The John of Gaunt School
A Community Academy

Name _____ TG _____

Year 10

Knowledge Organisers

Term 2 - 2023

Year 10 Term 2 Quizzing Homework - Question Bank

Business Studies	Business Studies Cont.
The role of business: 1. What is the purpose of a business? 2. List 3 characteristics of an entrepreneur. 3. List the risks of starting a business. 4. List the rewards of owning your own business. 5. Someone who creates a new business idea and takes risks to turn their ideas into money is known as an------------------------------- Business ownership - True or false? 1. Sole traders are owned and run by one person 2. Sole traders have limited liability 3. One advantage of a partnership is shared responsibility 4. One disadvantage of a partnership is that the original owner keeps all the profits 5. LTD stands for Public limited company 6. LTDs have limited liability 7. PLC stands for Public limited company 8. Anyone can buy shares in a PLC 9. What is a 'start-up'? Business Aims and Objectives: 1. What is a business objective? 2. The objective of not going bust is known as S----- 3. The objective of making as much profit as possible is known as P--------- M---------- 4. How do business objectives change over time? 5. A business objective of getting bigger is known as G----------	Business Planning: 1. What is a business plan? 2. State 2 sections of a business plan 3. State 2 stakeholders that would be interested in a business plan 4. State one advantage of preparing a business plan 5. State one disadvantage of preparing a business plan Expanding a business: 1. When one company buys another this is known as a T-------------------- 2. When two companies agree to join together this is known as a M-------------- 3. When a business grows by opening new stores, this is called O----------------- 4. External growth means: Stakeholders: 1. A person/group with a concern or interest in a business is known as a S------------ 2. True or false: All employees are stakeholders 3. True or false: The government is a stakeholder in any business 4. True or false: different stakeholder groups have different amount of influence in each business 5. Give an example of where stakeholder groups may be in conflict

Drama	Child Care
1. Name all five types of staging. 2. What does a stage position determine? 3. How can you tell stage left from stage right? 4. Why is 'Upstage' referred to as 'Upstage' and 'downstage' as 'downstage'? 5. Where can you find 'Backstage'? 6. Who is responsible for the concept of the play? 7. What are the four design elements? 8. What is the difference between a stage manager and a theatre manager? 9. What is the role of a technician? 10. Define a physical or vocal skill. Term 3: 'Blood Brothers' 1. What time period is Blood Brothers set? 2. What city is the Blood Brothers set in? 3. Who was the Prime Minister at the time Blood Brothers was written? 4. Write down ONE problem amongst the working class community. 5. Write down ONE theme Blood Brothers includes. 6. What does Mrs Johnstone represent? 7. What does Mrs Lyons represent? 8. What does Mickey represent? 9. What does Edward represent? 10. What does Linda represent?	Preparing a bottle of formula milk When making the bottle of milk: 1. Why must you sterilise the bottle before preparing the milk? 2. How much water do you put in the kettle? 3. Do you have to use fresh water every time? 4. What is the longest time you can leave the water after boiling before using to make the feed? 5. Why do you boil the water and use above 70C? 6. What hygiene preparation should you do before preparing the bottle? 7. How do you know how much formula/water to use when making the feed? 8. How do you make sure the amount of formula used is measured accurately? 9. Why do you shake the mixture of formula and water? 10. How can you test the temperature of the milk? 11. What temperature should the milk be when giving it to the baby? 12. What should you do if the baby does not drink all the milk? 13. How many bottles should you make up at one time? Why? 14. How much milk should a 3 month baby have in each bottle? 15. How much milk should a 6 month baby have in each bottle? 16. State 1 personal hygiene rule you should follow when making a bottle of formula milk 17. State 1 safety rule you should follow when making a bottle of formula milk 18. What is formula milk? 19. What type of formula milk can you give to a baby who is lactose intolerant? 20. What is a symptom of food poisoning?

Computer Science	Engineering
1) What will 23 DIV 4 return? 2) What is a syntax error? 3) What is a logic error? 4) This comparative operator != means what? 5) What is a flow chart? 6) Which symbol is used in a flow chart for input/output? 7) Which symbol is the Terminator? 8) What is pseudocode? 9) What output would 5/2 give? 10) What output would 7//2 give? 11) Write to code to output "Hello World" in python 12) What is concatenatio? 13) Write an algorithm to concatenate the phrases "Hello my name is" and "Slim Shady" 14) What does this code do? if name == "Fred": 15) What does this code do? for i in range(0,10): 16) Write the algorithm to store a list of 5 shopping items 17) Give 2 steps you should use to find errors in code 18) What does # mean in Python? 19) Rewrite the code below to perform a floor division	1. Name a personal safety precaution? 2. Why do we use safety symbols? 3. What does a yellow symbol indicate? 4. Name three personal safety equipment? 5. What drawing technique uses angles at 30 degrees? 6. What is a Face plate? 7. Name a tool used on a wood lathe to turn wood? 8. What saw do we use to cut metal? 9. What do we use to help mark metals to the correct size? 10. What is a ferrous metal? 11. What is an alloy? 12. Name a common Non-Ferrous metal that is a good conductor? 13. Why must Steel be protected from the environment? 14. What is the name for aluminium ore? 15. What chemical symbol is used to describe iron? 16. What is Zink used for? 17. What material is used to make tools? 18. What is a standard form? 19. What tool is used on metal to mark 90 degrees? 20. what material can you use to make a metal sink?

```python
number1 = int(input("Input the first number :"))
number2 = int(input("Input the second number :"))
answer = number1 + number2
print("The answer is " + str(answer))
```

English	English Cont.
An Inspector Calls Knowledge organiser questions 1. When was the play written? 2. When was the play set? 3. What is socialism? 4. What is capitalism? 5. Was Priestley a capitalist or a socialist? 6. What 2 real life events are referred to in Act 1? 7. In which town and region is the play set? 8. The play takes place in a large suburban house. In which room does all of the action take place? 9. What colour is the lighting at the beginning of the play and how does it change when the Inspector arrives? 10. List 3 ways in which society was different in the 1940s in comparison to when the play is set. 11. What are the Birling's celebrating at the start of the play? 12. Who does the Inspector interrogate first? 13. Who has an affair with Eva? 14. How does Eva die? 15. Why did Eva get fired from Milward's? 16. Why does Eva go to Mrs Birling? 17. Who does Mrs Birling blame for what happened to Eva? 18. Who is the father of Eva's unborn child? 19. Which 2 characters appear to have changed by the end of the play? 20. What is dramatic irony? 21. What other names is Eva Smith known as?	22. Inspector Goole is considered to be a mouthpiece for Priestley's capitalist views: True or false? 23. Who says: "Public men, Mr Birling, have responsibilities as well as privileges"? 24. Complete the quotation "they will be taught it in _____ and blood and _____." 25. Who says: 'The Titanic…unsinkable, absolutely unsinkable'? 26. Complete the quotation: 'as if we were all mixed up like _____ ____ __ _____ – community and all that _____' 27. Who says: 'But these girls aren't cheap labour- they're people."? 28. Who is described as "very much the easy well-bred young man-about-town" ? 29. Sheila refers to Gerald as a "wonderful _____ _____" 30. Eva Smith is a symbol for the common man/woman and reminds us that we should take responsibility for each other. True or false? 31. Who says "as if a girl of that sort would ever refuse money"? 32. Who is referred to as being 'cold'? 33. Who says: "(shouting) And I say the girl's dead and we all helped to kill her- and that's what matters-" 34. Who is Edna and what does she represent? 35. List 3 of the main themes in An Inspector calls

French	Health and Social Care
A] Learn the yellow and green sections on your KO and then translate these into French: 1. If I were rich, I would go to 2. If I had lots of money 3. I would spend my holidays in 4. If I could, 5. I would visit 6. If I won the lottery, 7. I would travel around the world 8. when I'm twenty years old 9. I'll go to 10. when I'm an adult B] Answer these questions about your holidays in French in full sentences. Use your KO (and the KS3 KOs) to help you create your answers, then learn your answers and practise writing them from memory: 1) **Quelle sorte de vacances préfères-tu?** What type of holiday do you prefer? 2) **Où vas-tu en vacances normalement**? Where do you go on holiday normally? 3) **Qu'est-ce que tu fais en vacances quand il fait beau?** What do you do on holiday when it's nice weather? 4) **Qu'est-ce que tu fais en vacances quand il fait mauvais?** What do you do on holiday when it's bad weather? 5**) Comment seraient tes vacances idéales?** What would your ideal holidays be like?	

Food Tech	Geography
1. What are Macronutrients? 2. What are Micronutrients? 3. State one function of fat? 4. Where do we see the Lion Mark? 5. What are the two main groups of fats? 6. How many calories per gram does fat provide? 7. What is a free sugar? 8. Proteins are made up of what? 9. Vitamins can be found in water? 10. What is protein complementation? 11. State the 3 groups of carbohydrates. 12. Explain the term – denature / denaturation. 13. Explain the term – coagulate / coagulation. 14. Explain why we cook food. 15. Explain – conduction, convection, radiation. 16. What are the 3 ways in which we can denature a protein? 17. List 3 functions of fats in food. 18. What is gelatinisation? 19. Name 3 food products where we create a foam. 20. Name a chemical and biological raising agent.	1. What percentage of the UK's food is imported? 2. Why do we import so much food? 3. What are the benefits of buying food locally? 4. What is organic farming? 5. What are the impacts of water insecurity on health? 6. What are the impacts of water insecurity on industry and agriculture? 7. List 4 ways that water supplies can be increased 8. What is desalination? 9. How can water supplies be increased sustainably? 10. Name our case study of a large scale water transfer scheme 11. How much did the scheme cost? 12. Identify 2 advantages of the scheme 13. Identify 2 disadvantages of the scheme

Music

1. What are the dates of the Baroque, Classical and Romantic Era's? 2. What is the structure of Binary, Ternary and Rondo forms? 3. What does conjunct movement mean? 4. What is a pedal? 5. What is a sequence? 6. What is the texture for one part or one voice performing? 7. What is the word for a high female voice? 8. What is the word for a low female voice? 9. What is the word for a high male voice? 10. What is the word for a low male voice? 11. How many beats in a bar is Popular music usually in? 12. What instruments would you usually find in a Popular/Rock band? 13. What is the typical structure of a Popular song? 14. What is a riff? 15. What is the musical word for how the music is organised? 16. What is the musical word for the main tune? 17. What is the musical word for how loud or quiet the music is? 18. What is the musical word for how fast of slow the music is? 19. What is the musical word for how many layers there are in a piece? 20. What are the two main types of tonality? Also recognising images of the following instruments: Violin Viola Cello Double Bass Flute Clarinet Oboe Bassoon Trumpet French Horn Trombone Tuba Timpani	

Science

B2 – Organisation

1. Name parts of digestive system
2. What is the function of the stomach?
3. What is the function of the small intestine?
4. How is the small intestine adapted to increase the rate of absorption?
5. How are villi adapted to help the small intestine carry out its function?
6. What is the function of the large intestine?
7. Where is bile produced?
8. What does bile do?
9. What does amylase do?
10. Where is lipase produced?

C2 – Bonding and structure

1. When does ionic bonding occur?
2. When does covalent bonding occur?
3. What is a bond?
4. What is an alloy?
5. What are the differences between diamond and graphite?
6. How do metals bond?
7. What are the properties of ionic compounds?
8. What are the properties of covalent compounds?
9. What is a delocalised electron
10. Draw graphite

Science

Physics – P2 Electricity

1. What is the fundamental unit of electric charge, and what is its symbol?
2. Explain the difference between current and voltage in an electric circuit.
3. What is the relationship between current, voltage, and resistance in Ohm's law?
4. Define the term "resistance" in the context of electricity.
5. How does the resistance of a conductor change with an increase in its temperature?
6. What is the function of a fuse in an electrical circuit?
7. Describe the role of an insulator in an electrical circuit.
8. Explain why parallel circuits are preferred for domestic wiring over series circuits.
9. Define the term "potential difference" and its unit of measurement.
10. What is the purpose of an ammeter in an electrical circuit, and how is it connected?
11. How is a voltmeter connected in a circuit, and what does it measure?

12. Describe the structure and function of a diode in an electrical circuit.
13. Explain how a capacitor stores electrical charge and its applications.
14. What is the difference between alternating current (AC) and direct current (DC)?
15. Describe how a transformer works and its importance in electrical power distribution.
16. What safety precautions should be taken when working with electricity?
17. How does the resistance of a wire change when its length or cross-sectional area is altered?
18. Discuss the dangers of electric shocks and how they can be prevented.
19. Explain why power stations generate electricity using various energy sources.
20. What is the purpose of an Earth wire in an electrical circuit, and how does it ensure safety?

Spanish	
A] Learn the Verbs and Opinions sections on your KO and then translate these into Spanish: 1. I use my computer 2. to look for information 3. on the web 4. I use my mobile 5. to chat with my gran 6. I use my laptop 7. to chat with my friends 8. on social networks 9. I can't imagine 10. life without the internet B] Answer these questions in Spanish in full sentences. Use your KO to help you create your answers, then learn your answers and practise writing them from memory: **1) ¿Para qué utilizas la tecnología?** What do you use technology for? **2) ¿Qué opinas de las redes sociales?** What is your opinion of social networks? **3) ¿Qué opinas de los videojuegos?** What is your opinion of computer games? **4) ¿Cuáles son las ventajas de la tecnología?** What are the advantages of technology? **5) ¿Hay desventajas de la tecnología?** Are there disadvantages of technology? A] Learn the Verbs and Opinions sections on your KO and then translate these into Spanish	

Astronomy GCSE. Term 2

The Lunar Disc

Recall and Describe the surface features of the Moon.

The Moon ... 4.5 billion years old

Describe the Moon's orbit

Explain Librations and how they can be used.

Exploring the Moon

Near side and far side.

Describe the internal divisions of the Moon.

Describe a variety of probes that have gone to the Moon and their roles.

Key words; *All the ones from last time any words in bold plus the list below.*

Seas - maria
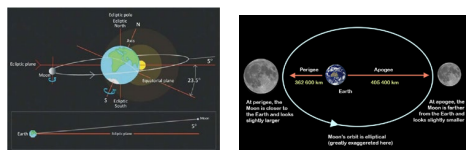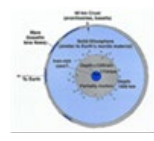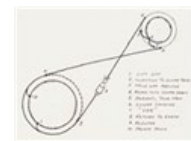
Highlands – terra

Tidal gravitational forces

Synchronous rotation

Lunar libration

Sidereal month

Origin of the Moon.

Most popular theory;

The Giant Impact Hypothesis, involving a collision between a large body and Earth.

Describe alternative formation theories;

1.Fission Theory

2.Capture Theory

3.Condensation (Co-accretion) Theory

Exploration of the Solar System- Planets and dwarf planets

1.Terrestrial planets: Small rocky planets with iron cores. *Mercury, Venus, Earth and Mars.*

2.Giant planets: Liquid interiors and atmospheres of hydrogen and helium with small amounts of methane and ammonia. *Jupiter, Saturn, Uranus and Neptune*.

3.Dwarf planets: Smaller than planets. Eg *Ceres, in the Asteroid Belt and Pluto, Eris and Makemake in the Kuiper Belt in the outer part Solar System.*

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1. **Astronomical phenomena visible to the naked eye.**

Stars, including the Sun, moon, planets (mercury, venus, mars, Jupiter and Saturn), comets, etc.

2.Recognise and be able to draw **constellations** and **asterisms,** including **The Plough, Cassiopeia, Cygnus and The Great Square of Pegasus etc. and constellations in the Zodiacal Band.**

Transparency of the atmosphere and **seeing conditions**. Note: the **Antoniadi Scale**.

19. **Factors affecting visibility.**

3. **Asterisms** as pointers to locate specific objects in the night sky eg. Ursa Major (The Plough) is a distinctive constellation that can be used to find **Polaris**. (The Pole star).

6.The causes and effects of **light pollution** on observations of the night sky.

17. Be able to find the **latitude** of an observer using **Polaris**.

Practical observation

18. **Naked eye techniques** such as **dark adaption, the function of rods and cones** and **averted vision**.

20. The appearance of the **Milky Way** from Earth as seen with the naked eye.

Circumpolar Stars

14. Use a star's **declination** to determine whether the star will be **circumpolar** from an observer's **latitude.**

15. Apparent motion of **circumpolar stars**, including **upper transit** (**culmination**) and **lower transit**.

5.Using **Star charts**, **planispheres**, **computer programmes** or '**apps**' to identify objects in the night sky.

9. Use of the observer's **latitude** to link the **equatorial** and **horizon coordinates** of an object for the observer's **meridian**.

12.Understand the terms; **Circumpolarity, Celestial sphere, celestial poles** and **celestial equator.**

11. Using information on **equatorial** and **horizon coordinates** to determine the **best time to observe a celestial particular object** or the **best object(s) to observe at a particular time.**

Small Solar System Objects (SSSOs)

Asteroids: *Rocky objects with diameters of less than 1000km*

Meteorites: *Rocky objects of less than 10m diameter.*

Comets: *Mixtures of compacted dust rock and ice (more about these later!)*
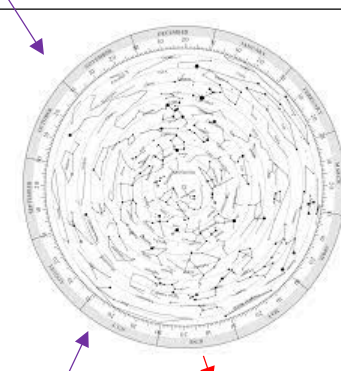
16. Be able to use information about **rising** and **setting times** of **stars** to **predict** their approximate **position in the sky.**

1:4 Business Aims and Objectives

Business objectives: are what the business wants to achieve

Survival
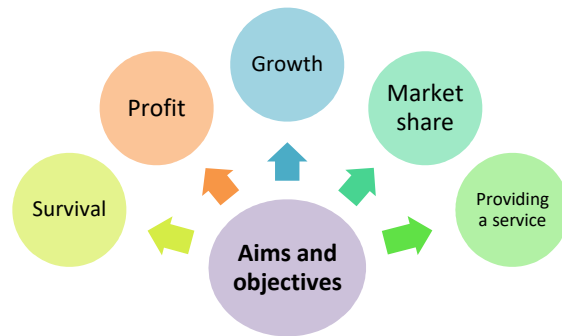*The business can pay its costs but has nothing left*
Profit
The difference between revenue and costs
Market share
The share of the total market for a product
Growth
The business becomes larger

As businesses evolve their objectives may change

Initially: the aim may be to simply survive
Later: the aim may be to increase profit or market share

The objectives will also depend on the type of business ownership i.e. sole trader or limited company

1:5 Stakeholders in Business

Stakeholders are: groups of people or individuals who have an interest in a business

Internal stakeholders
People with an interest in and who work in the business

External stakeholders
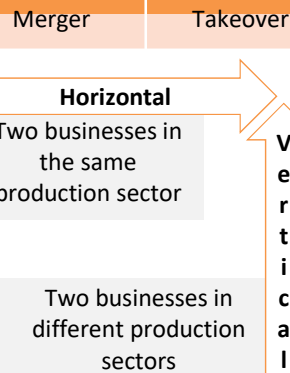*People with an interest in but who are outside of the business*

Stakeholder	Internal or external	Effects
Owners	Internal	See profit as their main aim so will want to run the business cost effectively
Employees	Internal	Employees want to be treated well and receive a fair wage. Without this they could go on strike
Customers	External	Customers want to receive a good service and pay a fair price. Without this they could go to competitors
Suppliers	External	Suppliers want to be paid on time. Delayed payments could mean the supplier refuses orders
Government	External	The government wants businesses to succeed however an increase in income tax means less money for customers
Local community	External	The local community will want jobs in their area however they could protest against a new business development

1:6 Business Growth

There are two methods of business growth:

Organic growth
Internal growth using own resources i.e. opening more shops
Merger
Two or more businesses agreeing to join together
Takeover
One business takes control of another
Horizontal growth
Two businesses in the same production sector joining together
Vertical growth
Two businesses in different production sectors joining together

Organic growth	External growth	
	Merger	Takeover

Organic growth
▪ **Increasing output**
Selling more products
▪ **Gaining new customers**
Reduce the price, open more shops
▪ **Developing new products**
To target a wider range of customers
▪ **Increasing market share**
Selling more than competitors

Horizontal
Two businesses in the same production sector

Vertical
Two businesses in different production sectors

Diversification
Two businesses coming together with no connection

Assessment Information

Your assessment will take place during a normal timetabled lesson but you should be revising at home.

Number of marks available: 40
Time allowed: 50 minutes

Answer **ALL** of the questions

The first 10 questions will be multiple choice - you must only select **ONE** answer, selecting two will score 0 marks.

The other questions will include a range of 2, 3, 4, 6, 7, & 9 mark questions

Possible questions

1. State two aims of a new start up business.
2. Define the term 'entrepreneur'.
3. Explain how a business' objectives may have changed since first starting out.
4. Analyse how a business decision may impact on two stakeholders.
5. Analyse two benefits of being a public limited company.
6. Evaluate the effectiveness of a business plan.

State **Explain** **Analyse** **Recommend** **Evaluate**

Key words	definition
Sterilise	make (something) free from bacteria or other living microorganisms.
Formula milk	a baby's liquid food based on cow's milk or soya protein, given as a substitute for breast milk.
Personal hygiene	handling, preparing and storing food or drink in a way that reduces food from becoming contaminated and causing food poisoning.
Safety	ensuring that the kitchen is free from hazards which could result in injury.
Food poisoning	illness caused by bacteria or other toxins in food, typically with vomiting and diarrhoea
Nutritional needs	the amount of nutrients needed to support normal health, growth and development

ROOM TEMPERATURE
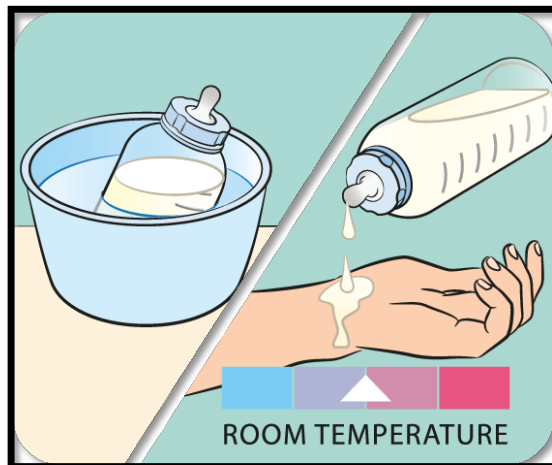
BABY FORMULA FEEDING CHART
@the_kidsdoctor

Age	Amount	Duration
Newborn	1-3 Oz	Every 2-3 hours
1-3 months	3-4 Oz	Every 3-4 hours
3-6 months	4-8 Oz	Every 4-6 hours
6-9 months	6-8 Oz	4-5 times a day
9-12 months	7-8 Oz	3-4 times a day

*** These are appropriate values. The amount varies from baby to baby, baby's age, appetite, weight, growth spurt etc. Although, there is an upper limit of 32 ounces/oz(~960ml) in a day, 1 Oz = 30 ml.

Stages of making a bottle feed

1. **Fill the kettle with at least 1 litre of fresh tap water (don't use water that has been boiled before).**

2. **Boil the water. Leave to cool for no more than 30 minutes, so that it remains at a temperature of at least 70C. This kills bacteria.**

3. **Clean and disinfect the surface you are using**

4. **Wash your hands**

5. **Stand the bottle on the clean, disinfected surface – could use the steriliser lid**

6. **Follow manufacturer's instructions to pour the amount of water you need into the bottle. Double check that the water level is correct.**

7. **Loosely fill the scoop with formula powder, according to the manufacturer's instructions, level it using the flat edge of a clean, dry knife or the leveller provided. Different tins of formula come with different scoops. Only use the scoop that comes with the formula**

8. **Holding the edge of the teat, put it into the retaining ring, check it is secure, then screw the ring onto the bottle. Cover the teat with the cap and shake until the powder dissolves**

9. **Cool the bottle under a running cold tap. Test the temperature of the formula on the inside of your wrist before giving it to your baby. It should be body temperature, it should feel warm or cool, but not hot.**

10. **If there is any made-up formula left in the bottle after a feed, throw it away**

12

Government	The Government runs the country. It is made up from elected members of the House of Commons and sometimes unelected members of the house of Lords. Ministers are chosen by the PM (Prime Minister)	**Monarch**	Head of state – King or Queen
Parliament	Decision and law-making body of the UK. Includes the House of Commons, Lords and the Monarch.	**Bicameral**	Meaning two chambers – House of Commons and Lords
Legislature	The name for Parliament as a whole. Place where laws are made.	**Scrutiny**	Examining in detail what governments are doing.
Parliamentary Sovereignty	Parliament in the supreme authority on law-making in the UK.	**Bill**	Document published buy the Government – set out the plans to create a new law
Executive	Powerhouse of the government. PM is the head and chooses people to run the big government departments.	**White Paper**	Document setting out the Governments policy on an issue and inviting opinions
Judiciary	The system of courts and judges through which the law is applied.	**Act**	A law that has been passed through Parliament
Uncodified Constitution	A constitution in which not all parts are collected together in one document, but are found is many different sources.	**Veto**	The power to reject a proposal
Civil Service	Makes sure that the government runs properly and that decisions are carried out. Civil Servants provide advice and support to ministers	**Oversight**	The process of checking that something is bring carried out properly.
Accountability	The responsibility to explain how or why something is being done	**Official Opposition**	The Official Opposition is the party who is not in government but has the second largest number of seats.
Commons Speaker	Special MP is the highest authority in the Commons. They chair debates and keep order in the chamber	**Party Whips**	MPs whose role it is to enforce party discipline. They persuade MPs and threaten them with isolation if they decide to vote against their party's policy.
Black Rod	An officer of the House of Lords who is responsible for security, and controlling order within the Housed of Lords,. Plays a key role on the State Opening of Parliament.	**Parliamentary Select Committee**	Hold governments to account. The can ask ministers to appear before them and answer questions about their decisions and the workings of their departments.

- The Queen is the UK's Monarch and Head of State, but the Prime Minister is the head of the Government.
- Parliament scrutinises the PM's decision, votes on the proposals and makes new Laws.
- A constitution is a set of rules that sets out how a country is run. It regulates the relationship between the government and the people.
- Most countries have what is called codified constitution. This means that all the rules about how that country is governed are set out in one document. The USA has a famous constitution that is codified,. However, the UK has an **Uncodified Constitution.** The rules and important guidelines about how the country should be rune are not found in one single document, nit are scattered across many different sources. This reflects the UK's complex Union of four different nations – England, Scotland, Wales and Northern Ireland.

## The impact of bicameralism on the quality of the Government

Advantages	Disadvantages
Improves scrutiny of legislation – a second chamber provides a way to review bills and check them.	The Commons has democratic legitimacy because its members have been elected by the British people. The Lords lack this as it is made up of people who were born into rich families, have been appointed or are high in the church.
As the Lords is largely an appointed chamber, it is possible to recruit expertise from the worlds of business, arts, sport, science and industry to help create better laws.	The Lords can hold up the passing of new laws, which slows government down.
The Lords allow groups that are under-represented in the Commons to have a voice	It costs a lot to run the Lords as each one can claim £300 per day in expenses to attend the chamber.
It is traditional for the UK to have a bicameral system.	

Revision Summary Sheet
The British Constitution

The structure of UK Government

There are several branches o the UK's system of government. At the centre in the Monarchy. We have a constitutional monarchy, which means that the Queen does not get involved in the day-to-day running of the country and their power is limited. However, laws cannot be passed without the agreement of the Monarch.

How laws are made

English votes for English laws
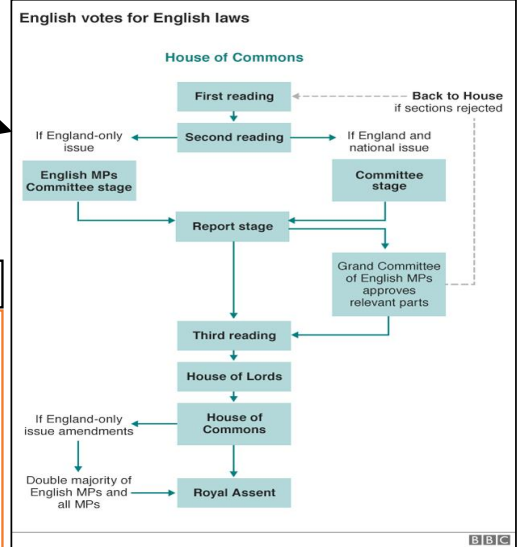
The electorate

Citizens directly elect representatives every 5 years.

Elected Legislature & The Executive

The House of Commons	HM Government
Primary role Creates/designs laws Scrutinizes/approves laws	**Primary role** Puts forward laws. Runs Government
Represents The will of the people	**Represents** The Will of the majority

The executive, legislature and judiciary are separated in our constitution. This helps to spread power throughout the system so that one part of the government does not become too powerful. Each part helps to hold the others to account.

Appointed Legislature

The House of Lords

Primary Role
Scrutinizes/approves Laws. Acts as a safeguard

Represents
The unwritten constitution

The Crown

The Monarch

Primary Role
Represents the UK. Signs bills into law

Represents
Ceremony/tradition

Judiciary

The UK Courts of Law

Primary Role
Upholds the law

Represents
The rule of Law

Relationship between branches of government

Conflict between politicians and judges can occur over the sentencing of offenders. It is the job of judges, with help from the Sentencing Council, to decide of custodial sentences. Judges refer to the key constitutional principle that the judiciary should have a high degree of independence from the executive.

How the Constitution works: Parliament in action	
Different types of MP	On the other side of the House of Commons in the opposition. They have 'shadow' MPs to shadow the work of the minister. Each week, the opposition leader has the chance to hold the PM to account for their government at Question Time.
The Commons Speaker	Sits in the Speaker's chair between the Government and the Opposition benches. They are supposed to be impartial. In debates, the Speaker chooses MPs to speak and ensures they follow the rules of the House.
Party Discipline	Party whips are used to ensure that everyone follows the party line and that everyone works together.
State Opening of Parliament	The Monarch travels froth Buckingham Palace to Parliament to officially open each session of parliament.
The Budget	The budget speech is delivered by the Chancellor of the Exchequer every year and sets out the budget. There is then several days of debate before its agreed on.
The Civil Service`	Administrative body that follows governments instructions, implements government decision and provides policy advice to ministers.

Sequence

Addition example code

```
number1 = int(input("Input the first number :"))
number2 = int(input("Input the second number :"))
answer = number1 + number2
print("The answer is " + str(answer))
```

The code above takes two number inputs and stores them as variables called number1 and number2. It then adds these together and saves them in a variable called answer.

The final line prints the answer out in a sentence.

Iteration

for i in range(0,10):	Repeats any code indented after this line a set number of times, in this case, 10.
while x < 10:	Repeats any code indented after this line until a condition is met, in this case x becoming equal to or greater than 10.
list = ["",""]	Creates a variable and makes it an array – a list which can store many values.

Selection

Selection example code

```
fav_num = int(input("Pick a number between 1 & 10..."))

if(fav_num == 7):
    print("Good guess!")
elif(fav_num < 7):
    print("Too low!")
else:
    print("Too high!")
```

The code above inputs a number. If the number is 7 it will print "Good guess!", if it is less than 7 it will print "Too low!" and for anything else it will print "Too high!".

Key vocab

Method	Description	Method	Description
.length	Outputs the length in characters of the string.	.count(x)	Outputs the number of instances of x in the string.
.substring(x,y)	Outputs the character that are between positions x and y.	.reverse	Outputs the characters of the string but in reverse.
.upper	Outputs the string in upper case.	.split	Splits the string, into a list, usually where there are spaces.
.lower	Outputs the string in lower case.	string[3]	Outputs the character at index 3.
.replace(x,y)	Outputs the string but with all instances of x being replaced with y.	.strip(x)	Outputs the string but with any instances of x removed from the front and end of string.

Key content
Concatenating Strings
This means joining multiple strings together. A plus symbol (+) is used in Python.

greeting = "Hello"
name = "Elizabeth"

```
print(greeting + " " + name)
```

```
Hello Elizabeth
```

More info can be found here:
https://youtu.be/wLJ1n47sGRI

Character Overview

Character	Explanation
Mrs Johnstone	Represents lower class Liverpool. Struggles financially and is naïve to Mrs Lyons. Always portrayed as a positive maternal force.
Mrs Lyons	Represents upper class Liverpool. Manipulates and takes advantage of Mrs Johnston. Devious. Mental health deteriorates throughout play.
Mickey	Represents lack of education and opportunity. Is portrayed as friendly and energetic in his early years, awkward and shy throughout his teenage years and hopeless in adulthood.
Edward	Represents education and opportunity. Is portrayed as a loyal, protective friend. He struggles to empathise with Mickey but ultimately puts the needs of his friends before his own on multiple occasions/
Linda	Represents lower class Liverpool. Is kind and fiercely protective of both Mickey and Edward. Marries Mickey but is drawn to Edward.

Theme Overview

· Class and Money—controls characters actions and determines character lives
· Nature vs nurture—concerns the question, is a person's character determined more by their genetics or by environment
· Superstition and fate—was what happened in the play fated, or did the characters have a choice/did they make what happened come true
· Coming of Age—we see the character grow from infants to adults and highs and lows of each life stage
· Power of the past—the hold the past has over what happens in the future
· Violence—present throughout play.

Context Overview

1970s Liverpool. Conservative Party were in power, Margaret Thatcher was the first female Prime Minister. In working class Liverpool there was a rise in crime rates, unemployment and drug abuse. Marilyn Monroe is a celebrity referenced in the play, although Monroe was depicted as very glamorous she in fact died of a drug overdose at a young age.

Question breakdown

Set	You could be asked to design an appropriate set for a specific scene, remember you must include key terminology e.g. fly, truck, prop, graffiti
Costume	You could be asked to design an appropriate costume for a specific character, remember you must include key terminology e.g. fabric, fit, detail, colour, quality
Lighting	You could be asked to design an appropriate lighting state for a specific scene, remember you must include key terminology e.g. profile spot, gobo, wash, birdie up light, haze, moving head
Sound	You could be asked to design an appropriate sound state for a specific scene, remember you must include key terminology e.g. motif, reverb, minor/major chord, SFX, live music
Physical and Vocal skills	You could be asked a question on WHAT vocal and physical skills you would use to deliver specific lines/extracts or sections. This links to how you would interpret the character e.g. 'Mrs Johnstone is caring so I would use a soft tone of voice.'

Key physical and vocal skills

Word	Definition
Facial expressions	Use of face to communicate
Body language	Use of body to communicate
Eye-contact	Where you are looking
Posture	The way we hold ourselves
Spatial relationships	How far or close you are to other actors
Demeanour	A characters' attitude
Rhythm	The pace of movement being steady and ritualistic
Soundscape	The use of sound to create atmosphere

KEY WORDS

Smart Materials:- Materials that change their properties in response to changes in the environment.

Thermochromic:- A material that chances colour with specific temperatures.

Photochromic:- A material that chances colour with light.

Composite:- Combination of materials that take on different properties from each material.

Microencapsulation:- Very thin fibres that hold tiny chemical capsules.

Polymer:- are molecule, made from joining together many small molecules called monomers.

Molecule:- a group of atoms bonded together.

Metal Foam

This is a metal, that when in its liquid state is injected with a gas. When cooled it turns into a porous material that can absorb energy well. It is very lightweight and has a high compressive strength.

How LCDs Work

Teflon

This is a trade name for a polymer called **Polytetrafluoroethylene** or **PTFE**. It is a material that was invented by accident and was found to have a very slippery surface. It is normally found in fabrics and on surfaces of pans.

Kevlar

This is a material formed by combining terephthaloyl chloride and para-phenylenediamine in to threads. These threads can be then woven into a fabric which is incredibly strong and lightweight.

Gore-Tex

This is a waterproof breathable fabric which contains layers of PTFE. It is generally used for outdoor clothing and shoes.

Liquid crystal display (LCD)

This is two layers of thin glass with a liquid crystal core. When a voltage is then applied, light can go through the panel. Used for smart phone screens and televisions.

Polymorphic materials

These are materials that can be changed by heat to become soft so that they can be shaped then when cool become rigid.
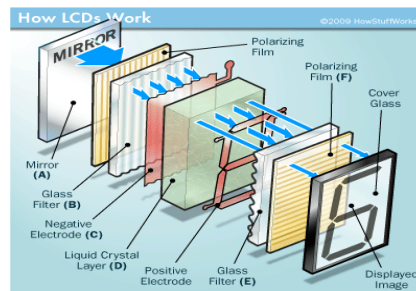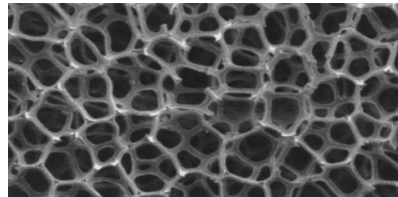
Graphine

Is a very modern thin two-dimensional material made up of layers of carbon. It is very strong and very light weight. It is harder than diamond and about 300 times stronger than steel. It is currently the lightest known material.

KEY POINTS

Graphine:- a very light and flexible material

Teflon :- a non stick material.

Corn starch :- a polymer material which bio-degrades

Kevlar :- a very light but strong material.

Gore-tex :- a breathable and waterproof material

Extension Task

Research into other modern materials and list how they are used in different products?

J B Priestley's views, messages and intentions

- Priestley was born in 1894 in Bradford and lived through the two World Wars.
- He had an interest in politics and social improvement: he **didn't like social inequality** that was present in pre-War Britain and wanted to remove social class distinctions. He helped to develop the Welfare State and NHS.
- He was a **socialist** (a belief in equality and shared wealth) who **disagreed with the Capitalist** (a belief in a rigid class system and private ownership) **way of life.**
- **He set the play in 1912 to remind his 1940s audience of how much British society had improved now that the injustice and social inequality of a rigid class hierarchy was being left behind.**
- In 1945, there was rising fear of the spread of Communism (an extreme form of socialism) in the immediate aftermath of World War 2 and **Priestley may have wanted to warn people of the problems they would return to if they turned their back on socialism.**

Setting: The play is set in 1912 (but written in 1945):
- Rigid class system (the rich have power and money) - the poor work to keep them rich.
- Huge leaps forward in industry and technology made huge amounts of money for the growing middle-classes (e.g. factory owners, ship manufacturers etc) – The Birlings are an example of this.
- Common belief in individual responsibility (**capitalism**). There was no Welfare State, no National Health Service, no standardised education.
- The year **The Titanic** was completed (and sank on her maiden voyage) and Europe was experiencing the lead-up to WW1. Both mentioned in Act 1.
- **An industrial town in the north-Midlands:** Brumley is a fictional town but modelled on real manufacturing towns which experienced a boom in this era.
- **A large suburban home – the dining room:** The single set of the dining room creates an almost oppressive atmosphere – implying that the Birlings cannot escape the Inspector's interrogation. The props and staging suggest extravagance and opulence, with 'champagne glasses', 'port', 'cigars' and so on –highlighting the materialistic nature and wealth of the Birlings.
- **Lighting:** described at first as 'pink and intimate' –then it changes to be harsher and 'brighter' when the Inspector arrives; this could be to highlight the flaws of the Birlings and to symbolise how society needs to change.

The 1945 audience
- Country recovering after massive losses of two WWs.
- Class system was less rigid.
- Women could vote.
- Strong Labour government, leading the country into more liberal era,
- More socialist political views of collective responsibility – Welfare State, NHS.

Key Themes
Responsibility, reputation, injustice, inequality, social divisions (class, gender, age), community.

English: An Inspector Calls

Act 1
- The Birling family have dinner to celebrate engagement of Gerald and Shelia.
- Mr Birling toasts a bright future, creating dramatic irony, as play is set in 1912, just before start of WW1.
- Inspector Goole arrives and says Eva Smith is dead; the audience learn Eva had lost two jobs: one at Mr Birling's factory after she went on strike, the other from Milward's, after Sheila complained

Act 2
- The inspector questions Gerald and uncovers his affair with Eva/Daisy.
- The inspector challenges Mrs Birling – she reveals that Eva approached her charity for help. When Eva uses the name Birling,
- Mrs Birling refuses to help and blames the man who got Eva pregnant.

Act 3
- Eric is revealed as the father of Eva's baby.
- The inspector leaves before Gerald returns and questions his identity – the situation is revealed to be a hoax.
- The family make a joke of situation, expressing relief – except Sheila and Eric who have been changed by the events.
- The telephone rings with news of a woman's suicide.

Characters and key quotations	
Inspector Goole: A Mouthpiece for Priestley's socialist views "A chain of events" "Public men, Mr Birling, have responsibilities as well as privileges" "One Eva Smith has gone- but there are millions and millions and millions of Eva Smiths and John Smiths.. We don't live alone. We are members of one body. We are responsible for each other." "they will be taught it in fire and blood and anguish."	**Eva Smith/Daisy Renton:** as a symbol for the common man/woman and reminds us of our need to take responsibility for others. "she'd swallowed a lot of strong disinfectant. Burnt her inside out, of course" "…and died, after several hours of agony…" "She was a very pretty girl…that didn't make it any better."
Mr Birling: Wealthy factory owner and archetypal capitalist 'The Titanic…unsinkable, absolutely unsinkable' 'as if we were all mixed up like bees in a hive – community and all that nonsense' 'there's every excuse for what your mother and I did'	**Mrs Birling:** her husband's 'social superior'. "About fifty, a rather cold woman and her husband's social superior" "girls of that class" "As if a girl of that sort would ever refuse money!" "I accept no blame at all"
Sheila Birling: Engaged to Gerald. Takes responsibility for her actions. "Yes, go on, Mummy" "But these girls aren't cheap labour- they're people." "No, he's giving us the rope- so that we'll hang ourselves" "It frightens me the way you talk"	**Eric Birling:** Takes responsibility for his actions. "In his early twenties, not quite at ease, half shy, half assertive" "Why shouldn't they try for higher wages? We try for the highest possible prices" "(shouting) And I say the girl's dead and we all helped to kill her- and that's what matters-"
Gerald Croft: He is engaged to Sheila and from an upper class family "very much the easy well-bred young man-about-town" '[Daisy] gave me a glance that was nothing less than a cry for help" Sheila: "Wonderful fairy prince" "Everything's all right now Sheila. What about this ring?"	**Edna (the maid)** She is another example of the invisible working class. She helps to create an impression of the Birling's wealthy lifestyle. "All right, Edna. Show him in here. Give us some more light."

Tasks:
- Learn key context – research capitalism and socialism.
- Learn the key quotations
- Create character revision cards.
- Use the Revision booklet – have a go at planning and writing answers to the exam questions.

Food Science

Functions of ingredients
Ingredients provide a variety of functions in recipes.

Carbohydrate, protein and fat
Carbohydrate, protein and fat all have a range of properties that make them useful in a variety of food products.

Carbohydrates perform different functions in food.
They can:
- help to cause the colour change of bread, toast and bakery products (dextrinisation);
- contribute to the chewiness, colour and sweet flavour of caramel;
- thicken products such as sauces and custards (gelatinisation).

Maillard reaction
Foods which are baked, grilled or roasted undergo colour, odour and flavour changes. This is primarily due to a group of reactions involving amino acids (from protein) and reducing sugars.

Dextrinisation
When foods containing starch are heated they can also produce brown compounds due to dextrinization. Dextrinisation occurs when the heat breaks the large starch polysaccharides into smaller molecules known as dextrins which produce a brown colour.

Caramelisation
When sucrose (table sugar) is heated above its melting point it undergoes physical and chemical changes to produce caramel.

Gelatinisation
When starch is mixed with water and heated, the starch granules swell and eventually rupture, absorbing liquid, which thickens the mixture. On cooling, if enough starch is used, a gel forms.

Proteins perform different functions in food products.
They:
- aerate foods, e.g. whisking egg whites;
- thicken sauces, e.g. egg custard;
- bind ingredients together, e.g. fishcakes;
- form structures, e.g. gluten formation in bread;
- gel, e.g. lime jelly.

Gluten formation
Two proteins, **gliadin** and **glutenin**, found in wheat flour, form **gluten** when mixed with water. Gluten is strong, elastic and forms a 3D network in dough. In the production of bread, **kneading** helps untangle the gluten strands and align them. Gluten helps give structure to the bread and keeps in the gases that expand during cooking.

Gelation
Gelatine is a protein which is extracted from collagen, present in animal connective tissue. When it is mixed with warm water, the gelatine protein molecules start to unwind. On cooling, a stable, solid network is formed, trapping the liquid.

Denaturation
Denaturation is the change in structure of protein molecules. The process results in the unfolding of the protein's structure. Factors which contribute to denaturation are heat, salts, pH and mechanical action.

Coagulation
Coagulation follows denaturation. For example, when egg white is cooked it changes colour and becomes firmer (sets). The heat causes egg proteins to **unfold** from their coiled state and form a solid, stable network.

Aeration
Products such as creamed cakes need air incorporated into the mixture in order to give a well-risen texture. This is achieved by creaming a fat, such as butter or baking spread, with sugar. Small bubbles of air are incorporated and form a stable foam.

Fats performs different functions in food.
They help to:
- add 'shortness' or 'flakiness' to foods, e.g. shortbread, pastry;
- provide a range of textures and cooking mediums;
- glaze foods, e.g. butter on carrots;
- aerate mixtures, e.g. a creamed cake mix;
- add a range of flavours.

Plasticity
Fats do not melt at fixed temperatures, but over a range. This property is called plasticity.

Colloidal systems
Colloidal systems give structure, texture and mouthfeel to many different products.

System	Disperse phase	Continuous phase	Food
Sol	Solid	Liquid	Unset jelly
Gel	Liquid	Solid	Jelly
Emulsion	Liquid	Liquid	Mayonnaise
Solid emulsion	Liquid	Solid	Butter
Foam	Gas	Liquid	Whipped cream
Solid foam	Gas	Solid	Meringue

Raising agents
Raising agents include anything that causes rising within foods, and are usually used in baked goods. Raising agents can be:
- biological, e.g. yeast;
- chemical, e.g. baking powder;
- mechanical, e.g. adding air through beating or folding.

Functional ingredients
These are ingredients that are specifically included in food for additional health benefits. They include:
- probiotics – 'good' bacteria that may have a positive impact on human health;
- prebiotics – food ingredients that promote the growth of beneficial microorganisms in the gut;
- sterols/stanols – compounds that can lower cholesterol;
- healthy fats (e.g. omega-3);
- added vitamins and minerals (more than in the original food).

Why is food prepared and cooked?
Food is prepared and cooked to:
- make the food more palatable – improves flavour, texture and appearance;
- reduce the bulk of the food;
- provide variety and interest to meals.

Methods of cooking food
The methods of cooking are divided up into groups. These are based on the cooking medium used.
They are:
- moist/liquid methods, e.g. boiling;
- dry methods, e.g. grilling;
- fat-based, e.g. frying.

Selecting the most appropriate way of preparing and cooking certain foods is important to maintain or enhance their nutritional value.
- Vitamins can be lost due to oxidation during preparation or leaching into the cooking liquid.
- Fat-based methods of cooking increase the energy (calories) of the food.
- The use of different cooking methods affects the sensory qualities of the food.

There are three ways that heat is transferred to food.

- Conduction – the exchange of heat by direct contact with foods on a surface.
- Radiation – energy in the form of rays.
- Convection – currents of hot air or hot liquid transfer the heat energy to the food.
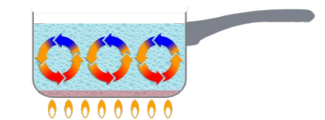
Key terms
Conduction: The exchange of heat by direct contact with foods on a surface.
Convection: Currents of hot air or hot liquid transfer the heat energy to the food.
Functional ingredients: Included in food for additional health benefits.
Heat transfer: Transference of heat energy between objects.
Radiation: Energy in the form of rays.

Tenderisation
- Mechanical tenderisation – a meat cleaver or meat hammer may be used to beat the meat. Cutting into small cubes or mincing can also help.
- Chemical tenderisation (marinating) –the addition of any liquid to flavour or soften meat before cooking.

Tasks
1. Choose a recipe that you enjoy or have made recently and explain in detail the functions of the ingredients.
2. Explain the function of raising agents, giving examples of recipes.

To find out more go to: https://bit.ly/2SPqWEG

Food Preparation & Nutrition

Les problèmes à l'hôtel - problems in the hotel

il y avait des insectes/cafards dans le lit - there were insects / cockroaches in the bed
la climatisation était cassée - the air conditioning was broken
la lumière ne fonctionnait pas - the light didn't work
les toilettes étaient sales - the toilets were dirty
la baignoire / la douche était sale – the bath/shower was dirty
il n'y avait pas de + noun (no article) - there wasn't/weren't
l'hôtel était complet - the hotel was full
c'était près d'une rue avec beaucoup de circulation, donc je n'ai pas bien dormi – it was close to a street with a lot of traffic, therefore I didn't sleep well
c'était un désastre total - it was a total disaster
le soir il y avait beaucoup de bruit - at night there was a lot of noise
nous avons décidé de changer d'hôtel - we decided to change hotels

Imperfect + conditional constructions – Higher Level!
Si j'étais riche, j'irais à - If I were rich, I would go to
Si j'avais beaucoup d'argent, je passerais mes vacances en – If I had lots of money I would spend my holidays in
Si je pouvais, je visiterais – If I could, I would visit
Si je gagnais à la loterie, je ferais le tour du monde – If I won the lottery, I would travel around the world

Future tense constructions – IDIOMS – Higher level
Quand j'aurai vingt ans j'irai à– when I'm twenty years old I'll go to
Quand je serai adulte – when I'm an adult

Other higher level constructions and idioms
venir de + infinitive – to have just done something eg **je viens de rentrer de mes vacances en Italie** – I have just returned from my holiday in Italy
avant de + infinitive – before doing something – eg **avant de partir** – before leaving
après avoir + past participle – after having done something – eg **après avoir mangé** – after having eaten
Quel dommage! – What a shame!   **Quel désastre!** – What a disaster !   **Quelle chance!** – How lucky !

Connectives
à cause de - because of   **grâce à** – thanks to   **en raison de** – due to
bien que – although   **puisque** – because / since   **cependant** – however
néanmoins – however   **donc** – therefore   **ainsi** – therefore   **selon** – according to
toujours – always   **souvent** – often   **pendant la journée** – during the day
la nuit – at night   **le soir** – in the evening   **l'après-midi** – in the afternoon   **le matin** – in the morning
d'un part – on the one hand   **d'autre part** – on the other hand

Comparatives – **plus** ADJECTIVE **que** – more ADJ than; **moins** ADJECTIVE **que** – less ADJ than; **aussi** ADJECTIVE **que** – as ADJ as.
eg
Paris est plus cher que Bristol – Paris is more expensive than Bristol.
Grèce était moins jolie que Turquie – Greece was less pretty than Turkey;
la Tour Eiffel va être aussi intéressante que la Tour penchée de Pisa – the Eiffel Tower is going to be as interesting as the Leaning Tower of Pisa.

Ce que j'ai aimé / j'aime / j'aimerai le plus/moins était / est / sera - What I liked / like / will like the most/least was / will be
La meilleure/pire chose était / est / sera - The best/worst thing was / is / will be
La seule mauvaise chose était / est / sera - The only bad thing was / is / will be
Je m'intéressais / je m'intéresse / je vais m'intéresser beaucoup à la ville
I was / am / am going to be very interested in the city
L'architecture magnifique m'a impressionné / m'impressionne / va m'impressionner - The magnificent architecture impressed me / impresses me / is going to impress me
L'histoire et la culture sont les raisons principales pour retourner à - The history and culture are the main reasons to go back to
Ça vaut la peine visiter - It's worth visiting
Il y avait un guide que expliquait tout - There was a guide who explained everything
Cette expérience, d'un point de vue culturel, était / est / va être fascinante -This experience, from a cultural point of view, was / is / is going to be fascinating

il y avait / il y a / il y aura – there was / there is / there's going to be
des vues magnifiques de – lovely views of
des installations sportives – sports facilities
la vie nocturne pour les jeunes – nightlife for young people
les monuments les plus emblématiques / les ruines de / la plage de – the most emblematic monuments / the ruins of / the beach of
une piscine impressionnante – an impressive pool
beaucoup de bruit – lots of noise   **beaucoup de monde** – lots of people
de la nourriture de partout dans le monde – food from around the world
tout ce qui est nécessaire pour des vacances inoubliables – everything necessary for an unforgettable holiday

je n'avais jamais visité / je n'ai jamais visité l'Espagne - I had / have never visited Spain
je n'étais jamais allé(e) / je ne suis jamais allé(e) à l'étranger- I had / have never been abroad
j'ai fait) / je fais / je vais faire une excursion – I went / go / am going to go on a daytrip
j'ai rencontré / je rencontre / je vais rencontrer beaucoup de nouveaux copains – I met / meet / am going to meet lots of new friends
j'ai fait / je fais / je vais faire du ski – I skied / I ski / I am going to ski
j'ai apprécié / j'apprécie / je vais apprécier des vues splendides – I enjoyed / enjoy / am going to enjoy some splendid views
je me suis promené(e) / je me promène / je vais me promener – I went / I go / I'm going to go for a walk
**je suis monté(e) / je monte / je vais monter une tour** – I went up / I go up / I am going to go up a tower
j'ai pris / je prends / je vais prendre un bus touristique- I caught / I catch / I'm going to catch a tourist bus
j'ai dansé / je danse / je vais danser – I danced / I dance / I'm going to dance
j'ai dû / je dois / je vais devoir partager une chambre avec – I had to / I have to / I'm going to have to share a room with

Je voudrais bien rentrer à Grèce encore une fois – I'd like to return to Greece once more

Also ensure you learn and revise WEATHER PHRASES in 3 tenses.
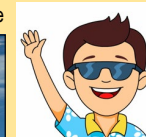
Resource Challenges

Resources are things that humans require for life or to make our lives easier. Humans are becoming increasingly dependent on exploiting these resources, and as a result they are in high demand.

Significance of Water

Resources such as food, energy and water are what is needed for basic human development.

FOOD	WATER	ENERGY
Without enough nutritious food, people can become **malnourished**. This can make them ill. This can prevent people working or receiving education.	People need a supply of **clean and safe water** for drinking, cooking and washing. Water is also needed to produce food, clothes and other products.	A good supply of energy is needed for a basic standard of living. People need **light and heat** for cooking or to stay warm. It is also needed for industry.

Demand outstripping supply

The demand for resources like food, water and energy is rising so quickly that supply cannot always keep up. Importantly, access to these resources vary dramatically in different locations

1. Population Growth

- Currently the global population **is 7.3 billion**.
- Global population has risen **exponentially** this century.
- Global population is expected to reach **9 billion by 2050**.
- With more people, the **demand** for food, water, energy, jobs and space **will increase**.

2. Economic Development

- As **LICs** and **NEEs** develop further, they require **more energy** for industry.
- **LICs** and **NEEs** want similar lifestyles to **HICs**, therefore they will need to **consume more resources**.
- Development means more **water is required** for food production as diets improve.

Resource Reliance Graph

Consumption – The act of using up resources or purchasing goods and produce.
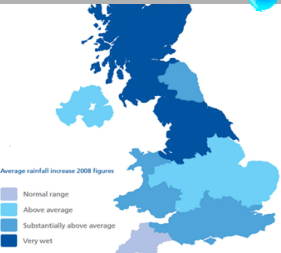**Carrying Capacity** – A maximum number of species that can be supported.

Resource consumption exceeds Earth's ability to provide!

3. Changing Technology and Employment

- The demand for resources has driven **the need for new technology** to reach or gain more resources.
- More people in the **secondary and tertiary industry** has increased the **demand for resources** required for electronics and robotics.
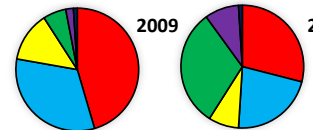

Food in the UK

Growing Demand

- The UK imports about 40% of its food. This increases people's **carbon footprint**.
- There is growing demand for greater choice of **exotic foods** needed all year round.
- Foods from abroad are often cheaper.
- Many foods can't be grown in the UK, due to our climate.

Impact of Demand

Foods can travel long distances (food miles). Importing food adds to our carbon footprint.
+ Supports workers with an income.
+ Supports families in LICs.
+ Taxes from farmers' incomes contribute to local services.
- Less land for locals to grow their own food.
- Farmers exposed to chemicals.

Agribusiness

Farming is being treated like a large industrial business. This is increasing food production.
+ Intensive faming maximises the amount of food produced.
+ Using machinery which increases the farms efficiency.
- Only employs a small number of workers.
- Chemicals used on farms damages habitats and wildlife.

Sustainable Foods

Organic foods that have little impact on the environment and are healthier have been rising.
Local food sourcing is also rising in popularity.
- **Reduces emissions** by only eating food from the UK.
- **Buying locally sourced** food supports local shops and farms.
- A third of people **grow their own food**.

Unit 2c
The Challenge of Resource Management

AQA

Energy in the UK

Growing Demand

The UK **consumes less energy** than compared to the 1970s despite a smaller population. This is due to the **decline of industry**.

Changes in Energy Mix

- 75% of the UK's oil and gas has been used up.
- Coal consumption has declined.
- UK has become too dependent on imported energy.

Energy Mix

The majority of UK's energy mix comes from **fossil fuels**. By 2020, the UK aims for 15% of its energy to come from **renewable sources**. These renewable sources do not contribute to **climate change**.

2009 **2020**

Oil	Gas	Renewable
Nuclear	Coal	Other

Water in the UK

Growing Demand

The average water used per household has risen by 70%. This growing demand is predicted to increase by 5% by 2020.
This is due to:
- A growing UK population.
- Water-intensive appliances.
- Showers and baths taken.
- Industrial and leisure use.
- Watering crops.

Deficit and Surplus

The north and west have a **water surplus** (more water than is required).
The south and east have a **water deficit** (more water needed than is actually available).
More than half of England is experiencing **water stress** (where demand exceeds supply).

Pollution and Quality

Cause and effects include:
- Chemical run-off from farmland can destroy habitats and kills animals.
- Oil from boats and ships poisons wildlife.
- Untreated waste from industries creates unsafe drinking water.
- Sewage containing bacteria spreads infectious diseases.

Water stress in the UK

Average rainfall increase 2008 figures

	Normal range
	Above average
	Substantially above average
	Very wet

Management

UK has **strict laws** that limits the amount of discharge from factories and farms.
Education campaigns to inform what can be disposed of safety.
Waste water treatment plants remove dangerous elements to then be used for safe drinking. Pollution traps catch and filter pollutants.

Water Transfer

Water transfer involves moving water through pipes from areas of surplus (Wales) to areas of deficit (London).
Opposition includes:
- Effects on **land and wildlife**.
- High maintenance **costs**.
- The **amount of energy** required to move water over long distances.

Energy in the UK (continued)

Significance of Renewables

+ The UK government is investing more into low carbon alternatives.
+ UK government aims to meet targets for reducing emissions.
+ Renewable sources include wind, solar and tidal energy.
- Although infinite, renewables are still expensive to install.
- Shale gas deposits may be exploited in the near future (Fracking)

Exploitation

Nuclear
New plants provide job opportunities.
Problems with safety and possible harm to wildlife.
Nuclear plants are expensive.

Wind Farm
Locals have low energy bills.
Reduces carbon footprint.
Construction cost is high.
Visual impacts on landscape.
Noise from wind turbines.

Option 2: WATER

Water security is when people have good access to enough clean water to sustain well-being and good health. **Water insecurity** is when areas are without sufficient water supplies. **Water Stress** is when demand exceeds supply.

Human	Physical
• **Pollution caused** by human and industrial waste being dumped into peoples water sources. • **Poverty prevents** low income families affording water. • **Limited infrastructure** such as a lack of water pipes and sewers. • **Over-abstraction** is when more water is taken than is replaced.	• **Climate** needs to provide enough rainfall to feed lakes and rivers. Droughts affect supply of water. • **Geology** can affect accessibility to water. Permeable rock means sourcing water from difficult aquifers, whereas impermeable allows water to run-off into easily collected basins.

Impact of Water Insecurity

Food production	Industrial output
The less water available for irrigating crops the less food that will be produced. This could lead to starvation.	Manufacturing industries depend heavily on water. A severe lack of water can impact economic output.

Disease and Water Pollution	Water conflict
Inadequate **sanitation** systems (toilets & sewers) pollutes drinking water causing diseases such as cholera and typhoid.	Water sources that cross national borders can create tensions and even war between countries. E.g. Ethiopia's Grand Renaissance Dam

Unit 2c

Increasing Water Supply

Water diversion - Involves diverting water to be stored for longer periods. Often water is pumped underground to prevent evaporation.

Dams and Reservoirs - Dams control flow and storage of water. Water is released during times of water deficit.

Water transfer – includes schemes to move water by canals and pipes from areas of surplus to areas of deficit.

Desalination – Involves the extraction of salt from sea water to produce fresh drinking water.

Sustainable Water Supply

Ensures water supplies don't cause damage to the environment whilst also supporting the local economy.

Water conservation - Aims to reduce the amount of water wasted.

Groundwater Management - Involves the monitoring of extracting groundwater. Laws can be introduced.

Recycling and 'Grey' Water - Means taking water that has already been used and using it again rather than returning it to a river or the sea. This includes water taken from bathrooms and washing machines.

C.S. Large scale water transfer scheme China's South to North Water Transfer Project

China is one of the worlds largest countries by land area, and the largest by population with around 1.4 billion people. Northeast China includes the capital Beijing and is dangerously short of water.

Advantages
• **27 trillion tonnes of water will be transferred to major cities in the north such as Beijing & Tianjin.**
• **China will be able to continue it's rapid economic growth by having enough water for industrial production.**
• **Agriculture will continue to be able to produce enough food to feed the huge amount of people in the north. Less reliance on food imports will be needed.**

Disadvantages
• **The water transfer project is expected to cost $62 billion when completed.**
• **330,000 people have been displaced from their homes due to construction. Many have complained about the low levels of compensation, poor quality farmland and unfamiliar new surroundings.**
• **There ae major concerns that droughts will be caused in the south of China, and water being transferred will be polluted by industry.**

C.S. Local scale water transfer scheme Ethiopia's Hitosa project

A project in Ethiopia that aims to improve water supply in rural areas with water shortages.

How does the project work?

75 miles of piping carrying water by gravity from a mountain spring. The project was set up by **Water Aid** and it's local partner **Water Action** (both charities)

The project is an example of Appropriate Technology as local people are involved in digging trenches for the pipes and pay £5 towards the costs. This gives them involvement in the project from the start. It is **low cost & low tech**.

Advantages
• **New businesses established in local towns.**
• **Increase in number of students attending school regularly.**
• **Amount of water related diseases, stomach pain & diarrhoea greatly reduced.**

Disadvantages
• **There are still water supply issues in remote areas of Hitosa.**
• **Pipeline supplied by the UK so there are concerns over the affordability of it's replacement in 30 years time.**
• **Hygiene education was poorly implemented meaning local people do not often still understand the link between hygiene and good health.**

The Challenge of Resource Management

Barriers to communication are things that can break or interfere with the communication cycle. Here are some types of barrier that could affect people who use health and social care.

Lighting:

- Someone who does not see well will be unable to read information in a badly lit room. They will not be able to read body language, so may not see a facial expression, a hand movement or body posture, which give clues to what the person is saying.
- Someone who is hearing impaired will have difficulty understanding if they cannot see to lip read e.g. if the person speaking is standing with the sunlight behind them.

Noise:

- Background noise can prevent people from hearing and can interrupt concentration especially for someone who cannot hear well, or does not speak the language fluently. If you are in a community centre where a lot of things are happening, as 2 or 3 different groups may be taking place at the same time (e.g. playgroup, dance class, knitting group) one activity can be a distraction to the other.
- If the hall is big, has a high ceiling and no carpets, this can cause an echo, as hard surfaces tend to bounce the noise around the room. This would be a problem for people with a hearing impairment as they would not be able to hear every word, it may sound more like a buzzing noise.
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Sensory deprivation

- This can prevent the exchange of information, or information may be confused or inaccurate. People may not be able to lip read accurately if the person speaking is standing behind them. They may not be able or read information if the print on a leaflet is too small, e.g. exit or toilet signs may not be seen.
- People with learning disabilities e.g. Down's syndrome, Cerebral Palsy and Autism may not be able to interpret the non verbal signs of others. They may react by being aggressive or withdrawn.

Physical illness:

- A disability or illness such as Arthritis which causes stiffening of the joints is a very painful condition that can make movement difficult. Once a person is sitting down, they may not want to move to talk to friends and will find it difficult to turn around to see people.
- Someone who is ill may get tired easily and this will make them less receptive to messages.

Language barriers

- People for whom English is an additional language (EAL) may not be able to read signs and information in the community centre. They may not understand the body language of people from a different culture and their sense of humour can be different. They have to concentrate carefully on what people are saying and this can be very frustrating if they cannot make themselves understood.
- Jargon, slang and acronyms can cause problems for people who do not understand and this can cause confusion e.g. A carer may say that Mr Norton who has had a stroke is suffering from Hemiplegia, this may scare him, when in fact it means that he has a weakness on one side of his body making it difficult for him to balance.

Overcoming barriers

- Using the method of communication or preferred language that the service user prefers
- Adapt the environment to improve communication e.g. move furniture, improve lighting, put blinds up at the windows, look at the timing of events so that things do not clash, restrict the numbers of people taking part in activities, change the spaces where activities take place. Add carpets to improve the sound quality.
- Produce literature in fonts that everyone can see, have leaflets in different languages.
- Use positive facial expressions and appropriate gestures to make communication more effective.
- Make sure that service users have equipment that works e.g. hearing aids.
- Make sure that signs (e.g. exit, toilet, kitchen) are large enough to be seen and in different languages.
- Staff training in the use of verbal and nonverbal communication for certain service users e.g. Makaton signs for when the minibus is leaving or when asking what people want to drink etc.

Summary 1954-60

By the early 1950s, slavery had been abolished and black Americans were equal to white Americans by law. However, black Americans were not actually treated as equal, as all over the USA black Americans lived in the worst areas and had access to the worst facilities. This was at its worst in the South, as most Southern states had a system of segregation which kept black and white communities separate. For example, local laws meant black Americans could not use the same toilets or restaurants as white people. Black Americans had the right to vote, but were stopped by a system that deliberately discriminated against them, by threats and by violence. Some black Americans in the South tried to improve their lives by joining the civil rights movement to campaign for equality. During the early stages of the civil rights movement, progress was made in education and the Montgomery Bus Boycott, with the culmination of the Civil Rights Act in 1957. However, with this progress being made, Southern opposition to civil rights grew as attempts were made to hinder the success of the movement.

Enquiry Question: *What kind of change could African Americans see in the period 1954-1960?*

Key Figures	
Emmet Till	A 14-year-old from Chicago who was murdered in 1955 by two white men whilst visiting relatives in Mississippi. His mother insisted on an open-casket at his funeral which gained much publicity for
Linda Brown	In 1951, the Browns and 12 other families went to court to fight for their black children to be able to attend the nearest school which was 'white' in the Brown V. Topeka case.
Rosa Parks	In 1955, Parks was arrested after refusing to give up her seat on a bus for a white person. This sparked the Montgomery Bus Boycott.
Martin Luther King	Civil Rights leader who came to prominence during the Montgom-

Challenge

Why did Emmett Till's mother decide to have an open viewing of his body at the funeral home?

Why did Rosa Parks become the figurehead of the Montgomery Bus Boycott?

What impact did the Little Rock 9 have on attitudes towards integration in the South?

Progress in Education	The Montgomery Bus Boycott
One of the biggest segregation issues in the South was education. The Brown V. Topeka case was significant in ruling against segregation in schools. However, with no timescale placed on desegregation, this was still a problem in Southern schools as seen in the case of the Little Rock Nine. As threats of violence increased, civil rights groups became aware of the power of the media to help their cause.	Rosa Parks was arrested after refusing to give up her bus seat for a white man. This sparked the bus boycott which lasted 381 and almost all black people in Montgomery took part. As head of the MIA, Martin Luther King became the voice of the campaign. He understood the importance of publicity, which was crucial for success. The boycott ended in 1956 with the Supreme Court decision to segregate public transport.

1954 Brown v. Topeka case ruled AGAINST segregated education

1955 Murder of Emmett Till, a 14 year old African American, by the KKK

1955 Start of Montgomery Bus Boycott—December (Rosa Parks)

1956 Montgomery Bus Boycott ends. Segregation on public transport ruled unlawful

1956 The Southern Manifesto signed by Southern Politicians to encourage segregation

1957 President Eisenhower used National Guard to protect 9 black students at Little Rock High School

1957 Civil Rights Act: all people had right to vote and Federal Government to look for racial discrimination

1960 Civil Rights Act: aimed to protect voting rights of black citizens

TIMELINE OF THE DEVELOPMENT OF CIVIL RIGHTS

Development of Civil Rights Movement

Key Concepts

Federal	The central US government responsible for laws that govern the whole country.
State	All US states have their own governments and laws.
Supreme Court	The top court for the whole of the USA. It has the power to overrule state laws if necessary.
Literacy Test	Baffling tests designed to prevent black Americans from voting.
Senators	US politicians, members of the Senate.
Lynching	The murder of African Americans.

Other Resources

https://www.bbc.co.uk/bitesize/guides/zcpcwmn/revision/1

https://www.youtube.com/watch?v=S64zRnnn4Po

https://www.youtube.com/watch?v=JeE2WqlHFTc

SCAN ME

Key Vocabulary

Segregation	Separating groups due to their race e.g. separate housing, education, health care, or public transport for black and white people.
Discrimination	Treating people unfairly because of their race or religion.
Jim Crow Laws	'Black code' laws enforcing segregation, named after 'Jim Crow' (a lazy, stupid black character played by a white comedian).
Integration	Black and white people sharing facilities e.g. the same schools.
NAACP	(National Association for the Advancement of Coloured People). A pressure group founded in 1909 that focused on eliminating racial discrimination and on fighting for civil rights in the courts.
CORE	(Congress of Racial Equality). Established in 1942, this group used non-violent direct action protests e.g. the first group to use the tactic of sit-ins.
Non-violent direct action	Forms of protest that don't include violence e.g. boycotts, sit-ins.
Plessy V. Ferguson	'Separate but equal' - A law of 1896 said segregation was allowed if conditions for blacks and whites were equal
Desegregation	Removal of the policy of segregation
WPC	(Women's Political Council) set up in Montgomery in 1946 to fight discrimination.
MIA	(Montgomery Improvement Association) led by Martin Luther King, set up to improve the lives of black people in Montgomery and to continue the bus boycott.
Boycott	Refusal to use a service if you believe it is doing something wrong (e.g. discriminating against black people on buses).
Dixiecrats	Democratic Party senators from Southern States who opposed black voting rights.
Ku Klux Klan (KKK)	(Ku Klux Klan) A secret society of white people in the South who believed in white supremacy and used violence against black people (and other minority groups).
WCC	(White Citizens' Council) petitioned and campaigned against desegregation .
Southern Manifesto	A document written by Congress in 1956 opposing racial integration of public places.
SCLC	(Southern Christian Leadership Council) set up church-based protests, Martin Luther King was one of its leaders.

Primary or secondary source?

1. Autobiography - Primary
2. News broadcast - Secondary
3. Interview – Primary
4. Diary – Primary
5. Magazine article – Secondary
6. Report – Secondary
7. Video footage – Primary
8. Biography – Secondary
9. Photo – Primary
10. History textbook – Secondary

Primary sources: the information is obtained first hand from an original source.

Secondary sources: the information is obtained second hand where somebody else has created the data.

Risk Assessment

It is important that a company can try to identify potential hazards so that they can plan to avoid them.

A risk assessment is carried out by a company as a means of identifying and trying to minimise potential risks. Risk assessments will normally include the following information:

- Hazard Name – What is the hazard called?
- What are the risks? – What are the things that could happen with that risk?
- Who is at risk?
- How can it be controlled? – What can we do to minimise it?
- Level of Risk – Low/Medium/Severe.

Purpose of a mood board:

- Central focus of ideas in one place
- Used to generate ideas for a client to meet their approval before creating the final product
- Used to share ideas and concepts using examples

Purpose of a mind map:

- Generate outline ideas quickly
- Develop and show links between different thoughts, aspects and processes of a project

Purpose of a visualisation diagram:

- Plan the layout of a still image in a visual manner
- Show how the finished item may look

Purpose of a storyboard:

- Provide a visual representation of how a media project will look along a timeline
- Provide a graphical illustration of the sequence of movements
- Provide guidance on what scenes to film or create

Purpose of a script:

- Identify the location where the action takes place
- Identify who will be in the scene
- Provide stage directions for actors and production crew
- Provide dialogue for actors

Potential content of clients requirements

1. Statement of what media product is needed
2. Purpose of the media product
3. Timescale
5. Content
6. Restrictions
7. House style
9. Target audience
10. What the file formats need to be suitable for

Hardware	Software
The devices and equipment that could used to create or digitise pre-production documents	Types of applications installed on a device that could used to create or digitise pre-production documents
- Computer system - Keyboard - Mouse - Graphics tablet - Microphone - Speakers - Monitor - Camera - Scanner - Pens/pencil/paper	- Microsoft Office Publisher – used to create a mood board, storyboard, visualisation diagram - MO Word – used to create a script, storyboard - MO PowerPoint – used to create a mood board, visualisation diagram - Web browser (IE, Chrome) - Dedicated software – mind map, Dreamweaver

Terminology of a work plan

1. To provide a timescale for the overall project to be completed. – Purpose
2. Key dates when a section is completed. – Milestones
3. Amount of time a task is expected to take. – Durations
4. Date when something has to be done by. – Deadlines
5. How long the project will take. – Timescales
6. What is needed. – Resources
7. To map out, against time, all the different aspects of the project. – Purpose
8. Back up plan, extra time if needed. – Contingencies
9. What needs to be completed. - Task
10. What needs to be completed broken down into smaller chunks. - Activities

Site Recce

This is used to assess the suitability for a location before filming. It is used to look for possible problems and then considering how to overcome or adapt for them. Elements considered in a site recce include:

- Noise or light pollution
- Power source and vehicle/equipment access
- Health and safety
- Legal (public, advertising, loss of local business earnings)
- Facilities (toilets, shelter, refreshments, etc.)
- Environmental (direction of sun, wind, shadows, tides, sun set/rise, etc.)
- Location (size, ground: is it level? Is it stone/grass? etc.)
- Local contacts
- Suitability for filming the scene (background buildings, noises – you don't want to film a historical film near an airport)
- Permission required – who owns the location, do we need special permission (e.g. in a school)
- Potential light/sound problems – how the site looks in the morning or the evening (shadows etc)

Media studies knowledge organiser: Representation.

Key terminology

Use this to self-quiz

1. **Representation:** the way in which people, issues and events are depicted in media products.

2. **Mediation:** how media producers represent (rather than just present) the world to audiences.

3. **Reality:** 'real life', actual events, facts and truth - how aspects of reality and versions of reality are constructed.

4. **Stereotype:** an exaggerated, oversimplified representation, reducing a social group to a set of common characteristics e.g. grumpy older people or flat cap wearing northerners.

5. **Feminist:** supporting equal rights for women (society was traditionally male-dominated but there has been a move towards more equality, especially from the 1960s onwards).

KEY CONTENT:

How representations reflect the contexts in which they were produced, e.g:

Social: reflecting society at the time/place of production e.g. in terms of issues such as gender or racial equality, or economic prosperity.

Historical: the time/ period in which a product is created, e.g. the 1950s (*Quality Street*), the 1970s (*The Man With the Golden Gun*).

Cultural influences on a product, e.g. current trends or direct references (such as representations of *Countdown* in *The IT Crowd*).

✍️ Apply it... analyse how the representations in the set products reflect the time and place in which they were made.

e.g. the representation of the active female on the This Girl Can poster differs from the passive females in the historical Quality Street advert, as women now have more power and equality in society.

## Key content:

Read and summarise:

The choices media producers make about how to represent:

Events: e.g. how the set newspaper front pages combine images and text to convey information about the issues and events in the main splash (story).

Social groups: categorised by age, gender and ethnicity. **Ideas:** e.g. how the set magazine front covers communicate ideas about gender/ identity in the use of media language.

The ways aspects of reality may be represented differently depending on the purposes of the producers: e.g. newspapers are informative and need to include factual detail, a sitcom might exaggerate/ subvert reality to entertain.

Apply it... identify examples of stereotypes in the set products and think about how and why they are used. Now, try to find examples of representations that challenge stereotypes and consider why the producers might have made this decision.

Sweating like a pig, feeling like a fox.

THIS GIRL CAN
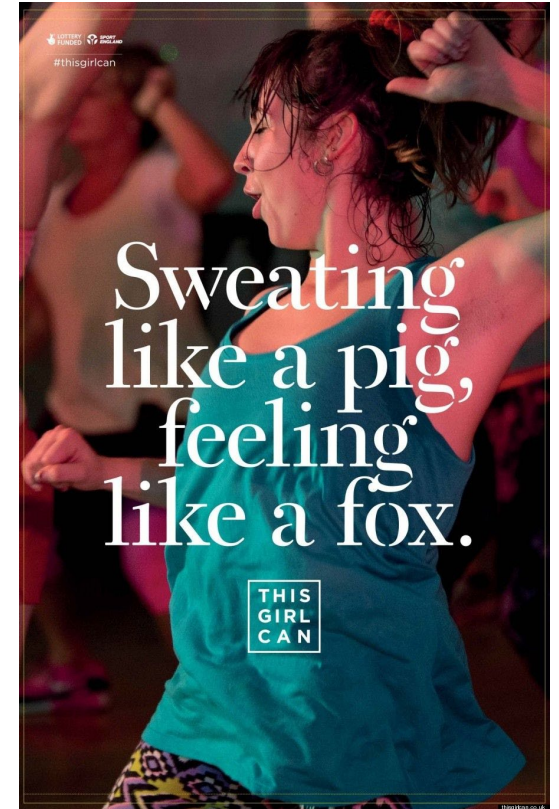
The John of Gaunt School
A Community Academy

Subject	Unit title
GCSE Music	Area of Study 1: Musical Forms and Devices

The Development of Music

The Baroque Era: 1600-1750

Main composers: Bach, Handel, Vivaldi, Purcell

Main features of the music:

- Use of ornaments and terraced dynamics.
- Energetic rhythmic movement.
- Major/Minor key system (diatonic).
- Orchestras are mainly strings.
- Use of harpsichord, recorders, flute and horns.
- Use of basso continuo (see AOS 2).

The Classical Era: 1750-1810

Main composers: Mozart, Beethoven, Haydn

Main features of the music:

- Four sections to the orchestra.
- Melodies less complex than Baroque.
- More variety and contrast in the music.
- Frequent changes in mood, timbre and dynamics.
- Harpsichord replaced by piano.

The Romantic Era: 1810-1910

Main composers: Chopin, Liszt, Wagner, Tchaikovsky

Main features of the music:

- Thematic ideas and use of the leitmotif (see AOS 3).
- Increased variation in dynamics.
- Use of chromatic notes and extended chords.
- Further expansion of the orchestra.
- Development of the brass section.
- Descriptive music and links to other art forms

Musical Form and Structure

In GCSE music, you must be able to identify the following forms:

Binary from – A   B

Ternary form – A   B   A

Rondo form – A   B   A   C   A

Minuet and Trio – Minuet Trio Minuet

Variation from – Theme Variation 1, 2, 3 etc

Strophic form – A   A   A   A

Other key terms

- **Monophonic** – One unaccompanied part or voice.
- **Homophonic** – Many parts that move together. Melody and accompaniment is a type of homophonic texture.
- **Polyphonic** – 2 or more different parts that are of equal importance.
- **Unison** – All together. Could be considered monophonic if played at the same pitch.
- **Parallel motion** – Parts move in the same direction.
- **Contrary motion** – Parts move in different directions.
- **Interval** – The gap/space between 2 different notes.

Devices

- **Repetition** – The exact repeat of a musical idea.
- **Contrast** – A change in the musical content.
- **Anacrusis** – A lead in. A note or beat before the first full bar of a piece.
- **Imitation** – When a musical idea is copied in another part.
- **Sequence** – The repetition of a motif (short melody) in the same part but at a different pitch.
- **Ostinato** – A musical pattern repeated many times. This is known as a riff in modern music.
- **Syncopation** – Off beat or where the weaker beats of a rhythm are emphasised.
- **Dotted rhythms** – A dot placed after a note. This increases the note by half its own value, giving a jagged effect to the rhythm.
- **Drone** – A repeated or sustained note or notes held throughout a passage of music. The drone will be diatonic and use either the Tonic or the Tonic and Dominant notes.
- **Pedal** – A held or repeated note, against which changing harmonies are heard.
- **Canon** – A device in which a melody is repeated exactly in an other part while the initial melody continues and develops.
- **Conjunct movement** – When the melody mainly moves in step.
- **Disjunct movement** – When the melody 'leaps' from one note to another.
- **Broken chord/Arpeggio** – A chord played as separate notes.
- **Alberti bass** – A type of broken chord accompaniment.
- **Regular Phrasing** – The balanced parts of melody.
- **Motif** – A short melodic or rhythmic idea that has a distinctive character.
- **Chord progressions** – A sequence or series or chords related to each other and in a particular key.
- **Modulation** – The process of changing key.

Careers Education

Key word	Definition
Qualification	Something that makes a person fit for an activity or job. This normally involves the completed of an award or exam that is graded.
Skill	The power or ability to perform a task well, especially because of training/practice
Quality	A feature that makes a person or thing what it is
Career	the work a person chooses to do through life
Job	a regular position for which a person is paid to do particular duties
Employment	work done for pay; job
Sixth Form	Two final years at a school to study A-Level courses (and some BTEC courses).
College	A place where you can focus on mostly vocational courses (training you for a specific job)
Respect	To express honour or esteem towards, treating others how you wish to be treated
Psychometric testing	A test that many employers use to work out whether your personality fits with what they are looking for – usually part of a job interview.
Armed services	One of your post-sixteen options – the army, navy or air force.
Curriculum Vitae	A written overview of your skills, qualifications and experience that employers will ask to see.

Useful websites for extended reading:
https://icould.com/
http://www.wiltshire.ac.uk/
https://www.bbc.com/education/topics/zsnfr82/resources/1

Key Content:

- Establish and identify your own strengths and weaknesses, interests, skills, and qualities
- Develop a greater awareness of the future career options available to you
- Become familiar with different types of work, and pathways to get through life, education and work
- Think about the post-sixteen options available to you, and learn about different ways to get advice and support with managing this decision making process
- Discuss the benefits and importance of ambition and aspiration in regards to the future
- If you need further advice about the options process and careers email Mrs Candy-Cornish vcandy-cornish@jogschool.org
- You can make an appointment for a careers interview by emailing Mrs Lynch on the address above
- Take a look at the following websites for further careers advice: www.eclips-online.co.uk (the password is ba14 9eh)
- This website is also helpful: www.careerpilot.org.uk
- If you are interested in an apprenticeship then have a look at the following website: www.gov.uk/apply-apprenticeship
- Register yourself for the apprenticeship site above to keep up to date with opportunities
- If you are interested in the armed services then Mrs Lynch can put you in touch with the army/navy/air force careers team.
- Start looking at sixth forms around us if you are interested in A-level or specific BTEC courses. Find out when open evenings are.
- Look at the Wiltshire, Bath and Swindon college websites to find out when their open days are the sort of courses they have.
- Remember that Trowbridge is not the epicentre of everything – you can do a courses at a different college and sixth form.

Careers education: work experience (WEX)

All of year ten will take part in WEX in the summer term. It gives young people a chance to build their self-confidence and start to plan their own career path. It gives young people valuable skills, qualities and experience that can be referred to on a CV or at an interview. It also gives young people the opportunity to find out about working life and specific careers or jobs that they might be interested in.

Your WEX placement is probably your first real step into the world of work, So it's understandable that you might feel a little nervous thinking and preparing for this. The key to combating those nerves is start preparing for it now.

It is important to start considering what you would like to do for your WEX over the next few weeks. Start talking to people that you know (teachers, family, friends, neighbours, etc.) to start to gain some ideas about possible placements. You might know someone that could offer you some WEX. You could also start to consider approaching employers and asking them whether they take WEX placements in the summer term.

A key part of finding a work experience placement is contacting employers via an email or writing a letter. You could also consider phoning employers as well. In PSHE lessons we will help you to write these, but the ground work must be done by you. If you are struggling with this you could make an appointment to see Mrs Lynch, our careers adviser, by emailing her at alynch@jogschool.org

Useful websites:

https://www.careerpilot.org.uk/information/a-job-or-career/work-experience-what-s-in-it-for-me

https://targetcareers.co.uk/careers-advice/skills-and-experience/388-work-experience-for-school-students-what-you-need-and-how-to-get-it

https://www.myworldofwork.co.uk/work-experience-0

Remember to always refer to your Start profile that you registered for last year https://www.startprofile.com/

Work experience letter template

[Your name]

[Address]

[Postcode]

[Date]

[Employer's name]

[Full address]

[Postcode]

Dear Sir/Madam [or name],

I am a [year group] student from [school name], studying [list of subjects].

I'd like to enquire about a potential work experience placement at [company name], which I will be available to carry out for [amount of time] from [start date] to [end date].

I'm keen on gaining some practical work experience in [chosen field of work], because [reasoning for pursuing a placement with this specific company and field].

I'm a [relevant skills and attributes], which can be shown in my [real-life examples that demonstrate your skills].

In my spare time, I like to [list relevant hobbies and interests], and I've also had some experience in/am a member of [list any groups/clubs/other work experience].

As an enthusiastic student with a keen interest in what your organisation does, as well as a passion to progress within this industry, I would be very grateful to be considered for an opportunity at [company name].

I look forward to hearing from you soon.

Yours [sincerely/faithfully]

[Your name]

When writing a letter to ask about a WEX placement, it is important for it to look professional. Consider using this template for a letter opposite, which could also be adapted to send in an email. Remember to:

- Write a letter/email following the professional format opposite.
- Once you have typed a letter/email it is important to read through it and check for any SPAG errors.
- Make a good impression. You never get a second chance to make a good impression.
- Include the dates and timings of the work experience.
- Explain why you would like a placement at their company – relate this to your future careers ideas.
- Never include any hobbies that might be considered weird.
- Show your letter to someone (your PSHE teacher maybe) before sending it to an employer. You can then use this letter again to send to other employers – make sure you change the company name!
- Include the right name and address of the person you are sending it to.
- Sell yourself! Remember there will be other young people in the same position as you, so an employer may be receiving quite a few letters/emails.
-

Effect of pH on the rate of reaction of Amylase

Iodine is used to test for the presence of starch. If starch is present, the colour will change to blue-black.

The independent variable in the investigation is the pH of the buffer solution.

The dependent variable in the investigation is the time taken for the reaction to complete (how long it takes for all the starch to be digested by the amylase).


Food testing

Testing for?	Indicator	Positive result
Sugar	Benedict's	When heated solution changes from blue/green to yellow/red
Starch	Iodine	Blue/black in presence of starch
Protein	Biuret	Changes from blue to pink/purple
Lipid	Sudan II	Lipids will separate and top layer turns bright red.

Enzymes

An enzyme is a biological catalyst; enzymes speed up chemical reactions without being changed or used up.
This happens because the enzyme lowers the activation energy required for the reaction to occur. Enzymes are made up of chains of amino acids folded into a globular shape.

	Artery	Vein
direction of blood flow	away from the heart	towards the heart
oxygenated or deoxygenated blood?	oxygenated (except the pulmonary artery)	deoxygenated (except the pulmonary vein)
pressure	high	low (negative)
wall structure	thick, elastic, muscular, connective tissue for strength	thin, less muscular, less connective tissue
lumen (channel inside the vessel)	narrow	wide (with valves)

vein   artery   capillary
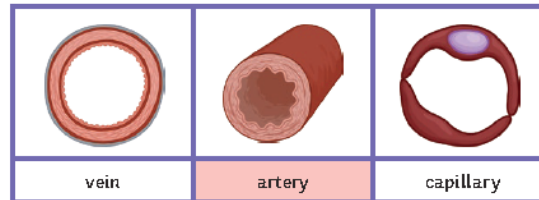
Xylem vessels transport **water** through the plant, from roots to leaves. The movement of the water, and dissolved minerals, along the xylem is in a **transpiration** stream.

Phloem vessels transport **food** such as dissolved sugars and glucose from photosynthesis.

| Word	Definition
Health	is the state of being free from illness or disease
Statins	Drug used to lower cholesterol
Stent	A device which is used to stretch narrow or blocked arteries.
Blood	Blood is composed of red blood cells (erythrocytes), white blood cells and platelets, all suspended within a plasma (a tissue).
CHD	Coronary Heart Disease.

The Heart

The **right atrium** receives deoxygenated blood via the **vena cava**. It is then pumped down through the valves into the right ventricle. From here, it is forced up through the **pulmonary artery** towards the **lungs** where it exchanges carbon dioxide for oxygen. The oxygenated blood then enters the **left atrium** via the **pulmonary vein** and down into the left ventricle. The muscular wall of the **left ventricle** is much thicker so it can pump the blood more forcefully out of the heart and around the entire body, via the **aorta**.
The blood only flows in **one direction**. This is because there are **valves** in the heart which close under pressure and prevent the backward flow of blood.
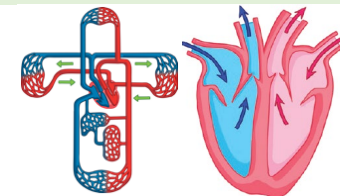
Ionic bonding:

Ionic bonding occurs between a metal and a non-metal. Metals lose electrons to become positively charged. Opposite charges are attracted by electrostatic forces – an ionic bond.
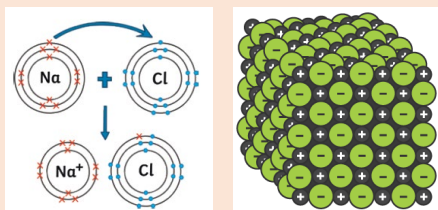

Ionic compounds form structures called giant lattices. There are strong electrostatic forces of attraction that act in all directions and act between the oppositely charged ions that make up the giant ionic lattice.

Properties of ionic compounds:
•High melting point – lots of energy needed to overcome the electrostatic forces of attraction
•High boiling point
•Cannot conduct electricity in a solid as the ions are not free to move
•Ionic compounds, when molten on in solution, can conduct electricity as the ions are free to move and carry the electrical current.

Metallic bonding:
Metallic bonding occurs between metals only. Positive metal ions are surrounded by a sea of delocalised electrons. The ions are tightly packed and arranged in rows. There are strong electrostatic forces of attraction between the positive metal ions and negatively charged electrons.
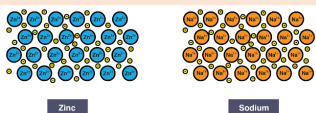
Covalent bonding:

Covalent bonding is the sharing of a pair of electrons between atoms to gain a full outer shell. This occurs between non-metals only.

Dot and cross diagrams are useful to show the bonding in simple molecules.

You should know how to do the dot and cross diagrams for chlorine, oxygen, nitrogen, hydrogen chloride and methane.
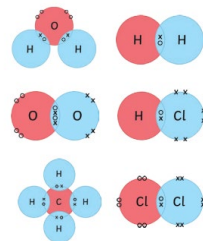
Properties of covalent molecules:

Simple covalent structures have low melting and boiling points because of the weak intermolecular forces that hold the molecules together. They do not conduct electricity as they do not have any free delocalised electrons.

Alloys:
Pure metals are too soft for many uses and are often mixed with other metals to make alloys. The mixture of the metals introduces different sized metal atoms. This distorts the layers and prevents them from sliding over one another. This makes it harder for alloys to be bent and shaped like pure metals.

Diamond:
• Each carbon atom is bonded to four other carbon atoms, making diamond very strong.
• Diamond has a high melting and boiling point. Large amounts of energy are needed to break the strong covalent bonds between each carbon atom.
• Diamond does not conduct electricity because it has no free electrons

Word	Definition
Bond	A chemical bond is a lasting attraction between atoms, ions or molecules that enables the formation of chemical compounds.
Metal	consist of giant structures of atoms arranged in a regular pattern. The electrons from the outer shells of the metal atoms are delocalised , and are free to move through the whole structure.
Alloy	a mixture of two or more elements , where at least one element is a metal
Delocalised electrons	The electrons from the outer shells of the metal atoms are delocalised , and are free to move through the whole structure

Graphite
Made up of layers of carbon arranged in hexagons. Each carbon is bonded to three other carbons and has one free delocalised electron that is able to move between the layers. This allows it to conduct electricity. The layers are held together by weak intermolecular forces. The layers can slide over each other easily as there are covalent bonds between the layers
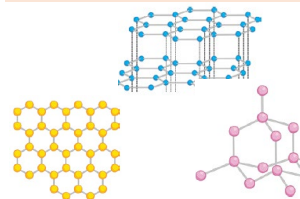
Combined science HT – chemistry – bonding

Circuit symbols

cell		closed switch	—o o—	fuse	
resistor		ammeter	—(A)—	LDR	
battery		voltmeter	—(V)—	LED	
variable resistor		bulb	—(X)—	thermistor	
open switch	—o o—	diode			

Equations and Maths

Equations
Charge: $Q = It$
Potential difference: $V = IR$
Energy transferred: $E = Pt$
Energy transferred: $E = QV$
Power: $P = VI$
Power: $P = I2R$

Math's
$1kW = 1000W$
$0.5kW = 500W$

Combined science HT – physics – electricity
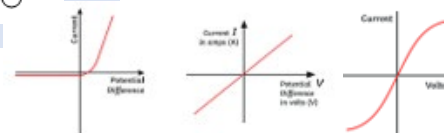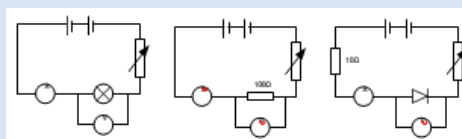
Charge

Electric current is the flow of electric charge. It only flows when the circuit is complete.
The charge is the current flowing past a point in a given time. Charge is measured in coulombs (C).
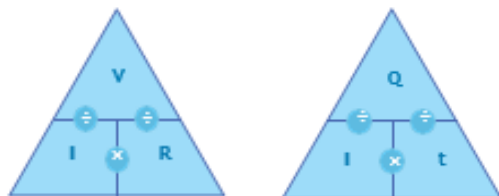
Required Practical's

Investigating Resistance in a Wire
Independent variable: length of the wire.
Dependent variable: resistance.
Control variables: type of metal, diameter of the wire.
Conclusion: As the length of the wire increases, the resistance of the wire also increases.

Investigating Series and Parallel Circuits with Resistors Independent variable: circuit type (series, parallel).
Dependent variable: resistance.
Control variables: number of resistors, type of power source.
Conclusion: Adding resistors in series increases the total resistance of the circuit. In a parallel circuit, the more resistors you add, the smaller the resistance.

Investigating I-V Relationships in Circuits
(Using a filament bulb, ohmic conductor, diode.)
Independent variable: potential difference/volts (V).
Dependent variable: current (A).
Control variable: number of components (e.g. 1 filament bulb, 1 resistor), type of power source.

Set up the circuits as shown below and measure the current and the potential difference.

Word	Definition
Current	The flow of electrical charge
Potential Difference	The push of electrical charge
Resistance	Slows down the flow of electrical charge
Power	Time rate of doing work or delivering energy, expressible as the amount of work done W, or energy transferred, divided by the time interval
Energy transferred	Amount of energy moved from one place to another.
Efficiency	The amount of energy transfer into useful work.

Graphs of I-V Characteristics for Components in a Circuit
1. Ohmic conductor: the current is directly proportional to the potential difference - it is a straight line (at a constant temperature).

2. Filament lamp: as the current increases, so does the temperature. This makes it harder for the current to flow. The graph becomes less steep.

3. Diode: current only flows in one direction. The resistance is very high in the other direction which means no current can flow.

La Tecnología - Technology

Nombres - Nouns

un ordenador – a computer
un portátil – a laptop
una tableta – a tablet
la red – the internet
los sitios web - websites
una app – an app
los videojuegos – videogames
la música – music
una red social – a social network
las redes sociales – social networks
un teléfono inteligente –a smartphone
mi móvil – my mobile
las descargas – downloads
los desconocidos – strangers
el peligro – the danger
el problema – the problem
los jóvenes – young people
un tuit/retuit – a tweet/retweet
un tuitero – a Twitter user
un seguidor / una seguidora – a follower
una cuenta – an account
mi muro de Facebook – my Facebook wall
la privacidad – privacy
un virus informático – a computer virus
la (des)ventaja – the (dis)advantage
un inconveniente – a drawback
el acoso digital – online bullying
el espacio - space
un riesgo – a risk
el correo basura – junk mail
una conexión inalámbrica – wifi connection
el desarrollo – the development
el comportamiento – the behaviour
las normas – the rules
el disco duro – the hard disk

Los Verbos – Verbs

hay – there is/are
no hay – there isn't/aren't
utilizo – I use ; **tengo** – I have
lo utilizo para (+*infinitive*) – I use it for
suelo (+*infinitive*)– I usually
gasto dinero en (+*infinitive*) – I spend money on

descargar canciones – to download songs
sacar fotos – to take photos
jugar videojuegos – to play videogames
escuchar música – to listen to music
mantenerme en contacto – to keep in contact
leer las noticias – to read the news
ayudarme con los deberes – to help me with homework
buscar información – to search for information
navegar por internet – to surf the net
enviar un correo electrónico – to send an email
mandar un mensaje – to send a message
recibir un mensaje – to receive a message
tuitear – to tweet
actualizar mi estado – to update my status
agregar fotos – to upload photos
chatear – to chat (online)
comentar – to comment
ver videos – to watch videos
comprar por internet – to buy online
recibir el correo basura – to receive spam
aprovechar – to make the most of
divertirme – to enjoy myself
acceder a mis emails – to access my emails
compartir – to share

Las opiniones - Opinions

creo que – I believe that
pienso que – I think that
en mi opinión / a mi ver / a mi juicio – in my opinion
por mi parte – as far as I'm concerned
opino que – I think that
me encanta(n) – I love
me gusta(n) – I like
no me gusta(n) - I don't like
odio – I hate
prefiero – I prefer
lo que me gusta es – what I like is
lo que más me gusta es – what I like most is
lo que menos me gusta es – what I like least is
a mi madre le gusta(n) – my mum likes
mi padre piensa que – my dad thinks that
la gente piensa que – people think that
es – (it) is **son** – (they) are **está** – it is (used with *)
me aburre – (it) bores me
me interesa – (it) interests me
una pérdida de tiempo/dinero – a waste of time/money
hay que tener cuidado – you have to be careful
no puedo vivir sin – I can't live without
no puedo imaginar la vida sin – I can't imagine life without
puede ser – it can be
todo lo contrario – the exact opposite

Adjective agreement reminder: Adjectives ending in..
o change to **a/os/as** to describe fem / masc pl / fem pl nouns
e - just add **s** for plurals (no difference between masc & fem)
consonant - just add **es** for plurals (no diff between masc & fem)
some adjectives are **invariable** – they never change

Adjectives

AGREE YOUR ADJECTIVES!

aburrido – boring
fantástico – fantastic
barato – cheap
caro - expensive
moderno – modern
antiguo - old
peligroso – dangerous
rápido – quick
lento – slow
confuso – confusing
práctico – practical
adictivo – addictive
competitivo – competitive
divertido - fun
privado – private
interactivo – interactive
sencillo – simple
complicado – complicated
gratuito – free of charge
adicto - addicted
* prohibido – banned
* roto - broken

importante - important
fascinante – fascinating
relajante – relaxing
interesante – interesting
imprescindible – essential

fácil – easy
difícil – difficult
esencial – essential
útil – useful

genial – great
ilegal – ilegal

guay / guays – cool

gratis – free
* en línea – online
invariable

¿Cuándo? – When?

todos los días – every day
por la mañana – in the morning
por la tarde – in the afternoon
por la noche – in the evening
en el recreo – at break time
cuando tengo tiempo – when I have time
cuando no tengo nada que hacer – when I don't have anything to do
en mi tiempo libre – in my free time
los fines de semana – at weekends
durante las vacaciones – during the holidays
a menudo – often
a veces – sometimes
después del colegio – after school
antes del colegio – before school
hasta – until
raras veces – rarely
cada dos días – every other day
siempre – always
nunca – never
en vez de (+*infinitive*) - instead of

Root word families

The root 'ambi' means **both**

The root 'bene' means **good**

Learning basic roots and their meanings, will help you to build a 'toolkit' for working out the meaning of unfamiliar language. explore how the roots shape the meaning of new and familiar language.

ambi

bene

ambidextrous:
Able to use both hands equally

ambivalent:
Repelled and attracted at the same time

ambiguous:
uncertainty in meaning; multiple meanings

ambient:
surrounding on all sides

ambiparous:
Having both leaves and flowers

Benefactor:
A person who gives money or other help to a person or cause.

Benign:
Kind or gentle disposition, neutral, harmless.

Benignant:
Kind, desirable

Benevolence:
Disposition to do good for others.

Beneficiary:
Recipient of gifts.

Beneficial:
That which brings about a positive result.

LAST PAGE