of meaning in the media we consume.

SEMIOTIC ANALYSIS: Signify, Denotation, Connotation, Mise-en-scene	Camera Work	Lighting	Sound	Colour, Shape, Imagery & Typography	Verbal Codes	Genre	Narrative	Models of Communication	The Constructed Nature of the Media	Intertextuality

CAMERA WORK (NON-VERBAL CODE):

There are three important factors to consider when analysing camera work: Framing (the distance from the camera to the subject), Angle (the tilt of the camera) and Movement (hand-held, shaking, zooming, panning, etc.)

Low-Camera angles (when the camera is down low pointing up) can make the subject look bigger which may connote they are threatening or powerful. A High-Camera angle may make the subject look smaller which could connote they are weak.

LIGHTING (NON-VERBAL CODE):

High-Key Lighting is a media technique that reduces shadows and boosts brightness. It's all about vibrant colours (saturation). This type of lighting is often used to signify positivity.

Low-Key Lighting is a technique that creates strong shadows and pools of light. It's all about the contrast between bright lights and dark shadows. This type of lighting is often used to signify tension.

SOUND (NON-VERBAL CODE):

Diegetic sound is any noise that would be there in "real life", such as talking, weather, creaking floorboards, etc.

Non-Diegetic sound is any noise that has been added for dramatic effect, such as music, drumbeats, voice overs, etc.

INTERTEXTUALITY:

Intertextuality is the referencing or incorporation of other texts, such as books, movies, or music, within a particular media product.

COLOUR, SHAPE, IMAGERY & TYPOGRAPHY (NON-VERBAL CODE):

Meaning is signified via colours, shapes and imagery. A Golden Trophy for example can denote winning and connote determination..

Typography refers to the meaning signified by fonts: style, spacing, size, serif (pointy bits), italics, bold, etc.

VERBAL CODES:

Verbal codes are the specific words and language used to convey meaning and communicate messages.

GENRE:

Genre refers to a category or type of media that shares similar themes, styles, or storytelling conventions.

Hybridity is the blending or mixing of different genres, styles, or elements within a single media product, creating something unique and diverse.

Subgenre is a more specific subset or branch within a broader genre.

CONSTRUCTED NATURE OF THE MEDIA:

Media products do not show true reality. They are created and edited, so they are a construction. This is achieved using icons and symbols to present a version of reality.

MODELS OF COMMUNICATION:

Linear model of communication is a one-way process where information flows directly from the sender to the receiver.

Two-step flow of communication is a model that suggests information is received and influenced by opinion leaders, who then pass on their interpretations and ideas to others.

NARRATIVE:

Narratives are based on conflict between Binary Opposites, e.g., Good vs Evil.

Narratives follow a structure that is more complex than "Start – Middle – End". Todorov (a media theorist) says there are 5 stages to a narrative structure: 1 – Exposition, 2 – Disruption, 3 – Complication, 4 – Climax, 5 – Resolution.

Character Theory by Propp (a media theorist) states there are only 7 types of character, including 'The Protagonist' (the person whose viewpoint the audience follow) and 'The Antagonist' (the person against the protagonist).

Narrative codes refers to the idea that there are just 5 ways a story is signified. Barthes (a media theorist) says theses are:

Action Code: Actions and events in a story that show a clear cause and effect relationship.

Enigma Code: Mysterious elements or unanswered questions that add intrigue to the narrative.

Semantic Code: Information such as dates, place names, and times that provide important context.

Symbolic Code: Imagery and colours that represent deeper meanings or ideas within the story.

Cultural (Referential) Code: Shared cultural knowledge or references that enhance understanding for those familiar with them.

Music: AOS2 Vocal Music: Music for A While|Year 10| Autumn 1

Baroque Style

1	Ornamentation of melodic lines, decoration
2	Major/Minor tone system
3	Diatonic harmony – notes belonging to the key
4	Monophonic – single line of melody
5	Homophonic – Chords and Melody
6	Word Painting – the music depicts the words
7	Sequence – Repetition of a music phrase higher or lower
8	Suspensions – A prolonging note to creating dissonance.
9	Affection – one mood

Key Words

1	Syllabic	1 word per note
2	Melismatic	Many notes per word
3	Ternary Form	ABA
4	Antiphonal	Swapping between 2 groups
5	Imitation	To copy
6	Syncopated	Off beat
7	Basso Continuo	Continuous bass part Harpsichord/Bass viol
8	Figured Bass	Numbers to indicate what chord is to be played.
9	Suspension	Where a note is supended and resolves creating a clashing sound (Dissonance)
10	Dissonant	A clashing sound
11	Conjunct	Stepwise
12	Dominant	5th note of the scale
13	Disjunct	Leaps in the melody
14	Ground Bass	A repeating pattern in the bass
15	Da Capo Aria	A song which repeats a section

Texture/Harmony

1	Tonic note	The 1st note of the scale A.
2	Dominant note	The 5th note in the scale Note 5 would be E starting on an A.
3	Contrapuntal	Two melodies played against each other
4	Counterpoint	'Tune against tune' combination of 2 or more melodies with independent rhythms
5	Secondary dominant	To a key that is the dominant key of the dominant. Eg C Major, G is the dominant and the dominant od G is D Major, the secondary dominant.
6	Passing modulations	Modulations where the new key only lasts for a few bars
7	Relative minor	The minor key of the Major scale
8	Variant	A phrase whose shape resembles the original.

Melody

1	Syllabic	1 note per word
2	Melismatic	Many notes per word
3	Conjunct	Stepwise
4	Word Painting	On the words **ETERNAL** the melody line goes on and on. **Distain** there is a clashing sound.
5	Onomatopoeia	On the word DROP the music goes lower

Instrumentation

1	Soprano Voice	A high female voice
2	Harpsichord	Plays the Ground Bass, supports the harmony, directs the ensemble
3	Bass Viol	Plays the Ground bass with the Harpsichord

Structure

1	Ternary Form	ABA
2	Intro	Bars 1-3 to set the mood, Harmony, Tonal centre, Tempo

Harmony

1	A Minor	Notes which are in the key of A minor G# as accidentals
2	C Major	No Sharps or Flats
3	Ornaments	Decorations on notes
4	(Lower)Mordent	Plays the written note and then the note below before returning to the written note
5	Appoggiatura	Notes which are played before the main note
6	Tierce D'Picardi	Sharpening the 3rd in the chord to make an Minor chords sound Major

Texture

1	Homophonic	Chords (Accompaniment) and Melody

AOS 2: Killer Queen |Year 10 | Autumn 2

Key Words

1	**Vaudeville**	a form of comic musical theatre from the 1880s
2	**Glam**	a genre of rock known for over-the-top, glamorous dress sense including platform shoes, glitter and flamboyant hairstyles
3	**Middle 8**	connects two sections of a pop or rock song but is not necessarily eight bars long.
4	**Outro**	a concluding section, sometimes like a coda in Classical music.
5	**Gospel music**	a musical style with roots in the black oral tradition in which vocal harmonies play a prominent role.
6	**Swung**	music that has a triplet feel, even when notated with straight quavers
7	Homophonic	Chords and Melody
8	Polyphonic	Many sounds together
9	Hocketing	**alternating between parts, single notes, or groups of notes**

Key Information

1	Structure	Intro, verse, chorus, Instrumental, Verse, chorus, Guitar solo 1, Guitar solo 2, Verse, chorus, Outro
2	Unusual Introduction	Finger clicks
3	Metre	12/8
4	Tonality	E flat major
5	Texture	homophonic, polyphonic and antiphonal textures

Guitar Techniques and Effects

1	**Capo**	a clamp fastened across all the strings to raise their pitch
2	String/pitch bends	distorts/changes pitch
3	Slides/portamento/glissando	slides between pitches
4	Vibrato	rapid change of pitch/fluctuating pitch
5	Picking/plucking/plectrum/sixpence	clear/hard/articulated/separated/detached
6	Hammer on	legato change of pitch (up)
7	Pull off	legato change of pitch (down)

Music Technology

1	**Multi-track**	a recording of a performance (or performances) on separate tracks in which each track can be edited individually to change levels, add effects.
2	**Panning**	Is giving sounds different levels in the left and right speakers so it sounds as if they are coming from a new direction.
3	**Effects**	electronic devices designed to enhance or alter the basic sound quality (for example, delay, reverb).
4	**Flanger or flanging**	an effect creating a swirling or swooshing sound. Word painting: depicting a word in music to imitate its meaning.
5	**Distortion**	Effect that increases the volume, sustains on an electric guitar as well as making the timbre more gritty or smooth depending on the settings.
6	**Wah-wah**	a filter effect in which the peak of the filter is swept up and down the frequency range in response to the player's foot movement on a rocker pedal.
7	**Reverb**	an effect which creates the impression of being in a physical space
8	**Synthesiser**	Electronic musical instrument that creates sounds by manipulating or by modifying existing sounds.
9	Overdubbing	recording an instrumental or vocal part over previously recorded

Structure of a synovial joint

Muscle
Synovial fluid within the joint capsule
Bursa
Synovial membrane
Tendon
Bone
Cartilage
Ligament

Major Bones of the Skeleton

The skeleton has many major articulating bones that work at joints to cause movement.

Cranium
Scapula
Sternum
Humerus
Ribs
Vertebrae
Radius
Ulna
Pelvis
Femur
Patella
Tibia
Fibula
Talus

Major Muscles of the Human Body

The skeletal system can't work on its own; it works with these major muscles to cause movement.

Deltoids
Biceps
Triceps
Rotar Cuff
Pectorals
Latissimus Dorsi
Abdominals
Hip Flexors
Gluteals
Quadricep Group
Hamstring Group
Tibialis Anterior
Gastrocnemius
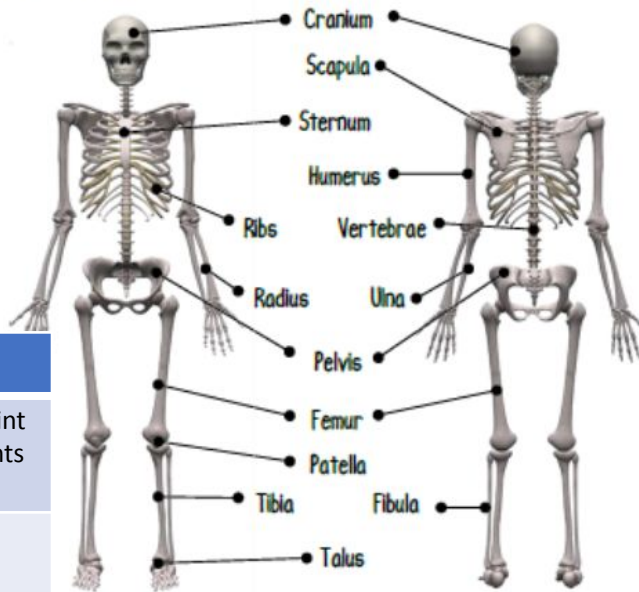
Components of a Joint

Ligaments	Attaches bone to bone to keep the joint stable or restricts movement / prevents movement to stop injury.
Cartilage	Found between bones and prevents friction by stopping the bones from rubbing together.
Synovial Membrane	Secretes synovial fluid
Synovial Fluid	Is produced by the synovial membrane and helps lubricate the joint
Joint Capsule	This is lined with synovial membrane. It encloses the joint making sure the cartilage and synovial fluid remain in place.
Bursae	Fluid filled sac providing cushion between bones and tendons. This stops friction at the joint
Tendons	Attach muscle to bone. When a muscle contracts to move a joint, it is the tendon which pulls on the bone, keeps muscles/bones stable or holds join in place

Functions of the Skeleton

Support	The skeleton holds your vital organs in place & your vertebrae hold you upright
Structural Shape	A combination of fused and unfused bones allows the body to be stable whilst also moving at different joints.
Blood Cell Production	Bones produce red blood cells which have the function of carrying oxygen to the working muscles.
Mineral Storage	Bones store minerals, such as calcium, which are important for growth & development.
Protection	Ribs protect internal organs from injury, e.g. during contact sports.
Movement	The structure & type of different bones determine the movement at the points where they meet (a joint).

Antagonistic Muscle Pairs

Muscles can only PULL, they cannot push

A muscle must work in partnership with another muscle to allow movement to occur.

The muscle that causes the movement (the pulling muscle) is called the **AGONIST** or **PRIME MOVER**. When this muscle contracts in becomes shorter

During this time the other muscle within this partnership is relaxing. This muscle is called the **ANTAGONIST** and is lengthening while it relaxes

EXAMPLE:
When we flex our elbow the bicep is the **agonist** and the triceps is the **antagonist**. However these roles are reversed when the elbow extends ,with the triceps becoming the **agonist** and the bicep becoming the **antagonist..**

Musculo-skeletal System | Year 10 | Term 1

Types of Movement at a Joint

Flexion and extension at the **shoulder**	- The **Deltoid** causes flexion at the shoulder - The **Latissimus dorsi** causes extension at the shoulder
Flexion and extension at the **elbow**	- The **Biceps** cause flexion at the elbow - The **Triceps** cause extension at the elbow
Flexion and extension at the **knee**	- The **Hamstrings** cause flexion at the knee - The **Quadriceps** cause extension at the knee
Flexion and extension at the **hip**	- The **Hip Flexors** cause flexion at the hip - The **Gluteals** cause extension at the hip
Flexion and extension at the **ankle**	- The **Tibialis Anterior** causes dorsiflexion at the ankle - The **Gastrocnemius** cause plantar flexion at the ankle
Rotation of the s**houlder**	- The **Rotator Cuff** causes rotation at the shoulder
Abduction and Adduction at the **shoulder**	- The **deltoid** causes abduction at the shoulder - The **Pectorals / Latissimus Dorsi** cause adduction at the shoulder
Circumduction at the **hip**	- The **Hip Flexors, Gluteals, Adductors** and **Abductors** work together to cause circumduction (a circular motion) at the hip
Circumduction at the **shoulder**	- The **Rotator Cuff, Pectorals** and **Deltoid** work together to cause circumduction (a circular motion) at the shoulder

Types of Muscle Contraction

Isometric Contractions	This type of contraction takes place when the body is being held in the same position. The length of the muscle during these contractions stays the same length.
Isotonic Contraction	These contractions occur when there is movement of the body. The ends of the muscles move closer together to cause the movement.

Types of Isotonic Contraction:

Isotonic Concentric Contraction	occurs when the muscle shortens e.g. biceps contracting concentrically during the upwards phase of a bicep curl / triceps contracting concentrically during the upwards phase of a press-up
Isotonic Eccentric Contraction	occurs when the muscle lengthening (antagonist) is under tension. An eccentric contraction provides the control of a movement on the downward phase and it works to resist the force of gravity e.g biceps contracting eccentically when lowering the weight in a bicep curl / triceps contracting eccentically during the downwards phase of a press-up.

Types of Bone

|	
Flat Bones	protect vital organs e.g. cranium protects your brain, ribs protect heart and lungs
Long Bones	enable gross (large) movements e.g. femur, tibia and fibula in the leg which allow us to run, humerus, radius and ulna in arm which allows us to throw a ball.
Short Bones	enable fine (small) movements e.g. fingers allowing you to spin a cricket ball.

Types of Joint

Ball and Socket Joint
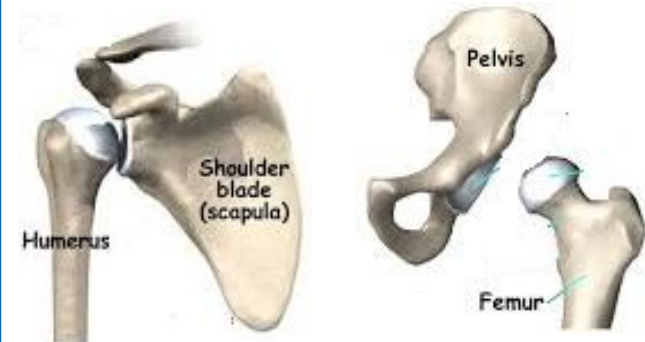
Location in Body: Shoulder and Hip
Type of Movement Allowed by Joint:
Flexion, Extension, Adduction, Abduction, Rotation

Hinge Joint
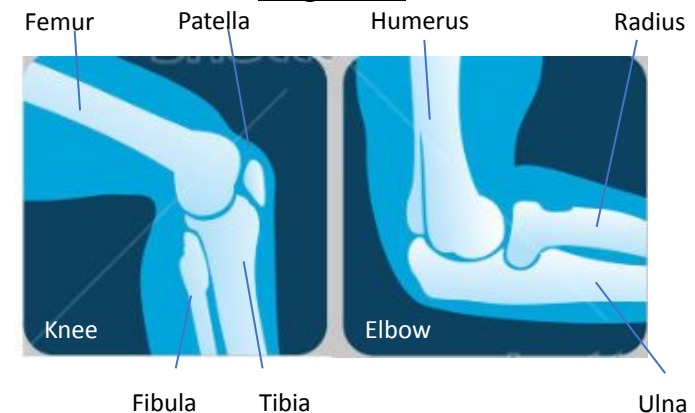
Location in Body: Knee and Elbow
Type of Movement Allowed by Joint: Flexion and Extension

# DARKROOM: PHOTOGRAMS| YEAR 10|PHOTOGRAPHY| TERM 1

DARKROOM KEYWORDS

1	**Photogram**	A photographic image produced without a camera.
2	**Latent Image**	Hidden image after exposure that will be revealed by development
3	**Test Strip**	Used to determine the correct exposure for a print or contact print
4	**Exposure**	The amount of light which reaches your camera sensor or film/photographic paper.
5	**Developer**	one or more chemicals that convert the latent image to a visible image.
6	**Stop bath**	Solution to stop the developing process.
7	**Fixer**	Used to stabilise the photographic image
8	**Final Wash**	Used to remove any remaining chemicals from the film or paper.
9	**Safety Light**	Light that will not affect light sensitive material. RED light is safe for paper. There is no safe light for film.
10	**Tone reversal**	Creative negative version of an original image through the process of contact printing

ENLARGER SET UP	HEIGHT	FNO	EXPOSURE TIME
Photogram	35cm	8	8s average
Contact print	35cm	2.8	15s (or test at 5s)

PROCESSING	DEVELOPER	STOP BATH	FIX	FINAL WASH
Print/paper	90s	30s	2m	5min

TYPES OF PHOTOGRAM

1	Sunprint	A photogram created just by long exposure to sunlight.
2	Normal	Traditional Photogram without any additional processes added
3	Transparent	Photograms created using transparent objects.
4	Chemigram	An image created by applying and manipulating various darkroom chemicals on the surface of the photographic paper.
5	Painting with chemicals	Photogram that combines traditional photogram technique with chemigram process and result in the partial revealing of the image.
6	Positive	Unlike traditional photogram that captures the negative space of an object, in positive photogram the tones have been reversed though the process of contact printing a normal photogram
7	Moving	Photogram resulting from dividing the exposure into several shorter ones and moving/removing objects with each step.
8	Projected	Small flat objects are enlarged and projected using the photographic enlarger, rather than placing them directly on the photographic paper
9	Stencil	Photogram created using a double exposure, combining photogram of a texture with a photogram of an opaque object.

PARTS OF THE ENLARGER

lamp house
negative carrier
lens
height
focus
easel
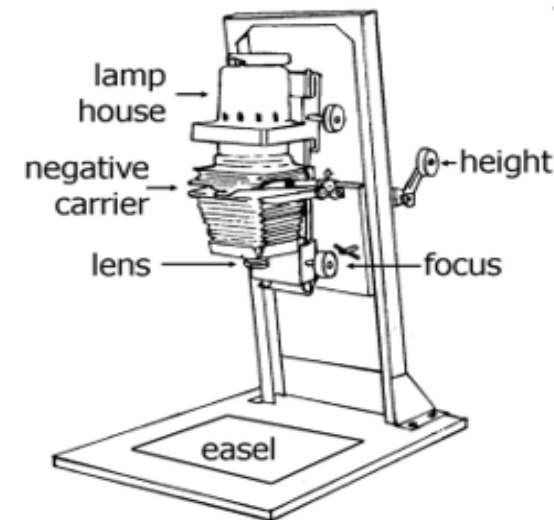
ARTIST INSPIRATION

Henri Fox-Talbot	1800-1877. English scientist and pioneer of photography. He created the first ever negative in 1835.
Man Ray	1890-1976, Artist that contributed to Dada and Surrealist movement. He was known for his work with Photograms that he called Rayographs.
Laszlo Moholy-Nagy	1895-1946. Hungarian painter and photographer, who produced a body of experimental photograms.
Andreas Feininger	1906-1999. American photographer known for studies of the structures of natural objects.

Y10 | Psychology |Chapter 1: Memory

Processes of Memory

Encoding
Definition: Changing information into a form that can be held in the brain.
Visual Encoding: Information by how it looks.
Acoustic Encoding: Information by how it sounds.
Semantic Encoding: Information by its meaning.
Other Encoding: Tactile (touch), olfactory (smell).
Storage
Definition: Holding information in memory so it can be retrieved later.
Retrieval
Definition: Locating and bringing back information into mind.
Types:
Recognition: Identifying from options.
Cued Recall: Locating with a clue.
Free Recall: Without cues.

A Study of Encoding
Baddeley's Study:
Aim: To see differences in encoding in STM and LTM.
Method: Participants learned words (similar/dissimilar sounding, similar/dissimilar meaning). Immediate and delayed recall (after 20 minutes).
Results: STM is encoded by sound; LTM by meaning.
Conclusion: Encoding varies between STM and LTM and backs up the Multi-Store Model.

Processes of Memory

Different Types of LTM
Episodic Memory: Events from life- personal experiences
Semantic Memory: General knowledge- factual info
Procedural Memory: How to do things- muscle memory

Structures of Memory

Primacy and Recency Effect:
Words at the beginning are remembered more (rehearsed, so in LTM).
Words at the end are remembered more (heard recently, so in STM).
Murdock's Study (KEY STUDY)
Aim:
To see if memory of words is affected by location in a list.
Method:
Participants listened to 20-word lists with 10–40 words, recalled words after each list.
Results:
Recall related to the position of words. Higher recall for first (primacy effect) and last words (recency effect) than in the middle.
Conclusion:
Shows the serial position effect and supports the MSM stores.
Evaluation
Controlled Lab Study:
High level of control; concluded position of words determined recall.
Artificial Task:
Word lists used, only one type of memory, study lacks validity.
Extra:
Supporting research (Carlesimo et al.) shows some amnesiacs can't store LTM, linking primacy effect to LTM.

Structures of Memory

Multi-store model (KEY THEORY):
Three memory stores with different coding, capacity, and duration.
Information moves through attention and verbal rehearsal.
Sensory Memory:
Very short duration, large capacity.
Attention transfers information to STM.
STM (Short-term Memory):
Limited duration (30 seconds) and capacity (5–9 items), acoustic coding.
Role of Rehearsal:
Keeps information in STM.
Repeated rehearsal transfers STM into LTM.
LTM (Long-term Memory):
Semantic coding, unlimited capacity, stored up to a lifetime.
Evaluation
Supporting Research:
Encoding research (Baddeley) shows qualitative differences between STM and LTM.
Simple Model:
Having one STM and one LTM store is too simplistic, e.g., more than one LTM store.
Extra:
Artificial materials used in research (word lists/consonant syllables) so the model lacks validity

Memory as an active process

Reconstructive Memory: (KEY THEORY)
Definition: Memory isn't a perfect playback of past events but is actively reconstructed using various pieces of information.
Key Points:
Active process: people rebuild memory as an active process.
Social and Cultural Expectations: Memories can be influenced by personal beliefs, expectations, and knowledge.
Memory is inaccurate: Gaps in memory are filled in using schemas (mental frameworks).
Effort after meaning: we focus on meaning of events first and make effort afterwards to make sense of fragments of memory.

Evaluation:
More realistic research: reflects how we use memory in everyday life because it uses a story not word lists.
Some memories are accurate: not all recall is reconstructed as some memories of the story are accurate.
Real World Application: it explains problems with eyewitness testimony as people do not always recall accurately.
Education: Teaching strategies can be developed to align with how memory reconstruction works.

Memory as an active process

Bartlett's War of the Ghosts Study: (KEY STUDY)

Aim: To investigate how memory is reconstructed when people are asked to recall something unfamiliar.
Method: Participants read a story and later recalled it (15mins after). This process was repeated known as serial reproductions.
Results: Participants changed the story to fit their own cultural expectations.
Conclusion: Memory is influenced by existing knowledge and can be inaccurate and reconstructed.

Evaluation:
Lacks control: Participants were not told accurate recall was important, which could have affected results.
Results were biased: Bartlett analysed the recollections himself, so we can't fully trust the conclusions.
Story was unusual: Story was Native American Story so may not reflect everyday memory processes.
Lab study: standardised procedures so can be replicated increasing reliability.

Factors affecting the accuracy of memory

Interference
Definition: When information competes with other information, leading to confusion or forgetting- happens when the information is similar.
Proactive Interference: Old information interferes with new information.
Example: Struggling to remember a new phone number because of an old one.
Retroactive Interference: New information interferes with old information.
Example: Forgetting an old address after moving to a new one.

Context-Dependent Memory-
Definition: Recall is better when the external environment at retrieval matches the environment at encoding.
Example: Studying in the same room where you will take the test can improve memory performance.
Divers Study: Learnt word lists underwater and on land- had to recall in same place as learnt or different places. Found that recall was highest when two environments matched at learning and retrieval.
Applications:
Education: Students might perform better if they study in an environment similar to the test setting.
Crime Scene: Eyewitnesses might recall details more accurately when revisiting the crime scene.

False Memories
Definition: Recollections of events that never actually happened, influenced by suggestion, imagination, or misinformation.
Loftus and Pickrell's Study:
Aim: To investigate the creation of false memories.
Method: Participants were given a booklet with true events and one false event (getting lost in a mall).
Results: Some participants recalled the false event as if it were real.
Conclusion: False memories can be easily implanted.

Y10 | Psychology |Chapter 2: Perception

Sensation and Perception

Sensation: How our sensory organs (eyes, ears, skin, etc.) receive and transmit information to the brain.

Perception: Understanding how we interpret sensory information to create our view of the world.

Difference between the two: Sensation is the detection of a stimulus whereas perception is interpreting what it means.

Theories of Perception:
Gibson (nature) vs Gregory (nurture)
Gibson says sensation and perception are the same, Gregory says they are different.

Visual Cues

Binocular Depth Cues: helps us perceive depth and distance using information from two eyes.

Retinal Disparity:
Definition: 6cm difference between the view of the left and right eye gives brain information about depth and distance.
Example: When you look at an object with both eyes open, each eye sees a slightly different angle of the object. The brain uses the disparity between these two images to calculate depth.

Convergence:
Definition: Eyes point closer together when an object is close. Muscles work harder so know distance and depth.
Example: When you look at your finger held close to your face, your eyes converge or turn inward more than when you look at a distant object. The brain uses this convergence angle to judge distance.

Visual Cues

Monocular Depth Cues: help us perceive depth and distance using information from one eye

Linear Perspective:
Definition: Parallel lines appear to converge as they recede into the distance.
Example: Railway tracks appearing to meet at a single point in the distance.

Relative Size:
Definition: Objects that are farther away appear smaller than objects that are closer.
Example: A person standing far away appears smaller than the same person up close.

Height in Plane:
Definition: Objects that are higher in the visual field are perceived as farther away, while objects lower in the visual field are perceived as closer.
Example: In a landscape, mountains that are higher up appear farther away compared to hills or objects closer to the viewer's level.

Occlusion (Overlap):
Definition: Occlusion occurs when one object partially covers or overlaps another object. The partially covered object is perceived as farther away because it is seen as being behind the object that partially covers it.
Example: A person standing in front of a tree will partially obscure the tree from view. The tree is perceived as farther away because it is seen as being located behind the person

Visual Illusions

Happen when our visual perception is tricked into seeing something inaccurately. We misinterpret what is actually there in reality.
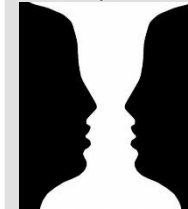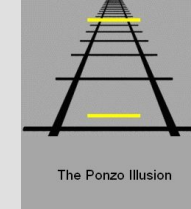
Rubin's vase   Ponzo illusion   Ames Room
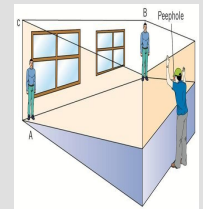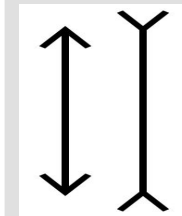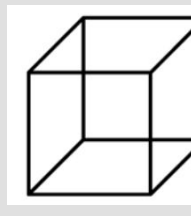
Muller-Lyer   Necker Cube   Kanizsa Triangle
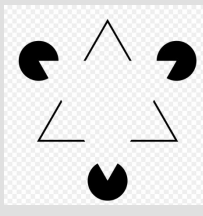
Reasons/Explanations for Visual Illusions

Misinterpreted depth cues- a depth cue is used inappropriately – e.g. Ponzo & Muller-Lyer, Ames room.
Ambiguity- having more than one possible meaning or interpretation - Rubin's vase and Necker Cube
Fiction – creating something that isn't really there to complete an image - Kanizsa triangle
Size constancy – keeping our original perception of the size of an object, even when the image received by the eyes changes.

Y10 | Psychology |Chapter 2: Perception

Theories of Perception- KEY THEORY	Theories of Perception- KEY THEORY	Factors Affecting Perception

Gibson's Direct Theory of Perception: NATURE side of the argument.

Key Points:
Sensation and Perception are the same: no inferences are needed as eyes detect everything.
Optic Flow: when moving, things in the distance appear stationary and everything else rushes past. Eyes help us judge depth and distance.
Motion Parallax: a monocular depth cue, in a train, objects that are closer, move faster and objects higher up, move slower.
Influence of nature: perception is born and not learned, no need for past experiences.

Evaluation:
Real World Meaning: research on WW2 pilots and their ability so relevant to daily life.
Struggles to explain visual illusions: why are we tricked by illusions if we have all the information we need.
Research Support: visual cliff experiment, babies didn't crawl off a visual cliff so shows that we are born with depth perception.
Contrasting Theory: Gregory believes it is learned.

Gregory's Constructivist Theory of Perception: NURTURE side of the argument.

Key Points:
Sensation and Perception are different: brain uses incoming information and information we already know to form a hypothesis/guess.
Inferences: brain fills in the gaps to create a conclusion about what is being seen.
Visual Cues: visual illusions occur because of incorrect conclusions from visual cues- 'known as mistaken hypothesis'.
Past Experience: the role of nurture: perception is learned from experience. Our perception becomes more sophiscated as we grow up and interact more with the world around us.

Evaluation:
Support from research in different cultures: people interpret visual cues differently (Hudson's study) showing experience affects perception.
Visual Illusions: Gregory's research used 2D visual illusions which are artificial, so theory may not apply to the real world.
How does perception get going? Babies have some perceptual abilities (Fantz study) so perception can't be just about experiences.
Contrasting Theory: Gibson believes it is innate.

Culture: social world we live in affects what our senses pick up e.g. Hudson Study

Emotion: tendency for our brain to notice exciting things and block out threatening things.

Motivation: Gilchrist and Nesberg (KEY STUDY):
Aim: To find out if food deprivation affects perception of food.
Method: 2 groups, one group deprived for 20 hours, control group not deprived. Shown 4 slides of foods and had to adjust level of brightness to slide shown.
Results: Food deprived group perceived food as brighter compared to non deprived group.
Conclusion: Hunger is a motivating factor that affects perception.

Evaluation:
Artificial: used 2D pictures so not applicable to real life
Ethical Issues: deprivation of food causes physical harm, however they did volunteer.
Support from similar studies: Sanford study supports as found similar results in relation to food deprivation and perception.

Expectation: Bruner and Minturn (KEY STUDY):
Aim: To find out if an ambiguous figure is seen differently if the context is changed.
Method: 2 groups- one group shown numbers sequence and one group shown letters sequence- both sequences had same ambiguous figure.
Results: Number group saw a 13 whereas letter group saw a B.
Conclusion: Expectation does affect perception (context influences)

Evaluation:
Artificial: ambiguous figure is meant to trick us- lacks validity
Independent Group Design: Participant variables may have influenced the results (e.g. if you had a B in your name- more likely to see that)
Real World Application: can help us explain why people make mistakes in the real world.

Plant Organisation

Write down the definition of osmosis.	The movement of water particles from a high water potential to a low water potential (down a concentration gradient), through a partially permeable membrane
How is a root hair cell adapted for osmosis?	Lots of hairs/projections that increase the surface area so more water can be absorbed.
What is required for active transport?	Energy from respiration
What is a concentration gradient?	The difference between two concentrations
Define the terms solute and solvent	Solute- Soluble solid/substances that dissolves Solvent- A liquid that the dissolves the solute
What are the differences between hypertonic, hypotonic and isotonic? (HT)	**Hypertonic- less solute inside the cell, more outside** **Hypotonic- more solute inside, less outside** **Isotonic- same amount of solute inside/outside cell**
What is a plant stem cell called?	Meristems
Where would you find plant stem cells?	Meristem (tip of plant)
How are plant stem cells different to adult stem cells or embryonic stem cells?	They can differentiate at any time, throughout the life of the plant
What is an advantage of using plant stem cells?	Can be used to produce clones of plants quickly and economically. Rare species can be cloned and prevented from extinction. Crop plants with special (e.e disease resistance) can be cloned to produce lots of identical plants for farmers
Describe how a xylem cell is adapted to carry out its function	Dead, hollow cells that form a tube. Lignin for strength and to withstand water pressure
Describe how a phloem cell is adapted to carry out its function	Live cell, contains sieve plates to distribute sugar evenly throughout the plant
Why do leaves have veins?	For water to be brought to the cells via the Xylem and products of photosynthesis to be removed via the phloem.
What are the names of the two transport tissues in plants?	Xylem and Phloem.
What is the purpose of the waxy cuticle?	Prevent water loss

Why are there transparent cells in the upper epidermis of a leaf?	Let light into the leaf
Which tissue of the leaf absorbs the most light for photosynthesis?	Palisade meophyll
What is the role of spongy mesophyll?	Gaseous exchange
How does carbon dioxide enter and oxygen leave a leaf?	Diffusion through the stomata
How is the leaf adapted for efficient gasesous exchange?	Large surface area, guard cells which can open and close stomata
What does the xylem transport?	Water and minerals.
In which direction does water move through the xylem?	From the roots to the leaves.
What is the water loss from a leaf called?	Transpiration
What is the transpiration stream?	The flow of water from the soil up the xylem to be evaporated in the leaf.
What increases the rate of transpiration?	Increasing temperature, increasing light intensity, increasing wind speed, decreasing humidity.
How many directions can materials move in the phloem?	Two
What process is used in the phloem to move materials against the concentration gradient?	Active transport
Why are there mitochondria present in phloem cells?	Transfer the energy for active transport.
How do root cells get glucose for respiration without photosynthesis?	Via translocation through the phloem.

What term describes a substance that attacks metals, stonework and skin?	Corrosive	How can a sample of a dissolved salt be obtained from a salt solution?	Evaporation of the water
What type of substance turns litmus paper red?	Acid	In general, what is the pH of an alkaline solution?	Greater than 7
What happens in all chemical reactions?	New substances are formed.	What colour is litmus solution in acidic solutions?	Red
What kind of reaction occurs between an acid and an alkali?	Neutralisation	What name is given to substances that react with acids to form a salt and water only?	Bases
What do you call a solution which is neither acidic nor alkaline?	Neutral	Which salt is formed when copper oxide reacts with sulfuric acid?	Copper sulfate
Give the name and formula of a common laboratory acid.	Hydrochloric acid (HCl), nitric acid (HNO3), sulfuric acid (H2SO4), etc	What type of solution has a pH of 7?	Neutral
Which ion is in excess in all acid solutions?	Hydrogen ions or H+ ions	Name the salt produced when sodium hydroxide reacts with hydrochloric acid.	Sodium chloride
Which ion is in excess in all alkali solutions?	Hydroxide ions or OH– ions	What name is given to substances that are soluble bases?	Alkalis
What scale is used for measuring acidic and alkaline properties?	The pH scale	Name a piece of apparatus used to measure volumes of liquid.	Measuring cylinder/ pipette/ burette
Name three examples of acid/alkali indicators apart from universal indicator.	Litmus, methyl orange and phenolphthalein	Name the separation method used to produce crystals from a solution.	Crystallisation
What pH values are acidic?	Below 7	Name the acid needed to make ammonium nitrate.	Nitric acid
What happens to the pH as the H+ ion concentration increases?	It decreases	Which acid is needed to make copper sulfate?	Sulfuric acid
If a solution has the same concentration of hydrogen ions as hydroxide ions, how is it described?	Neutral or pH = 7	Which base is needed to make copper sulfate?	Copper oxide
What word describes a solution that contains a large amount of solute in a small volume of solvent?	Concentrated	What is the name of the salt formed from zinc oxide and hydrochloric acid?	Zinc chloride
How can a solution be made more dilute?	By adding solvent/water	Which gas is formed when dilute hydrochloric acid reacts with magnesium?	Hydrogen
What kind of reaction occurs between an acid and a base?	Neutralisation	Which gas is formed when dilute hydrochloric acid reacts with magnesium carbonate?	Carbon dioxide
What is formed when an acid reacts with a base like a metal oxide?	Salt + water	What is the chemical test for hydrogen?	It gives a squeaky pop with a lighted splint
What acid would be used to make zinc sulfate from zinc oxide?	Sulfuric acid	What is seen when magnesium is added to dilute sulfuric acid?	Effervescence/ fizzing/ bubbles
What process can be used to separate an insoluble solid from a liquid?	Filtration	Which gas is produced when copper carbonate is added to dilute nitric acid?	Carbon dioxide
		What is the chemical test for carbon dioxide?	It turns limewater milky.

Year 10 Science| Term 1 |

Redox Chemistry

What element is added during oxidation?	Oxygen
What element is added during reduction?	Hydrogen
What element is removed during oxidation?	Hydrogen
What element is removed during reduction?	Oxygen
What two processes occur in a redox reaction?	Reduction and oxidation.
What is oxidation in terms of electrons?	Loss of electrons
What is reduction in terms of electrons?	Gain of electrons
How does the charge of an ion or atom change during oxidation?	Becomes more Positively charged
How does the charge of an ion or atom change during reduction?	Becomes more negatively charged.
Why are metals said to be oxidised when reacting with acids?	Metal atoms lose electrons.
What is reduced when metals react with acids?	Hydrogen ions from the acid reduced to become hydrogen gas.

Electrolysis

What do we call the liquid that dissolves a solute to form a solution?	Solvent
When Aluminium oxide is electrolysed what forms at the cathode?	Aluminium
Why is electrolysis used to extract aluminium form its ore?	Aluminium is more reactive than carbon.
Name the compound from which aluminium is extracted.	Aluminium oxide/ bauxite.
In electrolysis positive ions move towards the…?	Cathode (negative electrode)
In electrolysis negative ions move towards the…?	Anode (positive electrode)
Where does oxidation happen in electrolysis?	Anode (positive electrode)
Which electrode is connected to the negative terminal of an electricity supply?	Cathode (negative electrode)
Which electrode is connected to the positive terminal of an electricity supply?	Anode (positive electrode)
Which electrode would you expect to have bromine produced at?	Anode (positive electrode)
Where are hydrogen ions produced?	Cathode (negative electrode)

What is the name of the electrode that the negative ions move to?	Anode.
How do you test for chlorine gas?	bleaches litmus
What is produced at the anode (positive electrode) when lead bromide is electrolysed?	Bromine.
If a metal chloride is being electrolysed what gas will be produced?	Chlorine
What do we call a liquid, containing free moving ions, which is broken down by electricity in the process of electrolysis?	Electrolyte
Why can a molten or dissolved ionic compound conduct electricity?	Free moving ions.
What is oxidation?	gain of oxygen / loss of electrons
What is produced at the cathode (negative electrode) is the metal in the solution is more reactive than hydrogen?	Hydrogen.
Why is electrolysis an expensive way to extract metal from its ore?	Large amounts of energy needed.
What is produced at the cathode (negative electrode) when lead bromide is electrolysed?	Lead.
What is reduction?	loss of oxygen / Gain in electrons
What is an ore?	Metal compound in a rock.
What is aluminium oxide mixed with to lower its boiling point?	molten cryolite
Ionic compounds need to be either _____or _____ to be electrolysed	Molten or dissolved in water
Why do ionic compounds need to molten or dissolved to conduct?	Ions (i.e. charge carriers) must be free to move.
What does OIL RIG stand for?	Oxidation is Loss, Reduction is Gain
When Aluminium oxide is electrolysed what forms at the anode?	Oxygen
If metal sulphate is being electrolysed what gas will be produced?	Oxygen
Predict the products of electrolysis of copper sulphate solution	Positive electrode: Oxygen gas; Negative electrode: Copper.
Are hydrogen ions reduced or oxidised at the electrodes?	Reduced
How are metals, less reactive than carbon, extracted from their ores?	Reduction with carbon.
How do you test for oxygen gas?	Relights a glowing splint
What solution have you electrolysed if you get hydrogen gas, chlorine gas and sodium hydroxide produced?	Sodium chloride solution (brine)
Which state do ionic compounds not conduct electricity?	Solid
Why do the carbon anodes need replacing regularly?	They gradually decay away (due to reacting with the oxygen)

1.1		¿Qué haces con tu móvil normalmente? *What do you do with your phone normally?*			
Frequency phrases	**Verb (present tense)**	**Noun**	**Opinion phrase**	**Opinion verb**	**Reason**
Siempre *Always*	**mando** *I send* recibo *I receive* leo *I read*	**mensajes** *messages* correos eléctronicos *emails* las noticias *the news*	**En mi opinión** *In my opinion*	**es** *it is*	**seguro/a(s)** *safe*
A menudo *Often*			**Creo que** *I think that*	**son** *they are*	**práctico/a(s)** *practical*
A veces *Sometimes*	**juego** *I play*	**a los videojuegos** *videogames*		puede(n) ser *it/they can be*	**adictivo/a(s)** *addictive*
Todos los días *Every day*	**hago** *I do*	**compras en linea** *shopping online*			**peligroso/a(s)** *dangerous*
Casi nunca *Almost never*	**saco** *I take* subo *I upload*	**fotos** *photos*			**fácil de usar** *easy to use*
	veo *I watch*	**programas** *programmes* séries *series* documentales *documentaries*			bueno/a(s) para mantenerse en contacto *good to stay in contact* una pérdida de tiempo *a waste of time*
	escucho *I listen*	**música** *music*			
	chateo *I chat*	**en línea** *online* **con mis amigos** *with my friends*			
	grabo *I record*	**vídeos** *videos*			
	uso *I use* utilizo *I use*	**las redes sociales** *social media* **mi ordenador** *my computer* **aplicaciones como….** *apps such as…*			

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1.2	¿Qué haces en tus ratos libres? *What do you do in your free time?*	

Time phrase	Verb		Noun
Durante mi tiempo libre *During my free time*	**juego** *I play*		al fútbol *football*
			al baloncesto *basketball*
En mis ratos libres *In my free time*	**hago** *I do*		al vóleibol *volleyball*
			al tenis *tennis*
	voy *I go*		al tenis de mesa *table tennis*
Normalmente *Normally*			al hockey sobre hielo *ice hockey*
	Opinion verb	**Infinitive**	a las cartas *cards*
Generalmente *Usually*	**me gusta** *I like*	**jugar** *to play*	deporte *sport*
			ciclismo *cycling*
A veces *Sometimes*	**me encanta** *I love*		natación *swimming*
			baile *dancing*
	me interesa *I'm interested in*	**hacer** *to do*	ejercicio *exercise*
De vez en cuando *From time to time*			atletismo *athletics*
	no me gusta *I don't like*		al centro (de la ciudad) *to the (city) centre*
A menudo *Often*			al centro comercial *to the shopping centre*
	no me gusta nada *I really don't like*		al parque *to the park*
		ir *to go*	a la costa *to the coast*
			al campo *to the countryside*
	odio *I hate*		al gimnasio *to the gym*
			a la montaña *to the mountains*
			a la piscina *to the swimming pool*
	prefiero *I prefer*		a la casa de mi amigo *to my friend's house*
			a un club de fútbol *to a football club*

Connective	Verb (3rd person)	Infinitive verb phrase
porque… *because…*	**me ayuda a** *it helps me to*	**estar en forma** *to stay in shape*
		olvidarme de todo *forget everything*
		mantenerme en contacto con mis amigos *stay in contact with my friends*

PORTFOLIO OF SKILLS | YEAR 10 | TEXTILES | AUTUMN TERM

ARTIST ANALYSIS

FACT	What can you see in the artwork?
	What information can you find about the artwork?
	What Textile Processes can you see in the artwork or artist work?
	What formal elements are in the construction of the artwork?
FICTION	What context does the artwork have?
	What theme, culture, time, location or society does it connect to?
	Has any of the content been exaggerated or hidden in the artwork?
	What identifying features are there from the artist or message?
FUTURE	What inspiration are you taking from the artwork or artist?
	How are you going to respond to the artwork?
	Does the context of the artist work influence you?
	What connections does the artwork have to your own?

THREADING THE SEWING MACHINE

STEP 1	**Turn Off the Sewing Machine:** Before you begin threading up **TURN OFF** your sewing machine! This is for safety, as your hands will be near the needle and moving machinery.
STEP 2	**Put the Needle Up:** Turn the handwheel on the side of the sewing machine towards you until the needle is fully up.
STEP 3	**Positioning the Thread Spool:** Begin by putting the thread spool onto the spool holder. You may also have a spool holder that is sitting sideways.
STEP 4	**Back Thread Guide:** Holding the thread place it through the back thread guide. There should be a small groove or hook. Make sure the thread goes through this otherwise the machine won't sew correctly.
STEP 5	**Front Thread Guide:** Take the thread down the front channel and around the front tension guide at the bottom.
STEP 6	**Through the Take-up Leaver:** Take the thread up from the front thread guide and through the take-up lever hook.
STEP 7	**Above Needle Hook:** Pull the thread down the channel from the take-up lever and through the small hook above the needle. This hook is usually around the same spot the top of the needle sits.
STEP 8	**Thread The Needle:** Place the thread in the eye of the needle from the front through to the back. Pull the thread under the presser foot and past the back of the machine to create a long thread tail.
STEP 9	**Insert the Bobbin:** Remove the bottom cover by pulling it towards you and place the bobbin into the bobbin case. Follow the arrow directions on the bobbin cover for the way to position the bobbin correctly.
STEP 10	**Pull Up the Bobbin Thread:** Hold the top thread tail while turning the handwheel towards you on the sewing machine. You should see the bobbin thread looped around the top thread. Pull until you can grab the bobbin thread. Replace the bobbin cover on the machine.

ASSESSMENT OBJECTIVES

AO1	Develop ideas through purposeful investigation and exploration.
	Find images, artists, and techniques relevant to the unit theme.
	Include info: what, how, why (key words).
	Identify techniques, media, materials, and skills.
	Demonstrate critical understanding of sources through written and practical responses.
	Include own thoughts about the work.
	Written in own words with correct spelling, grammar, and punctuation.
	Present work in a creative way: samples, drawings, own photos of connections.
AO2	Refine work and ideas through deliberate and relevant experimentation.
	Find and use technique instruction, demonstration, and information.
	Select and exhibit a variety of samples and media evidence.
	Identify connections and overlaps with techniques.
	Experiment with appropriate media, materials, techniques, and processes.
	Include equipment, media, materials, diagrams, method, key words, and vocabulary (technical recipe).
	Use research to develop technique, skills, and creative knowledge.
	Present work in a creative and methodical way.
AO3	Record ideas, observations, and insights relevant to intentions.
	Communicates through written and visual media: drawings, collage, and stitch.
	Annotate samples, experimentations, observations, and developments.
	Collect source material to use in design work: own photos, museum visits/tickets, drawings, and notes.
	AO1 and AO2 has inspired design work and connections are clearly identified throughout.
	Investigate the most appropriate media, materials, techniques, and textile skills to use within the unit.
	Use resources creatively to produce a variety of design ideas that are relevant to intentions.
	Clearly identify work progress, idea generation influences and directional changes related to the body of work.
AO4	Plan and adapt ideas to create a personal successful outcome.
	Ensure that all components of final outcome are own work (not copies).
	Work independently, making informed decisions.
	Demonstrate a strong understanding of visual language.
	Select the best bits from all the assessment objectives to include in personal outcome.
	Identify where improvement is required and confidently adapt design work to show changes.
	Realise intentions and designs with conviction, confidence, and purposeful intent.
	Exhibit a clearly developed and improved set of textiles skills from sampling to outcome.
	Present an imaginative, meaningful, personal, and informed response to the unit theme.