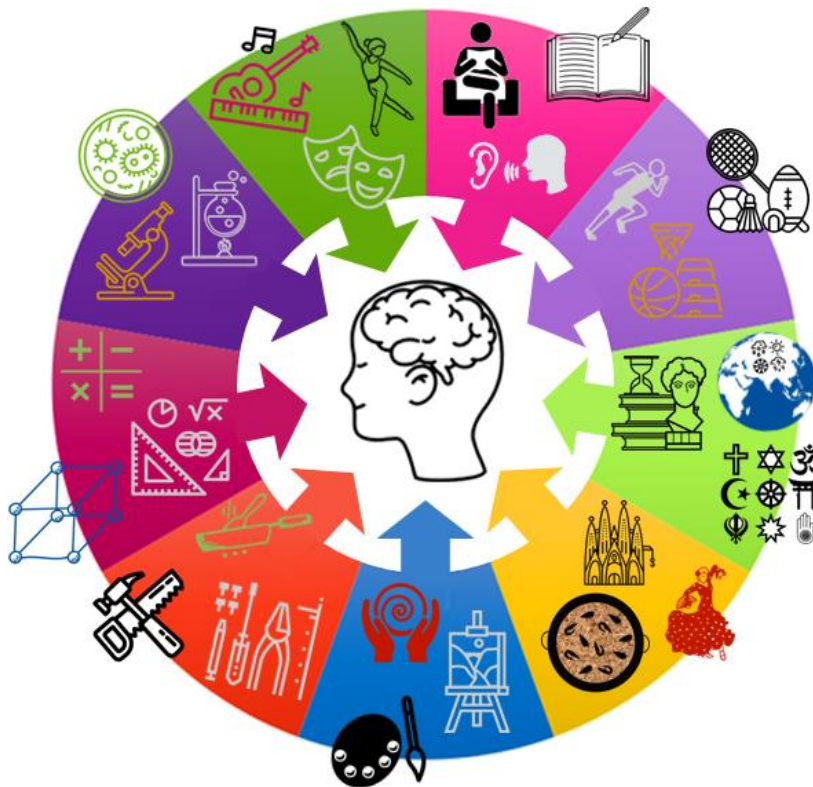


# 100% book - Year 10 Booster 10C/3

Aim to memorise 100% of the knowledge on these Knowledge Organisers.



## Term 5

### Swindon Academy 2022-23

Name:

Tutor Group:

Tutor & Room:

*"If you are not willing to learn, no one can help you.*

*If you are determined to learn, no one can stop you."*

# How to use your 100% book of Knowledge Organisers and Quizzable Organisers

## Knowledge Organisers

Knowledge Organisers contain the essential knowledge that you **MUST** know in order to be successful this year and in all subsequent years.

They will help you learn, revise and retain what you have learnt in lessons in order to move the knowledge from your short-term memory to long-term memory.

## Quizzable Knowledge Organisers

These are designed to help you quiz yourself on the essential Knowledge.

Use them to test yourself or get someone else to test you, until you are confident you can recall the information from memory.

### Top Tip

Don't write on your Quizzable Knowledge Organisers! Quiz yourself by writing the missing words in your prep book. That way you can quiz yourself again and again!

## Expectations for Prep and for using your Knowledge Organisers

1. Complete all prep work set in your subject prep book.
2. Bring your prep book to every lesson and ensure that you have completed all work by the deadline.
3. Take pride in your prep book – keep it neat and tidy.
4. Present work in your prep book to the same standard you are expected to do in class.
5. Ensure that your use of SPAG is accurate.
6. Write in blue or black pen and sketch in pencil.
7. Ensure every piece of work has a title and date.
8. Use a ruler for straight lines.
9. If you are unsure about the prep, speak to your teacher.
10. Review your prep work in green pen using the mark scheme.

# How do I complete Knowledge Organiser Prep?

## Step 1

Check Epraise and identify what words /definitions/facts you have been asked to learn. Find the Knowledge Organiser you need to use.

The image shows the Epraise website interface. On the left is a 'Planner' for the week of 20th May to 26th May 2020, with columns for Sun, Mon, Tue, Wed, Thu, and Fri. On the right is a 'Knowledge Organiser' for 'Year 7 Science: Particles'. It contains several sections: 'What is particle theory?', 'Describe the arrangement and movement of particles in the three states of matter', 'What is the law of conservation of mass?', 'What are the different changes of state?', and 'What are the differences between the three states of matter?'. Each section includes diagrams and text explaining the concepts.

## Step 2

Write today's date and the title from your Knowledge Organiser in your Prep Book.

This image shows a printed page from the knowledge organiser with handwritten notes. The date '29th May 2020' is written at the top. The title 'Particle theory' is underlined. The page includes sections for 'What is particle theory?', 'Describe the arrangement and movement of particles in the three states of matter', and 'What is the law of conservation of mass?'. There are also diagrams of solid, liquid, and gas particles and a flowchart of state changes.

## Step 3

Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.

Handwritten notes on lined paper. At the top, the date '29th May 2020' is written. Below it, the title 'Properties of the states of matter' is underlined. The notes define 'Particle theory = all matter is made of particles'. It then lists the characteristics for each state: 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other Particles can slide past each other and move around.', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'.

## Step 4

Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.

Handwritten notes on lined paper showing the definition of 'Solid' repeated three times: 'Solid = regular pattern particles vibrate in fixed position'.

## Step 5

Open your quizzable Knowledge Organiser. Write the missing words from your quizzable Knowledge organiser in your prep book.

This image shows a printed page from the quizzable knowledge organiser with handwritten answers. The questions are: 'What is the law of conservation of mass?' (Answer: Self quizzing), 'What are the different changes of state?' (Answer: Arrangement/Movement of matter), 'What are the differences between the three states of matter?' (Answers: Solid = regular pattern, Liquid = pa, Gas =). There are also diagrams of solid, liquid, and gas particles.

## Step 6

Check your answers using your Knowledge Organiser. Repeat Steps 3 to 5 with any questions you got wrong until you are confident.

Handwritten notes on lined paper showing the definition of 'Solid' and 'Liquid' with checkmarks. 'Solid = regular pattern particles vibrate in fixed position' and 'Liquid = particles are arranged randomly but are still touching each other Particles can slide past each other and move around'. 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'.

Make sure you bring in your completed Prep notes to demonstrate that you have completed your prep.

**ENGLISH –Poetry cluster 3: The Problem with Power- Sets 6-7**

Poem	Context	Events in the poem	Message	Form/ structure
<b>Kamikaze-Beatrice Garland</b>	<ul style="list-style-type: none"> <li>During WW2, the term 'kamikaze' was used for Japanese fighter pilots who were sent on suicide missions. They were expected to crash their planes into enemy warships. The word 'kamikaze' literally translates as 'divine wind'.</li> <li>Flying a kamikaze mission was portrayed as a great honour by the Japanese government. It was claimed that there were many volunteers, although some have argued that not every kamikaze soldier would have been willing. By the end of the war, nearly 4,000 kamikaze pilots had died.</li> </ul>	<ul style="list-style-type: none"> <li>The narrator of this poem is a kamikaze pilot's daughter. Unlike many of his comrades, this pilot turns back from his target and returns home. The poem explores the moment that the pilot's decision is made and sketches out the consequences for him over the rest of his life. Not only is he shunned by his neighbours, but his wife refuses to speak to him or look him in the eye. His children gradually learn that he is not to be spoken to and begin to isolate and reject him.</li> </ul>	<ul style="list-style-type: none"> <li>The poem explores the conflict between personal and national duty and suggests that individual desire and extreme patriotism cannot be achieved together.</li> <li>Through the pilot, Garland may be expressing how it is not honour that gives life meaning, but rather being with loved ones.</li> <li>The poem explores the impossible situation that the pilots were put in by those in power- dying in glory or being shamed and rejected by your family. It also deals with the lasting effects that war can inflict on people, families, and communities. This poem not only deals with the kamikaze pilot's own story, but the implications for those around him.</li> </ul>	Kamikaze is a narrative poem. It begins as a report, summarising another conversation or story told by someone else. Sections of the poem are presented in italics as first-person narrative, where the storyteller speaks directly for herself. This has the effect of heightening the sense of sadness she feels.
<b>Checking Out Me History- John Agard</b>	<ul style="list-style-type: none"> <li>Since the early 17<sup>th</sup> century, the country of Guyana has been colonised and controlled by the Dutch, French and British. The indigenous population spoke Arawak, but the British introduced English as the language of the government, courts and education system.</li> <li>For centuries, nations would repress the culture and identity of the countries that they colonised. They did this to control the population and get rid of any rebellion against the colonisers.</li> <li>Born in Guyana in 1949, Agard moved to Britain in 1977 and sees the culture as both an insider from living there and an outsider from moving to Britain</li> </ul>	<ul style="list-style-type: none"> <li>The poem focuses on the omission of indigenous history and discusses how colonized people were forced to learn about <i>British</i> history—which had little to do with their actual lives. Not only does the poem call attention to the oppressive nature of colonial education, but it also praises important figures who were left out—figures such as Toussaint L'Ouverture, the leader of the Haitian revolution.</li> <li>The poem suggests the curriculum deliberately blinded colonized people to their own histories, and argues that in order to understand their own identity they must learn their own history.</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge should not be denied to anyone. No one has the right to oppress others by denying them facts about their past. This can lead to feelings of inferiority and there should be more equality in the world. History is important and there is power in knowing your heritage and culture. People should never exclude this from you – especially if it is replaced with less relevant examples.</li> <li>There is a sense of caution in this poem in relation to believing what you are told. We are reminded that we should always seek the truth for ourselves and question what others choose to teach us. The education system has power to mould our thinking and we should be aware of this.</li> <li>There is a warning that, when people are denied knowledge, they can become bitter and angry, and this could lead to rebellion, protests and uprisings.</li> </ul>	The open form highlights Agard's rebellion against the status quo and the restrictions of a colonial curriculum. His use of italics separates and celebrates the important historical figures from the history he was a taught. The sing-song rhyme scheme holds a bitterness and anger that he was taught trivial things whilst his own history was omitted.
<b>The Émigrée-Carol Rumens</b>	<ul style="list-style-type: none"> <li>Carol Rumens was born in South London in 1944</li> <li>Published her own poems and translations of Russian poems</li> <li>She has a 'fascination with elsewhere'</li> <li>The Émigrée is not autobiographical poem, but is inspired by living in London (a diverse society)</li> <li>The poem sympathises with people who have been exiled</li> <li>Emigrants are people who have left the country of their birth to settle elsewhere in the world.</li> </ul>	<ul style="list-style-type: none"> <li>A displaced person pictures the country and the city where they were born. The city and country are never named in order to increase the relevancy to as many people who have left their homelands as possible.</li> <li>The speaker's home country appears to be war-torn, or under the control of a dictatorial government that has banned the language the speaker once knew.</li> <li>Despite this, the émigrée's childhood memories are filled with light and happiness. Though there is a clear sense of fondness for the place, there is also a more threatening tone in the poem, suggesting that not all of her memories are happy and that the country she has emigrated to is not always welcoming.</li> </ul>	<ul style="list-style-type: none"> <li>Rumens presents the importance of empathy and sympathy. She reminds us of how traumatic conflict can be and that people are forced to make heart-breaking decisions when they live under cruel leadership.</li> <li>The poem highlights the importance of belonging and is a celebration of diversity – we should make people feel welcome when they move to a new home.</li> <li>Memories are shown to be powerful and to have a strong hold over us with the ability to bring both pain and comfort. The past can be difficult to escape and can restrict us from moving forward in life.</li> <li>There is also a sense of the power of the media – their portrayal of immigrants can lead to a lack of sympathy in society; it is important we do not become insensitive to the pain that can lead to people moving to a new home.</li> </ul>	The use of enjambment reflects the chaos and confusion of her situation. The poem consists of two stanzas with eight lines and a third stanza with nine lines. The added line in the final stanza could suggest she doesn't want to let her memories go, stop writing about her homeland or give up her past.
<b>Storm on the Island-Seamus Heaney</b>	<ul style="list-style-type: none"> <li>For many centuries, there has been conflict in Northern Ireland.</li> <li>The majority of Northern Ireland's population were unionists, who wanted to remain within the United Kingdom. Most of these were Protestant Christians.</li> <li>Seamus Heaney was a Catholic born in Northern Ireland in 1939. Catholics were seen as the underclass and were discriminated against by the government and police. This resulted in strong political and guerrilla warfare movements in an attempt to overthrow British rule and re-unite Ireland.</li> </ul>	<p><b>There are two interpretations of this poem- literal and metaphorical.</b></p> <p><b>Literal:</b> The narrator describes how well prepared they are for the storm. The storm attacks the island. As the poem progresses, the narrator's confidence decreases, and they begin to worry.</p> <p><b>Metaphorical:</b> Heaney uses the storm as a metaphor for the conflict in Northern Ireland. The 'Islanders' suffer under enemy occupation with quiet resignations.</p>	<ul style="list-style-type: none"> <li>Heaney portrays nature as a powerful force that humans should fear and not attempt to control.</li> <li>Heaney presents the idea that life under constant enemy occupation can leave people accepting this presence with sadness, but stop trying to do anything about it.</li> <li>He warns that the enemy can appear reasonable, but can quickly turn in to a dangerous threat – this threat may not always be physical; the gradual erosion of human rights and liberties is just as perilous.</li> </ul>	Heaney's use of iambic pentameter may appear strange given its use in traditional British poems. However he subverts the traditional structure by swapping the stressed and unstressed syllables on certain lines, resisting the regularity of British control.
<b>Tissue-Imtiaz Dharker</b>	<ul style="list-style-type: none"> <li>Imtiaz Dharker was born in Pakistan but grew up in Scotland. Her poetry often deals with themes of identity, the role of women in society and the search for meaning.</li> <li>Tissue is from her poetry collection called 'The terrorist at my table'. Most of the poems in that collection relate to religion, terrorism and global politics.</li> </ul>	<ul style="list-style-type: none"> <li>Tissue explores the varied uses of paper and how they relate to life.</li> <li>It is written from the point of view of someone looking out at the conflict and troubles of the modern world; destruction, war and politics, money and wealth as well as issues like terrorism and identity.</li> <li>The poem remarks how nothing is meant to last.</li> </ul>	<ul style="list-style-type: none"> <li>Human power is ephemeral. No matter how much we try to build structures to display our power, nature will always outlast it.</li> <li>Our relationship with paper is unhealthy. We rely on it too much to make records, document ownership and build debt. Instead, we should realise that the significance of human life will outlast the records we make of it on paper or in buildings.</li> <li>Human life is fragile, and not everything can last. We must understand our fragility and should not try to build our lives through making recordings or building with blocks and bricks, we should focus on living.</li> </ul>	The poem has an irregular structure and no rhyme scheme reflecting the irregularity of life and the lack of and predictability. The fragile structure is symbolic of the fragile nature of our lives.

# ENGLISH –Poetry cluster 3: The Problem with Power

## Key Vocabulary

Key Vocabulary		Poem	Context	Events in the poem	Message	Form/ structure
Patriotism		Kamikaze-Beatrice Garland	<ul style="list-style-type: none"> <li>During _____, the term 'kamikaze' was used for...</li> </ul> <p>They were expected to...</p> <p>The _____ made the Kamikaze missions sound like...</p> <p>It was claimed that...</p>	<ul style="list-style-type: none"> <li>The narrator of this poem is...</li> <li>The poem explores the moment...</li> <li>His neighbours _____ and his wife...</li> <li>His children and grandchildren...</li> </ul>	<ul style="list-style-type: none"> <li>The poem explores the conflict...</li> <li>Through the pilot, Garland may be expressing how...</li> <li>The poem explores...</li> <li>It also deals with the...</li> </ul>	<p>Kamikaze is a ...</p> <p>Sections of the poem are presented in...</p>
			Checking Out Me History- John Agard	<ul style="list-style-type: none"> <li>Since the early _____, the country of _____</li> <li>For centuries, nations would ...</li> <li>They did this to...</li> <li>Born in...</li> </ul>	<ul style="list-style-type: none"> <li>The poem focuses on how...</li> <li>Not only does the poem call attention to the how oppressive colonial education was, but it also...</li> <li>The poem suggests the curriculum deliberately...</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge should not be...</li> <li>There is a sense of...</li> <li>There is a warning that,...</li> </ul>
Dominate		The Émigrée- Carol Rumens	<ul style="list-style-type: none"> <li>Carol Rumens was born...</li> <li>Published her own...</li> <li>She has a 'fascination with...</li> <li>The Émigrée is not autobiographical poem, but...</li> <li>The poem sympathises with ...</li> <li>Emigrants are...</li> </ul>	<ul style="list-style-type: none"> <li>An emigrant...</li> <li>The speaker's home country appears to be...</li> <li>Despite this, the émigrée's childhood memories are...</li> </ul>	<ul style="list-style-type: none"> <li>Rumens presents the importance of...</li> <li>The poem highlights the importance of...</li> <li>Memories are shown to be...</li> </ul>	<p>The use of enjambment reflects the...</p> <p>The poem consists of...</p>
Defiance				<ul style="list-style-type: none"> <li>For many centuries, ...</li> <li>The majority of Northern Ireland's population were ...</li> <li>Seamus Heaney was...</li> </ul>	<p><b>There are two interpretations of this poem- _____ and _____.</b></p> <p>_____ : The narrator describes how well prepared they are for...</p> <p>_____ : Heaney uses the storm as a metaphor for...</p>	<ul style="list-style-type: none"> <li>Heaney portrays nature as...</li> <li>Heaney presents the idea that life under...</li> <li>He warns that the enemy can ...</li> </ul>
Isolated						
Dictatorial						
Nostalgia		Tissue- Imtiaz Dharker	<ul style="list-style-type: none"> <li>Imtiaz Dharker was...</li> <li>Tissue is from...</li> </ul>	<ul style="list-style-type: none"> <li>Tissue explores...</li> <li>It is written from the point of view of ...</li> <li>The poem remarks how...</li> </ul>	<ul style="list-style-type: none"> <li>Human power...</li> <li>Our relationship with paper is ...</li> <li>Human life is...</li> </ul>	
Fragility						



# Science T4 Y10 C3.8 Mainstream Rate and extent of chemical change

## Rate of reaction.

Measuring the rate of anything always involves a **measurement of time**

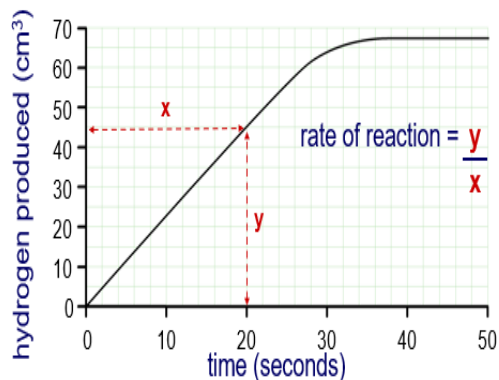
The rate of a chemical reaction can be found using:

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

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

Quantities for reactants or products are measured in **mass in g** or by **volume in cm<sup>3</sup>**

Rate calculations can be done from tables of data or graphs:



Volume of hydrogen produced = 45cm<sup>3</sup>

Time taken = 20 seconds

Rate =  $\frac{45}{20}$  cm<sup>3</sup>

20 s

rate = 2.25 cm<sup>3</sup>/s

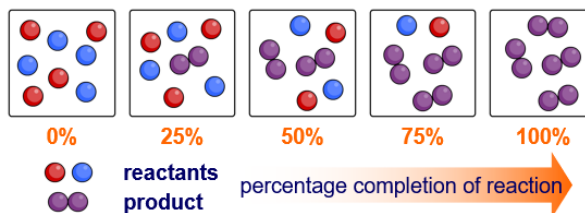
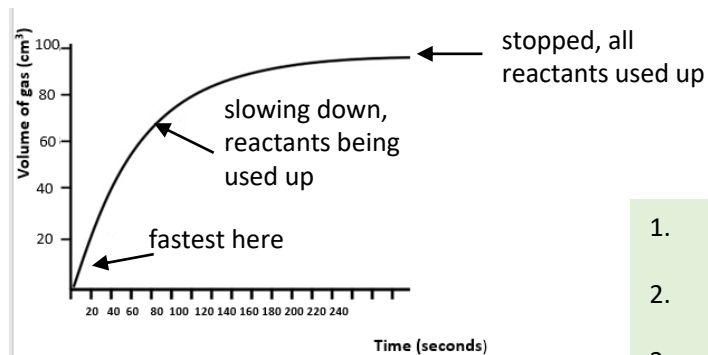
## The progression of a chemical reaction

For a reaction to take place, reactant particles have to collide.

The rate of a reaction depends on the **frequency of collisions** and **the energy with which the particles collide**.

The minimum amount of energy needed to start a reaction is called the **activation energy**.

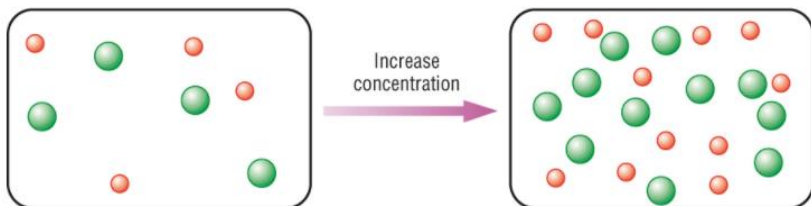
A reaction is always **fastest at the beginning** and slows down over time as the reactants get used up and the frequency of collisions decreases.



1. Give two ways of calculating the rate of a reaction
2. What does a rate calculation always have to include?
3. What are solid reactants or products measured in?
4. What are liquid or gaseous products measured in?
5. How is the rate calculated from a graph?
6. What point in a reaction is the fastest?
7. Why does a reaction slow down as it progresses?
8. Why do reactions stop?
9. What two factors affect the rate of a reaction?

# Science T4 Y10 C3.8 Mainstream Rate and extent of chemical change

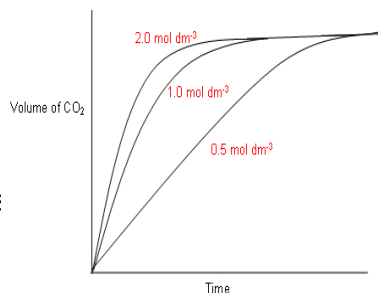
## The effect of concentration



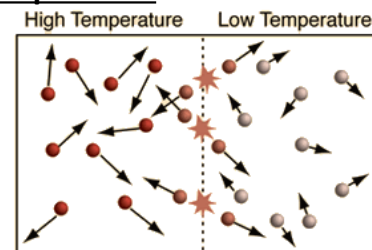
Concentration means number of particles per  $\text{cm}^3$

Increasing the concentration of any of the reactants increases the rate of the reaction

This is because there are more particles per  $\text{cm}^3$  so there are **more frequent collisions**, increasing the rate.

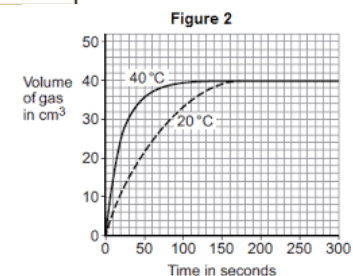


## The effect of temperature



Increasing the temperature of the reactants increases the rate of the reaction.

This is because the particles have more kinetic energy and therefore move faster, so there are **more frequent collisions**, increasing the rate.



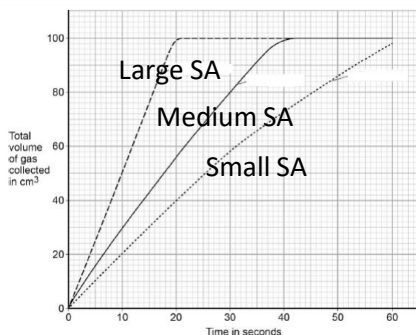
## The effect of surface area



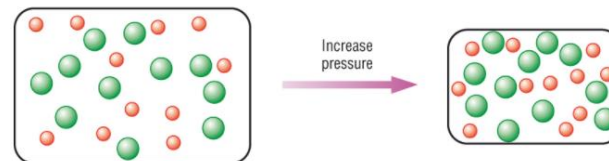
The smaller the pieces of a solid, the higher the surface area

Increasing the surface area of solid reactants increases the rate of reaction.

This is because there is a greater area available for collisions to occur so there are **more frequent collisions**, increasing the rate.

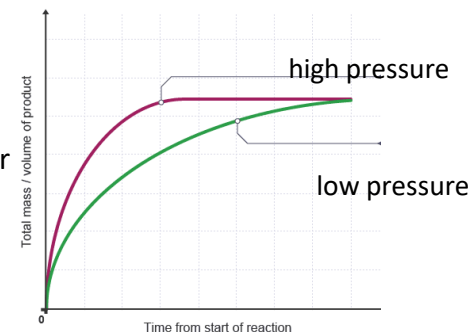


## The effect of pressure



Increasing the pressure of gaseous reactions increases the rate of the reaction.

This is because the same number of particles are now in a smaller volume, so there are **more frequent collisions**, increasing the rate.

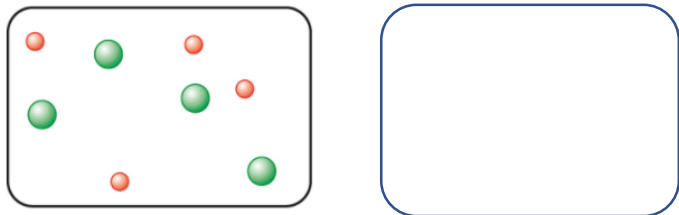


**In all cases, the overall amount of product is the SAME, the end point of the reaction is just reached faster**

## Science T4 Y10 C3.8 Mainstream Rate and extent of chemical change

### The effect of concentration

1. In the box below, draw a reaction involving a higher concentration of the green reactant molecules.



2. What happens to the rate of a reaction if you increase the concentration?

### The effect of temperature

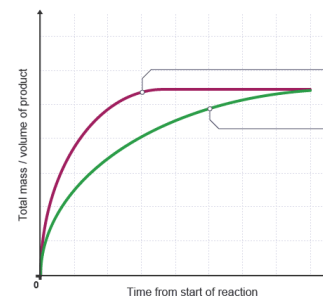
1. Describe how increasing the temperature affects the rate of a reaction.
2. Explain why this happens in terms of particles.

### The effect of surface area

1. Reactions involving what sort of reactant are affected by surface area?
2. What type of piece has a large surface area?

### The effect of pressure

1. Reactions involving what type of reactants are affected by pressure?
2. Label the diagram with 'low pressure' and 'high pressure'

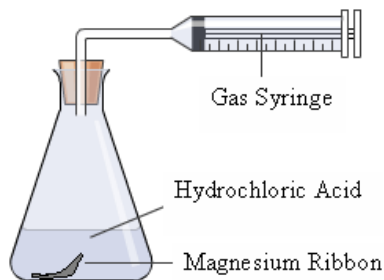


What happens to the overall amount of product if you change the rate of a reaction?



**Experiment 1**

Using volume of gas collected over time as a measure of the rate



**Independent variable:** concentration of HCl

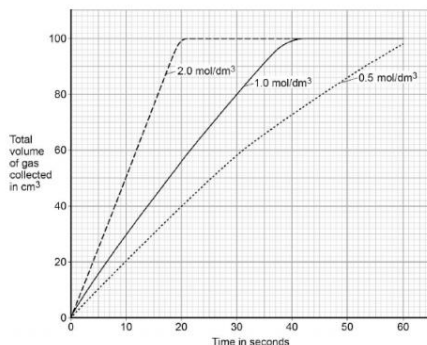
**Dependent variable :** Volume of gas produced / min

**Control variables :** volume of HCl, mass of Mg, temperature of acid

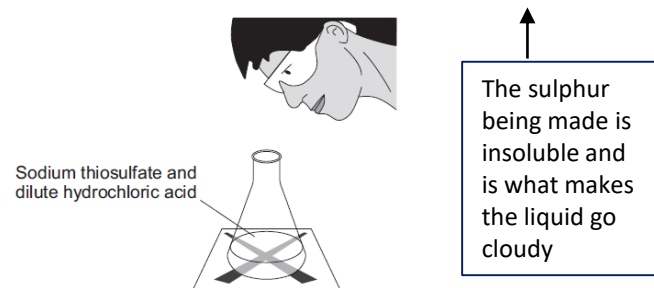
Method

1. Measure 20cm<sup>3</sup> 0.5M HCl into a conical flask.
2. Insert 2 x 2cm pieces of Mg and attach a gas syringe
3. Start a stopwatch and measure the volume of gas collected every 20 seconds until the reaction is over.
4. Repeat using different concentrations of HCl.

An increase in the concentration leads to an increase in the rate of the reaction, but the same volume of product overall

**Experiment 2**

Investigating the effect of changing the concentration of HCl on the rate of reaction



**Independent variable:** concentration of HCl

**Dependent variable :** Time taken for the cross to disappear

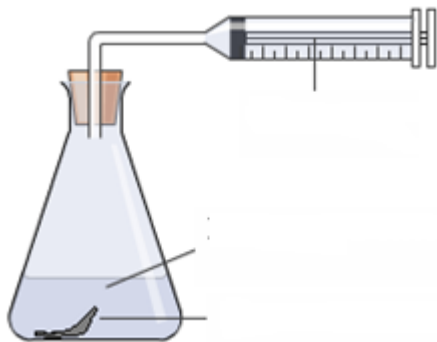
**Control variables :** volume of HCl, volume of sodium thiosulphate, temperature of both solutions, concentration of sodium thiosulphate

**Method**

1. Use a measuring cylinder to put 10 cm<sup>3</sup> sodium thiosulfate solution into the conical flask.
2. Put the conical flask on the black cross.
3. Put 10 cm<sup>3</sup> of 0.5M hydrochloric acid into the 10 cm<sup>3</sup> measuring cylinder.
4. Put this acid into the flask. At the same time swirl the flask gently and start the stopwatch.
5. Look down through the top of the flask. Stop the stopwatch when you can no longer see the cross. Record the time.
6. Repeat steps 1-5 using different concentrations of HCl – 1M, 1.5M, 2M and 2.5M

**Experiment 1**

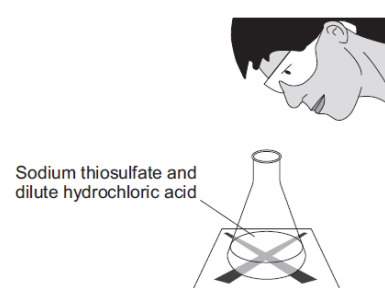
Using volume of gas collected over time as a measure of the rate



1. Label the diagram to show the equipment and chemicals used in this investigation
2. What is the independent variable?
3. Name two control variables.
4. What is a sensible volume of HCl to use?
5. Which piece of equipment, essential for a rate calculation, is not shown?

**Experiment 2**

Investigating the effect of changing the concentration of HCl on the rate of reaction

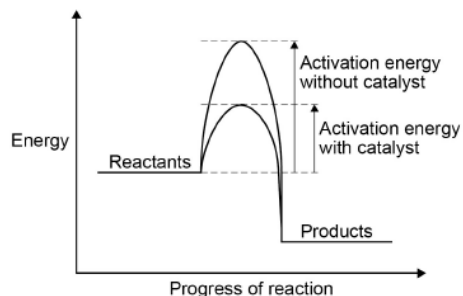


1. What is the dependent variable in this reaction?
2. Why does the solution go cloudy?
3. Name two control variables.

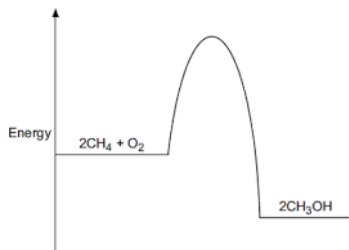
# Science T4 Y10 C3.8 Mainstream Rate and extent of chemical change

## Catalysts

- Catalysts are substances that speed up chemical reactions without themselves being used up.
- They provide a different pathway for the reaction with a lower activation energy.
- Different reactions require different catalysts.

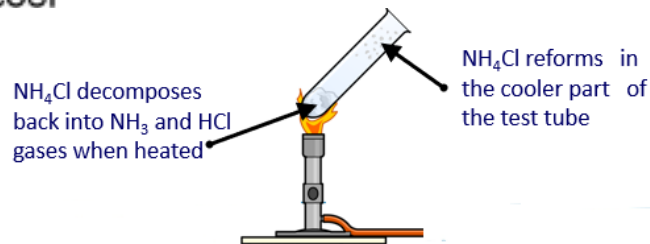
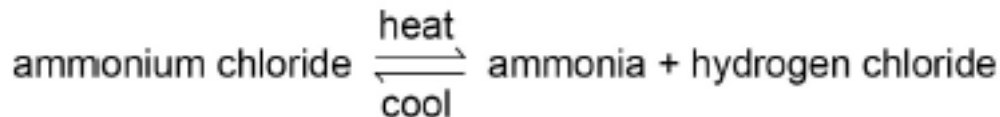


1. What is a catalyst?
2. How do they speed up reactions?
3. Draw on the energy level diagram below to show how it would change in the presence of a catalyst.

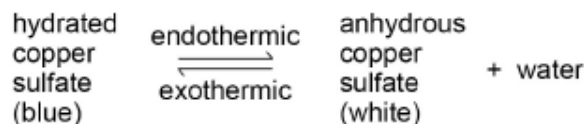


## Reversible reactions

These are reactions in which the products can react to produce the original reactants. They are represented by the symbol  $\rightleftharpoons$ . The direction of the reaction can be changed by changing the conditions. For example:



If a reaction is exothermic in one direction, it is endothermic in the opposite direction. **The same amount of energy** is transferred in each case.



When a reversible reaction takes place in sealed apparatus, then a point occurs when the forward and backward reactions occur at the same rate. This is **equilibrium**.

1. What is a reversible reaction?
2. What symbol is used in an equation to represent a reversible reaction?
3. If a reaction is endothermic in the forward direction, what does this tell us about the backward reaction?
4. If 300J of energy is absorbed during an endothermic reaction, how much will be released in the opposite direction?
5. What is equilibrium?

## Crude oil

Crude oil = a mixture of **hydrocarbons**.

- It is a **non-renewable resource (fossil fuel)**
- Made from remains of dead sea creatures **compressed** over millions of years

**Hydrocarbons** - molecules containing **hydrogen** and **carbon only**.

Two types of hydrocarbons are **alkanes** and **alkenes**.  
The hydrocarbons in crude oil are mostly alkanes.

## Alkanes

- Alkanes = **saturated** hydrocarbons.
- Held together by **single covalent bonds**.
- General formula =  $C_nH_{2n+2}$
- Have different boiling points – longer the chain, higher the boiling point

**You need to remember the names, and formulas of the first 4 alkanes.**










Name of Alkane	Structural Formula	Molecular Formula
methane	<pre>       H         H - C - H               H                     </pre>	CH <sub>4</sub>
ethane	<pre>       H   H             H - C - C - H                   H   H                     </pre>	C <sub>2</sub> H <sub>6</sub>
propane	<pre>       H   H   H                 H - C - C - C - H                       H   H   H                     </pre>	C <sub>3</sub> H <sub>8</sub>
butane	<pre>       H   H   H   H                     H - C - C - C - C - H                           H   H   H   H                     </pre>	C <sub>4</sub> H <sub>10</sub>

## Fractional Distillation

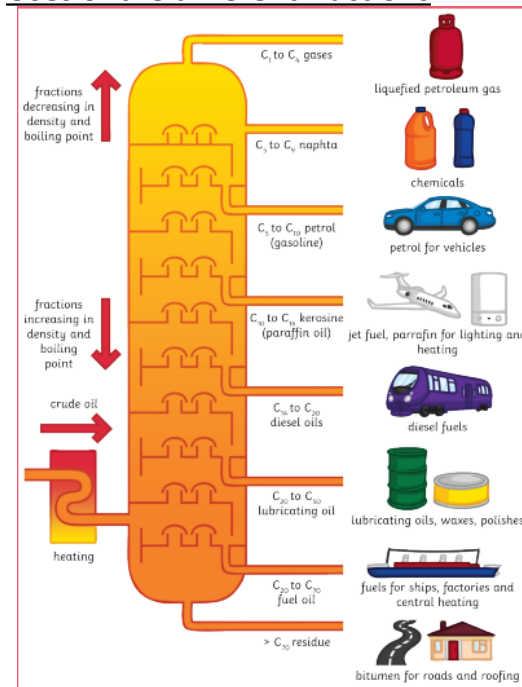
- Used to **separate** the mixtures of hydrocarbons in **crude oil**.

### Steps in Fractional Distillation

1. Crude oil enters **fractioning column** and is heated to boiling point so the hydrocarbons evaporate.
2. It is **cooler** at the **top** of the fractionating column and **hotter** at the **bottom**.
3. Vapours rise up the column and, as they rise, they cool
4. The different hydrocarbons condense at different **boiling points**
5. The different 'fractions' have different **properties**

Short-Chain Molecules	Increasing Chain Length	Long-Chain Molecules
		
thin	As chain length increases, the <b>boiling point</b> of the hydrocarbon chains also increases.	thick
		
	<b>Flammability</b> is a measure of how easily a substance burns.	
		

## Uses of the different fractions



## Supply and demand

Product	Supply in tonnes	Demand in tonnes
petrol	100	300
diesel	200	100
heating oil	250	50

After fractional distillation, we find:

- we have more of the long chain hydrocarbons than we need
- There are not enough short chain hydrocarbons.
- Short chain are more useful as they are more flammable so can be used as fuels.

## Science T4 Y10 C3.9 Mainstream – Organic Chemistry

<ol style="list-style-type: none"><li>1. What is crude oil?</li><li>2. What is a hydrocarbon?</li><li>3. What type of hydrocarbons are alkanes?</li><li>4. State the general formula for alkanes.</li><li>5. Name the first four alkanes.</li><li>6. What sort of bonding is found in hydrocarbons?</li></ol>	<ol style="list-style-type: none"><li>1. What is the name for the process that results in the separation of the fractions of crude oil?</li><li>2. What happens to the boiling point of hydrocarbons as the chain length <b>increases</b>?</li><li>3. What happens to the viscosity of hydrocarbons as the chain length <b>increases</b>?</li><li>4. What does flammable mean?</li><li>5. What are the two changes of state that occur during fractional distillation?</li><li>6. Which physical property is used to separate the fractions?</li></ol>	<ol style="list-style-type: none"><li>1. What is one use for the hydrocarbons that are between 14 and 20 carbons long?</li><li>2. What is the range of lengths of hydrocarbons in fuel oil?</li><li>3. What are the smallest hydrocarbons used for?</li><li>4. What happens to the flammability of hydrocarbons as the chain length <b>increases</b>?</li><li>5. What is the range of hydrocarbon lengths found in petrol?</li><li>6. What is the problem with supply and demand of the different hydrocarbon chains?</li></ol>
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## Cracking

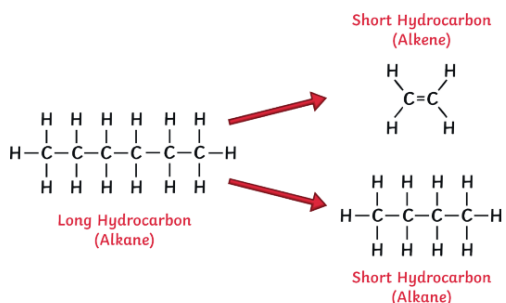
- This is done to solve the problem of having too many long chain hydrocarbons and not enough short ones
- Long hydrocarbons are **broken down** into smaller, more useful hydrocarbons.
- Short chain hydrocarbons are more useful as they are more flammable

**Two types of cracking: catalytic and steam cracking.**

**Catalytic cracking** – needs a **high temperature** and a **catalyst**.

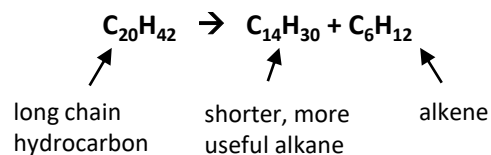
**Steam cracking** – **high temperature and steam**

- Cracking produces a **short-chain alkane** and an **alkene**.



## Cracking equations

Same number of carbon and hydrogen atoms on both sides of the equation:



## Alkenes

- Alkenes are **unsaturated** hydrocarbons.
- Contain carbon-carbon **double bonds**.

### Test for Alkenes

Use bromine water to test for alkenes. If an alkene is present, the bromine water turns from orange/brown to colourless. Alkanes do not react with bromine water.

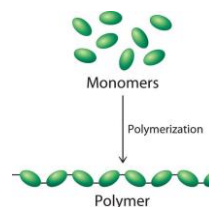


### Uses for alkenes:

- Can be used as fuels
- Can be used as a starting material for other chemicals
- Can be used to make polymers (e.g. plastic)

### Polymers

- Polymers are large molecules made of many repeating units (monomers)
- Alkenes (small molecules) are joined together to make polymers



**Poly(ethene)** – plastic bags/drinks bottles

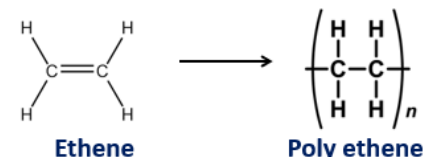
**Poly(propene)** – strong tough plastics

## Drawing and naming polymers

1. Redraw the **monomer given**, but without the double bond. Make sure to copy all other elements exactly.
2. Put brackets around the monomer and extend joining bonds out through the brackets on both sides
3. Add an 'n' at the bottom right of the bracket
4. To name the polymer, you put **poly** in front of the monomer name

E.g.:

Draw and name the polymer made from the monomer ethene:



## Combustion of Hydrocarbons

Combustion means burning.

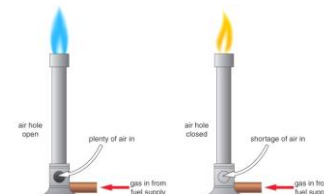
**Complete combustion** - when there is a good supply of **oxygen** for a fuel to burn.

**Fuel + oxygen → carbon dioxide + water**

**Incomplete combustion** - **not enough oxygen**

Products are **carbon monoxide** and water.

**Carbon monoxide = poisonous gas**





## Science T4 Y10 C3.9 Mainstream – Organic Chemistry

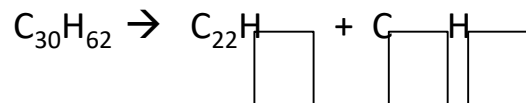
1. What is cracking?

2. Why is cracking done?

3. What are the two types of cracking?

4. What conditions are needed for catalytic cracking?

5. Complete this cracking equation by putting numbers in the boxes:



6. What two types of hydrocarbons are formed during cracking?

1. Why are alkanes called 'unsaturated'?

2. Which chemical is used to test for alkenes?

3. What is the colour change for a positive alkene test?

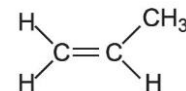
4. Give two uses for alkenes

5. What are polymers?

6. What is the name for the small molecules that make up polymers?

1. What is the name of the polymer formed from the monomer butene?

2. Draw the polymer made from the monomer propene given below:



3. Name the polymer made in question 2

4. What is combustion?

5. When does incomplete combustion happen?

6. What are the waste products of complete combustion?

7. Which toxic gas is formed during incomplete combustion?

## The nervous system

Job is to **detect** stimuli (changes in environment) and **respond** if needed. Consists of:

### Receptors



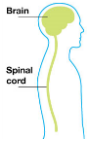
Specialised cells that detect stimuli, found in sense organs and internally

### Neurons



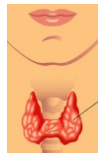
3 types – sensory, relay and motor  
Carry **impulses** joining all parts of the nervous system

### Co-ordination Centres



Brain, spinal cord, pancreas.  
Coordinates the response

### Effectors



Organs that bring about a response

muscle or gland

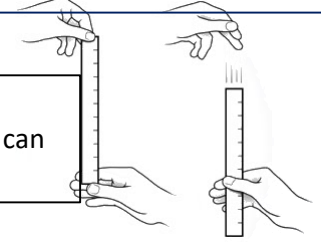
## RP 6 - Investigation into the effect of a factor on human reaction time.

1. Person A holds out hand with a gap between thumb and finger.
2. Person B holds ruler with the zero at the top of person A's thumb.
3. Person B drops ruler without telling Person A and Person A must catch it.
4. The distance on the ruler level with the top of person A's thumb is recorded
5. Repeat this ten times.
6. Repeat steps 1-5 after a factor has been changed
7. Use conversion table to convert ruler measurements into reaction time.

The 'factor' could be...

- Caffeine consumption
- Hours of sleep
- Alcohol consumption
- Amount of practice

A computer reaction test can also be used.



Control variables : distance above the hand, distance between finger and thumb, hand used (dominant or non-dominant, all other factors listed in the box above except the one being changed.

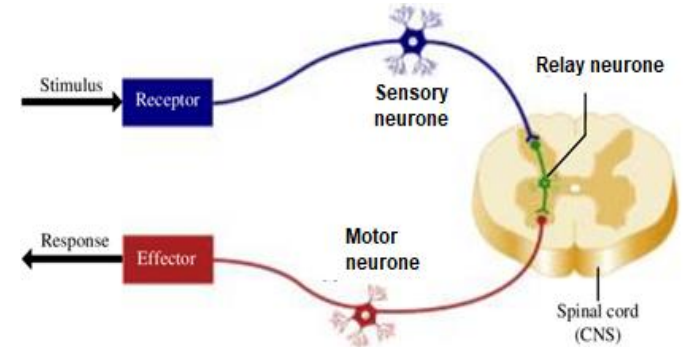
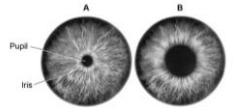
## Reflexes

A reflex is an automatic, rapid response

Reflexes do not involve the conscious part of the brain, so cannot be overridden

The response might be brought about by:

- muscle - e.g. pupil being constricted with bright light or knee jerk response
- gland – e.g. mouth watering or tears being released when something gets in your eye



## Reflex Arc

stimulus → receptor → **sensory neurone** → **relay neurone** → **motor neurone** → effector → response

## Example

Hot pan → pain receptors → **sensory neurone** → **relay neurone** → **motor neurone** → hand muscles → release pan

# Science T4 Y10 B3.10 Mainstream – Homeostasis and Response

1. What are the two main jobs of the nervous system?

2. What are receptors?

3. What are stimuli?

4. Name the 3 types of neurone?

5. What are the 3 coordination centres?

6. What is an effector?

7. What are the 2 types of effector?

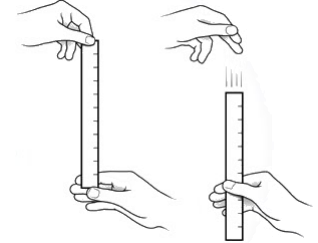
1. Where should the ruler be held at the start of the investigation?

2. What could be used instead of a ruler drop test?

3. If you are testing the hypothesis 'The amount of sleep a person has affects their reaction time' what would be the:

- independent variable
- Dependent variable
- 2 control variables

4. How is the distance the ruler travels converted into a reaction time?



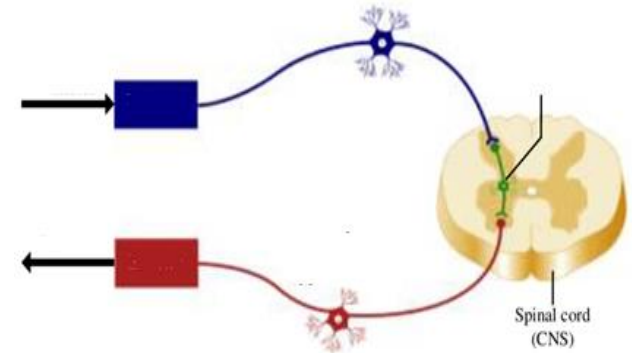
1. What is a reflex?

2. Which part of the nervous system is NOT involved in a reflex?

3. Give an example of a reflex reaction

4. Label the diagram using the labels below:

- relay neurone   sensory neurone  
motor neurone   effector  
receptor   stimuli



## Reflex Arc

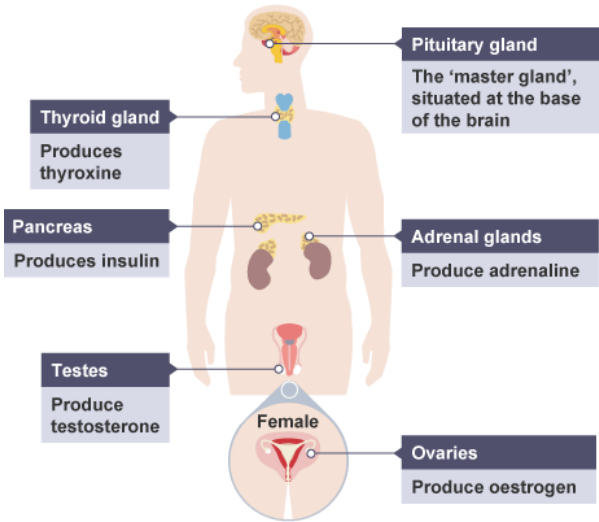
Complete the gaps to show the order of a reflex reaction:

stimulus →                                  → **sensory neurone** →                                  → **motor neurone** →                                  → response

# Science T4 Y10 B3.11 – Mainstream Homeostasis and Response

## Hormonal responses

Hormones are chemicals released by glands  
They are carried in the bloodstream.  
Hormonal responses are slower than nervous responses but they last longer.



## Homeostasis

This means keeping internal conditions (of the body or a cell) constant to ensure optimum functioning.

In humans, this includes regulating:

- temperature
- water levels
- blood glucose concentration

Homeostasis can involve nervous or hormonal responses.

**Receptors** detect changes in the body

**Coordination centres** (brain, pancreas, spinal cord etc) receive and process information

**Effectors** carry out responses to return to normal

## Blood glucose concentration

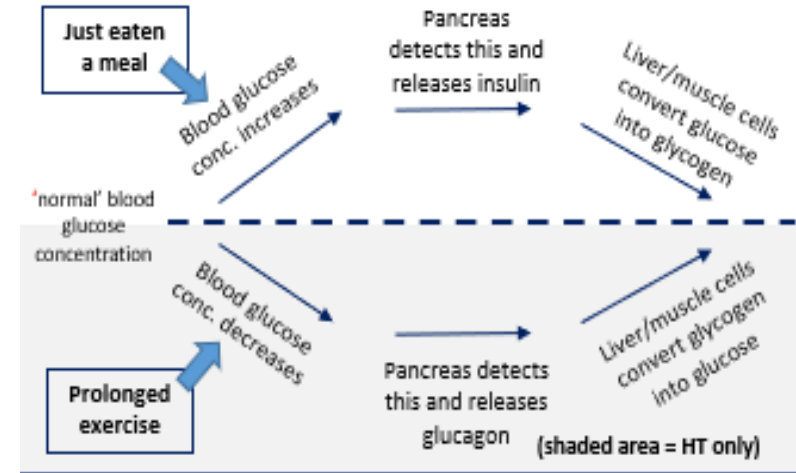
Blood glucose is monitored by the **pancreas**.

If glucose levels rise, the pancreas releases **insulin** into the blood.

This is a message to the liver to remove glucose and store it as **glycogen**.

If blood glucose is too low, **glucagon** is released.

The liver responds by breaking down glycogen into glucose and releasing it into the blood.



## Diabetes

There are two types – Type 1 and Type 2

Both result in a lack of control over blood glucose levels

	Type 1	Type 2
Cause	No insulin is made by the pancreas	Insulin is made, but the liver and muscle cells do not respond
Treatment	Injections of insulin Pancreatic transplant	Controlling carbohydrate intake Losing weight

### HT only

Negative feedback is when the release of something brings the levels back towards acceptable levels, it maintains a steady state.

E.g. if blood glucose increases, insulin is released to bring blood glucose back towards the normal range.

# Science T4 Y10 B3.11 – Mainstream Homeostasis and Response

## Adrenaline and thyroxine (HT only)

**Adrenaline** is produced by the **adrenal glands**.

It is produced in times of fear or stress.

It **increases heart rate** to ensure **more oxygen and glucose** to the cells to prepare for the 'fight or flight' response.

**Thyroxine** is produced by **the thyroid gland**.

It is involved in regulating **metabolic rate** and growth and development.

## Puberty

Females – **Oestrogen** is the main female reproductive hormone produced in the ovary. At puberty, eggs begin to mature, and one is released approximately every 28 days. This is called **ovulation**.

Males – **Testosterone** is the main male reproductive hormone produced by the testes and it stimulates sperm production.

Name of contraception	Description	+	-
Condoms/diaphragm	Barrier	Very effective, condom protects against STIs	Unreliable if not used properly
Oral Contraception (pill)	Hormonal (oestrogen or progesterone, stops FSH so no eggs mature)	Very effective	Must remember to take everyday, can have side effects
Injection/implant/skin patch	Slow-releasing hormone	Long lasting	Side effects such as heavy periods
Intrauterine Device (IUD or Coil)	Barrier method. Can also contain hormones	Long lasting (up to 5 years)	Side effects such as heavy periods
Surgical Sterilisation	Tying or cutting of sperm ducts/ oviducts.	Almost 100% effective	Difficult or impossible to reverse

## Menstrual Cycle

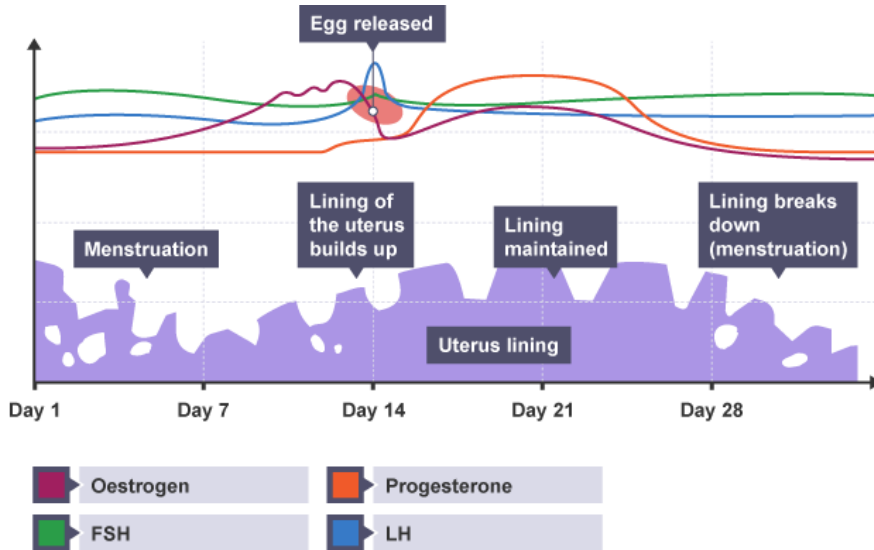
The menstrual cycle is controlled by several hormones:

FSH – from the pituitary. Causes an egg to mature in the ovary

LH – from the pituitary. Causes ovulation

Oestrogen and progesterone are involved in maintaining the lining of the womb.

HT – Oestrogen also feeds back to the pituitary to stop producing FSH.



## Infertility (HT only)

Fertility drugs LH and FSH can be given to increase the number of eggs released and increase the chance of fertilisation.

### IVF

- Woman takes a dose of FSH and LH - stimulates the maturation of several eggs.
- Eggs are collected and fertilised by sperm from the male
- Fertilised eggs develop into embryos.
- One or two embryos inserted into the female's uterus.

### Negatives;

- very emotionally/ physically stressful
- success rates are not high
- can lead to multiple births (twins, etc.)
- Many embryos are not used & destroyed

# Geography Knowledge Organiser: Year 10 OCR – Ecosystems of the Planet



## Background:

1. An ecosystem is a community of things that are linked together to make up a type of environment. **(A, B, E)**
2. An ecosystem contains biotic (living) and abiotic (non-living) parts. **(B)**
3. The climate of an ecosystem is very important as it influences what you will find there. **(C, D)**
4. The main world biomes can be found in specific parts of the world, they have very different climatic conditions & features. **(C, D)**
5. Ecosystems have cycles that are interdependent on one another **(E)**
6. The location of the major tropical rainforests are found between 0-25°N/S of the equator **(F)**
7. The location of the major warm water coral reefs are found between 0-30°N/S of the equator **(G)**

## A. Classification of ecosystem (4)

Ecosystem	A community of things linked together in an environment.
Biome	An ecosystem on a large scale that covers parts of continents and whole countries.
Habitat	A place where plants and animals live. Example: a pond, or hedgerow.
Biodiversity	The amount of variety of life there is in a place.

## B. Features of an ecosystem (3)

Biotic	The living parts of an ecosystem. Examples: plants, animals, humans.
Abiotic	The non-living parts of an ecosystem. Examples: soil, climate, river.
Food chain	A diagram that shows what is eating what in an ecosystem.

## C. Major global biomes (5)

Tundra (2)	<ol style="list-style-type: none"> <li>1. Found between 60- and 70-degrees N and S of the equator</li> <li>2. A cold ecosystem, little rainfall.</li> </ol>
Hot desert (2)	<ol style="list-style-type: none"> <li>1. Found along the Tropic of Cancer and the Tropic of Capricorn.</li> <li>2. Hot environments with little rain.</li> </ol>
Tropical rainforest (2)	<ol style="list-style-type: none"> <li>1. Found in places along the Equator.</li> <li>2. Hot and humid environments with huge amounts of rainfall.</li> </ol>
Temperate forest (2)	<ol style="list-style-type: none"> <li>1. The main biome of the UK and other places along the same lines of latitude.</li> <li>2. Warm summers, mild winters. No extremes of temperature, rainfall.</li> </ol>
Coral Reefs (2)	<ol style="list-style-type: none"> <li>1. Located in the tropics between 30 degrees north and 30 degrees south.</li> <li>2. Ocean temperature must be over 20 degrees.</li> </ol>

## D. Climate and plants (5)

Tropical rainforest	<ol style="list-style-type: none"> <li>1. Warm and humid all year round.</li> <li>2. Dense vegetation</li> <li>3. Plants such as Lianas and drip tip leaves are adapted to deal with conditions.</li> <li>4. Animals such as Tapir and Leopards.</li> </ol>
Coral Reef	<ol style="list-style-type: none"> <li>1. Warm and shallow oceans so that corals can photosynthesise</li> <li>2. Most biodiverse ecosystems on the planet.</li> <li>3. Animals such as reef sharks and turtles.</li> </ol>
Tundra	<ol style="list-style-type: none"> <li>1. Extremely cold and relatively dry conditions.</li> <li>2. Low levels of biodiversity. E.g., Low shrubs.</li> </ol>
Hot desert	<ol style="list-style-type: none"> <li>1. Hot and dry all year round.</li> <li>2. Vegetation includes cacti and succulents.</li> <li>3. Animals include desert fox and reptiles.</li> </ol>
Temperature forest	<ol style="list-style-type: none"> <li>1. Dense deciduous trees.</li> <li>2. Seasonal vegetation</li> <li>3. Animals include deer.</li> </ol>

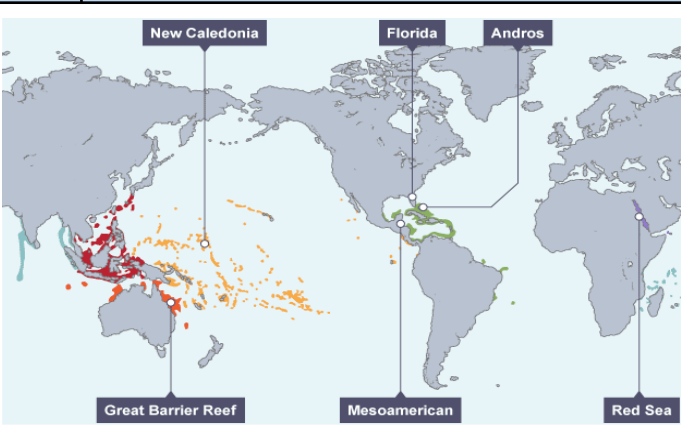
## E. Interdependence in ecosystems (3)

Nutrient Cycle	The cycling of nutrients throughout a system to keep everything alive.
Water Cycle	The cycling of water throughout a system to keep everything alive.
Interdependence	When different parts of an ecosystem rely on each other to maintain balance

## F. Location of major tropical rainforests



## G. Location of major coral reefs







## Background:

1. An ecosystem is a community of things that are linked together to make up a type of environment. **(A, B, E)**
2. An ecosystem contains biotic (living) and abiotic (non-living) parts. **(B)**
3. The climate of an ecosystem is very important as it influences what you will find there. **(C, D)**
4. The main world biomes can be found in specific parts of the world, they have very different climatic conditions & features. **(C, D)**
5. Ecosystems have cycles that are interdependent on one another (E)
6. The location of the major tropical rainforests are found between 0-25°N/S of the equator (F)
7. The location of the major warm water coral reefs are found between 0-30°N/S of the equator (G)

## C. Major global biomes (5)

Tundra (2)

Hot desert (2)

Tropical rainforest (2)

Temperate forest (2)

Coral Reefs (2)

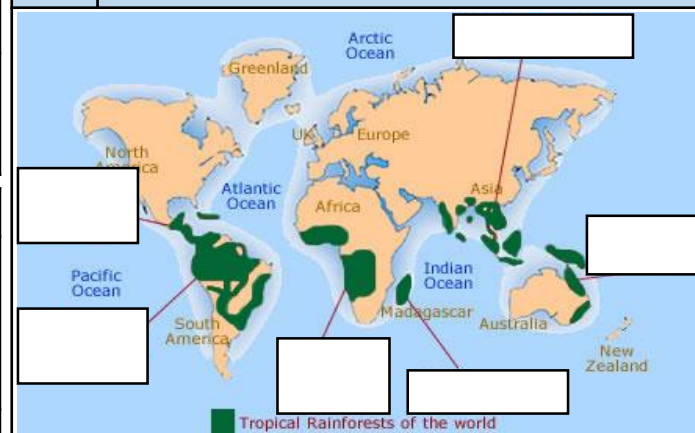
## E. Interdependence in ecosystems (3)

Nutrient Cycle

Water Cycle

Interdependence

## F. Location of major tropical rainforests



## A. Classification of ecosystem (4)

Ecosystem

Biome

Habitat

Biodiversity

## D. Climate and plants (5)

Tropical rainforest (4)

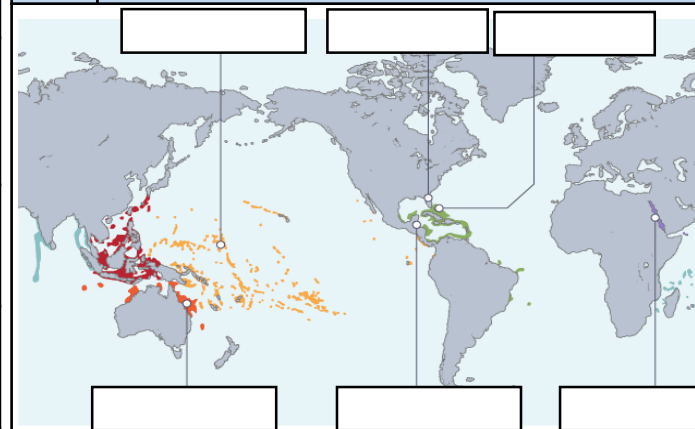
Coral Reef (3)

Tundra (2)

Hot desert (3)

Temperature forest (3)

## G. Location of major coral reefs



## B. Features of an ecosystem (3)

Biotic

Abiotic

Food chain

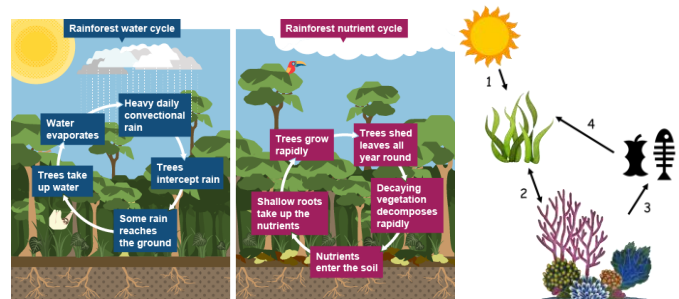


Background:	
8.	Ecosystems are at threat from human activity
9.	The nutrient and water cycles that operate in the tropical rainforest are essential to life.
10.	The nutrient and water cycles that operate in a coral reef are essential to life.
11.	Case study of one tropical rainforest: Malaysian rainforest including the threats to the ecosystem and attempts to mitigate these through sustainable use and management.
12.	Case study of one coral reef: The Great Barrier Reef including the threats to the ecosystem and attempts to mitigate these through sustainable use and management

A.	Human threats to ecosystems (7)
Industrialisation	The growth of factories and mining in an area.
Over-fishing (3)	<ol style="list-style-type: none"> <li>Using large scale trawlers to catch hundreds of fish at one time. Means many fish cannot breed.</li> <li>Usually happens for profit.</li> <li>Is not well monitored.</li> </ol>
Tourism	Travel for leisure.
Deforestation (2)	<ol style="list-style-type: none"> <li>Cutting down large amounts of trees for profit.</li> <li>Is not well monitored.</li> </ol>
Climate change (3)	<ol style="list-style-type: none"> <li>Increase in greenhouse gases in the atmosphere.</li> <li>Lead to increase in temperatures.</li> <li>Leads to increased drought and flooding.</li> </ol>
Medicinal purposes	Scientists believe that some chemicals released by corals could be used to treat viruses.
Scientific research	Coral reefs help us understand climate change.

A.	The nutrient and water cycles: Tropical Rainforest (2)
Nutrient Cycle (4)	<ol style="list-style-type: none"> <li>Plant matter receives nutrients from the soil and through photosynthesis.</li> <li>Plant matter falls to the forest floor.</li> <li>Warm temperatures lead to rapid decomposition (rotting).</li> <li>Nutrients are returned to the soil.</li> </ol>
Water Cycle (4)	<ol style="list-style-type: none"> <li>Convictional rainfall is intercepted by the canopy.</li> <li>Most rainfall is evaporated off the canopy leading to more rain.</li> <li>Some rainfall reaches the ground.</li> <li>Plants take in water through roots.</li> </ol>

A.	The nutrient cycle: Coral reefs
Nutrient Cycle (4)	<ol style="list-style-type: none"> <li>Sunlight is used by Algae in photosynthesis to produce energy.</li> <li>Algae live in coral and provide coral with nutrients they need to grow.</li> <li>Coral gives off waste nitrogen during respiration.</li> <li>Algae eats the waste material from the coral.</li> </ol>



H.	CASE STUDY: One tropical rainforest- Malaysia	
Background	60% of Malaysia is covered by rainforest. It is an Emerging Developing Economy.	
	Threats to biodiversity (3)	Sustainable management (3)
	<ol style="list-style-type: none"> <li>Subsistence farming: Farming on a small scale. Uses slash and burn practices which can get out of control.</li> <li>Palm oil: Malaysia is world's largest producer. Is a monoculture so less biodiversity</li> <li>Bakum dam – built in 2011. Powers factories in Malaysia. 700km of forest destroyed.</li> </ol>	<ol style="list-style-type: none"> <li>Selective management system. Does not clear large areas of forest. Gives small trees room to grow. BUT 30% of trees are still removed and it is not well monitored.</li> <li>Ecotourism. Provides a source of income for locals BUT hotels and transport can cause damage.</li> <li>Forest Stewardship Council. Reduces deforestation BUT membership can be bought.</li> </ol>

H.	CASE STUDY: One coral reef- Great Barrier Reef	
Background	The Great Barrier Reef is the world's largest coral reef	
	Threats to biodiversity (3)	Sustainable management (2)
	<ol style="list-style-type: none"> <li>Commercial fishing. Contributes \$104 million/year to the economy. Destroys reefs with machinery.</li> <li>Tourism. Over 3 million visitors/ year.</li> <li>Medicinal purposes. Chemicals in coral reefs are thought to treat cancers.</li> </ol>	<ol style="list-style-type: none"> <li>Fishing restrictions. Large companies are given a quota (certain amount of fish they can catch). Dynamite fishing banned. BUT can be bought.</li> <li>Coral farming. Small corals are collected and grow 50 x faster than in the wild on the farms. BUT sometimes coral is sold.</li> </ol>



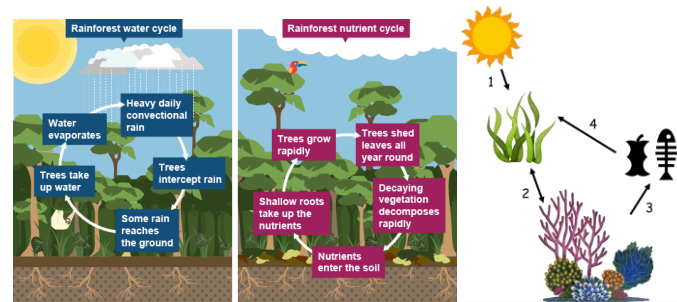
**Background:**

- Ecosystems are at threat from human activity
- The nutrient and water cycles that operate in the tropical rainforest are essential to life.
- The nutrient and water cycles that operate in a coral reef are essential to life.
- Case study of one tropical rainforest: Malaysian rainforest including the threats to the ecosystem and attempts to mitigate these through sustainable use and management.
- Case study of one coral reef: The Great Barrier Reef including the threats to the ecosystem and attempts to mitigate these through sustainable use and management

A. Human threats to ecosystems (7)	
Industrialisation	
Over-fishing (3)	
Tourism	
Deforestation (2)	
Climate change (3)	
Medicinal purposes	
Scientific research	

A. The nutrient and water cycles: Tropical Rainforest (2)	
Nutrient Cycle (4)	
Water Cycle (4)	

A. The nutrient cycle: Coral reefs	
Nutrient Cycle (4)	



**H. CASE STUDY: One tropical rainforest- Malaysia**

Background	
Threats to biodiversity (3)	Sustainable management (3)

**H. CASE STUDY: One coral reef- Great Barrier Reef**

Background	
Threats to biodiversity (3)	Sustainable management (2)



# Year 10 History : 1. Spain reaches the New World, c1490-1512

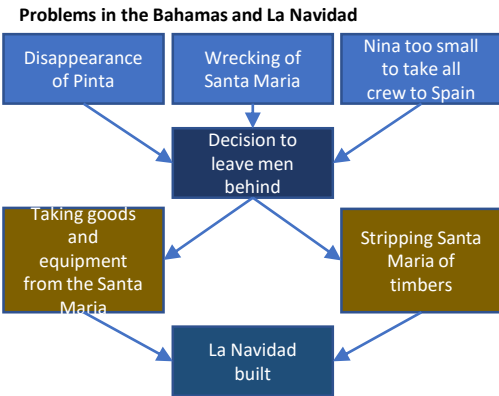


Spain c1490: exploration, religion and ambition
<ul style="list-style-type: none"> <li>Most people knew the world was round</li> <li>Most of Europe was mapped</li> <li>The Spice Trade with the East Indies was well established</li> <li>Portugal and Spain were rivals – both wanted to find a sea route to the East Indies</li> <li>The Catholic Church had 2 concerns in the 2<sup>nd</sup> half of the 15<sup>th</sup> Century:             <ul style="list-style-type: none"> <li>Defend Christendom</li> <li>Spread Christianity to new lands</li> </ul> </li> </ul>



Why did Spain agree to sponsor Columbus?	
<b>Christianity</b>	Isabella was keen to continue spreading Christianity to the East Indies.
<b>Priest</b>	Juan Perez, a priest and friend to Isabella, helped Columbus while he made his case.
<b>Status</b>	Finding the sea route to the East Indies before Portugal would give Spain international status.
<b>Wealth</b>	A successful voyage would bring riches to the Spanish treasure and wealth to Spanish merchants.

Columbus' First Voyage 1492	
<b>Finding ships and crew</b>	Martin and Vicente Pinzon helped Columbus get ships and crew. 2 caravels – the Nina and the Pinta 1 carrack – the Santa Maria (flagship)
<b>Rivalry at sea</b>	Columbus had to change routes to avoid Portuguese caravels.
<b>Sailors' fears</b>	Columbus kept 2 different logs to stop sailors getting worried: -1 was accurate and he kept secret -The other log recorded shorter distances
<b>Possible Mutiny</b>	As the sailors had not spotted land for so long, they came close to mutiny. They allowed Columbus 2 more weeks.
<b>Quarrels</b>	Columbus and Martin Pinzon disagreed on the route.
<b>Land</b>	On the 10 <sup>th</sup> October, after 6 weeks at sea, the crew spotted land.



Columbus' return to Spain 1493	
4 <sup>th</sup> March 1493 Columbus lands in Portugal and meets King John. Columbus is sent congratulations letters and is cheered by crowds in his way to Barcelona.	<b>The role of the pope</b> The Pope gives Isabella and Ferdinand his support for the new 'Spanish Indies'. He is excited by Columbus' discoveries and wanted Christianity to spread to these lands.
<b>Rivalry with Portugal</b> King John believed he had claim to the lands Columbus had discovered. This led to talks with Spain to determine who had rights over what lands as Spain were getting ready to send Columbus back to govern.	<b>Columbus' Rewards</b> Isabella and Ferdinand encouraged Columbus to carry out another voyage. Columbus was given new titles, a new coat of arms and issued a pension for life. He was also given powers to govern lands in the New World.

Effects of Spanish Settlements	
1	Gold mines set up in Haiti – most of the work done by natives.
2	Tainos and Carib societies destroyed in order to provide work for the Spanish.
3	Columbus had captured natives to sell as slaves – Isabella not pleased and sent slaves back to Haiti.
4	Encomienda system set up. Nicolas de Ovando set this up in 1502.
5	Diseases like smallpox killed many natives. 1492 around 500,000 natives. By 1507 only 60,000.

Impact of contact with the Natives		
Gold, cotton and tobacco	Tainos and Caribs	Incident at Samana
Natives wore gold but would not tell the Spaniards where it came from. Kapock was used by the natives – it could be spin into thread and woven into cloth. Spaniards sailing with Columbus quickly picked up the habit of smoking tobacco.	Tainos – considered friendly and peaceful, allowed Columbus to build La Navidad, found at San Salvador. Caribs – mainly found east of the Bahamas, raided the Tainos taking women, rumours that they were cannibals.	On way back to Spain – Samana, Haiti. Men went ashore and found dried human heads and large canoes. An exchange went wrong and erupted in violence. They learnt that the natives could be hostile.

**The Treaty of Tordesillas 1494**  
On 7<sup>th</sup> June an agreement was reached between Spain and Portugal. An imaginary line was drawn from the North to the South pole. All lands to the west were for Spain. Lands to the east were for Portugal.

Columbus as governor	
La Navidad and Isabela	Santo Domingo
La Navidad found burned to the ground on 28 <sup>th</sup> Nov 1493. A new settlement was named Isabela. It failed as Spaniards wanted adventure and gold. Columbus went exploring and found Jamaica. He returned to Haiti in September 1494.	Bartholomew left in charge when Columbus returned to Spain. He built Santo Domingo. Columbus returned in 1498 to problems – Tainos and Spaniards not cooperating. Order restored by giving Spanish rebels land and providing native labourers to work the land. Rebellions kept breaking out so Columbus carried out executions on both natives and Spaniards. September 1500 – Bobadilla sent to take over from Columbus, Columbus arrested and sent back to Spain in chains.

Imperial Policy towards the Caribbean	
<b>Importance of Santo Domingo</b> It became the centre of Spanish administration in the Caribbean. -Wide roads and squares surrounded impressive stone buildings -The building housed administration offices were rules were issued and taxes collected. -Courts were established to control the laws	<b>Establishment of a monopoly</b> In 1503, the Casa de Contractacion (House of Trade) was established in Seville, Spain. The aim was to control all trade from the Caribbean. Powers included: -Approve all voyages to the Caribbean. -Collect up to date trade routes. -Collect taxes. -Control who travels to the Indies. However, there was smuggling and people worked out ways to avoid paying the taxes.

<b>Catholic Missionaries</b> In 1503, Ferdinand and Isabella issued a series of rules about educating the Indians: -Indians were to live in towns and pay taxes. -Taught about Christianity and expected to live as Christians. -Taught how to read, write and dress. Reports reached Spain about the abuses of Indians. Dominicans were sent to stop the mistreatment. Spaniards shocked at the mistreatment of natives.	<b>Regulation of Exploration</b> Ferdinand and Isabella needed to establish Spanish control over exploration and discovery in the New World. -Every ship sailing to the Caribbean had to leave from Cadiz, Spain and had to register with the Spanish. -Anyone could live in the Indies freely. If the discovered gold, 2/3 had to go to the Spanish government, 1/3 could be kept by the discoverer. 1/10 of all other products had to be sent to Spain. -1/10 if all cargo carried by ship sailing to the New World had to be Spanish.
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# Year 10 History : 1. Spain reaches the New World, c1490-1512



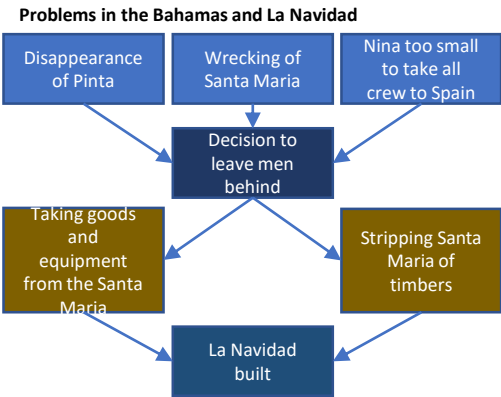
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- The Catholic Church had 2 concerns in the 2<sup>nd</sup> half of the 15<sup>th</sup> Century:
  - Defend Christendom
  - Spread Christianity to new lands



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<b>Rivalry with Portugal</b> King John believed he had _____ This led to _____.	<b>Columbus' Rewards</b> Isabella and Ferdinand encouraged _____ Columbus was given _____.

Effects of Spanish Settlements	
1	
2	
3	
4	
5	

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# Year 10 Religious Studies: Religion and life Knowledge organiser

## What we are learning this term:

- A. Genesis story
- B. Relationship between science and religion
- C. Different Christians attitudes to the environment
- D. Different Christian attitudes to the use of animals
- E. Different Christian attitude to Abortion
- F. Different Christian attitudes to Euthanasia

## 6 Key Words for this term

- |               |                     |
|---------------|---------------------|
| 1 Ensoulment  | 4 Euthanasia        |
| 2 Dominion    | 5 Abortion          |
| 3 Stewardship | 6 natural resources |

## A. What are the messages from the creation story?

- |                            |   |
|----------------------------|---|
| 1 Sacred earth             | 'God saw that it was good'                        |
| 2 Dominion                 | 'Rule over it'                                    |
| 3 Stewardship              | 'Till the earth and keep it'                      |
| 4 Man is pinnacle          | 'Made in the image of God'                        |
| 5 God is Creator           | 'God said let there be light and there was light' |
| 6 God provides bounty=Love | 'I give you all the plants and animals to use'    |

## B. What is meant by natural resources ?

Minerals/ materials and fuels that are part of the world and are used by humans. For example non renewable energy supplies like coal and oil.

## C. What 2 types of Christian interpretation are there?

- 1 Liberal – the story has messages and contains truths that can be understood from the story
- 2 Literal- The Bible is word for word actually a fact and it happened exactly in 6 days

## D. Can Christians use animals anyway they want?

- |     |   |
|-----|---|
| Yes | <ul style="list-style-type: none"> <li>1 'man made in the image of God'</li> <li>2 'every animal that creepth upon the ground shall fear you'</li> <li>3 'the animals shall be food for you'</li> <li>4 'love thy neighbour'</li> <li>5 Jesus was a healer</li> </ul> |
|-----|---|

- |    |  |
|----|--|
| No | <ul style="list-style-type: none"> <li>1 'Does not God know every sparrow?'</li> <li>2 Protect the weak and needy</li> <li>4 'you shall not muzzle the ox whilst he treadeth the corn'</li> <li>5 'the righteous has regard for the life of his animal'</li> <li>6 'Love thy neighbour'</li> </ul> |
|----|--|

## E. Should Christians support Euthanasia?

- |     |   |
|-----|---|
| Yes | <ul style="list-style-type: none"> <li>1 Love thy neighbour</li> <li>2 Clothe yourself in compassion</li> <li>3 Principle of double effect</li> </ul>   |
| No  | <ul style="list-style-type: none"> <li>1 Made in the image of god</li> <li>2 Thou shall not kill</li> <li>3 Protect the weak and needy</li> <li>4 The body is the temple of the holy spirit</li> <li>5 Jesus suffered on the cross</li> <li>6 soul making</li> <li>7 The Lord giveth and taketh away</li> </ul> |

## F. Should Christians support abortion ?

- |     |   |
|-----|---|
| Yes | <ul style="list-style-type: none"> <li>1 Love thy neighbour</li> <li>2 Clothe yourself in compassion</li> <li>3 God breathed life into the unborn child</li> <li>4 Principle of double effect</li> <li>5 Protect the weak and needy</li> </ul>  |
| No  | <ul style="list-style-type: none"> <li>1 Made in the image of god</li> <li>2 Thou shall not kill</li> <li>3 The sons shall not bear the guilt of the fathers</li> <li>4 The body is the temple of the holy spirit</li> <li>6 Go forth and multiply</li> <li>7 The Lord Giveth and the Lord taketh away</li> </ul> |





# Year 10 Religious Studies: Religion and life Knowledge organiser



What we are learning this term:						
<ul style="list-style-type: none"> <li>A. Genesis story</li> <li>B. Relationship between science and religion</li> <li>C. Different Christians attitudes to the environment</li> <li>D. Different Christian attitudes to the use of animals</li> <li>E. Different Christian attitude to Abortion</li> <li>F. Different Christian attitudes to Euthanasia</li> </ul>						
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1 Ensoulement	4 Euthanasia					
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A. What are the messages from the creation story?	
1 Sacred earth	
2 Dominion	
3 Stewardship	
4 Man is pinnacle	
5 God is Creator	
6 God provides bounty=Love	

B. What is meant by natural resources ?
C. What 2 types of Christian interpretation are there?

D. Can Christians use animals anyway they want?	
Yes	
No	

E. Should Christians support Euthanasia?	
Yes	
No	

F. Should Christians support abortion ?	
Yes	
No	

**What we are learning this term:**

- A. Talking about options at 16
- B. Discussing choices at 18: work or university?
- C. Talking about different jobs
- D. Looking for and applying for jobs
- E. Using a variety of tenses
- F. Using 'quisiera'

**6 Key Words for this term**

- |                   |                 |
|-------------------|-----------------|
| 1. porcentaje     | 4. la empresa   |
| 2. por ciento     | 5. el/la jefe/a |
| 3. la ama de casa | 6. cuidar a     |

**11.1G ¿Qué voy a hacer?**

a tiempo completo	full time
a tiempo parcial	part time
el/la alumno/a	pupil
aprender	to learn
el aprendizaje	apprenticeship
aprobar	to pass
la asignatura	subject
avanzado/a	advanced
el beneficio	benefit
buscar	to look for
la carrera (universitaria),(university) course, career	course, career
carrera profesional	
conseguir	to get, to manage, to achieve
el consejo	advice
continuar	to continue
dejar	to leave
el dinero	money
encontrar	to find
esperar	to wait for, to hope, expect
los estudios	studies
el examen	exam
la experiencia	experience
la experiencia laboral	work experience
feo/a	ugly
la informática	information technology, IT
mejor	better, best
mientras	while
la nota	grade, mark, result
la opción	option
la oportunidad	opportunity
quedar	to stay
el resultado	result
sacar buenas / malasto	get good / to get bad
grades	
notas	
seguir + gerund	to carry on ...ing

**Key Verbs**

<u>Aprender</u> To learn	<u>Ir</u> To go	<u>Querer</u> To want	<u>Preparar</u> To prepare	<u>Dar</u> To give
Aprendo I learn	Voy I go	Quiero I want	Preparo I prepare	Doy I give
Aprendes You learn	Vas You go	Quieres You want	Preparas You prepare	Das You give
Aprende He/she/it learns	Va s/he goes	Quiere He/she/ it wants	Prepara He/she/it prepares	Da He/she/it gives
Aprendemos We learn	Vamos They go	Queremos We want	Preparamos We prepare	Damos We give
Aprenden They learn	Van They go	Quieren They want	Preparan They prepare	Dan They give

**11.1F ¿Trabajar o estudiar?**

considerar	to consider
demostrar	to show, demonstrate
la desventaja	disadvantage
estar harto/a de	to be fed up with
estar obsesionado/a con	to be obsessed with
furioso/a	furious
ganar	to earn, to win, to gain
la habilidad	skill, ability
horroroso/a	dreadful
imaginar	to imagine
inútil	useless
mundo	world
necesitar	to need
pedir	to ask for
peor	worse, worst
por otra parte	on the other hand
la promoción	promotion
relacionarse con	to relate to, to get on with
repasar	to revise
el repaso	revision
seguro/a	sure
la sociedad	society
todavía	still
vale la pena	it's worth it, it's worthwhile

**11.1H ¿Vale la pena ir a la universidad?**

el mundo laboral	world of work
ofrecer	to offer
olvidarse	to forget
pedir prestado	to borrow
poco a poco	bit by bit
preocupar	to worry, to be concerned
recoger	to pick up, to collect
la residencia de estudiantes	student residence
el resultado	result
seguir	to follow
seguir + gerund	to carry on ...ing
tan pronto como	as soon as
el título (university)	degree
tomar un año libre	to take a year out
la ventaja	advantage

**11.1H ¿Vale la pena ir a la universidad?**

a solas	on one's own
acabar de + infinitive	to have just
adecuado/a	adequate, decent
aislado/a	isolated
al final de	at the end of
apetecer	to appeal
aprender	to learn
así que	so
avanzado/a	advanced
el beneficio	benefit
bien pagado/a	well paid
la calidad	quality
la carrera (universitaria)	university course, career
claro	of course
conseguir	to get, to manage, to achieve
el consejo	advice
deber	to owe
devolver	to give back, to pay back
disfrutar	to enjoy
la edad	age
escoger	to choose
esperar	to wait for, to hope, to expect
estar a punto de	to be about to
la experiencia laboral	work experience
feo/a	ugly
el folleto	leaflet
el/la graduado/a	graduate
hacerse miembro	to become a member
inquietar	to worry, to concern
lejos de	far from
mejor	better, best

**What we are learning this term:**

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- C. Talking about different jobs
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- E. Using a variety of tenses
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- aprobar to \_\_\_\_\_
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- el beneficio \_\_\_\_\_
- \_\_\_\_\_ to look for
- la carrera (universitaria),(university) course, career
- carrera profesional \_\_\_\_\_
- \_\_\_\_\_ to get, to manage, to achieve
- el consejo \_\_\_\_\_
- \_\_\_\_\_ to continue
- dejar to \_\_\_\_\_
- el \_\_\_\_\_ money
- encontrar to \_\_\_\_\_
- \_\_\_\_\_ to wait for, to hope, expect
- los estudios \_\_\_\_\_
- el examen \_\_\_\_\_
- la experiencia \_\_\_\_\_
- la experiencia laboral work \_\_\_\_\_
- \_\_\_\_\_ ugly
- la \_\_\_\_\_ information technology, IT
- \_\_\_\_\_ better, best
- mientras \_\_\_\_\_
- la \_\_\_\_\_ grade, mark, result
- la opción \_\_\_\_\_
- la \_\_\_\_\_ opportunity
- quedar to \_\_\_\_\_
- el \_\_\_\_\_ result
- Sacar \_\_\_\_\_ to get good / to get bad grades
- notas \_\_\_\_\_
- seguir + gerund \_\_\_\_\_

**Key Verbs**

Aprender To _____	_____ To go	Querer To want	Preparar _____	Dar To give
I learn	I go	Quiero _____	I prepare	I give
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- \_\_\_\_\_ to imagine
- inútil \_\_\_\_\_
- mundo \_\_\_\_\_
- \_\_\_\_\_ to need
- pedir \_\_\_\_\_
- \_\_\_\_\_ worse, worst
- por otra parte \_\_\_\_\_
- la promoción \_\_\_\_\_
- \_\_\_\_\_ to relate to, to get on
- with \_\_\_\_\_
- repasar to \_\_\_\_\_
- el repaso \_\_\_\_\_
- \_\_\_\_\_ sure
- la sociedad \_\_\_\_\_
- todavía \_\_\_\_\_
- vale la pena \_\_\_\_\_

**11.1H ¿Vale la pena ir a la universidad?**

- el mundo laboral \_\_\_\_\_
- ofrecer to \_\_\_\_\_
- \_\_\_\_\_ to forget
- pedir prestado to \_\_\_\_\_
- \_\_\_\_\_ bit by bit
- \_\_\_\_\_ to worry, to be
- concerned \_\_\_\_\_
- \_\_\_\_\_ to pick up, to collect
- la residencia de \_\_\_\_\_
- estudiantes \_\_\_\_\_
- el resultado \_\_\_\_\_
- \_\_\_\_\_ to follow
- seguir + gerund to \_\_\_\_\_
- tan pronto como \_\_\_\_\_
- el título (university) \_\_\_\_\_
- \_\_\_\_\_ to take a year out
- \_\_\_\_\_ advantage

**11.1H ¿Vale la pena ir a la universidad?**

- a solas \_\_\_\_\_
- \_\_\_\_\_ to have just
- adecuado/a \_\_\_\_\_
- \_\_\_\_\_ isolated
- al final de \_\_\_\_\_
- \_\_\_\_\_ to appeal
- aprender to \_\_\_\_\_
- así que \_\_\_\_\_
- avanzado/a \_\_\_\_\_
- \_\_\_\_\_ benefit
- bien pagado/a \_\_\_\_\_
- la calidad \_\_\_\_\_
- la \_\_\_\_\_ university course, career
- claro \_\_\_\_\_
- \_\_\_\_\_ to get, to manage, to
- achieve \_\_\_\_\_
- el consejo \_\_\_\_\_
- deber \_\_\_\_\_
- \_\_\_\_\_ to give back, to pay
- back \_\_\_\_\_
- disfrutar to \_\_\_\_\_
- la edad \_\_\_\_\_
- \_\_\_\_\_ to choose
- \_\_\_\_\_ to wait for, to hope, to
- expect \_\_\_\_\_
- estar a punto de to \_\_\_\_\_
- la experiencia laboral \_\_\_\_\_
- \_\_\_\_\_ ugly
- el \_\_\_\_\_ leaflet
- el/la graduado/a \_\_\_\_\_
- \_\_\_\_\_ to become a member
- \_\_\_\_\_ to worry, to concern
- lejos de \_\_\_\_\_
- mejor \_\_\_\_\_

# GCSE Unit 12 SPANISH Knowledge organiser.

## Topic Jobs, Career choices and Ambitions

What we are learning this term:	
A. Talking about different jobs B. Looking for and applying for jobs C. Recognising percentages and fractions D. Learning useful phrases E. Using a variety of tenses	
6 Key Words for this term	
1. buscar	4. empezar
2. una entrevista	5. ganar
3. anuncios	6. desafiante

12.1G Los trabajos	
el ama de casa (fem.)	housewife
el banco	bank
el/la cajero/a	cashier
el/la cliente/a	customer
el cocinero/a	cook
estar en paro	to be unemployed
el ingeniero/a	engineer
el jardinero/a	gardener
limpiar	to clean
la mitad	half
la oficina	office
la peluquería	hairdresser's
el peluquero/a	hairdresser
el/la policía	police officer
por ciento	per cent
el/la porcentaje	percentage
quisiera	I would like
resolver	to solve, resolve
salvar	to save
temporal	temporary
el/la veterinario/a	vet
la vida	life

12.1F Buscar trabajo	
a principios de	at the beginning of
el/la administrativo/a	clerk, office worker
ambicioso/a	ambitious
anciano/a	elderly
animado/a	lively
arreglar	to sort, fix, arrange
el aspecto	appearance, aspect
atender a	to attend to
la caja	till, check-out
el camping	campsite
el carnicero/a	butcher
el carpintero/a	carpenter
la carta	letter
los conocimientos	knowledge
el correo electrónico	email
cortés	polite, courteous
cuidar a	to care for, look after
el/la dependiente/a	shop assistant
el detalle	detail
dominar + language to be fluent in	
el/la electricista	electrician
el empleado/a	employee
la empresa	company, firm
en seguida	straightaway
la energía	energy
fiable	reliable
la gente	people
el/la hombre / mujer	businessman /
business woman	
negocios	
el juego	game
el/la maestro/a	primary school teacher
mayor	older
organizado/a	organised
paciente	patient
la panadería	bakery
el panadero/a	baker
práctico/a	practical
el problema	problem
el/la recepcionista	receptionist
servir	to serve
sincero/a	honest
el sitio web	website
el sobre	envelope
sueldo	wage
trabajador/a	hard-working
el traductor/a	translator
el trimestre	term
la variedad	variety

Key Verbs				
Tener To have	Ir To go	Buscar To look for	Hacer – to do/make	Encontrar To find
Tengo I have	Voy I go	Busco I'm looking for	Hago I do	Encuentro I find
Tienes You have	Vas You go	Buscas You're looking for	Haces You do	Encuentras You find
Tiene He/she/it has	Va s/he goes	Busca He/she/it is looking	Hace s/he does	Encuentra He/she/it finds
Tenemos We have	Vamos They go	Buscamos We're looking for	Hacemos We do	Encontramos We find
Tienen They have	Van They go	Buscan They're looking	Hacen They do	Encuentran They find

12.1H El trabajo ideal	
el/la abogado/a	lawyer
el/la albañil	builder, bricklayer
el/la amo/a de casa	house husband/housewife
ascender	to move up
el/la azafato/a	flight attendant
el/la cajero/a	cashier
el/la camionero/a	lorry driver
la capacidad	ability, capacity
el/la cartero/a	postal worker
el/la cliente/a	customer
la compañía aérea	airline
compartir	to share
el/la contable	accountant
la cuenta	account
diseñar	to design
hijo/a	fixed, permanent
físico/a	physical
la formación	training
funcionar	to function
el/la gerente	manager
el/la granjero/a	farmer
las horas de trabajo	flexitime, flexible working hours
flexibles	
el/la jardinero/a	gardener
el/la jefe/jefa	boss
limpiar	to clean
la lluvia	rain
mejorar	to improve
la peluquería	hairdresser's
el/la peluquero/a	hairdresser
la perspectiva	prospect
el proyecto	project
el rincón	corner

12.1H El trabajo ideal	
temporal	temporary
utilizar	to use
el viento	wind
ya que	as, since

**What we are learning this term:**

- A. Talking about different jobs
- B. Looking for and applying for jobs
- C. Recognising percentages and fractions
- D. Learning useful phrases
- E. Using a variety of tenses

**6 Key Words for this term**

- |                   |               |
|-------------------|---------------|
| 1. buscar         | 4. empezar    |
| 2. una entrevista | 5. ganar      |
| 3. anuncios       | 6. desafiante |

**12.1G Los trabajos**

el ama de casa (fem.) \_\_\_\_\_  
 el banco \_\_\_\_\_  
 el/la cajero/a \_\_\_\_\_  
 \_\_\_\_\_ customer  
 \_\_\_\_\_ cook  
 \_\_\_\_\_ to be unemployed  
 el ingeniero/a \_\_\_\_\_  
 el jardinero/a \_\_\_\_\_  
 \_\_\_\_\_ to clean  
 la mitad \_\_\_\_\_  
 la oficina \_\_\_\_\_  
 \_\_\_\_\_ hairdresser's  
 el peluquero/a \_\_\_\_\_  
 \_\_\_\_\_ police officer  
 por ciento \_\_\_\_\_  
 el/la porcentaje \_\_\_\_\_  
 \_\_\_\_\_ I would like  
 resolver \_\_\_\_\_  
 salvar \_\_\_\_\_  
 temporal \_\_\_\_\_  
 el/la veterinario/a \_\_\_\_\_  
 \_\_\_\_\_ life

**12.1F Buscar trabajo**

a principios de \_\_\_\_\_  
 el/la administrativo/a \_\_\_\_\_  
 \_\_\_\_\_ ambitious  
 \_\_\_\_\_ elderly  
 animado/a \_\_\_\_\_  
 \_\_\_\_\_ to sort, fix, arrange  
 el \_\_\_\_\_ appearance, aspect  
 atender a \_\_\_\_\_  
 la \_\_\_\_\_ till, check-out  
 el \_\_\_\_\_ campsite  
 el carnicero/a \_\_\_\_\_  
 el carpintero/a \_\_\_\_\_  
 \_\_\_\_\_ letter  
 los conocimientos \_\_\_\_\_  
 el correo electrónico \_\_\_\_\_  
 \_\_\_\_\_ polite, courteous  
 \_\_\_\_\_ to care for, look after  
 el/la dependiente/a \_\_\_\_\_  
 el detalle \_\_\_\_\_  
 dominar + language to be fluent in  
 el/la electricista \_\_\_\_\_  
 \_\_\_\_\_ employee  
 la \_\_\_\_\_ company, firm  
 \_\_\_\_\_ straightaway  
 la energía \_\_\_\_\_  
 \_\_\_\_\_ reliable  
 la gente \_\_\_\_\_  
 el/la hombre / mujer de businessman /  
 business woman  
 negocios \_\_\_\_\_  
 el juego \_\_\_\_\_  
 \_\_\_\_\_ primary school teacher  
 mayor \_\_\_\_\_  
 organizado/a \_\_\_\_\_  
 \_\_\_\_\_ patient  
 la panadería \_\_\_\_\_  
 el panadero/a \_\_\_\_\_  
 \_\_\_\_\_ practical  
 el problema \_\_\_\_\_  
 el/la recepcionista \_\_\_\_\_  
 \_\_\_\_\_ to serve  
 \_\_\_\_\_ honest  
 el sitio web \_\_\_\_\_  
 el sobre \_\_\_\_\_  
 \_\_\_\_\_ wage  
 trabajador/a \_\_\_\_\_  
 el traductor/a \_\_\_\_\_  
 el \_\_\_\_\_ term  
 la \_\_\_\_\_ variety

**Key Verbs**

Tener To _____	Ir To _____	_____	_____	Encontrar _____
I have	Voy	I'm looking for	Hago	Encuentro
You have	Vas	You're looking for	Haces	You find
Tiene He/she/it has	Va	He/she/it is looking	Hace	Encuentra
We have	They go	Buscamos	Hacemos	Encontramos
Tienen	They go	They're looking	They do	Encuentran

**12.1H El trabajo ideal**

el/la abogado/a \_\_\_\_\_  
 \_\_\_\_\_ builder, bricklayer  
 \_\_\_\_\_ house husband/housewife  
 \_\_\_\_\_ to move up  
 el/la azafato/a \_\_\_\_\_  
 el/la cajero/a \_\_\_\_\_  
 el/la camionero/a \_\_\_\_\_  
 la \_\_\_\_\_ ability, capacity  
 el/la cartero/a \_\_\_\_\_  
 el/la cliente/a \_\_\_\_\_  
 la compañía aérea \_\_\_\_\_  
 \_\_\_\_\_ to share  
 \_\_\_\_\_ accountant  
 la cuenta \_\_\_\_\_  
 \_\_\_\_\_ to design  
 \_\_\_\_\_ fixed, permanent  
 físico/a \_\_\_\_\_  
 la formación \_\_\_\_\_  
 \_\_\_\_\_ to function  
 el/la gerente \_\_\_\_\_  
 el/la granjero/a \_\_\_\_\_  
 las horas de trabajo flexitime, flexible working  
 hours  
 flexibles \_\_\_\_\_  
 el/la jardinero/a \_\_\_\_\_  
 \_\_\_\_\_ boss  
 \_\_\_\_\_ to clean  
 la lluvia \_\_\_\_\_  
 \_\_\_\_\_ to improve  
 la peluquería \_\_\_\_\_  
 el/la peluquero/a \_\_\_\_\_  
 la perspectiva \_\_\_\_\_  
 el \_\_\_\_\_ project  
 el \_\_\_\_\_ corner

**12.1H El trabajo ideal**

temporal \_\_\_\_\_  
 \_\_\_\_\_ to use  
 el viento \_\_\_\_\_  
 \_\_\_\_\_ as, since

### 39. Stakeholder

Stakeholders are the people or groups with an interest in the success or failure of an organisation.

#### Types of stakeholders & their typical objectives:

##### Business owners & shareholders

Interested in the business being successful and making a profit.

##### Staff/managers

Interested in having job security, career development, fair wages etc.

##### Customers

Interested in getting an honest and fair deal from a business.

##### Local Community

Interested in honest and fair dealing/co-operation with the organisation with regards to local employment and environment.

##### Local Government

Interested in employment plans, location plans and business ability to pay tax.

##### Pressure Groups

Interested in fair and ethically correct business practices.

### 42. Retail Legislation

Legislation	Law's passed by acts of parliament. Too many rules that impact on a business from operating as the owner would like are known as "Red Tape".
<b>Consumer Rights Act 2015</b>	<ul style="list-style-type: none"> <li>• Goods must be fit for purpose and free from defects.</li> <li>• The buyer has the right to get their money back or have their product repaired at the seller's expense.</li> <li>• Any issues are to be dealt with by the seller and not the manufacturer.</li> </ul>
<b>Trade Descriptions Act</b>	<ul style="list-style-type: none"> <li>• Trader's can not use false or misleading statements.</li> <li>• Labels must not be misleading.</li> </ul>
<b>Other acts of legislation:</b>	Consumer credit act 1974, The weights and measures act 1985, The food safety act 1990.

### 43. Recruitment Legislation

Employees are protected from being exploited in the work place.

<b>Equality Act 2010</b>	Organisations must consider all job applicants equally <u>in regards to</u> gender, age, skin colour etc.
<b>Equal Pay Act 1970</b>	Organisations must pay workers fairly and can not discriminate <u>in regards to</u> gender, age or skin colour etc.

### 40. Types of technology used in business

Technology is used in different aspects of business:

**E-commerce:** Allows businesses to sell their products online and reach a wider audience of potential customers with lower costs.

**Social Media:** Allows a business to communicate and interact directly with customers.

**Digital Communication:** E-mail allows customers to contact a business personally and directly.

**Payment Systems:** Online payment systems (eg. Paypal) allow all types of businesses to access their payments fast and easily.

### 41. How does technology influence business activity?

Sales can increase as a result of e-commerce because customers can access products or services 24 hours a day, 7 days a week. New technology drives innovation to create new products or services and this can increase sales of new products.

Costs can be reduced through advertising online through websites, e-mail newsletters, and via social media. Costs can also be reduced through manufacturing efficiency and being able to find the best deal on raw materials online.

The 4 P's are affected by different types of technology.

Product = New technologically advanced product or a new method of production.

Promotion = Digital marketing can improve the effectiveness of marketing and is cheap.

Place = Products can be sold online and can be accessed by customers worldwide.

### 44. The Economy

**The economy is the collection of business transactions that take place throughout the country, throughout the year.**

<b>Interest rates.</b>	The amount that a lender charges per year to someone who has borrowed money. This is measured as a percentage.
<b>Exchange rates</b>	The value of the pound (£) measured by how much foreign currency can be bought per pound (£).
<b>Recession</b>	A downturn in sales and output throughout the economy, often leading to rising unemployment.
<b>Inflation</b>	The rate in which prices are rising from the same time last year.



# GCSE Business. Paper 1. Understanding External Influences on Business

## 39. Stakeholder

Stakeholders are the people or groups with an interest in the success or failure of an organisation.

**Types of stakeholders & their typical objectives:**


## 40. Types of technology used in business

Technology is used in different aspects of business:

**E-commerce:**

**Social Media:**

**Digital Communication:**

**Payment Systems:**

## 41. How does technology influence business activity?


## 42. Retail Legislation

Legislation	
Consumer Rights Act 2015	
Trade Descriptions Act	
Other acts of legislation:	

## 43. Recruitment Legislation

Employees are protected from being exploited in the work place.

Equality Act 2010	
Equal Pay Act 1970	

## 44. The Economy

The economy is the collection of business transactions that take place throughout the country, throughout the year.

Interest rates.	
Exchange rates	
Recession	
Inflation	

## GCSE Business. Paper 1. Understanding External Influences on Business

### 45. Changes in interest rates

**Interest rates change depending on how confident a lender is on the state of the economy. If the economy is strong the % rates are low, if the economy is weak then % rates are high.**

**Effects of lower interest rates:**

**Increased customer spending:**

Customers are happy to spend money more confidently because they will pay less in interest and are more likely to have an excess in disposable income.

**More favourable borrowing:**

Businesses can borrow money from lenders at a lower rate of interest.

**Effects of higher interest rates:**

**Reduced customer spending:**

Customers are unlikely to spend money confidently because they will pay more in interest on loans and mortgages. Customers are more likely to have a lack of disposable income.

**Less favourable borrowing:**

Businesses will be charged higher interest rates on any money they have borrowed.

### 46. Changes in exchange rates

**Exchange rates change depend on the supply and demand for different currencies. This is based on how well a country's economy is performing.**

**Effects of a strong pound (£):**

Imported goods become cheaper to buy, Products being exported become more expensive abroad.

**Effects of a weak pound (£):**

Imported goods become more expensive to buy, products being exported become cheaper abroad.

### 47. External Influences

External influences can impact a business significantly. Business owners are often powerless to control how and when these influences can impact on business.

#### Typical external influences

- **Technology** – Technology changes all the time and it can affect how customers buy from a business, how products are made or even how a business is expected to communicate with customers.
- **Legislation** – New laws are created by government to protect consumers, employees and business activities from unethical, unsafe or undesirable working practices. Some legislation can be perceived as being a barrier to easy business and is known as “Red Tape”.
- **Economic Climate** – Businesses need to be able to react to changes in the economy. If customers are feeling unconfident in their ability to spend money because of a weak economy, then this could affect a business's ability to generate sales. If exchange rates change, a business will need to deal with the consequences of higher costs or lower demand abroad.

**45. Changes in interest rates**

**Interest rates change depending on how confident a lender is on the state of the economy. If the economy is strong the % rates are low, if the economy is weak then % rates are high.**

Effects of lower interest rates:

Increased customer spending:

More favourable borrowing:

Effects of higher interest rates:

Reduced customer spending:

Less favourable borrowing:

**46. Changes in exchange rates**

**Exchange rates change depend on the supply and demand for different currencies. This is based on how well a country's economy is performing.**

Effects of a strong pound (£):

Effects of a weak pound (£):

**47. External Influences**

External influences can impact a business significantly. Business owners are often powerless to control how and when these influences can impact on business.

**Typical external influences**

- Technology –
  
- Legislation –
  
- Economic Climate –

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Macronutrients, fibre and water

### Macronutrients

Macronutrients provide energy. The macronutrients are:

- carbohydrate;
- protein;
- fat.

Macronutrients are measured in grams (g).

### Alcohol

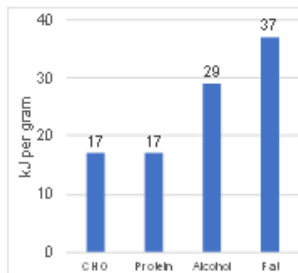
Alcohol is not considered a nutrient, but is a source of energy in the diet.

The government recommends no more than 14 units of alcohol per week for both men and women.

### Energy from food

- Energy intake is measured in joules (J) or kilojoules (kJ), but many people are more familiar with Calories (kcal).
- Different macronutrients, and alcohol, provide different amounts of energy.

	Energy per gram
Carbohydrate	16kJ (3.75 kcals)
Protein	17kJ (4 kcals)
Alcohol	29kJ (7kcals)
Fat	37kJ (9 kcals)



### Protein

- Made up of building blocks called amino acids.
- There are 20 amino acids found in protein.
- Eight amino acids have to be provided by the diet (called essential amino acids).

The essential amino acids are isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine.

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

### Recommendations

- 0.75g/kg bodyweight/day in adults.

Sources:

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

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

### Protein complementation

Different food contains different amounts and combinations of amino acids.

Vegans and vegetarians can get all the amino acids they need by combining different protein types at the same meal. This is known as protein complementation.

Examples are:

- rice and peas;
- beans on toast;
- hummus and pitta bread;
- bean chilli served with rice.

### Carbohydrate

All types of carbohydrate are compounds of carbon, hydrogen and oxygen. They can be divided into three main groups according to the size of the molecule.

These three types are:

- monosaccharides (e.g. glucose);
- disaccharides (e.g. lactose);
- polysaccharide (e.g. sucrose).

The two types main of carbohydrate that provide dietary energy are starch and sugars. Dietary fibre is also a type of carbohydrate.

Starchy carbohydrate is an important source of energy.

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

### Recommendations

- Total carbohydrate - around 50% of daily food energy.
- Free sugars include all sugars added to foods plus sugars naturally present in honey, syrups and unsweetened fruit juice (<5% daily food energy).
- Fibre is a term used for plant-based carbohydrates that are not digested in the small intestine (30g/day for adults).

### Fibre

- Dietary fibre is a type of carbohydrate found in plant foods.
- Food examples include wholegrain cereals and cereal products; oats; beans; lentils; fruit; vegetables; nuts; and, seeds.

Dietary fibre helps to:

- reduce the risk of heart disease, diabetes and some cancers;
- help weight control;
- bulk up stools;
- prevent constipation;
- improve gut health.

### Fat

Sources of fat include:

- saturated fat;
- monounsaturated fat;
- polyunsaturated fat.

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

### Recommendations

- <35% energy, Saturated fat <11% energy.

A high saturated fat intake is linked with high blood cholesterol levels.

Sources:

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

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

**Polyunsaturated fatty acids:** edible oils especially sunflower oil; seeds; margarine; spreadable fats made from vegetable oils and oily fish.

**Dietary reference values (DRVs)** are a series of estimates of the energy and nutritional requirements of different groups of healthy people in the UK population. They are not recommendations or goals for individuals.

**Reference Intakes** are guidelines for the maximum amount of energy (calories), fat, saturated fat, sugars and salt consumed in a day (based on a healthy adult female).

### Key terms

**Dietary reference values:** Estimated dietary requirements for particular groups of the population.

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

**Macronutrients:** Nutrients needed to provide energy and as the building blocks for growth and maintenance of the body.

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

**Reference Intakes:** Guidelines for the maximum amount of nutrients consumed.

### Hydration

- Aim to drink 6-8 glasses of fluid every day.
- Water, lower fat milk and sugar-free drinks including tea and coffee all count.
- Fruit juice and smoothies also count but should be limited to no more than a combined total of 150ml per day.

20% of water is provided by food such as soups, yogurts, fruit and vegetables.

The other 80% is provided by drinks such as water, milk and juice.

Drinking too much water can lead to 'water intoxication' with potentially life-threatening hyponatraemia.

This is caused when the concentration of sodium in the blood gets too low.

# KS4 FOOD AND NUTRITION KNOWLEDGE ORGANISER

## Micronutrients

**Micronutrients** are needed in the body in tiny amounts. They do not provide energy, but are required for a number of important processes in the body.

There are two main groups of micronutrients:

- vitamins;
- minerals and trace elements.

Micronutrients are measured in milligrams (mg) and micrograms ( $\mu\text{g}$ ) with  $1\text{mg} = 0.001\text{g}$  and  $1\mu\text{g} = 0.001\text{mg}$ .

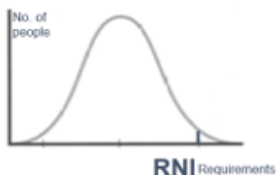
**Micronutrient recommendations**  
People have different requirements for each micronutrient, according to their:

- age;
- gender;
- physiological state (e.g. pregnancy).

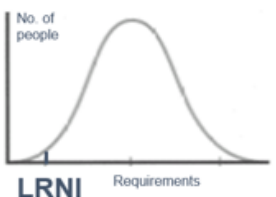


### Micronutrient recommendations

The recommendations for vitamins and minerals are based on the **Reference Nutrient Intake (RNI)**.



When looking at low intakes of micronutrients, the **Lower Reference Nutrient Intake (LRNI)** is used.



For more information, go to: <https://bit.ly/36KUn1j>

### Vitamins

Vitamins are nutrients required by the body in small amounts, for a variety of essential processes.

Most vitamins cannot be made by the body, so need to be provided in the diet.

Vitamins are grouped into:

- fat-soluble vitamins (vitamins A, D, E and K);
- water-soluble vitamins (B vitamins and vitamin C).

### Minerals

Minerals are inorganic substances required by the body in small amounts for a variety of different functions.

The body requires different amounts for each mineral.

Some minerals are required in larger amounts, while others are needed in very small amounts and are called 'trace elements'.

### Vitamins

Nutrient	Function	Sources
<b>Vitamin A</b>	Helps the immune system to work as it should and with vision.	Liver, cheese, eggs, dark green leafy vegetables and orange-coloured fruits and vegetables.
<b>B vitamins</b>	<b>Thiamin</b> , riboflavin, niacin, folate, and vitamin B12 have a range of functions within the body.	Different for each B Vitamin.
<b>Vitamin C</b>	Helps to protect cells from damage and with the formation of collagen.	Fruit (especially citrus fruits), green vegetables, peppers and tomatoes.
<b>Vitamin D</b>	Helps the body to absorb calcium & helps to keep bones strong.	Oily fish, eggs, fortified breakfast cereals and fat spreads.
<b>Vitamin E</b>	Helps to protect the cells in our bodies against damage.	Vegetable and seed oils, nuts and seeds, avocados and olives.
<b>Vitamin K</b>	Needed for the normal clotting of blood and is required for normal bone structure.	Green vegetables and some oils (rapeseed, olive and soya oil).

### Minerals

Nutrient	Function	Sources
<b>Calcium</b>	Helps to build and maintain strong bones and teeth.	Dairy, calcium-fortified dairy-alternatives, canned fish (where soft bones are eaten) and bread.
<b>Iron</b>	Helps to make red blood cells, which carry oxygen around the body.	Offal, red meat, beans, pulses, nuts and seeds, fish, quinoa, wholemeal bread and dried fruit.
<b>Phosphorus</b>	Helps to build strong bones and teeth and helps to release energy from food.	Red meat, poultry, fish, milk, cheese, yogurt, eggs, bread and wholegrains.
<b>Sodium</b>	Helps regulate the water content in the body.	Very small amounts found in foods. Often added as salt.
<b>Fluoride</b>	Helps with the formation of strong teeth and reduce the risk of tooth decay.	Tap water, tea (and toothpaste).
<b>Potassium</b>	Helps regulate the water content in the body and maintain a normal blood pressure.	Some fruit and vegetables, dried fruit, poultry, red meat, fish, milk and wholegrain breakfast cereals.
<b>Iodine</b>	Helps to make thyroid hormones. It also helps the brain to function normally.	Milk, yogurt, cheese, fish, shellfish and eggs.

### Key terms

**Micronutrients:** Nutrients needed in the diet in very small amounts.

**Lower Reference Nutrient Intake (LRNI):** is the amount of a nutrient that is enough for only the small number of people who have low requirements (2.5%). The majority of people need more.

**Reference Nutrient Intake (RNI):** the amount of a nutrient that is enough to ensure that the needs of nearly all the group (97.5%) are being met. The RNI is used for recommendations on protein, vitamins and minerals.

### Vitamin D

Vitamin D is a pro-hormone in the body. It can be obtained in two forms:

- ergocalciferol (vitamin D<sub>2</sub>);
- cholecalciferol (vitamin D<sub>3</sub>).

Vitamin D<sub>3</sub> is also formed by the action of sunlight. Different to most vitamins, the main source of vitamin D is synthesis in the skin following exposure to sunlight. The wavelength of UVB during the winter months in the UK does not support vitamin D synthesis.



### Frayer Model Key Words

<b>Protein</b>	A macronutrient that is essential to building muscle mass.
<b>Fat</b>	A macronutrient which supplies the body with energy.
<b>Carbohydrates</b>	A macronutrient that is required by all animals. It is made in plants by the process of photosynthesis.
<b>Vitamin</b>	Vitamins are split into two categories, water soluble and fat soluble. Fat soluble vitamins (A, D E, and K) dissolve in fat. Water soluble vitamins (the B group and vitamin C) dissolve in water.
<b>Nutritional</b>	Providing or obtaining the food necessary for health and growth.
<b>Energy</b>	The strength and vitality required for sustained physical or mental activity.



## QUIZ

### Macronutrients

Macronutrients provide energy. The macronutrients are:

- .
- .
- .

Macronutrients are measured in..... ( ).

**Micronutrients** are needed in the body in .....amounts. They do not provide....., but are required for a number of important.....in the body.

There are two main groups of micronutrients:

- .
- .

Micronutrients are measured in ..... (mg) and ..... (µg) with 1mg = 0.001g and 1µg = 0.001mg.

### Key terms

**Dietary reference values:**

**Essential amino acids:**

**Macronutrients:**

**Protein complementation:**

**Reference Intakes:**

### Protein

Made up of building blocks called .....

There are ..... amino acids found in protein. Eight amino acids have to be provided by the diet (called..... amino acids).

Sources:

**Animal sources:**

**Plant sources:**

### Vitamins

Vitamins are nutrients required by the body in small amounts, for a variety of essential processes.

Most vitamins cannot be made by the body, so need to be provided in the diet.

Vitamins are grouped into:

-

-

### Protein complementation

Different food...

Vegans and vegetarians can get all the amino acids they need by combining different protein types at the same meal. This is known as protein complementation.

Examples are:

- .
- .
- .
- .
- .

### Carbohydrate

All types of carbohydrate are compounds of carbon, hydrogen and oxygen. They can be divided into three main groups according to the size of the molecule.

These three types are:

- 
- 
- 

The two types main of carbohydrate that provide dietary energy are starch and sugars. Dietary fibre is also a type of carbohydrate.

Starchy carbohydrate is an important source of energy.

Starchy foods –

### Recommendations

- Total carbohydrate – around.....of daily food energy.
- Free sugars include .....plus sugars naturally present in honey, syrups and unsweetened fruit juice (<5% daily food energy).
- Fibre is a term used for plant-based carbohydrates that are not digested in the small intestine (30g/day for adults).

### Key terms

**Micronutrients:**

.

**Lower Reference Nutrient Intake (LRNI):**

**Reference Nutrient Intake (RNI):**

### Fat

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

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

### Recommendations

<35% energy, Saturated fat <11% energy.

A high saturated fat intake is linked with high blood cholesterol levels.

**Sources:**





## Year 10 PRODUCT DESIGN Term 5



### What we are learning this term:

- A. Modern Materials      C. Polymers      E. Technical Textiles  
 B. Smart Materials      D. Composite Materials      F. Textiles

#### A. Modern Materials

A modern material is a material that has been engineered to have improved properties.

Type	Properties	Common Uses
Graphene	Transparent. Very strong and light	Protective equipment and clothing
Metal Foams	Lightweight. Strong under compression. Absorbs energy well.	Prosthetics. Soundproofing and crash protection.
Titanium	High strength-to-weight ratio. Corrosion resistant.	Prosthetics. Aircraft and spacecraft.

#### B. Smart Materials

Materials that exhibit a physical change in response to some external stimuli and change back once that stimuli has been removed.

Shape-memory alloys (SMA) – spectacle frames	Thermochromic pigments – colour changing spoons
Photochromic pigments - colour changing lenses and windows	Self-healing materials – metals that resist corrosion, concrete that can heal cracks
Ferrofluids formed by magnetic field – hydraulic suspension pistons	Polymorph –modelling and ergonomic handles

#### C. Polymers – come from crude oil

Thermoforming can be heated and formed repeatedly, thermosetting can only be formed once

Thermoforming (pliable, recyclable)	Thermosetting (good insulators)
Acrylic (PMMA)	Epoxy resin (ER)
High impact polystyrene (HIPS)	Melamine formaldehyde (MF)
High density polythene (HDPE)	Phenol formaldehyde (PF)
Polypropylene (PP)	Polyester resin (PR)
Polyvinyl chloride (PVC)	Urea formaldehyde (UF)
Polyethylene terephthalate (PET)	These are resistant to heat and chemicals

#### D. Composite Materials

A composite material is a mixture of two or more materials to enhance properties.

Fibre-based	Materials	Common Uses
Glass-reinforced plastic (GRP)	Glass fibres and resin	Boats, instrument cases
Carbon-reinforced plastic (CRP)	Carbon fibres and resin	Formula 1 car bodies, crash helmets, sports equipment
Glass-reinforced concrete (GRC)	Glass fibres and concrete	Street furniture, urban features.
Particle-based	Materials	Common Uses
Concrete	Cement, sand and aggregate	Buildings, street furniture
Cement	Ceramic and metal	Electronic components

#### Sheet-based composite materials – look back to Term 4 – Manufactured Boards

Medium Density Fibreboard (MDF)	Plywood	Chipboard
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#### E. Technical Textiles

Modern textiles can be engineered to have numerous properties.

Conductive Fabrics – touch screen gloves	Fire-retardant fabrics – furniture, furnishings, firefighter clothing.	
Kevlar – racing tyres and bullet proof vests	Microfibres – winter clothes and cleaning cloths	Microencapsulation – sports clothing and scratch and sniff perfume samples

#### F. Textiles

Textile materials can be found natural or can be formed synthetically

Natural – come from plants or animals	Synthetic – come from coal or oil
Cotton (plant)	Polyester
Wool (animal)	Polyamide (nylon)
Silk (animal)	Elastane

#### Blended – a mixture of fibres that combines and improves properties

Polycotton	Kevlar	Sympatex
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## Year 10 PRODUCT DESIGN Term 5



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 B. Smart Materials      D. Composite Materials      F. Textiles

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Metal Foams		
Titanium		

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Thermoforming can be heated and formed repeatedly, thermosetting can only be formed once

Thermoforming (pliable, recyclable)	Thermosetting (good insulators)
	These are resistant to heat and chemicals

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A composite material is a mixture of two or more materials to enhance properties.

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Textile materials can be found natural or can be formed synthetically

Natural – come from plants or animals	Synthetic – come from coal or oil
Blended – a mixture of fibres that combines and improves properties	

# Year 10 BTEC Health and Social Care- Component 2: Health and Social Care Services and Values.









What we are learning:	
A.	Key words
B.	What are the different types of health care services?
C.	What are the different types of social care services?
D.	What barriers are there to accessing care services?

A. Key words for this Unit	
Primary care	First point of contact when seeking health care
NHS	National Health Service – Tax funded health care in the UK.
Secondary care	Specialist health treatment and/or care
Tertiary care	Advanced specialist health treatment and/or care.
Allied health professionals	Professionals who are involved in patient care from diagnosis to recover
Clinical support staff	Support allied health professionals with the treatment and care of patients.
Foster care	A stable family home where care is provided on either a short or long-term basis.
Residential care	Accommodation and care for a number of children, young people or adults living together in one building.
Respite care	Short-term care which provides relief for family member who are carers.
Domiciliary care	Care received in the person's own home.
Sensory impairment	Difficulties with senses, most commonly vision and hearing.
Braille	Raised lettering to help visually impaired.
Occupational therapist	Offers support to develop independence for daily living activities.

B	What are the different types of health care services?
Primary Care	<ul style="list-style-type: none"> <li>Primary care is the first point of contact a patient is likely to have with the NHS – you can refer yourself to primary care providers.</li> <li>Primary care providers include pharmacists, Registered GPs/doctors, walk-in centres, accident and emergency departments (A&amp;E), dentists and Opticians.</li> </ul>
Secondary Care	<ul style="list-style-type: none"> <li>Secondary care is specialist treatment or care. A primary care provider will refer a patient for secondary care if they feel it is necessary for the patient to receive further advice, tests or treatment.</li> <li>Secondary care providers include cardiologists (heart), gynaecologists (female reproduction), paediatrics (children), obstetrics (childbirth and midwifery), psychiatry (mental health) and dermatology (skin).</li> </ul>
Tertiary Care	<ul style="list-style-type: none"> <li>Tertiary Care is advanced specialist treatment or care. A secondary care provider will refer a patient for tertiary care for long-term treatment and/or care.</li> <li>Tertiary care areas include spinal, cardiac (heart), cancer care, chronic pain, burns and neonatal (premature and ill new born babies).</li> </ul>
Allied Health Professionals	<ul style="list-style-type: none"> <li>Allied health professionals work in a range of specialities They support patients through all stages of care – from diagnosis to recovery. To work with the public they must register with the Health and Care Professions Council (HCPC).</li> <li>Allied health professionals include art therapists, dieticians, paramedics, physiotherapists, speech and language therapists and radiographers.</li> </ul>
Clinical Support Staff	<ul style="list-style-type: none"> <li>Clinical support staff work within a range of departments under the guidance of allied health professionals. They are trained in their roles but are not required to register with the HCPC.</li> <li>Clinical support staff include theatre support workers, prosthetic technicians, dietetic assistant, phlebotomist (collects blood samples), hearing aid dispensers and maternity support workers.</li> </ul>

C.	What are the different types of social care services?
Children and young people	<ul style="list-style-type: none"> <li>Children and young people may need support on a temporary or permanent basis because their parent or carer is ill; they have family problems, they have behavioural issues or additional needs.</li> <li>Types of support for children and young people include foster care, residential care and youth work.</li> </ul>
Children or adults with specific needs	<ul style="list-style-type: none"> <li>Children and adults may need support with specific needs including learning disabilities, sensory impairments and long-term health issues.</li> <li>Types of support for children and adults with specific needs include residential care, respite care and domiciliary care.</li> </ul>
Older Adults	<ul style="list-style-type: none"> <li>Older adults may need support with a range of needs including arthritis, cardiovascular disease, dementia and depression.</li> <li>Types of support for older adults include residential care, carers and personal assistants.</li> </ul>
Informal Social Care	<ul style="list-style-type: none"> <li>Not all carers get paid for what they do – they are known as informal carers and social services would really struggle without them.</li> <li>Informal carers include a spouse or partner, children, friends and neighbours.</li> <li>Informal carers do practical household duties, shopping, laundry, walk the dog and help with personal care.</li> </ul>










D.	What barriers are there to accessing care services?	
<b>Physical Barriers</b> 	<ul style="list-style-type: none"> <li>• Difficulty accessing care due to mobility and/or disability.</li> <li>• Obstacles include uneven and rough pavements and services, narrow doorways, no lift and transport.</li> <li>• Access could be improved by planning journeys in advance and reporting any problems to the council.</li> </ul>	
<b>Sensory Barriers</b> 	<ul style="list-style-type: none"> <li>• Sensory impairments can be a barrier to accessing care.</li> <li>• A person with poor vision may need glasses or documents in large print. Profound sight problems may benefit from Braille.</li> <li>• A person with a hearing impairment may benefit from a hearing aid or sign language interpreter.</li> </ul>	
<b>Social, Cultural and Psychological Barriers</b> 	<ul style="list-style-type: none"> <li>• Social, cultural and psychological barriers may leave people feeling nervous about accessing support.</li> <li>• These can include: religion/cultural barriers, negative experience, self-diagnosis, substance misuse, opening hours.</li> <li>• Care services can give individuals opportunities to share their concerns, offer different gender practitioners, facilities to worship and show respect and understanding.</li> </ul>	
<b>Language Barriers</b> 	<ul style="list-style-type: none"> <li>• Language can be a barrier to accessing care services because individuals and care providers may struggle to understand each other.</li> <li>• Support for individuals could include translated documents, translators and interpreters and support from family members.</li> </ul>	
<b>Geographical Barriers</b> 	<ul style="list-style-type: none"> <li>• Individuals may struggle to reach care services because public transport may not run regularly, specialist treatments may require long distance travel and travel can be expensive.</li> <li>• Support could include being provided with direct travel or having travel costs reimbursed.</li> </ul>	
<b>Intellectual Barriers</b> 	<ul style="list-style-type: none"> <li>• If an individual has a learning disability it can cause difficulty in them accessing care services.</li> <li>• Support might include a learning disability nurse, speech and language therapist or occupational therapist.</li> </ul>	
<b>Resource Barriers</b> 	<ul style="list-style-type: none"> <li>• As the population ages and more disorders are being successfully treated, there is a huge strain on health and social care resources – at times it might seem that not everyone can access what they need.</li> <li>• There are huge staff shortages which puts strain on people that work in the health and social care sector.</li> </ul>	
<b>Financial Barriers</b> 	<ul style="list-style-type: none"> <li>• Seeing a GP or using emergency services are free but some services, such as optical and dental care, often involve some payment.</li> <li>• This can be difficult for people if they are from a low-income household as they may not feel they can afford to access the care they need.</li> </ul>	

# Year 10 BTEC Health and Social Care- Component 2: Health and Social Care Services and Values.

<b>What we are learning:</b>	
E.	Define the key words
F.	What are the care values and how can they be implemented?

E. Define the key words	
Self-respect	Valuing yourself
Person centred approach	Planning care around the wants and needs of a service user
Empowerment	Supporting people to take control of their lives and futures by involving them decisions on their care and treatment
Confidentiality	Not passing on information or discussing a private conversation to anyone
Dignity	Being respected and treated with care
Safeguarding	Policies to ensure children and vulnerable adults are protected from harm, abuse and neglect
Discrimination	Treating a person or group of people unfairly or less well than others
Compassionate	Feeling or showing sympathy and concern for others
Competence	The ability to do something successfully and efficiently
Consequences	A result or effect, typically one that is unwelcome or unpleasant
Review	Involves assessing or inspecting something with the intention of making change if necessary
Empathy	Being able to understand and share feelings and views of another person.
Insomnia	Difficulties in sleeping

F.	What are the care values and how can they be implemented?
Empowering and promoting independence 	<ul style="list-style-type: none"> <li>Empowerment is when an individual feels in control of their own life and have a say in what happens to them.</li> <li>Some people might need help with empowerment because of their age, circumstances or confidence e.g. elderly people, children, adult with learning disabilities.</li> <li>You can promote empowerment and independence by involving individuals, where possible, in making choices about their treatment.</li> </ul>
Respect for others 	<ul style="list-style-type: none"> <li>You can show respect for the individual by respecting their privacy, needs, beliefs and identity.</li> <li>Show respect by being patient when someone takes longer to perform simple tasks due to their age, disability or injury.</li> <li>Do not leave personal files around for others to see or discuss your patients' case with friends.</li> <li>Gain permission before entering a room, provide private place for personal conversations.</li> </ul>
Maintaining confidentiality 	<ul style="list-style-type: none"> <li>It is a person's right by law to have information about them kept confidential.</li> <li>Care workers are not allowed to talk about one service user to another, or someone who is not involved in helping them get better. This involves not having those private conversations in public places where other can overhear.</li> <li>Paper and electronic files are to be kept confidential and only shared with care workers which are involved in the treatment of the patient.</li> </ul>
Preserving dignity 	<ul style="list-style-type: none"> <li>Preserving the dignity of individuals to help them maintain self-worth, privacy and self-respect.</li> <li>You do this by involving the person in their own care; helping them go to the bathroom; giving the person time they need, checking what they would like to be called; closing door or curtain when they are changing; making sure their clothes are clean; dealing with embarrassing situations sensitively and professionally.</li> </ul>
Effective communication 	<ul style="list-style-type: none"> <li>In health and social care it is important to communicate effectively with service users in order to build trusting relationships. These can be lost if the care worker appears not to care or listen.</li> <li>Recognising different communication needs and trying to overcome them shows that care workers respect the individual e.g. when visually impaired providing a leaflet in braille; if can't speak English well, have a translator organised beforehand.</li> <li>Show you value the person through showing empathy, asking questions, not judging, smiling, using their name, giving appropriate eye contact, open body language, giving time to process.</li> </ul>
Safeguarding and duty of care 	<ul style="list-style-type: none"> <li>Health and social care workers have a legal duty to protect service users from harm, neglect or abuse. They must recognise the signs and symptoms of abuse so they can protect people.</li> <li>Signs of abuse include low self-esteem, STDs, unexplained injuries or bruises, insomnia, change in appetite, change of personality, self-harming, fear of being alone etc.</li> <li>What to do: report the abuse, never promise to keep the abuse secret, make it clear that you will have to tell someone e.g. your supervisor or the police.</li> </ul> <p><b>DUTY OF CARE</b></p> <ul style="list-style-type: none"> <li>Care workers must work in ways that never put individuals at any risk or harms. They need to know their responsibilities, procedures, deliver care as the care plan states and always report and record any concerns about the service user even if they appear minor.</li> </ul>
Promoting anti-discriminatory practice 	<ul style="list-style-type: none"> <li>Discrimination can be obvious but sometimes it can be subtle and hidden, and The Equality Act 2010 makes it illegal to discriminate against people because of their e.g. age, gender, race, disability, religion, sexual orientation, marital status etc.</li> <li>You can promote anti-discriminatory practice by: having patience with someone who doesn't speak English well; communicating in a way that the person will understand; showing tolerance towards people who have different beliefs and values from you; challenging unkind behaviour.</li> </ul>

# Year 10 BTEC Health and Social Care- Component 2: Health and Social Care Services and Values.

<b>What we are learning:</b>
G. How to apply care values in a compassionate way. H. Identifying own strengths and areas for improvement against the care values

<b>G</b>	<b>How to apply care values in a compassionate way?</b>
Show empathy and care by:	<ul style="list-style-type: none"> <li>• Being patient</li> <li>• Showing sensitivity</li> <li>• Understanding</li> <li>• Actively listening</li> <li>• Having a positive outlook</li> <li>• Being encouraging</li> <li>• Having genuine concern for other people.</li> </ul>
Care workers can check themselves against the ' <b>Six C's of Compassionate Care</b> ' checklist to make sure they are applying care values with compassion.	
Care	Helps to improve an individual's health and wellbeing. Care should be tailored to each person's needs and circumstances
Compassion	Shows the care worker understands what the individual is experiencing. Being empathetic to their situation shows care and value to the individual
Competence	Shows that care workers can safeguard and protect individuals from harm
Communication	How to adapt to individuals and their circumstances to ensure important information is given and shared- keeping the individual at the heart of everything that is done
Courage	Protecting individuals by speaking up if you think something is wrong; being brave enough to own up if you have made a mistake.
Commitment	Carrying out your duties to care for others to the best of your ability.

<b>H</b>	<b>Identifying own strengths and areas for improvement against the care values</b>
Working together	<ul style="list-style-type: none"> <li>• All care works have the responsibility to uphold care values. If everyone works together, doing their 'bit', service users and colleagues alike will all be able to have positive experiences.</li> <li>• Put any feelings aside, some clients can show anger or aggressions towards you, continues to work in a way that respects each of the care values.</li> </ul> <p>Staff training:</p> <ul style="list-style-type: none"> <li>• Staff training keeps everyone updated. Even if they also ready had care values training it is important to have it again and remind them of their importance.</li> </ul>
Making mistakes	<ul style="list-style-type: none"> <li>• Everyone sometimes make mistakes. It is crucial that staff own up to mistakes that they have made, not matter how small. This is part of the duty of care to safeguard individuals, it demonstrates respect.</li> <li>• You need to be honest about your mistake, do not pretend it never happened and do not blame someone else.</li> <li>• You can:                             <ul style="list-style-type: none"> <li>• Tell your supervisor, admit it and apologise</li> <li>• Be honest and accurate about what happened,</li> <li>• Suggest ways to avoid it happening again</li> <li>• Earn back the trust of the person involved</li> <li>• Prove you can do the job</li> <li>• Do no be too hard on yourself; seek help and guidance from others.</li> </ul> </li> </ul>
Reviewing own applications of care values	<ul style="list-style-type: none"> <li>• One way to improve skills is to look carefully at the areas you are good at, what you are able to do well and things that you find difficult.</li> <li>• Knowing your strengths will allow you to take on task with ease and make you feel confident that you are doing a good job.</li> <li>• Knowing your weaknesses and what needs improving will help you work on them and develop. It is important to be open with yourself and others in order to progress further and be better at your job.</li> <li>• Regularly review your strengths and weaknesses because they change overtime</li> </ul>
Receiving feedback	<ul style="list-style-type: none"> <li>• The purpose of feedback is to let you know what you are doing well and the areas you need to improve.</li> <li>• This can be formal- like reports and following an observation at work and Informal- like chatting to colleagues at break time.</li> <li>• Both types encourage you to feel pleased with what you have done well and motivate you to improve in weaker areas, perhaps even provide a way forward.</li> <li>• Remember: when giving and receiving feedback, positives must be noted so that you know what you are doing well and continue to do so. Negatives are hard to uncomfortable to hear, but do not take them personally, you need them to get better at your job and feel more confident.</li> </ul>
Using feedback	<ul style="list-style-type: none"> <li>• Create yourself a SMART action plan to set yourself Specific, Measurable, Achievable, Realistic and Time-related targets or goals to help plan for your improvements</li> </ul>





## What we are learning this term:

- A. Type of media outlet
- B. Competition with other media outlets
- C. Who is the target audience
- D. Targeting of media coverage
- E. What does the coverage consist of



## Main assessment objectives

Learning outcome: Be able to evaluate media coverage of sport



## What is the difference between a tabloid and broadsheet newspaper?

A tabloid paper focuses on gossip stories and the lives of celebrities. Whereas broadsheet papers look at more serious news stories like the economy and finance.



## How may stories be reported differently in broadsheet and tabloid newspapers?

**Broadsheet**  
More informative stories



**Tabloid**  
More likely to look at the lives of athletes outside of sport

A. Key question from Assessment objectives?	
Key word	Key definition
Broadsheet	A paper that focus on more serious news such as politics and finance
Tabloid	A paper that focus on celebrity gossip and news about famous people
Bias	Prejudice for or against one person or group, especially in a way considered to be unfair
Target audience	A group at which a product such as a film or advertisement is aimed
Format	The way in which something is arranged or set out
Organisation	An organised group of people with a particular purpose

## A. What sports and clubs are likely to get more media coverage?

Big clubs such as Man UTD, Real Madrid, Barcelona and Liverpool get more coverage than smaller clubs.

Football gets lots of media coverage.

High profile athletes that generate lots of income



## G. How could potential bias be shown in the media?

### Negative bias

Focus on negative stories around certain clubs, players, managers and executives.

Continuing to focus on stories for days/weeks



### Positive bias

Continued focus on certain clubs/managers/players and executives.

Larger clubs/organisations/owners may not be targeted with negative stories



## A. Who would be the target audience for different media forms?

Social media- Younger fans  
Magazines- Younger fans  
Newspapers- Adults



## A. How do positive and negative stories get presented differently in the media?

Negative stories may appear in prominent places in the paper (front page). They may appear with big headlines and photos. Negative stories may run for longer than positive ones.

## Key Sections

### Type and brand of media outlet

Competition with other outlets

Target audience

Timing of the event

Popularity of athlete/club

### Features of the coverage

Representation of the issue

Method of reporting

Format and presentation

Potential bias

Extent of the coverage

Duration of the coverage



**What we are learning this term:**

- A. Type of media outlet
- B. Competition with other media outlets
- C. Who is the target audience
- D. Targeting of media coverage
- E. What does the coverage consist of

**Main assessment objectives**

Learning outcome: Be able to evaluate media coverage of sport



What is the difference between a tabloid and broadsheet newspaper?



A. Key question from Assessment objectives?

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Key word	Key definition
Broadsheet	
Tabloid	
Bias	
Target audience	
Format	
Organisation	



A. What sports and clubs are likely to get more media coverage?

G. How could potential bias be shown in the media?



A. Who would be the target audience for different media forms?

Positive bias

A. How do positive and negative stories get presented differently in the media?



Key Sections
Type and brand of media outlet
Features of the coverage