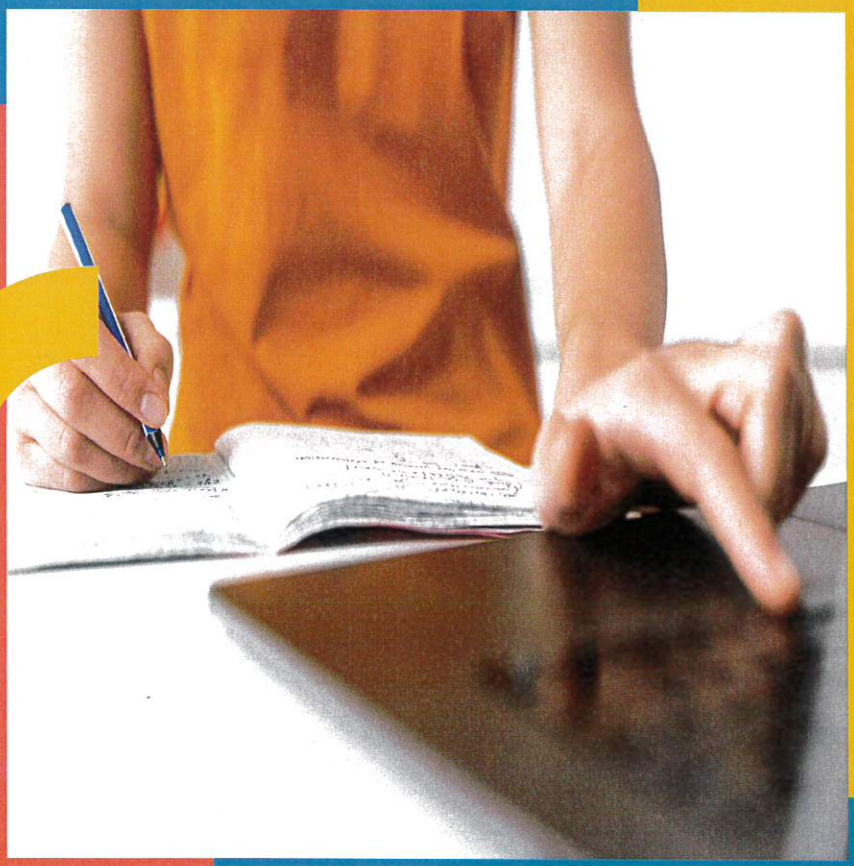
SMITHILLS SCHOOL
SUCCESS FOR ALL

# HOMEWORK BOOKLET



## Year 10 - Summer Term 1

www.smithillsschool.net

## CONTENTS PAGE

1. Guidance on how to use the homework strategy: Look, cover, write, check, correct
2. Student guide to logging into Sparx Maths.

Subject Knowledge Organisers and Tasks:

Core Subjects:

English - Pages 9-18
Maths - separate handouts to be given
Science – Pages 19-26
Geography - Page 27
History - Page 28

Options Subjects:

Art – Pages 30-31
Computer Science – Page 32
Dance – Page 33
Design Technology (Graphics) - Page 34
Digital IT – Page 35
Drama – Page 36
French - Pages 37-41
Hair and Beauty – Page 42
Health and Social Care – Pages 43-45
Hospitality and Catering – Pages 46-47
Photography - Pages 48-49
Physical Education (PE) – Page 50
Religious Education (RE) – Page 51
Separate Science - Pages 52-53
Spanish – Pages 54-58
Urdu – Page 59

## Homework Timetable:

| | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|
| Green | Maths | Science | English | Maths | Science |
| | Option W/X | Humanities | Science | Option Y/Z | |
| | Sparx Reader | Sparx Reader | Sparx Reader | Sparx Reader | Sparx Reader |
| Orange | English | Maths | Science | English | Maths |
| | Science | Option Y/Z | Humanities | Option W/X | |
| | Sparx Reader | Sparx Reader | Sparx Reader | Sparx Reader | Sparx Reader |

## Instructions on how to complete your homework:

1. Write the subject and date in your homework exercise book

2. If you have been given tasks to complete, please do this in your exercise book. If you have been asked to recall information from a knowledge organiser, please use the steps below.

- Look at box/es that your teacher has assigned to you. Repeatedly read the information until you are confident you can remember it. You might find saying them out loud helps you.

- Cover each box so that you cannot see the text.

- Next, in your homework exercise book, write down everything you can remember from each box

- Uncover the box and check your answers, correct any you got wrong or missed
- Repeat this one more time as you should be able to remember more from each box on the second round.

3. Rule a line under the homework you have completed.

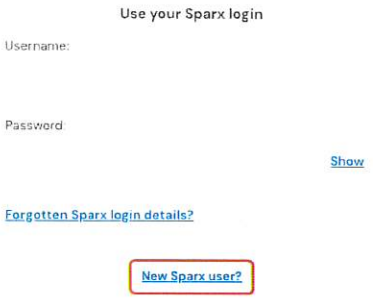
4. Repeat the process for your next subject/s.

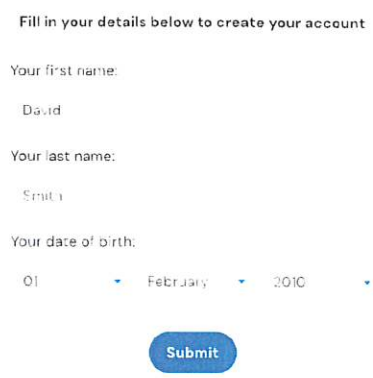
5. Use the QR link below if you would prefer a visual reminder of how to complete this.

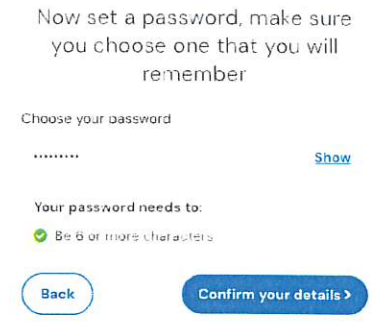
# Sparx Maths

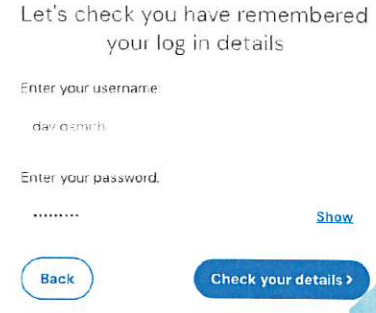
## Student Guide to Logging In

1. Go to **sparxmaths.com**
2. Select **Student Login**
3. Carefully select your school from the list
4. Select **New Sparx user**
5. Enter your:
   - First Name
   - Last Name
   - Date of Birth
6. Click **Submit**
7. You will be prompted to set your own password. The password must be at least 6 characters long and you will need to remember it
8. Confirm your username and password, then click **Check your details**
9. You can now log in to Sparx using your username and password
10. If a password is lost, you can select the option to request a new password from your teacher



I would like to begin by saying a huge well done to all the pupils at Smithills school for completing all their homework every day on the day that it is due. It is often a challenge keeping up with homework when you have responsibilities and activities after school so well done.

**Here is a reminder of the expectations for every pupil at Smithills:**

- Monday- Thursday: 3 homework's are to be completed along with Sparx Reader.
- Friday – Maths or English to be completed along with Sparx Reader.
- Homework to be completed in the pink exercise book. If this is finished, then please pick up a new one from your form tutor.
- Homework booklets and homework books to be brought into school everyday for your form tutor to check completed homework.
- Previous homework booklets can be found on the school website or by scanning the below QR code.

homework booklets

*Scroll down to the bottom of the page to see last term's homework booklets.*

We are hoping that all pupils will ultimately be responsible for their own homework, however, parental support is required until this is secure. Therefore, we request that all parents remind their children to complete their homework every evening so that the workload can be managed easily.

## SPARX READER

Sparx Reader participation increased throughout Spring Term - congratulations to every pupil who is achieving 350 SRP per week, and especially to those who are going above and beyond to top our weekly leaderboards.

350 Sparx Reader Points must be completed weekly.

Research shows that pupils who read widely and regularly go on to achieve well at GCSE exams and beyond. Smithills School supports our pupils to read widely through Sparx Reader. Completing Sparx Reader should take roughly 35 minutes. Congratulations to 7H, who have the highest completion rate for Sparx Reader in the school!

If there are any issues with you or your child accessing Sparx Reader, please contact The Hive at break or dinner, or speak with Mr. Stevenson or your form tutor.

Year 9 – RE – Autumn Term 2 – Do we treat Creation correctly?

Big Picture: Do we treat creation correctly ?

**1. Key Concepts**

| How can we be sure we make good choices? 1.1 | Origins of the universe 1.2 | Threats to the Natural World 1.3 | Christian and Muslim Responses to Issues in the Natural World. 1.4 |
|---|---|---|---|
| Morality is your sense of right and wrong and moral decisions are based on right or wrong actions. Our sense of morality is linked to our upbringing, faith (if we have one) education and experience. Combined, these help us form our conscience. This guides us when making moral choices. Christians look to God as the ultimate source of authority to decide what is right and what is wrong. Many people believe they know automatically when something is right or wrong because their conscience tells them. Christians think this voice is God. Some Christians try and work out what the right thing to do is by imaging what Jesus would do in the same situation. The Church will often make a statement about what it considers to be right on a particular issue such as abortion or war. | Science argues a Big Bang occurred and this was the start of space and time from this moment the explosion led to dust and particles slowly forming planets leading slowly to the formation of our solar system. That this may be one of many such 'bangs' Hindus –believe that this world is one of succession of worlds Brahma has created for Vishnu to look after and Shiva to eventually destroy. Vishnu was asleep in the ocean and awoke to the Om for our world and a lotus flower sprang out of his belly leaving Brahma alone to create the Earth. Islam has God summoning the world into existence with the commandment "be" and creating the species upon it and sending angels to collect the clay that formed man. | What harm have climate change and acts such as deforestation done to our natural world? Our seas have been damaged, our sea shores are covered in pollution, animal life is harmed or killed by plastic floating in the seas. As a result of this harm the planets natural environment and its living things. What actions can you take to prevent this? | Both religions teach that whoever works to protect the planet is taking care of God's creation and that we have been appointed during our time on earth as stewards of the earth and lands. |
| **Animal Treatment 1.5** We use animals in many ways as pets, for clothing, for food but, is it right that they should suffer for our needs? Hunting with foxes was banned but people still argue about this and it still causes controversy when even the modernised version of The Hunt is run with views on either side still very divided on whether the ban should be overturned. Animal experimentation for medicines, perfumes and make-up is another very controversial area of how humans use animals. Some think it is ok to use animals to test medicines as this may save lives but others argue as they are different to us, they do not have the same reactions. | **Space for your own notes** | **Space for your own notes** | **2. Vocabulary** |

| | |
|---|---|
| Big Bang | The universe developed approximately 13.7 billion years ago following a single event. |
| Deforestation | The action of clearing a wide area of trees |
| Vivisection | The practice of performing operations on live animals for experimentation or research |

| 3. Skills | 4. Key SOWA (Sources of wisdom and authority) | 5. Key Figures | | 6. Assessment Criteria | |
|---|---|---|---|---|---|
| Discuss differing types of punishment and their causes and consequences. **Evaluate** whether the death penalty is the right form of punishment. **Explain** why justice is important in Islam. Explain why laws are important, **Interpret** SOWA and consider their application for and against one of the concepts. | It is easier for a camel to go through the eye of a needle than for a rich man to enter the Kingdom of God. *Luke 18:25*<br>'The righteous care for the needs of their animals.' (Proverbs 12:10)<br>'The love of money is the root of all evil' (Timothy 6:10) | Greta Thunberg | Climate activist | State/ Outline | Give 3 examples in 3 different sentences |
| | | Boris Johnson | Prime Minister during Covid 19 crisis | Explain | 2 developed reasons in 2 sentenced. (develop with examples / SOWAs or explanation) |
| | | Guru Nanak | Founder Sikhism first of Sisk Guru's | Explain and SOWA | 2 developed reasons in 2 sentences. (develop with examples / SOWAs or explanation) and link in a SOWA to support the points. |
| | | Jesus | Christians believe to be the Son of God Muslims believe to be a Prophet of God teachings about how to live life and follow God very influential. | | |
| | | | | Evaluate | Higher level answers will state which is the stronger argument and WHY this |

Year 9 – RE – Autumn Term 2 – Do we tre

1. Key Concepts

How can we be sure we make good choices? 1.1 — Morality is your sense of right and wrong and moral decisions are based on right or wrong actions. Our sense of morality is linked to our upbringing, faith (if we have one) education and experience. Combined, these help us form our conscience. This guides us when making moral choices. Christians look to God as the ultimate source of authority to decide what is right and what is wrong. Many people believe they know automatically when something is right or wrong because their conscience tells them. Christians think this voice is God. Some Christians try and work out what the right thing to do is by imaging what Jesus would do in the same situation. The Church will often make a statement about what it considers to be right on a particular issue such as

Origins of the universe 1.2 — Science argues a Big Bang occurred and this was the start of space and time from this moment the explosion led to dust and particles slowly forming planets leading slowly to the formation of our solar system. That this may be one of many such 'bangs' Hindus –believe that this world is one of succession of worlds Brahma has created for Vishnu to look after and Shiva to eventually destroy. Vishnu was asleep in the ocean and awoke to the Om for our world and a lotus flower sprang out of his belly leaving Brahma alone to create the Earth. Islam has God summoning the world into existence with the commandment "be" and creating the species upon it and sending angels to collect the clay that formed man.

Threats to the Natural World 1.3 — What harm have climate change and acts such as deforestation done to our natural world? Our seas have been damaged, our sea shores are covered in pollution, animal life is harmed or killed by plastic floating in the seas. As a result of this harm the planets natural environment and its living things. What actions can you take to prevent this?

Christian and Muslim Responses to Issues in the Natural World. 1.4 — Both religions teach that whoever works to protect the planet is taking care of God's creation and that we have been appointed during our time on earth as stewards of the earth and lands.

Animal Treatment 1.5 — We use animals in many ways as pets, for clothing, for food but, is it right that they should suffer for our needs? Hunting with foxes was banned but people still argue about this and it still causes controversy when even the modernised version of The Hunt is run with views on either side still very divided on whether the ban should be overturned. Animal experimentation for medicines, perfumes and make-up is another very controversial area of how humans use animals. Some think it is ok to use animals to test medicines as this may save lives but others argue as they are different to us, they do not have the same reactions.

Space for your own notes

Space for your own notes

2. Vocabulary

| | |
|---|---|
| Big Bang | The universe developed approximately 13.7 billion years ago following a single event. |
| Deforestation | The action of clearing a wide area of trees |
| Vivisection | The practice of performing operations on live animals for experimentation or research |

3. Skills — Discuss differing types of punishment and their causes and consequences. **Evaluate** whether the death penalty is the right form of punishment. **Explain** why justice is important in Islam. Explain why laws are important, **Interpret** SOWA and consider their application for and against one of the concepts.

4. Key SOWA (Sources of wisdom and authority) — It is easier for a camel to go through the eye of a needle than for a rich man to enter the Kingdom of God. *Luke 18:25* 'The righteous care for the needs of their animals.' (Proverbs 12:10) 'The love of money is the root of all evil' (Timothy 6:10)

5. Key Figures

| | |
|---|---|
| Greta Thunberg | Climate activist |
| Boris Johnson | Prime Minister during Covid 19 crisis |
| Guru Nanak | Founder Sikhism first of Sisk Guru's |
| Jesus | Christians believe to be the Son of God Muslims believe to be a Prophet of God teachings about how to live life and follow God very influential. |

6. Assessment Criteria

| | |
|---|---|
| State/ Outline | Give 3 examples in 3 different sentences |
| Explain | 2 developed reasons in 2 sentenced. (develop with examples / SOWAs or explanation) |
| Explain and SOWA | 2 developed reasons in 2 sentences. (develop with examples / SOWAs or explanation) and link in a SOWA to support the points. |
| Evaluate | Higher level answers will state which is the stronger argument and WHY this |


## New homework strategy: The Gist

Look at your knowledge organiser and read through the content of one box.

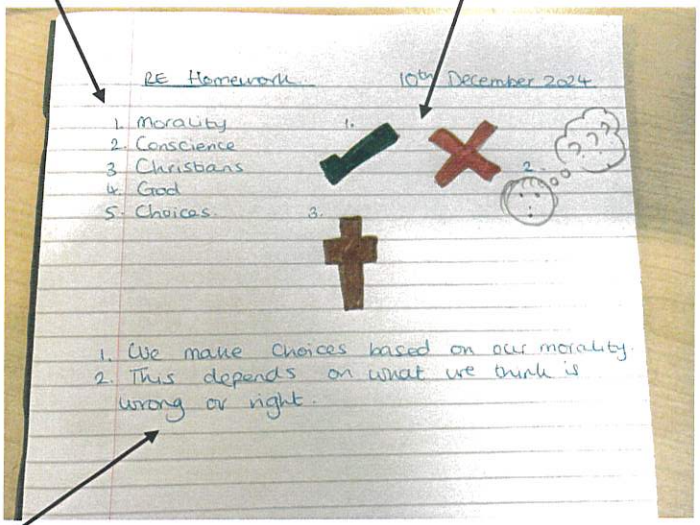
Once you feel confident that you know the content, in your pink homework exercise books, summarise the text into the following:

1. 5 keywords.
2. 3 images.
3. 2 sentences.

**Example:**

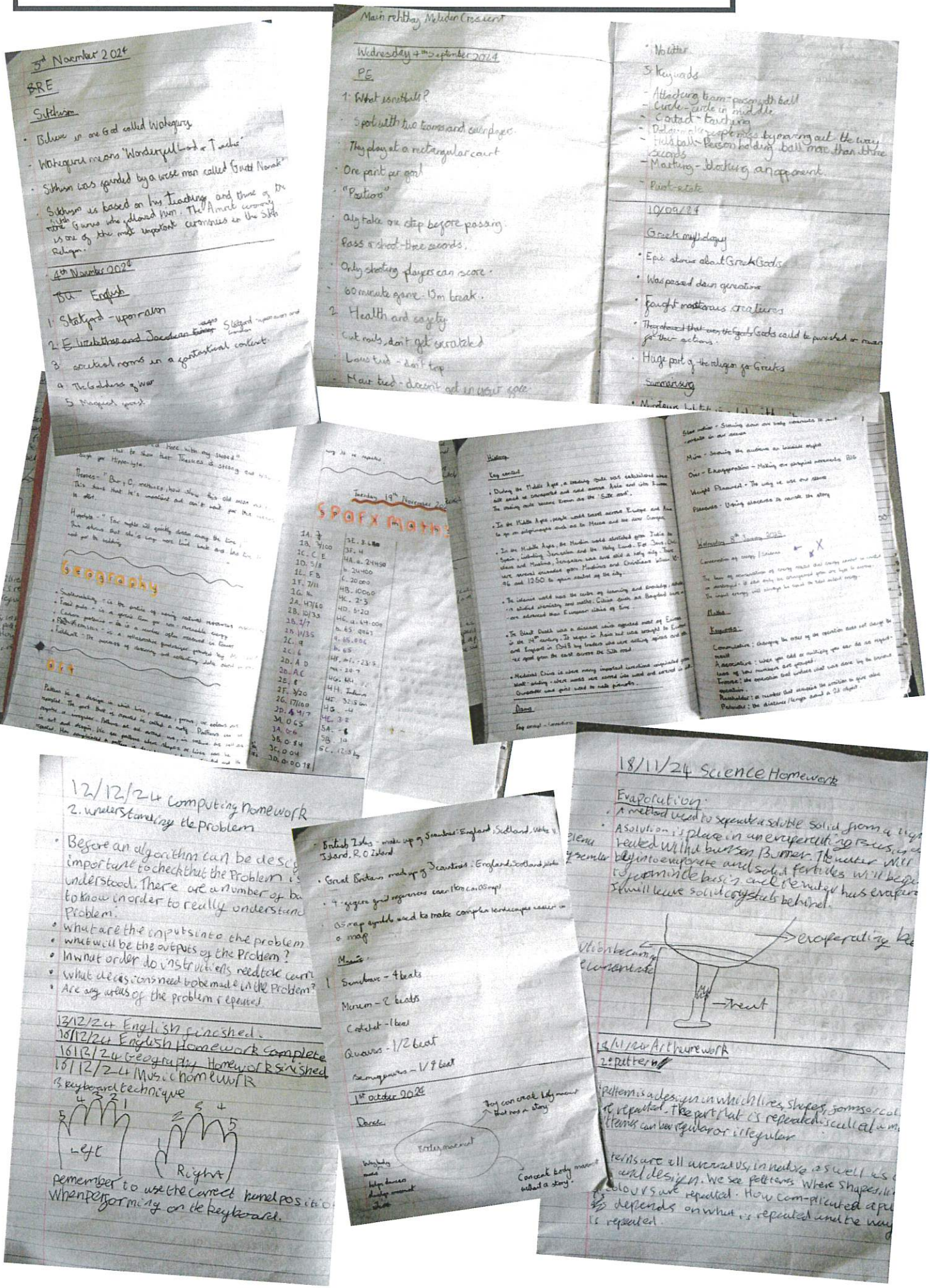
5 key words

3 images




2 sentences

# Examples of what your homework books should look like…



# CORE SUBJECTS

***Activity 1* : Quotation Retrieval**

The grid below contains a selection of quotations with words missing. Fill in the missing gaps in each quotation with the correct words and complete the rest of the grid with information on who says the quotation and what it tells us about each character. One has been completed for you. Check your work with the answers at the back of the booklet and correct any mistakes you have made in a different colour.

If you cannot remember a quotation, try and find it in your copy of the book before looking at the answers. Haven't got a book? Find it on Google!

| Quotation | Who is it about? | What does this tell us about their character? |
|---|---|---|
| 'secret and _____ _____ and _____ as an oyster.' | Scrooge | This tells us that Scrooge has isolated himself. He will not allow anyone to get close to him emotionally and lives a sad, lonely life. |
| 'I _____ the chain I _____ in life' | | |
| 'From the _____ of its head their _____ a bright, clear jet of _____.' | | |
| 'A _____ boy was reading near a _____ fire.' | | |
| ''I have seen your _____ aspirations fall off _____ by one until the master-passion, _____, engrosses you.' | | |

| | | |
|---|---|---|
| ‘‘They were not a _____ family; they were not well _____; their shoes were far from being _____ _____; their clothes were _____.’ | | |
| Yellow, _____, ragged, _____, wolfish.’ | | |
| ‘‘The _____ slowly, gravely, _____ approached.’ | | |
| ‘‘The _____ little Cratchits were as still as _____ in one corner.’ | | |
| ‘‘They drew about the _____ and talked.’ | | |
| ‘‘I am as light as a _____, I am as _____ as an angel, I am as _____ as a _____.’ | | |

| | | |
|---|---|---|
| He became as good a _____, as good a _____, and as good a _____...' | | |

***Activity 2:*** **Summarising the text**

Summarise what happens in each stave of A Christmas Carol.

Stave 1 .....

.....

.....

.....

.....

Stave 2 .....

.....

.....

.....

.....

Stave 3 .....

.....

.....

.....

.....

Stave 4 .....

.....

.....

.....

.....

Stave 5 .....

.....

.....

.....

.....

**Activity 3: Understanding the context.**

Read the article. Highlight two sentences in each paragraph which you deem to be the most important. Down the left-hand side, add a title for each paragraph. On the right-hand side, summarise what each paragraph is saying in two or three bullet points. look like.

| Paragraph Titles | | Paragraph Summary. |
|---|---|---|
| A Victorian Ghost story. | There had been ghosts in literature before the Victorians, but the ghost story as a distinct and popular genre was the invention of the Victorians. Charles Dickens was hugely influential in establishing the genre's popularity – not only as a writer but also as an editor: his journals Household Words and All the Year Round specialised in ghost stories, and other contemporary journals followed. Dickens's close friend and biographer John Forster said that the novelist had 'a hankering after ghosts'. Not that Dickens exactly believed in ghosts – but he was intrigued by our belief in them. In A Christmas Carol (1843), the first of his ghost stories, he harnesses that belief by making the supernatural a natural extension of the real world of Scrooge and his victims. This is a long way from the spectres of earlier Gothic fiction.<br><br>The first strictly supernatural sight in the story is the door knocker on the outside door of Scrooge's chambers that metamorphoses, as the miser looks at it, into the face of his | • Dickens was interested in why people believed in ghosts.<br>• Dickens made ghosts as part of this real world in the novella. |

former partner, Jacob Marley, dead for seven years. 'The hair curiously stirred, as if by breath or hot-air; and though the eyes were wide open, they were perfectly motionless'. Yet Dickens's sense of fantasy brings the horrible and comic together: in the surrounding gloom, the face has 'a dismal light about it, like a bad lobster in a dark cellar'. The weird mix of the terrible and the comic is kept up when Marley's ghost finally appears carrying its chain of cash-boxes, keys, padlocks and the like. Like a parody ghost, its body is transparent, as Scrooge observes. 'Scrooge had often heard it said that Marley had no bowels, but he had never believed it until now' (Stave 1)

On Christmas Eve the city is itself a place of spectres where 'it had not been light all day'. Outside Scrooge's counting house, the fog is so dense 'that although the court was of the narrowest, the houses opposite were mere phantoms'. The bell in a nearby church tower strikes the hours and quarters 'as if its teeth were chattering in its frozen head up there'. After Marley's Ghost has left him, Scrooge looks out of his window and sees 'the air filled with phantoms', many of them chained souls who had once been known to Scrooge (Stave 1). It is like a fantastic vision of the city that Scrooge already knows well. Like Macbeth, Scrooge, because of his sins, sees visions that are for him alone.

The apparitions are inescapable. 'Show me no more!' Scrooge cries to the Ghost of Christmas Past. What he sees is a punishment to him. 'But the relentless Ghost pinioned him in both his arms, and forced him to observe what happened next' (Stave 2). The phantom as literary device enables Dickens to explore the social and moral issues central to his fiction: – poverty, miserliness, guilt, redemption.

The ghosts borrow in their appearance from a tradition of allegory. There is the strange child/old man that is Christmas Past, clutching a branch of holly yet trimmed with summer flowers. There is the large and avuncular Ghost of Christmas Present, tinged more and more with age as his visions draw to their close. And there is 'The Phantom' that is the Ghost of

Christmas Yet to Come, shrouded and 'stately' and mysterious. Their shapes tell you about author's moral design.

The ghosts give the story its irresistibly logical structure, and make Scrooge think that he is prepared for each succeeding visitation. Preparing to meet the second of the three spirits, 'nothing between a baby and a rhinoceros would have astonished him very much' (Stave 3). But of course he is surprised. The Ghost of Christmas Present surprises him by showing him flashes of humour and happiness in the most unlikely of circumstances. And when Scrooge sees the visions revealed by the third of the spirits, he naturally fails to recognise what the reader knows from the first: that the dead man, abandoned after the scavengers have done with him, is himself.

Marley's Ghost announces them. 'You will be haunted ... by Three Spirits' (Stave 1). Scrooge is even told at what times they will appear. The ghosts bring fatality to the narrative: Scrooge cannot resist the visions they set before him. He must awake at the destined times to encounter the world that he has made for himself. Time-consciousness is built into the narrative (those bells). The ghosts have only their allotted spans. 'My time is nearly gone,' says Marley's Ghost. 'My time grows short,' observes the first of the three spirits, 'quick!' (Stave 1; Stave 2). Chronology is of the essence: Christmas is a special day made all the more significant by the unfolding of these visions at their hours. On Christmas Eve Marley's Ghost tells Scrooge of three visits in three consecutive nights, but he wakes to find that it is Christmas Day. 'The Spirits have done it all in one night' – which means that he still has the day to redeem himself (Stave 5).

A Christmas Carol is a brilliant narrative success, and was a huge commercial coup. It forged the association between Christmas and ghost stories, and led Dickens to write a series of such tales for Christmas. It also showed how the genre worked best within limitations of time and length, so that the short story and the novella were best suited to ghostly tales. Dickens had set a new literary fashion in motion.

**Task 4: Understanding the article**

Answer the following questions on the article above. Remember to answer in full sentences. If there is a question you are not sure about, email your teacher or miss it out and come back to it when you have finished the rest of the activities.

1. The article says that Marley's face appearing in the door knocker is a strange mix of 'the terrible and the comic.' What do you think this means and why do you think Dickens includes a mixture of both when describing Marley?

2. Scrooge 'sees visions which are for him alone'. Why do you think only Scrooge can see these visions?

3. The article states that the apparitions are 'inescapable'. Why do you think this is the case? What might happen if Scrooge was able to run from them?

4. The article says the 'Phantom, as a literary device enables Dickens to explore... poverty, miserliness, guilt [and] redemption.' Why does Dickens use ghosts to help him explore these issues?

5. Why do you think Scrooge fails to recognise that he is the dead man everyone is talking about in Stave Four?

6. Read the following line from the article: 'The Spirits have done it all in one night' – which means that he still has the day to redeem himself.' Why do you think it is important that Scrooge redeems himself on Christmas day of all days?

7. The article ends by saying 'A Christmas Carol' was a 'commercial coup'. Why do you think it was so successful?

Write a definition of nay of the words you needed to look up here.

**Task 5: The messages in the novella**

You will be answering the following question:

Read the following extract from Chapter 1 and then answer the question that follows.

> External heat and cold had little influence on Scrooge. No warmth could warm, no wintry weather chill him. No wind that blew was bitterer than he, no falling snow was more intent upon its purpose, no pelting rain less open to entreaty. Foul weather didn't know where to have him. The heaviest rain, and snow, and hail, and sleet, could boast of the advantage over him in only one respect. They often "came down" handsomely, and Scrooge never did.
>
> Nobody ever stopped him in the street to say, with gladsome looks, "My dear Scrooge, how are you? When will you come to see me?" No beggars implored him to bestow a trifle, no children asked him what it was o'clock, no man or woman ever once in all his life inquired the way to such and such a place, of Scrooge. Even the blind men's dogs appeared to know him; and when they saw him coming on, would tug their owners into doorways and up courts; and then would wag their tails as though they said, "No eye at all is better than an evil eye, dark master!"
>
> But what did Scrooge care? It was the very thing he liked. To edge his way along the crowded paths of life, warning all human sympathy to keep its distance, was what the knowing ones call "nuts" to Scrooge.

In this extract Scrooge is being introduced to the reader. Starting with this extract, how does Dickens present Scrooge as an outsider to society?

Write about: • how Dickens presents Scrooge in this extract • how Dickens presents Scrooge as an outsider to society in the novel as a whole.

Complete the following analytical verbs to help you explore Dickens' authorial intent with Scrooge's character. Authorial intent is when you explain what an author is doing and why they are doing it. The 'why' is extremely important and often missed out by students in their exams so that is what we are going to start with today. One has been done for you.

Dickens may be presenting Scrooge as an outsider to society

- to warn readers of what their future could hold if they segregate themselves from others.

-to teach

- to reveal the importance of

- to criticise

- to advocate

The novella A Christmas Carol is an allegory. An allegory is a story, poem, or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one. A Christmas Carol has a moral message to society but also a political one.

The moral message in the novella A Christmas Carol is

The political message in the novella A Christmas Carol is

# Year 10 Science Spring Term Energy Change

Big Picture: why are we studying this now Building on Year 9 Reactions topic and chemical change KS4 topics.

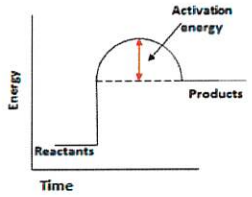
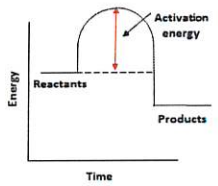
## 1. Types of Reaction

| | | |
|---|---|---|
| **Endothermic** | ***Energy is taken in from the surroundings so the temperature of the surroundings decreases*** | • **Thermal decomposition**<br>• **Sports injury packs** |
| **Exothermic** | ***Energy is transferred to the surroundings so the temperature of the surroundings increases*** | • **Combustion**<br>• **Hand warmers**<br>• **Neutralisation** |

## 2. Reaction Profiles

| | |
|---|---|
| **Reaction profiles** | ***Show the overall energy change of a reaction*** |

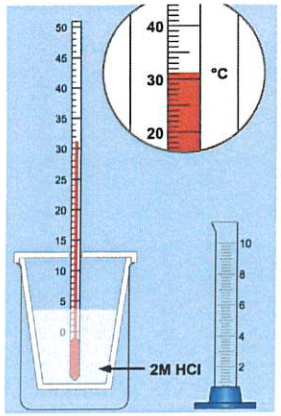
| | | |
|---|---|---|
| **Activation energy** | ***Chemical reactions only happen when particles collide with sufficient energy*** | **The minimum amount of energy that colliding particles must have in order to react is called the activation energy.** |

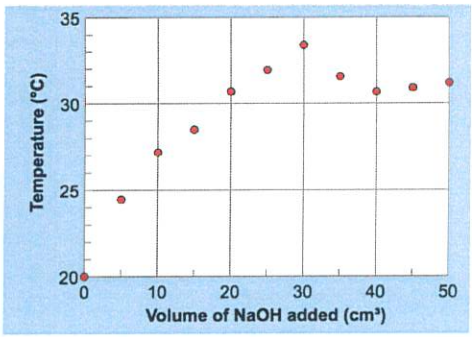
| | | |
|---|---|---|
| **Endothermic** |  | **Products are at a higher energy level than the reactants. As the reactants form products, energy is transferred from the surroundings to the reaction mixture. The temperature of the surroundings decreases because energy is taken in during the reaction.** |
| **Exothermic** |  | **Products are at a lower energy level than the reactants. When the reactants form products, energy is transferred to the surroundings. The temperature of the surroundings increases because energy is released during the reaction.** |
| | | |

## 3.Required Practical: Neutralisation (skills)

### Method

- Measure 30cm$^3$ of 2M HCl using a measuring cylinder and add to a polystyrene cup (good insulator and reduces heat loss).
- Record initial temperature using a thermometer.
- Add 5cm$^3$ NaOH and stir solution until highest temperature is reached and record it.
- Repeat adding 5cm$^3$ NaOH at a time until you have added 50cm$^3$ NaOH. Record temperature each time.



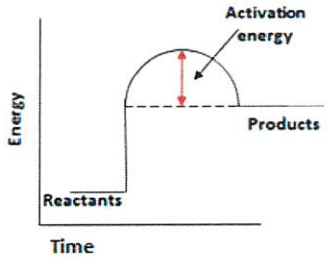
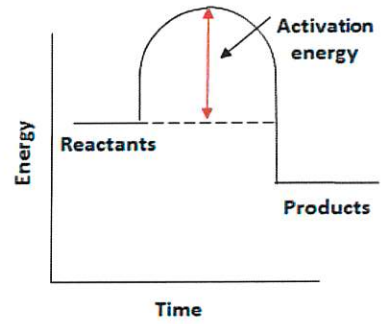
# Year 10 Science Spring Term Energy Change

Big Picture: why are we studying this now Building on Year 9 Reactions topic and chemical change KS4 topics.

## 4. Reaction Profiles

| | |
|---|---|
| Reaction profiles | *Show the overall energy change of a reaction* |

| | | |
|---|---|---|
| Activation energy | *Chemical reactions only happen when particles collide with sufficient energy* | The minimum amount of energy that colliding particles must have in order to react is called the activation energy. |

| | | |
|---|---|---|
| Endothermic |  | Products are at a higher energy level than the reactants. As the reactants form products, energy is transferred from the surroundings to the reaction mixture. The temperature of the surroundings decreases because energy is taken in during the reaction. |
| Exothermic |  | Products are at a lower energy level than the reactants. When the reactants form products, energy is transferred to the surroundings. The temperature of the surroundings increases because energy is released during the reaction. |

## 5. Bond energies (Higher)

| | |
|---|---|
| Breaking bonds in reactants | *Endothermic process* |
| Making bonds in products | *Exothermic process* |

| | | |
|---|---|---|
| Overall energy change of a reaction | *Exothermic* | Energy released making new bonds is greater than the energy taken in breaking existing bonds. |
| | *Endothermic* | Energy needed to break existing bonds is greater than the energy released making new bonds. |

| | |
|---|---|
| Bond energy calculation | Calculate the overall energy change for the forward reaction<br>$N_2 + 3H_2 \rightleftharpoons 2NH_3$<br>Bond energies (in kJ/mol): H-H 436, H-N 391, N≡N 945 |
| | Bond breaking: 945 + (3 x 436) = 945 + 1308 = 2253 kJ/mol<br>Bond making: 6 x 391 = 2346 kJ/mol<br>Overall energy change = 2253 - 2346 = -93kJ/mol<br>Therefore reaction is exothermic overall. |

# Year 10 Science Summer Term Quantitative Chemistry

Big Picture: why are we studying this now Chemists use quantitative analysis to determine the formulae of compounds and the equations for reactions and builds on reaction already studied

## 1. Relative Formula Mass

| | | | |
|---|---|---|---|
| $M_r$ | *The sum of the relative atomic masses of the atoms in the numbers shown in the formula* | The sum of the $M_r$ of the reactants in the quantities shown equals the sum of the $M_r$ of the products in the quantities shown. | $2Mg + O_2 \rightarrow 2MgO$<br>$48g + 32g = 80g$<br>$80g = 80g$ |

## 2. Conservation of mass

| | | |
|---|---|---|
| Conservation of mass | *No atoms are lost or made during a chemical reaction* | Mass of the products equals the mass of the reactants. |

| | | |
|---|---|---|
| Balanced symbol equations | *Represent chemical reactions and have the same number of atoms of each element on both sides of the equation* | $H_2 + Cl_2 \rightarrow 2HCl$<br>Subscript numbers show the number of atoms of the element to its left.<br>Normal script numbers show the number of molecules. |

## 3. Limiting Reactants

| | | |
|---|---|---|
| The reactant that is completely used up | *Limits the amount of product that is made* | Less moles of product are made. |

## 4. Mass changes when a reactant or product is a gas

| | | |
|---|---|---|
| Mass appears to increase during a reaction | *One of the reactants is a gas* | Magnesium + oxygen → magnesium oxide |
| Mass appears to decrease during a reaction | *One of the products is a gas and has escaped* | Calcium carbonate → carbon dioxide + calcium oxide |

## 5. Chemical Measurements

| | | |
|---|---|---|
| Whenever a measurement is taken, there is always some uncertainty about the result obtained | *Can determine whether the mean value falls within the range of uncertainty of the result* | 1. Calculate the mean<br>2. Calculate the range of the results<br>3. Estimate of uncertainty in mean would be half the range |

Example:
1. Mean value is 46.5s
2. Range of results is 44s to 49s = 5s
3. Time taken was 46.5s ±2.5s

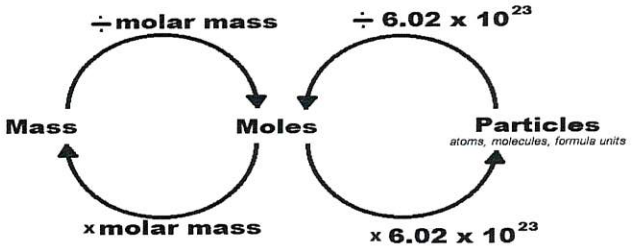
# Year 10 Science Summer Term Quantitative Chemistry

Big Picture: why are we studying this now Chemists use quantitative analysis to determine the formulae of compounds and the equations for reactions and builds on reaction already studied

## 6. Moles (HT)

| | | |
|---|---|---|
| Chemical amounts are measured in moles (mol) | *Mass of one mole of a substance in grams = relative formula mass* | One mole of $H_2O$ = 18g (1 + 1 + 16)<br><br>One mole of Mg = 24g |

| | | |
|---|---|---|
| Avogadro constant | *One mole of any substance will contain the same number of particles, atoms, molecules or ions.* | $6.02 \times 10^{23}$ per mole<br><br>One mole of $H_2O$ will contain $6.02 \times 10^{23}$ molecules<br>One mole of NaCl will contain $6.02 \times 10^{23}$ $Na^+$ ions |




| | |
|---|---|
| *Number of moles = $\frac{\text{mass (g)}}{A_r}$ or $\frac{\text{mass (g)}}{M_r}$* | How many moles of sulfuric acid molecules are there in 4.7g of sulfuric acid ($H_2SO_4$)? Give your answer to 1 significant figure.<br><br>$\frac{4.7}{98}$ = 0.05 mol ($M_r$ of $H_2SO_4$) |

## 7. Concentration of solutions

| | | |
|---|---|---|
| Measured in mass per given volume of solution ($g/dm^3$) | *Conc. = $\frac{\text{mass (g)}}{\text{volume } (dm^3)}$* | HT only<br>Greater mass = higher concentration.<br>Greater volume = lower concentration. |

## 8. Amount of substances in equations

| | | |
|---|---|---|
| Chemical equations show the number of moles reacting and the number of moles made | *$Mg + 2HCl \rightarrow MgCl_2 + H_2$*<br><br>*One mole of magnesium reacts with two moles of hydrochloric acid to make one mole of magnesium chloride and one mole of hydrogen* | If you have a 60g of Mg, what mass of HCl do you need to convert it to $MgCl_2$?<br><br>$A_r$ : Mg =24 so mass of 1 mole of Mg = 24g<br>$M_r$ : HCl (1 + 35.5) so mass of 1 mole of HCl = 36.5g<br><br>So 60g of Mg is 60/24 = 2.5 moles<br><br>Balanced symbol equation tells us that for every one mole of Mg, you need two moles of HCl to react with it.<br><br>So you need 2.5x2 = 5 moles of HCl<br><br>You will need 5 x 36.5g of HCl= 182.5g |

| | |
|---|---|
| The balancing numbers in a symbol equation can be calculated from the masses of reactants and products | *Convert the masses in grams to amounts in moles and convert the number of moles to simple whole number ratios.* |

# Year 10 Science Summer Term Atomic Structure (Physics)

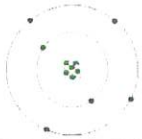
Big Picture: new content not previously covered n KS3. First part of topic is cross over with Chemistry KS4 Atomic Structure

## 1. Atom Structure

| | |
|---|---|
| Atom | ***Same number of protons and electrons*** |
| Ion | ***Unequal number of electrons to protons*** |
| Mass number | ***Number of protons <u>and</u> neutrons*** |
| Atomic number | ***Number of protons*** |

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

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



***Electrons lost*** — ***Positive ion***

***Electrons gained*** — ***Negative ion***

Isotope

***Different forms of an element with the same number of protons but different number of neutrons***

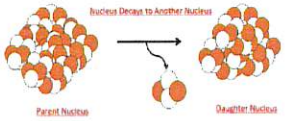
## 2. History of atom

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

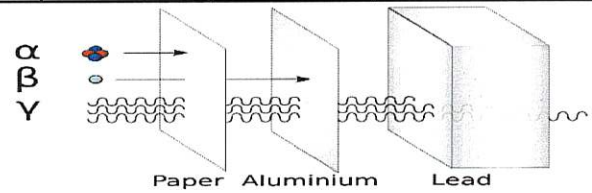
# Year 10 Science Summer Term Atomic Structure (Physics)

Big Picture: new content not previously covered n KS3. First part of topic is cross over with Chemistry KS4 Atomic Structure

## 3. Nuclear Radiation




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




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

## 4. Nuclear Equations and Half life

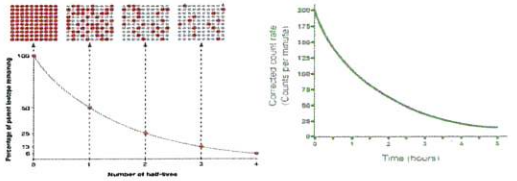
| Decay | *Emitted from nucleus* | *Changes in mass number and atomic number* | |
|---|---|---|---|
| Alpha (α) | ***Helium nuclei ($^4_2He$)*** | ***-4*** | ***-2*** |
| Beta (β) | ***Electron ($^0_{-1}e$)*** | ***0*** | ***+1*** |
| Gamma (γ) | ***Electromagnetic wave*** | ***0*** | ***0*** |
| Neutron | ***Neutron*** | ***-1*** | ***0*** |

$^{238}_{92}U \rightarrow {}^{234}_{90}Th + {}^{4}_{2}He$

$^{14}_{6}C \rightarrow {}^{14}_{7}N + {}^{0}_{-1}e$

$^{99}_{43}Tc \rightarrow {}^{99}_{43}Tc + \gamma$

| Half life | ***The time taken to lose half of its initial radioactivity*** |
|---|---|



| Contamination | ***Unwanted presence of radioactive atoms*** |
|---|---|
| Irradiation | ***Person is in exposed to radioactive source*** |
| Peer Review | ***When the findings of one scientist is checked by another scientist*** |

# Year 10 Science Autumn Term Infection and Response

Big Picture: why are we studying this now building on Year 7 and Year 10 Cell Biology and organisation. Organisms are organised on a cellular level.

## 1. Pathogens

**Pathogens are microorganisms that cause infectious disease**

| Viruses | Bacteria (prokaryotes) | Protists (eukaryotes) | Fungi (eukaryotes) |
|---|---|---|---|
| ***e.g. influenza, measles, HIV, tobacco mosaic virus*** | ***e.g. tuberculosis (TB), Salmonella, Gonorrhoea*** | ***e.g. dysentery, sleeping sickness, malaria*** | ***e.g. athlete's foot, thrush, rose black spot*** |
| DNA or RNA surrounded by a protein coat | No membrane bound organelles (no mitochondria or nucleus). Cell wall. Single celled organisms | Membrane bound organelles. Usually single celled. | Membrane bound organelles, cell wall made of chitin. Single celled or multi-cellular |

Bacteria may produce toxins that damage tissues and make us fell ill

Viruses live and reproduce inside cells causing damage

## 2. Diseases

| Pathogen | *Disease* | Symptoms | Method of transmission | Control of spread |
|---|---|---|---|---|
| Virus | *Measles* | Fever, red skin rash. | Droplet infection from sneezes and coughs. | Vaccination as a child. |
| Virus | *HIV* | Initially flu like systems, serious damage to immune system. | Sexual contact and exchange of body fluids. | Anti-retroviral drugs and use of condoms. |
| Virus | *Tobacco mosaic virus* | Mosaic pattern on leaves. | Enters via wounds in epidermis caused by pests. | Remove infected leaves and control pests that damage the leaves. |
| Bacteria | *Salmonella* | Fever, cramp, vomiting, diarrhoea. | Food prepared in unhygienic conditions or not cooked properly. | Improve food hygiene, wash hands, vaccinate poultry, cook food thoroughly. |
| Bacteria | *Gonorrhoea* | Green discharge from penis or vagina. | Direct sexual contact or exchange of body fluids. | Use condoms. Treatment using antibiotics. |
| Protists | *Malaria* | Recurrent fever. | By an animal vector (mosquitoes). | Prevent breeding of mosquitoes. Use of nets to prevent bites. |
| Fungus | *Rose black spot* | Purple black spots on leaves. | Spores carried via wind or water. | Remove infected leaves. Spray with fungicide. |

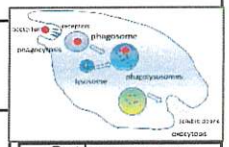
## 3. Defence

Pathogens may infect plants or animals and can be spread by direct contact, water or air

| The human body has several non specific ways of defending itself from pathogens getting in | | |
|---|---|---|
|  | ***Nose*** | Nasal hairs, sticky mucus and cilia prevent pathogens entering through the nostrils. |
|  | ***Trachea and bronchus (respiratory system)*** | Lined with mucus to trap dust and pathogens. Cilia move the mucus upwards to be swallowed. |
|  | ***Stomach acid*** | Stomach acid (pH1) kills most ingested pathogens. |
|  | ***Skin*** | Hard to penetrate waterproof barrier. Glands secrete oil which kill microbes |

## 4. White Blood Cells

| | | |
|---|---|---|
| **Phagocytes** | ***Phagocytosis*** | Phagocytes engulf the pathogens and digest them. |
| **Lymphocytes** | ***Antibody production*** | Specific antibodies destroy the pathogen. This takes time so an infection can occur. If a person is infected again by the same pathogen, the lymphocytes make antibodies much faster. |
| | ***Antitoxin production*** | Antitoxin is a type of antibody produced to counteract the toxins produced by bacteria. |




Pathogens are identified by white blood cells by the different proteins on their surfaces **ANTIGENS.**

# Year 10 Science Autumn Term Infection and Response

Big Picture: why are we studying this now building on Year 7 and Year 10 Cell Biology and organisation. Organisms are organised on a cellular level

## 5 Vaccination

**Used to immunise a large proportion of the population to prevent the spread of a pathogen**

| | | | |
|---|---|---|---|
| Vaccination | ***Small amount of dead or inactive form of the pathogen*** | ***1st infection by pathogen*** | White blood cells detect pathogens in the vaccine. Antibodies are released into the blood. |
| | | ***Re-infection by the same pathogen*** | White blood cells detect pathogens. Antibodies are made much faster and in larger amounts. |

A person is unlikely to suffer the symptoms of the harmful disease and it's spread in a population is prevented

## 6. Antibiotics and Painkillers

Most new drugs are synthesised by chemists in the pharmaceutical industry.

**Traditionally drugs were extracted from plants and microorganisms**

| ***Digitalis*** | ***Aspirin*** | ***Penicillin*** |
|---|---|---|
| Extracted from foxglove plants ,used as a heart drug | A painkiller and anti-inflammatory that was first found in willow bark | Discovered by Alexander Fleming from the *Penicillium* mould and used as an antibiotic |

**Antibiotics have greatly reduced deaths from infectious bacterial disease**

***Bacteria can mutate***

Sometimes this makes them resistant to antibiotic drugs.

| | | |
|---|---|---|
| **antibiotics** | ***e.g. penicillin*** | Kill infective bacteria inside the body. Specific bacterial infections require specific antibiotics. |
| **Painkillers and other medicines** | ***e.g. aspirin, paracetamol, ibuprofen*** | Drugs that are used to treat the symptoms of a disease. They do not kill pathogens |

## 7. Drugs Trials

| | | |
|---|---|---|
| New drugs are extensively tested for: | ***Efficacy*** | Make sure the drug works |
| | ***Toxicity*** | Check that the drug is not poisonous |
| | ***Dose*** | The most suitable amount to take |

**Drugs have to be tested and trialled before to check they are safe and effective**

It is difficult to develop drugs to kill viruses without harming body tissues because viruses live and reproduce inside cells

| ***Stage 1*** | ***Stage 2*** | ***Stage 3*** | ***Stage 4*** |
|---|---|---|---|
| Healthy volunteers try small dose of the drug to check it is safe record any side effects | A small number of patients try the drug at a low dose to see if it works | A larger number of patients; different doses are trialled to find the optimum dose | A double blind trial will occur. The patients are divided into groups. Some will be given the drug and some a placebo. |

Preclinical trials - using cells, tissues and live animals - must be carried out before the drug can be tested on humans.

**Clinical trials use healthy volunteers and patients**

Double blind trial: patients and scientists do not know who receives the new drug or placebo until the end of the trial. This avoids bias.

A placebo can look identical to the new drug but contain no active ingredients

## Urban Issues in Contrasting global cities

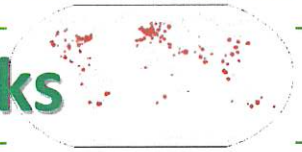
The size of urban areas across the world is growing in terms of its physical size and the number of people in them (urbanisation). Cities in Newly industrialised Countries (NICs) are growing at a particularly fast rate. Most of the worlds largest mega-cities are in Asia.

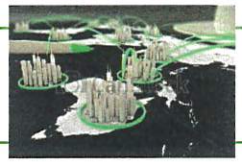
As a result of globalisation, places around the world are now more connected than ever before. Global cities have become key areas.

Although global cities are distributed widely across the world it is not an even distribution. For example;

- North America, Western Europe and South Asia have clusters of global cities
- Africa has very few
- India has 8
- China has 14

# Rural-Urban Links





The rate or urbanisation varies across the world. In many HICs the period of rapid urbanisation occurred back in the 1800s, whereas many LICs are experiencing it at the moment.

## Example of a city in an NIC: Mumbai

Location: northern India on a low lying island on the Arabian Sea. India's largest city with a population of 21million.

Reasons for growth;

- Natural population change – in 1974 the fertility rate was 4, although this has now reduced to 1.8. Natural change was therefore a big factor in the 1970's and 1980s but less so now.
- Migration – the pull factors for Mumbai are cheap rail travel, jobs and better education. The push factors from the surrounding countryside are poor standards of housing, healthcare and sanitation.
- Connections – Mumbai is the financial capital of India and home to the stock exchange. It is also home to large MNCs.

Issues of working in the informal sector;

1. Wages are low = families unable to save and cannot afford to send children to school = children fail to get an education and forced to work in informal sector
2. Informal workers don't par tax = government does not raise income and cannot afford to invest in schools or hospitals = children fail to gain a good education and forced to work in the informal sector.


Way of Life;

Mumbai is a city of contrasts. One obvious one is the difference between rich and poor. Many well education people live in expensive properties while the majority of the city live in slums and work in the informal economy (in roles such as street vendors and rubbish collectors)

Current Urban Challenges

- Reducing poverty and deprivation – with such a large proportion of people living in slums, Mumbai has millions stuck in a cycle of deprivation. Education opportunities for these people are being increased, in addition to improved healthcare and sanitation.
- Housing – the majority of people live in slums, are pavement dwellers or live in crawls (four or five story tenement buildings with shared facilities). These areas suffer from overcrowding and the risk of fire, flooding or collapse.
- Bhendi Bazaar is an example of an area which has been redeveloped;

1. Sewer and sanitation facilities installed
2. Solar panels used to generate electricity
3. Improved lighting of communal areas
4. Wide tree lined pedestrian areas
5. CCTV to improve safety
6. Improved public transport connections

The slums and housing problems;

Mumbai has the largest slum population of any city in the world, with more than half of its 12 million people living in informal settlements. A lack of sanitation, toilets, adequate housing, paved streets and open sewers are just some of the issues that face people living in these areas. Disease often spreads quickly due to the conditions and lack of health care facilities. Areas are overcrowded and there is a lack of green space.

## Example of a city in a HIC; Manchester

Location; North-west England

- Large city in North West England, 50 km west of Liverpool and 260km north west of London.
- Grew as an industrial city, especially after the opening of Manchester Ship Canal made it a trading port with the rest of the world.
- Became the centre of the UK's cotton industry
- Many factories & docks closed by 1970, city became run-down, riots in the early 1980's.
- Now reinvented as a modern city, with finance, restaurants, leisure and shops replacing the run-down warehouses and docks.

Salford Quays – An area of affluence

- High standard of living (wages) and quality of life (clean, safe, vibrant living experience)
- Low levels of unemployment, most are professionals earning huge salaries, highly educated and skilled, children have aspiration
- More educated therefore less likely to smoke or drink to excess. Houses well heated and modern.
- Health is good meaning life expectancy is 3 years above NA, people have balanced diets, have gym memberships & drink less.
- Crime is combatted by widespread CCTV and high tech security systems and staff

Hulme – Is an area of Manchester which suffers from deprivation. 99% of children live in poverty. Salford is an area that did experience poverty but through a series of regeneration projects now is largely more affluent.

How can we measure it?

- Standard of living is how wealthy you are, quality of life is how healthy and happy u r.
- Child poverty and fuel poverty are also used
- Hulme has very high unemployment, low wages, low skill levels and poor performing schools. Youths lack aspiration, crime is v. high
- Health is poor meaning life expectancy is extremely low. Few can afford 5 fruit & veg a day, alcohol/drug addiction high, including smoking. Houses are sub-standard and damp.
- Life expectancy 5 years below NA, gun crime is rife, few job opportunities for migrants.

How can we reduce it?

- Comprehensive redevelopment of old housing with modern, sustainable homes (see below)
- Use of Pupil Premium to help less well off to do better at school and gin more qualifications
- Language classes, adult employment skills courses offered for free, free transport to work / interviews
- Improve health by stop smoking classes, drug & alcohol education and cheaper fruit and veg.
- Reduce racial discrimination in the


Migration into Hulme

- People from the West Indies, India & Pakistan came to fill labour shortages in the 1960's
- People from Ireland fled famine in 1840's, Somali's came to escape civil war & famine in the 1980's & 90's.
- They cluster close to people with a similar language & culture, for religious reasons (mosques, halal butchers) & for safety.
- They have few qualifications or skills, struggle with language, living in sub-standard housing and racial discrimination.

Urban renewal in Salford Quays

- Salford Quays was originally Manchester Docks, linked to the Irish Sea by the Manchester Ship Canal, built in 1894.
- Became run down by the 1970's and closed. Area of decay and high unemployment.
- Salford Quays includes new-build executive housing and renovated warehouses (apartments)
- Over 300 homes, 5-star hotel, shops, restaurants, offices. Advantages of brownfield sites include
- ✓ Electricity, water and road structure already there
- ✓ Dangerous, run-down buildings made safe
- ✓ Protects ru-urban fringe – encouraging building here means edge of town developments can be refused

Improving Housing in Manchester – Sustainable solutions

- All new housing in Salford Quays is built as sustainable living to reduce C02 emissions.
- New housing is designed to have a south facing aspect to reduce the need for heating and lighting
- Walls are insulated to at least 30cm thickness
- Use of cars is discouraged, Metrolink has been built through the Quays, the Millennium Walkway allows traffic free cycling and walking into nearby city centre.
- Excellent internet access allows for working from home.
- Use of renewable energy such as wind and solar

Solving Manchesters Traffic Issues

Solving Manchester's traffic issues

200,000 homes are projected to be needed around Manchester before 2040. TfGM 2040 promises:

- Electrification of all major railways
- Further expansion of Metrolink
- Integrated ticketing system with use of mobile phones and swipecards to cut down on queues.
- More cycle lanes, bus lanes and safe walkways.
- Developing 'Park and Ride' schemes close to railway stations such as Horwich Parkway.
- Encouraging 'water transport' on the Manchester Ship Canal into Salford.
- Northern Hub – series of improvements to railway system in and around Manchester.

# History Germany In Transition Year 10

## 1. Key content

- Germany was blamed for starting World War One and was forced to accept the harsh terms of the T.O.V. They lost their empire and the size of Germany decreased, they had to reduce the size of their army, pay for the damage caused by the fighting and accept blame for starting the war.
- The new Weimar Republic replaced the Kaiser who had abdicated. They had to deal with uprisings from the communists and the ex soldiers. The Spartacist uprising, Kapp Putsch and Munich Putsch are 3 major uprisings that threatened the security and authority of this new government.
- In 1923, France and Belgium invaded the Ruhr. The government ordered German workers to go on strike and printed more money in order to pay the workers.
- This caused the value of the currency to plummet and the cost of goods to rise to record levels.

## 2. Vocab

| | |
|---|---|
| **Inflation** | Money becoming worthless, whilst prices are going up |
| **Putsch** | An uprising or rebellion |
| **Reparations** | Compensation for damage done in war |
| **Reichstag** | German parliament |
| **Proportional Representation** | The number of votes was equal to the number of seats won in the Reichstag |
| **Abdicate** | Resign as king or queen |

## 3. People

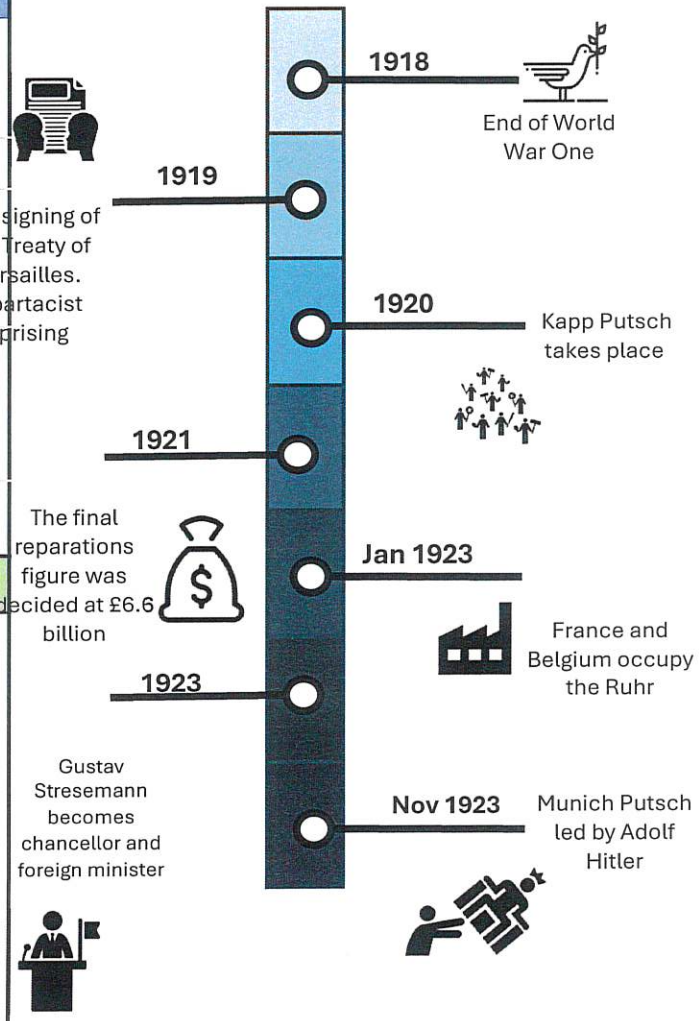
**Friedrich Ebert –** First president of the Weimar Republic and Germany

**Gustav Stresemann –** Chancellor and foreign minister who started to turn things around for Germany

**Wolfgang Kapp –** Leader of the Kapp Putsch

**Rosa Luxemburg –** Leader of the Spartacist uprising

## 4. Events Timeline



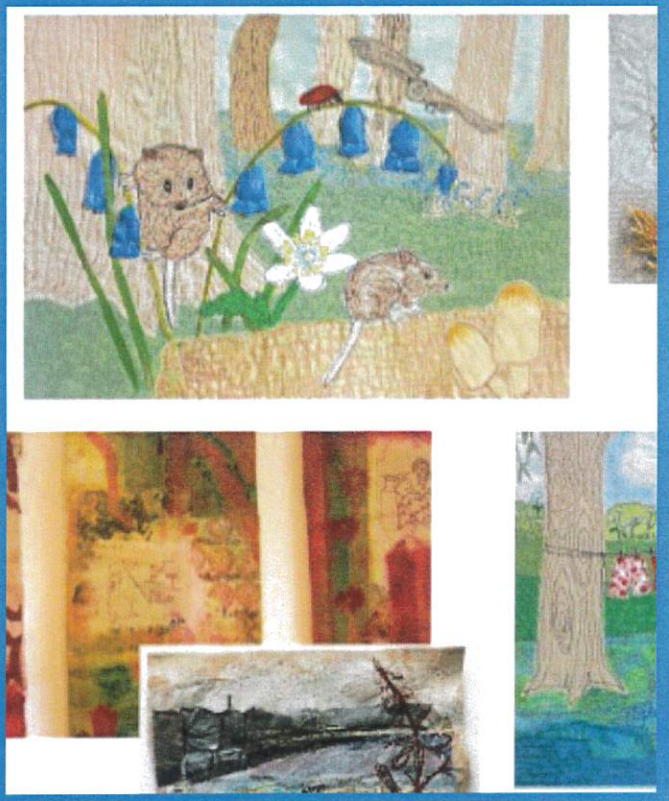
# OPTIONS SUBJECTS

GCSE Art and Design Knowledge Organiser

## *Record* ideas, observations and insights

- **Create a title page** – your title page should include multiple starting points explaining what you like about the title you have chose.
- **Create a mood board** - Print photos from your gallery and from google [illegible] your book full of visual prompts of what we are looking at.
- Draw sketches based on your title 'Food' – take photos and draw them. It always looks good when going through student's work.
- **Artist Research** - Find a couple of artists that link directly to your title and explain this. Why you chose them, what you like about them and how you plan to use their work in your build up.

If you have kept up with your homework – you should have definitely done all of these. For the remaining time you are dedicating to art homework, you should be completing all of these or merely adding to them. Please see me for any additionally extension tasks.



## Present a personal *Response*

- At the end of the year you will be asked to create a 'final piece' linking direct to food glorious food – please make sure that you have built up to this with many little sketches showing the links to your photographs and the artists you ha[illegible] mentioned and studied throughout your sketch book.

Half way point round up – where should we be upto?

GCSE Art and Design Knowledge Organiser

## Develop ideas through *Research*

AO1 Develop

- Create artist research pages linking to the title 'Food' – such as Sarah Graham, Georgina Luck, Wayne Thiebaud and CJ Hendry
- Visit exhibitions and galleries throughout your years in art – go to Manchester art gallery, Liverpool: Tate Museum, or pop-up galleries around the UK
- Read articles and watch clips on the artist and take notes – just type in the artist name onto youtube or google and see what you find to make your work different to other's in the class
- Annotate your work linking it to the artist and what you are doing in class – explain why you have made decisions and choices

## *Refine* work by exploring

AO2 Refine

- Experiment with the media and try to create the styles we are looking at in lesson – do things others in the class are not doing to make yours unique
- Do not stick to just one media because you are good at it – explore watercolours, oil pastels, acrylics and sculpture.
- Keep practising! Explain what you are doing best and what you need to improve on – if you are using watercolours for example, take risks! Do not keep everything simple and straight forward.

## *Record* ideas, observations an insights

AO3 Record

- Create a title page – explaining what you are doing this term and what starting points you could use
- Print photos from your gallery and from google to get your book full of visual prompts of what we are looking at.
- Take notes everywhere about what you are doing and why you are doing it.
- Draw sketches based on the title 'Food' – take photos and draw them. It always looks good when going through student's work.
- Try doing some simple edits on photoshop. Tutorials are available to do some extension tasks.

## Present a personal *Response*

- Plan out your artwork first – create mini sketches showing what you plan and intend to draw, paint and sculpt
- Try and do a test run of your artwork first (such as mini paintings and mini sculptures) – include photos or prints of these in your book
- Create work that is personal to you. Do not copy someone in class – try and make your work stand out and be completely different to everyone else's.
- Write about your piece and explain what you like and dislike about it

AO4 Present

Understanding the Aos –how we are marking ork

SMITHILLS SCHOOL SUCCESS FOR ALL

| Defensive Design | Range Check | Validation |
|---|---|---|
| - **Key Concepts:**<br>- **Definition:** Writing programs that anticipate and handle errors, misuse, or unexpected inputs.<br>- **Purpose:** Prevent crashes and ensure the program behaves correctly.<br>- **Techniques:**<br>- Input validation<br>- Authentication (e.g. password protection)<br>- Clear error messages<br><br>- **Examples:**<br>- A login system that checks if the username and password match.<br>- A calculator that displays an error if the user tries to divide by zero. | - **Key Concepts:**<br>- **Definition:** A type of input validation that checks if a value falls within an acceptable range.<br>- **Use:** Ensures data is sensible before it's processed.<br><br>- **Examples:**<br>- A form that only accepts ages between 0 and 120.<br>- A quiz that only allows scores between 0 and 100. | - **Key Concepts:**<br>- **Definition:** The process of checking that input data is reasonable before it is accepted.<br>- **Types of Validation:**<br>- **Presence check:** Data must be entered.<br>- **Type check:** Correct data type (e.g. number, text).<br>- **Length check:** Ensures correct number of characters.<br>- **Format check:** Matches a set pattern (e.g. postcode).<br><br>- **Examples:**<br>- Email address must include "@".<br>- Phone number must contain only digits. |

| Functions and Procedures | Maintainability | Testing |
|---|---|---|
| - **Key Concepts:**<br>- **Definition:** Blocks of reusable code that perform specific tasks.<br>- **Functions:** Return a value to the program.<br>- **Procedures:** Perform tasks but **do not return** a value.<br>- **Benefits:**<br>- Make code easier to read and reuse.<br>- Help structure large programs. | - **Key Concepts:**<br>- **Definition:** Writing code in a way that makes it easy to understand, update, and fix later.<br>- **Good Practices:**<br>- **Use meaningful names** for variables and functions.<br>- **Add comments** to explain complex sections.<br>- **Use indentation and spacing** to make code readable.<br>- **Use modular programming** (functions/procedures).<br><br>- **Examples:**<br>- Using total_price instead of tp as a variable name.<br>- Adding comments to explain how a login system works. | - **Key Concepts:**<br>- **Definition:** The process of checking that a program works as intended.<br>- **Types of Testing:**<br>- **Normal data:** Expected input (e.g. age = 25).<br>- **Boundary data:** On the edge of valid input (e.g. age = 0 or 120).<br>- **Erroneous data:** Incorrect input (e.g. age = -5 or "hello").<br>- **Importance:** Prevents bugs and ensures reliability.<br><br>- **Examples:**<br>- Testing a registration form with blank, valid, and invalid data.<br>- Testing a calculator with divide-by-zero input. |

**Big Picture:** Dancers in Year 10 are studying BTEC Tech Award in Performing Arts with a dance approach by studying three professional dance works. Pupils will be studying Component 1: Exploring the Performing Arts this term. In this component pupils will develop their understanding of the performing arts by examining the work of performing arts professionals and the processes used to create performance. The third professional dance work you will study and complete for your Pearson Set Assignment is Emancipation of Expressionism by Boy Blue.

## 1. Key features

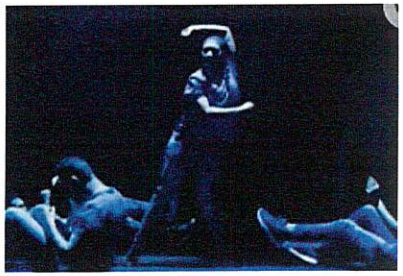
| | |
|---|---|
| **Stimulus** | The music – Til Enda by Olafur Arnalds. The importance of being free to express yourself as an individual and through hip-hop movement |
| **Dance Style** | Hip-hop (poppin' lockin' waackin' breakin' krumpin') |
| **Themes** | Order, chaos, unity, individuality |
| **Music** | Urban dubstep style music. Classical sections. Repetitive beats and sounds. Repeated vocal 'The One'. |
| **Lighting** | Blue wash, blue pools, white sidelight from off stage. Purple on cyclorama. |

## 2. Choreographic intention and Choreographic approach

| | |
|---|---|
| **Choreographic intention** | Emotional journey, A journey through life, Theme of order and chaos |
| **Choreographic approach** | Choreographer worked collaboratively with the dancers.<br>Signature motifs of the company used throughout. (Ninja motifs) Developed using devices and formations<br>Specific attention to the aural setting – direct correlation. |

## 3. Costume Contributions

**Costume** – Expressing individuality – allowance of personal jewellery, hairstyles and tattoos reflects the stimulus of expressing yourself. All dancers wearing the same creates uniformity. The costumes are gender neutral which represents equality despite of gender.



## 4. Music and Lighting Contributions

**Music** – pre-recorded music is played. Order and Chaos – rapidly changing tempos and beats create a sense of chaos. Use of fluid sounding classical music complements the liquid style lighting creating a sense of being submersed in water. Each of the 4 sections has its own distinctive section of aural setting aiding the audiences following of the structure.

**Lighting** – Freedom of expression – spotlights highlight dancers to express themselves in their own moment in the 'limelight'. Blue colour complements blue costumes. Spotlights highlights dancers in their solos sculpts body – side light sculpts the bodies of the dancers as they scramble towards it.

# Year 10 Graphics: Knowledge Organiser – Summer 1

## Key Outcome 1

**AO2 and AO3 in Focus**
AO2 and AO3 are critical stages in your creative journey. They focus on how you develop your initial ideas through experimentation with materials and techniques (AO2) while documenting your process and decisions (AO3). These stages bridge the gap between research and final outcome, showing your ability to think, explore, and reflect like a designer.

**Why are AO2 and AO3 so important?**
These objectives show your creative thinking and technical ability. They reveal how you develop original ideas from inspiration. Examiners need to see your journey, not just your destination.

## Key Outcome 2

**AO2: Refining and Experimenting**
**What this means to you:** Use artist research as inspiration for your own ideas. Experiment with combining techniques: digital, traditional media, typography, photography. Document all experiments, even unsuccessful ones. Show clear decision-making. Develop ideas through multiple iterations.

**How to excel at AO2:**
- Create 3 different designs based on your chosen artists/designers
- Produce multiple variations of each idea
- Show development from simple to complex
- Demonstrate technical skill and attention to detail
- Include annotations explaining your choices

## Key Outcome 3

**AO3: Recording and Documenting**
**What this means to you:** Document your design process visually. Photograph work at different stages and take screenshots of digital work. Make notes about techniques, problems, and solutions. Show the story of your creative decisions. Your sketchbook should evidence you creative thinking, not just doing.

**How to excel at AO3:**
- Take quality photos of all work (good lighting, multiple angles)
- Include close-ups of details and techniques
- Document chronologically
- Write meaningful annotations
- Organize documentation clearly

## Keywords

| | |
|---|---|
| **Experimentation** | Developing ideas through different materials/techniques |
| **Documentation** | Recording your design process and decisions |
| **Iterations** | Multiple versions of ideas showing development |
| **Annotations** | Written explanations of your design choices |
| **Design Process** | The journey from research to final outcome |
| **Creative thinking** | Developing original ideas from inspiration |

## Key Outcome 4

**Why are annotations important?**
Annotations transform your visual work into evidence of your thinking process. Without them, examiners can only guess at your intentions. Strong annotations demonstrate critical thinking and show you understand design principles. They also connect your work to your chosen artists/designers and explain how your decisions address your design brief requirements. *See examples below:*

**Good annotation:** *"I created typography using sweets to reflect the playful nature of my confectionery packaging. The bright colours and irregular shapes of the letter forms communicate the fun, nostalgic experience of enjoying candy. This connects to my research on Aries Moross who uses bold, vibrant typography with playful elements."*
**Poor annotation:** *"I made letters from sweets because it looked cool."*

**Good annotation:** *"I photographed melting chocolate to create an organic texture for my background. This technique creates a sense of indulgence and luxury that suits my high-end confectionery brand concept. The warm tones and flowing forms were inspired by David Carson's experimental textures and Milton Glaser's expressive colour use."*
**Poor annotation:** *"I used melted chocolate because I like how it looks."*

| Strengths and Weaknesses of a User Interface | Purpose and Audience | Ease of Use |
|---|---|---|
| - **Key Concepts:**<br>- **Strengths** might include clear layout, attractive visuals, and responsive design.<br>- **Weaknesses** may include cluttered pages, small buttons, or confusing navigation.<br>- **Why It Matters:** A good interface keeps users engaged and productive; a poor one can lead to frustration.<br><br>- **Examples:**<br>✅ A strengths example: Clear home screen with large icons.<br>❌ A weaknesses example: Too much text on one screen, making it hard to read. | - **Key Concepts:**<br>- **Purpose:** What the interface is designed to achieve — e.g., inform, entertain, collect data, sell a product.<br>- **Audience:** Who the interface is for — e.g., children, professionals, elderly users.<br>- **Why It Matters:** Design choices (e.g., font size, colours, navigation) must match the audience's needs.<br><br>- **Examples:**<br>- An educational app for children using bright colours and simple buttons.<br>- A business dashboard with charts and filters for professionals. | - **Key Concepts:**<br>- **Definition:** How easily a user can interact with and navigate the interface.<br>- **Features that help ease of use:**<br>- Clear icons<br>- Simple menus<br>- Logical layout<br>- **Why It Matters:** Users are more likely to return to and complete tasks on interfaces that are intuitive.<br><br>- **Examples:**<br>- A shopping app with a visible search bar and category filters.<br>- A game menu that uses icons and tooltips to guide the user. |

| Accessibility Features | How Effectively the Design Principles Have Been Met |
|---|---|
| - **Key Concepts:**<br>- **Definition:** Tools and design choices that help users with disabilities interact with a system.<br>- **Common Accessibility Features:**<br>- High-contrast mode<br>- Screen readers<br>- Text resizing<br>- Voice control<br>- **Why It Matters:** Ensures equal access for all users, regardless of physical or cognitive ability.<br><br>- **Examples:**<br>- A form with labels that work with screen readers.<br>- A website that allows text to be enlarged for users with visual impairments. | - **Key Concepts:**<br>- **Design Principles:**<br>- **Consistency:** Layout, fonts, and colours are used uniformly.<br>- **Navigation:** Easy to move around the interface.<br>- **Clarity:** Information is easy to understand.<br>- **Feedback:** The system responds to actions (e.g., confirmation messages).<br>- **Evaluation:** Check if the interface meets its intended goals and is suitable for the user.<br><br>- **Examples:**<br>- ✅ Menu buttons always in the same place on each screen (consistency).<br>- ✅ Error messages clearly show what went wrong (feedback).<br>- ❌ Poor contrast between text and background (lack of clarity). |

**Big Picture:** *Blood Brothers*, a musical by Liverpudlian playwright Willy Russell, revolves around twin boys (Mickey and Edward) who are separated at birth and brought up in completely different environments in the city. The play, set in the 1960s, is divided into two acts, with songs throughout.
Mickey is brought up with his seven older siblings by his struggling single mother, Mrs Johnstone. His twin brother, Edward, however is brought up as the only child of the wealthy Lyons family, who live nearby, after Mrs Lyons persuaded Mrs Johnstone to hand over one of her twins at birth. Mickey and Edward don't meet each other until they're seven years old, but immediately become best friends and blood brothers. The bond continues when the boys are teenagers and both live in the countryside, despite them both being in love with Mickey's neighbour Linda. However, as they get older, the huge difference in their backgrounds pulls them apart and eventually leads to their tragic deaths.

### 1. Key concept – Themes

**Chance** is our main focus –
Chance that Mrs Johnstone says 'no'
Chance that the twins find out.
Chance that Linda chooses Eddie over Micky.
Chance that Micky doesn't do the job with Sammy.
Chance that Eddie and Micky don't fall out.
Other themes – love, relationships, family, superstition, social class, poverty.

### 2. Key concept – Stylistic Features - Brecht

Scenes are **episodic**, which means they stand alone and are constructed in small chunks, rather than creating a lengthy and slow build of tension.
Dramatic theatre has a **linear narrative** which means its events happen in chronological order. Epic theatre often has a **fractured narrative** that is non-linear and jumps about in time.
Epic theatre also shows an argument. It's a clear political statement. The audience remains objective and watches a **montage** or a series of scenes. Standing outside the action emotionally, the audience can study the story objectively and should recognise social realities.
The V effect – Addressing the audience using narration, coming out of role, speaking the stage directions or using placards.
Muti-role – Playing multiple characters
Montage – Short self contained scenes one after another.
Tableaux – Freeze-frames

### 3. Key concept – Roles and Responsibilities

1. Playwright
2. Choreographer
3. Director
4. Set designer
5. Costume designer
6. Sound designer
7. Lighting designer

Smithills School Performing Arts

**What was the process of creating Blood Brothers?**

1. Writing the script
2. Creating storyline
3. Creating character
4. Auditions
5. Rehearsal
6. Technical rehearsal
7. Dress rehearsal
8. Reviews

| | | | |
|---|---|---|---|
| **Tone** | The way an actor uses their voice to show emotion | **Gesture** | Communicating using hands or arms |
| **Pitch** | How high or low the voice is | **Posture** | The way an actor sits or stands |
| **Pace** | How fast or slow the voice is | **Gait** | The way an actor walks |
| **Volume** | How loud or quiet the voice is | **Facial Expression** | The actor using their face to show emotion |
| **Accent** | The way the voice is affected by where you come from | **Proxemics** | The distance between actors on stage |
| **Emphasis** | Putting stress on a particular word or section | **Orientation** | The direction an actor is facing |
| **Pause** | Leaving a short gap in-between words | **Mime** | Showing the audience an invisible object |

## Task 1:

## Q1.

***Historia de una escalera*, a play by Antonio Buero Vallejo**

You read this extract adapted from the play.

It is a conversation between Don Manuel and Doña Asunción.

| | |
|---|---|
| **Don Manuel** | Y Fernando, ¿qué hace? |
| **Doña Asunción** | Trabaja en la papelería. Pero no está contento. ¡El salario es tan bajo! Tiene muchos planes. Quiere ser arquitecto, ingeniero… En su tiempo libre le gusta leer y pensar. Siempre en su cama. Y escribe cosas también, poemas. ¡Muy bonitos! |

Finish the sentences.

Write the correct letter in each box.

**1** Fernando works…

| | | |
|---|---|---|
| **A** | as an architect. | |
| **B** | as an engineer. | |
| **C** | in a stationery shop. | |

**(1)**

**2** Doña Asunción thinks that Fernando…

| | | |
|---|---|---|
| **A** | does not earn very much. | |
| **B** | has no plans for the future. | |
| **C** | enjoys his job. | |

**(1)**

**3** Fernando likes to spend his time…

| | | |
|---|---|---|
| **A** | eating and reading. | |
| **B** | sleeping and writing. | |
| **C** | reading and thinking. | |

**(1)**

**(Total 3 marks)**

## Task 2: Q2.

**Life at school**

Your friends tell you about their school in Tenerife.

El director de mi instituto es trabajador. No le tenemos miedo. Su relación con los estudiantes, los profesores y los padres es estupenda.
**Antonio**

Yo soy poco creativa y, por eso, me cuesta mucho diseñar y dibujar. Estoy harta de las clases y los profesores.
**Beatriz**

Bueno, el gimnasio es muy antiguo y los vestuarios están sucios, las pistas de tenis no están mal y tenemos un nuevo campo de deportes genial.
**Azucena**

Los profesores preparan bien sus clases y explican con paciencia. Afortunadamente, no toleran el mal comportamiento de los alumnos tontos.
**Rafael**

What are your friends' opinions about these aspects of their school?

Write **P** for a **positive** opinion.
**N** for a **negative** opinion.
**P + N** for a **positive** and **negative** opinion.

| | | |
|---|---|---|
| 1 | Antonio's opinion of the headteacher | |

**(1)**

| | | |
|---|---|---|
| 2 | Beatriz's opinion of Art | |

**(1)**

| | | |
|---|---|---|
| 3 | Azucena's opinion of the PE facilities | |

**(1)**

| | | |
|---|---|---|
| 4 | Rafael's opinion of the teachers | |

**(1)**
**(Total 4 marks)**

## Task 3:

## Q3.

**Fundraising activities at Pepe's school**

You read this email from your Spanish friend, Pepe, about his school's fundraising activities.

When do these fundraising activities happen?

Write **P** if the activity happened in the **past**.
**N** if the activity is happening **now**.

**F** if the activity is going to happen in the **future**.

| | | |
|---|---|---|
| **1** | Non-uniform day | |

**(1)**

| | | |
|---|---|---|
| **2** | Cake sale | |

**(1)**

| | | |
|---|---|---|
| **3** | Car washing | |

**(1)**

| | | |
|---|---|---|
| **4** | Sponsored walk | |

**(1)**
**(Total 4 marks)**

## Q4.

**Task 4:**

**Bullying**

You read a report about bullying in Spain.

Ayer se celebró el Día Mundial contra el Acoso Escolar.

Los niños españoles de 11 años son los que sufren más el acoso escolar.

Además, el 30% de los niños españoles reciben insultos, no por su inteligencia sino por su apariencia física.

Muchos estudiantes menores de 14 años usan las redes sociales y a los profesores les preocupa que sus alumnos reciban mensajes crueles.

Answer the questions in **English**.

**1** When did the World Anti-Bullying at School Day take place?

_____

**(1)**

**2** What are 30% of Spanish children bullied about?

_____

**(1)**

**3** Who are worried about online bullying?

_____

**(1)**
**(Total 3 marks)**

## Task 5:

## Q5.

**Deberes en vacaciones**

Lees las opiniones de dos expertos argentinos sobre los deberes.

| | |
|---|---|
| Durante las vacaciones a unos niños les gusta ver la tele, otros dibujan y a la mayoría les encanta leer. En mi opinión, es necesario jugar. Creo que los niños no deben estudiar durante las vacaciones. Lo más importante para los niños es divertirse, en mi opinión.<br><br>**Gregorio** | Para muchos niños las vacaciones son ideales para repasar y es muy beneficioso para ellos. Además, para muchos padres es importante seguir rutinas. Si los niños repasan durante las vacaciones tienen menos posibilidades de suspender cuando regresan.<br><br>**Inma** |

Contesta las preguntas en **español.**

**Ejemplo:** Según Gregorio, ¿cuál es el pasatiempo **más** popular para los niños durante las vacaciones?

**leer**

**1** Según Gregorio, ¿qué deben hacer los niños durante las vacaciones?

Escribe **dos** actividades.

1 _____

2 _____

**(2)**

**2** Según Inma, ¿para qué son útiles las vacaciones para muchos niños?

_____

**(1)**

3 Según Inma, ¿qué peligro hay para los niños que no estudian?

_____

**(1)**
**(Total 4 marks)**

# Legislation part 3

Hair beauty – Yr10 - Smithills school

**Scabies** – crusted scabies are very contagious and the infestation can spread easily both by direct skin-to-skin contact and by contamination of items such as clothing, bedding, and furniture.

**Pediculosis** – Head lice (pediculosis capitis) is a common, highly contagious infection. It is caused by infestation with the human head louse, Pediculus humanus capitis, and it is usually very itchy.

**Salon Sterilisation methods**

**Autoclave** – For metal tools used for hair, nails or beauty therapy services, for example; scissors, tweezers, cuticle knife/cuticle nippers

**Ultra-violet cabinet** – suitable for all tools

**Chemical sterilisers** – Scissors, tweezers, combs, brushes, sectioning clips:

- Mostly used in chemical jars, a solution is prepared following manufacturers' instructions
- Tools are submerged for 20 minutes to be fully sterilised

**Sterilisation** – the killing of organisms such as bacteria, fungi and parasites

**Disinfecting –** the elimination of the most harmful microorganisms (not including their spores) from surfaces or objects.

Disinfectants should not be used directly on the skin, nails or any part of the body. (Wear gloves when using disinfectants.)

All disinfectants must be mixed, used and disposed of according to the manufacturer's instructions.

Before items can be properly disinfected, they must first be cleaned

**Accidental injury** – a trip or fall resulting in a minor injury, for example, sprain or cut to skin

- Accidents using products and equipment – shock, burn or scald from electrical items, inhalation of products, trip or fall resulting from hazard
- Medical conditions, for example, angina, heart attack, asthma attack, epilepsy
- Fire – building, electrical equipment, flammable products

Personal appearance should include:

- Clean hair
- Clean nails and hands
- Good personal hygiene
- Accepted uniform/clothes
- Any cuts or abrasions should be covered

A **risk** is the likelihood that the hazard will cause harm

A **hazard** is something with the potential to cause harm:

th

**Bacterial**

**Impetigo** – exposure to the bacteria that causes impetigo can be from contact with the sores of someone who is infected or with items they have touched – such as clothing, bed linen, towels.

**Folliculitis** – can be spread through unclean tools such as razors.

**Boils** – can spread if they are infected, not covered and direct contact is made with another person

***Big Picture:*** *Providing good health and social care services is very important and a set of 'care values' exist to ensure this happens. Care values are important because they enable people who use health and social care services to get the care they need and to be protected from different sorts of harm.*

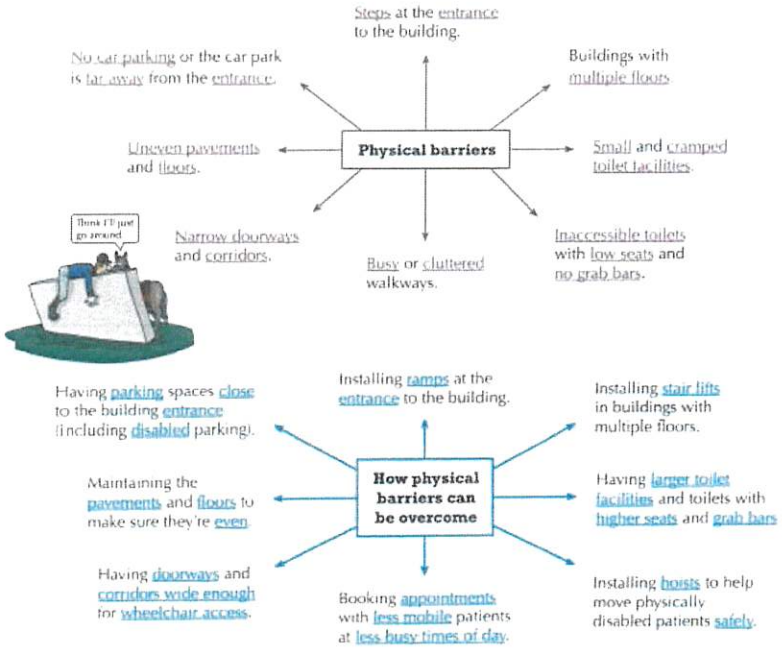
**Learning Aim A: Understand the different types of health and social care services and barriers to accessing them**

## 1. Physical barriers, e.g. issues getting into and around the facilities

Barriers prevent an individual from accessing a service. They are unique to the health and social care system. There are lots of different kinds of barriers — this page is all about physical barriers.

### Physical barriers affect how easily a person moves around

1) Physical barriers make it difficult for people to get into and around buildings that provide health and social care services (e.g. GP surgeries or care homes).
2) These barriers will particularly affect those who already have reduced mobility (e.g. elderly people or those with physical impairments) or visual impairments.
3) Services can put measures in place to help minimise or remove these barriers.




## 2. Sensory barriers, e.g. hearing and visual difficulties

Here's a page on sensory barriers — you're going to notice a trend across the next pages...

### Sensory barriers affect people with a sensory impairment

1) The two main types of sensory impairment are visual and hearing difficulties.
2) People can be born with sensory impairments or develop them later in life — as people get older it's common to experience a gradual decline in sight and hearing.
3) Sensory impairments can make it difficult for a person to get to a service as well as making it more difficult for them to be given information clearly when they are there.


**Visual difficulties**

| Sensory barrier | How the barrier can be overcome |
|---|---|
| Information leaflets printed in a small text, making them hard to read. | Having large print leaflets with larger text and leaflets in braille. |
| Small and hard to read signs or maps showing directions around the building. | Making signs bigger, and staff collecting patients from the entrance or waiting area to take them to their appointment. |
| Colour-coded signs can be difficult for those who are colour blind to understand. | Designing signs with colour blind people in mind — without important information only represented by different colours. |
| Screens at GP surgeries showing the name of the next patient and the room number to go to. | Having an audio announcement of the next patient and room number in addition to the screen display. |

**Hearing difficulties**

| Sensory barrier | How the barrier can be overcome |
|---|---|
| Noisy and dark reception area making it hard to hear the receptionist or lip read. | Taking the patient to a quiet and well-lit area so that they can hear and lip read if they need to. |
| Telephone booking systems for appointments. | Having alternative ways to book appointments — e.g. online or by email or text. |
| Difficulty hearing instructions during medical tests and procedures. | Having a British Sign Language (BSL) interpreter or pointing communication cards (cards with basic phrases or symbols on them). |
| Difficulty hearing information or understanding complex medical terms when lip reading. | Using hearing loops (devices that send sound from a microphone to a hearing aid). |

Staff should also face the patient when speaking to make lip reading easier.

***Big Picture:*** *Providing good health and social care services is very important and a set of 'care values' exist to ensure this happens. Care values are important because they enable people who use health and social care services to get the care they need and to be protected from different sorts of harm.*

**Learning Aim A: Understand the different types of health and social care services and barriers to accessing them**

## 3. Social, cultural and psychological barriers, e.g. lack of awareness, differing cultural beliefs, social stigma, fear of loss of independence

This page is all about social and cultural barriers — just four main points to learn...

### People can have different social and cultural backgrounds

People from different social and cultural backgrounds can experience different barriers due to...

#### ...lack of awareness

Social background refers to how a person was raised and their position in society.

Cultural background refers to the groups or communities a person belongs to, based on factors such as their race, religion and gender.

1) Lack of awareness can include:
   - people not knowing that the symptoms they are experiencing could be related to a serious health issue.
   - people not knowing the range of services available to help them.
2) It can prevent people from accessing services and lead to patients being diagnosed late.
3) To overcome this, services can run awareness campaigns or distribute posters and leaflets to educate people about important health issues and the services that are available.

#### ...differing cultural beliefs

1) People with different cultural beliefs may have different needs. For example, some people have specific diets and prayer times or might prefer being treated by someone of the same gender.
2) People will be less likely to use services if they are worried that their cultural needs won't be met.
3) Services should listen to and respect the needs a person may have and try to meet them. For example, they could do this by:
   - making sure there is a range of food offered to meet any dietary requirements.
   - offering a choice of service provider (i.e. male or female).
   - collaborating with community and faith groups.
   - arranging tests and procedures to avoid prayer times.
   - making sure there is a place for a person to pray or worship.

Well women and well men clinics are also available to help people receive care for specific conditions related to their gender.

#### ...social stigma

1) Social stigma is when a person is seen in a negative way or discriminated against because of their circumstances (e.g. a health condition).
2) Social stigma is particularly common around mental and sexual health conditions and can make people feel too scared or embarrassed to get the help they need.
3) Services can help overcome social stigma by educating people about stigmatised conditions. E.g. leaflets and posters in a GP surgery waiting room might make patients more confident to talk to their GP about their own similar symptoms.

#### ...fear of loss of independence

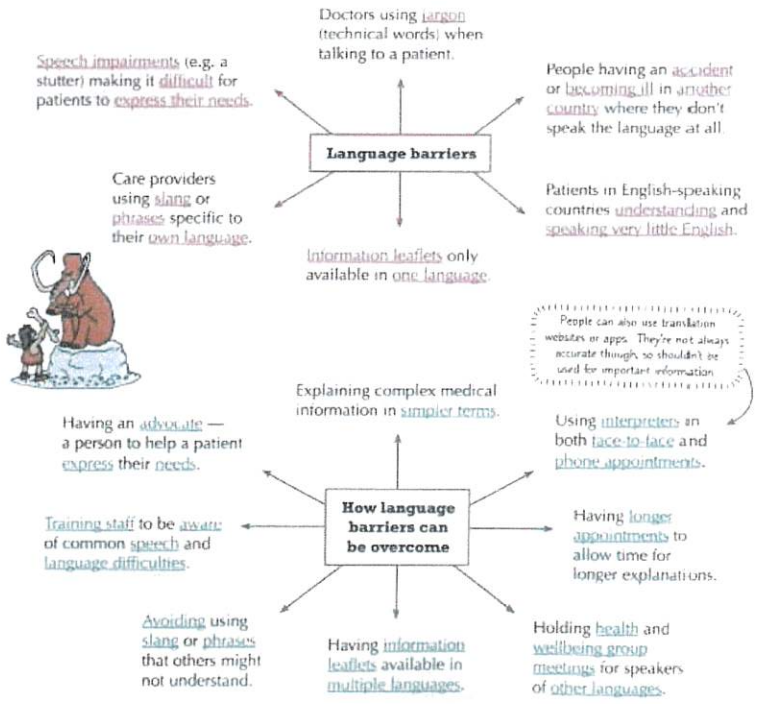
1) People may be reluctant to get help (even if they need it) if they think it will affect their independence. E.g. an older adult might not seek help in case they're moved into residential care.
2) Services can work with people to help them stay as independent as possible. This could include letting them make their own choices (e.g. about what meals they would like prepared for them) and helping them do things for themselves rather than doing everything for them.

## 4. Language barriers, e.g. differing first language, language impairments

The next set of barriers are all to do with language. Have a read of this page to familiarise yourself with them.

### Barriers can make it hard for people to communicate

1) Language barriers mainly affect people that speak English as an additional language (their first language isn't English) or those who have language or speech impairments.
2) They can prevent people from being able to communicate with health and social care workers — this makes it difficult for a care provider to understand a patient's needs as well as making it difficult for the patient to understand any information they are given.



***Big Picture:*** *Providing good health and social care services is very important and a set of 'care values' exist to ensure this happens. Care values are important because they enable people who use health and social care services to get the care they need and to be protected from different sorts of harm.*

**Learning Aim A: Understand the different types of health and social care services and barriers to accessing them**

## 5. Geographical barriers, e.g. distance of provider, poor transport links

Up next — geographical barriers. Here's a whole page on them for you to have a read through.

### Where a service is located can affect who can access it

1) Geographical barriers make it difficult for people to get from their home to the services they need. They are usually related to the service being too far away from the person's home.
2) Geographical barriers will particularly affect people who can't drive, don't have access to good public transport links or are less mobile and can't manage long journeys.

**Geographical barriers**

- The car park or nearest bus stop is a long walk away from the service.
- The journey to the service takes a long time.
- The route to the service is unsafe or doesn't have a footpath, so people can't walk to it.
- There's no direct transport link to get to the service.
- Public transport to the service is not very frequent.
- Car parking or public transport is expensive.
- There's no car parking.

**How geographical barriers can be overcome**

- Using local community transport schemes which help disabled or elderly people get to their appointments.
- Offering home visits for patients that are struggling to travel to the service.
- Having community clinics in local areas. These clinics are staffed by a range of healthcare workers and mean that patients don't always have to travel to a hospital for care.
- Setting up telehealth schemes to allow patients to share information and communicate with services remotely (e.g. online or by phone).
- Doing community visits (e.g. to schools).
- Offering free parking (e.g. for those with conditions meaning they have to visit a service, such as a hospital, regularly).

## 6. Financial barriers, e.g. charging for services, cost of transport, loss of income while accessing services

Finally, we've got to the last page on barriers — this one is all about financial barriers.

### Some people can't afford to pay for the services they need

1) People living in the UK have access to a lot of free health services through the NHS. They don't have to pay for things such as appointments with their GP, emergency treatment in A&E or maternity care.
2) However, some services aren't covered by the NHS and the patient may have to pay for them. These act as financial barriers if people can't afford them. For example, some people have to pay for:
   - dental care
   - optical care
   - some prescriptions
   - domiciliary and residential care

Dental care, optical care and prescriptions are free for children and adolescents in full-time education.

**Financial barriers**

- Charges for some services (e.g. optical care).
- Cost of prescriptions.
- Having to take time off work to access a service can lead to a loss of income for some people. For conditions needing long-term hospital care, a person may have to give up work completely.
- Childcare costs for parents while they're at appointments.
- Costs associated with travel (e.g. bus tickets, petrol or parking).

**How financial barriers can be overcome**

- NHS exemption certificates let people with certain medical conditions get free prescriptions.
- NHS Low Income Scheme helps people pay for dental care, optical care, prescriptions and travel.
- NHS vouchers are available to some people to reduce the cost of eye tests, glasses and lenses.
- The NHS Healthcare Travel Costs Scheme refunds travel costs to people receiving certain benefits or allowances.
- Some charities offer free support with childcare to allow parents to go to appointments.
- Charitable schemes such as community transport provide free or low cost travel to services.

# Level 1/2 Hospitality and Catering: Unit 1-1.1.2 -
## Types of employment roles and responsibilities within the industry

**Types of employment roles and responsibilities within the industry**
There are four main areas within the industry that you should know the roles and responsibilities within. They are listed below:

### Front of house

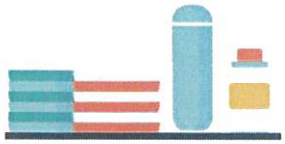
- Front of house manager: oversees all staff at the restaurant, provides training, hiring of staff, and ensures good customer service.
- Head waiter: oversees the waiting staff of the restaurant in high-end eating establishments.
- Waiting staff: greets customers, shows them their table, takes food and drink orders from customers, and serves them their order. Makes sure customers' needs are met, and that the food order is made correctly.
- Concierge: advises and helps customers with trips and tourist attractions. Books taxis for customers and parks customer cars.
- Receptionist: takes bookings, deals with questions and complaints from customers, checks-in customers, takes payment, and provides room keys.
- Maître d'hôte: oversees the service of food and drinks to customers. They greet customers, check bookings, reservations, and supervise waiting staff.

### Kitchen brigade

- Executive chef: in charge or the whole kitchen, developing menus and overlooking the rest of the staff.
- Sous-Chef: the deputy in the kitchen and is in charge when the executive chef isn't available.
- Chef de partie: in charge of a specific area in the kitchen.
- Commis chef: learning different skills in all areas of the kitchen. Helps every chef in the kitchen.
- Pastry chef: prepares all desserts, pastry dishes and bakes.
- Kitchen assistant: helps with the peeling, chopping, washing, cutting of ingredients, and helps washing dishes and stored correctly.
- Apprentice: an individual in training in the kitchen and helps a chef prepare and cook dishes.
- Kitchen porter/ plongeur: washes the dishes and other cleaning duties.

### Housekeeping

- Chambermaid: cleans guests' rooms when they leave, and restocks products that have been used, they also provide new bedding and towels.
- Cleaner: cleans hallways and the public areas of the establishment.
- Maintenance: repairs and maintains the establishment's machines and equipment, such as heating and air conditioning. These responsibilities could also include painting, flooring repair or electrical repair.
- Caretaker: carries out the day to day maintenance of the establishment.



### Management

- Food and beverage: responsible for the provision of food and drink in the establishment which will include breakfast, lunch, dinner, and conferences.
- Housekeeping: ensuring laundering of bed linen & towels, ordering of cleaning products and overseeing housekeeping staff duties.
- Marketing: promotes events and offers to increase custom at the establishment, and is responsible for the revenue of the business.

# Level 1/2 Hospitality and Catering - Unit 1-1.1.2:
## Personal attributes, qualifications and experience

You need to be able to know and understand the different personal attributes, qualifications and experience that an employer would look for to fulfil different job roles in the hospitality and catering industry.

### Personal attributes

The list below names the different personal attributes that employees could need to fulfil different jobs in the industry:

- Team player
- Organised
- Flexible
- Good communicator
- Friendly
- Calm under pressure
- Willingness to learn and develop
- Pleasant
- Hygienic
- Punctual
- Hardworking
- Reliable
- Approachable
- Good listener
- Leadership qualities
- Sense of humour
- Ability to be proactive
- Good attention to detail
- High standard of personal appearance.

### Qualifications

Apprenticeships and experience in the role or sector are two ways to fulfil certain job roles. Named below are some of the qualifications that could be required to fulfil certain jobs within the hospitality and catering sector.

**Hospitality sector**

- Level 1 Certificate in Business and Administration (office administration).
- Level 2 Certificate in Front of House Reception (hospitality and catering).
- Level 2 Diploma in Reception Operation and Services (hospitality and catering).
- GCSE English / Maths / Hospitality and Catering / Business / IT.

**Catering sector**

- Diploma in Catering.
- NVQ Food preparation and cooking.
- Bachelor's degree/catering management.
- City & Guilds diplomas in professional cookery.
- BTEC HND in professional cookery.
- A foundation degree in culinary arts.
- Health and safety and food hygiene certificates/food hygiene.
- Level 1/2 hospitality and catering.
- GCSE Food and Nutrition.
- Level 3 Food Science and Nutrition.
- First aid.

# Level 1/2 Hospitality and Catering: Unit 1:
## The operation of front and back of house: Front of house (AC2.2)

### Operational requirements

To run a successful hospitality and catering business, it is important that the front of house is welcoming to all customers. A logical layout and workflow will mean that the customers will be able to enjoy organised, efficient service.

In a catering establishment such as a café, the front of house is where the customers are served.

In a residential establishment such as a hotel, the front of house is where guests are received before checking in to their room.

Catering and residential establishments have common front of house areas, which help to ensure a smooth operation of the business.

### Front of house dress code

The front of house dress creates a first impression. In some establishments a **uniform** may be worn. In other establishments, employees may be required to wear colours such as black and white. In addition:

- clothing must be clean and ironed
- if worn, jewellery, perfume and make-up must be minimal
- personal hygiene must be maintained
- name badges may be required.

### Restaurant workflow

The workflow should be organised so that orders can be filled, and food can be passed from the kitchen as quickly as possible.

Reception: Guests are greeted and shown to their seats in the dining area.

Seating/dining area: In a large restaurant, this area is divided into **stations**. Each station is managed by a waitperson.

Counter service: Food is on display for customers to choose and pay at the end. Some restaurants also offer seated counter service.

Bar: An area for socialising or eating in a less formal space.

Equipment station: Small items such as cutlery and serviettes and food items such as condiments should be available to wait staff.

Toilets: Customer toilets should be clean and welcoming.

Safety Equipment: First aid boxes and fire extinguishers must be easily accessed.

### Hotel workflow

The workflow of a hotel should be organised so that guests can be checked in as quickly as possible.

Reception: Guests are checked in and receive keys/key cards for their room.

Lobby/waiting area: This area should have comfortable seating for the guests. Drinks may be available in the lobby.

Stairs/Lifts: These provide access to rooms and other facilities.

Toilets: Customer toilets should be clean and welcoming.

### Administration and documents

Businesses may employ an administrator who keeps track of:

- staff employment and training records
- stock orders, delivery records and invoices
- health and safety documents
- financial information
- customer feedback
- advertising.

# Level 1/2 Hospitality and Catering: Unit 1:
## The operation of the kitchen (AC2.1)

**Operational requirements**
To run a successful hospitality and catering business, it is important that the back of house is well designed to allow safe working conditions for the kitchen staff. A good workflow also allows the safe movement of front of house staff between the kitchen and dining room so that customers enjoy efficient food service.

### Kitchen workflow

| | |
|---|---|
| **Delivery area** | Located at the kitchen entrance.<br>Deliveries are checked against the order and temperatures of high-risk foods are recorded. |
| **Storage area** | Cool area: contains fridges and freezers for storing high-risk foods, as well as space for storing fresh fruit and vegetables.<br>Dry area: for storing canned and dry goods. |
| **Staffing area** | A separate area where employees can change into work clothing.<br>Staff toilets and hand washing facilities are provided. This area may also be used as a breaktime lounge. |
| **Preparation area** | A large kitchen will have separate areas for the preparation of meat and poultry, fish, fruits and vegetables and pastries and desserts. |
| **Cooking area** | A large kitchen will have separate cooking areas for hot wet foods such as soups, sauces and steamed vegetables and a dry cooking area for roasting, baking, grilling and frying. |
| **Serving area** | A large kitchen will have separate areas for plating and presenting hot and cold foods. Waiters will collect orders from "the pass" to deliver to customers in the restaurant. |
| **Cleaning area** | This area should be separate from the main kitchen.<br>Dirty crockery and cutlery as well as pots and pans from the kitchen are cleaned and stored in this area. |
| **Waste area** | This area should be separate from the main kitchen.<br>Food waste and recyclable and non-recyclable waste is sorted and then disposed in the correct bins, which should be located outside. |

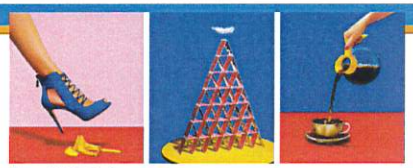
### Back of house dress code

The traditional chef's uniform is designed to show authority in the kitchen. Known as "chef's whites", they come in many colours. Key uniform items are: a long-sleeved, double-breasted jacket, long trousers, head covering, apron, and non-slip, toe-protected shoes. The clothing and shoes protect the wearer from injury while the head covering protects the food from hair and sweat.

Photography Knowledge Organiser

Term 3 round up

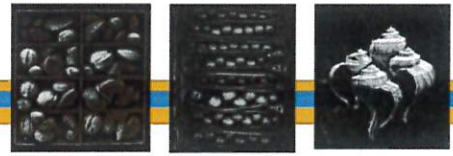
## Gregory Reid



- Born in Brooklyn, New York, USA
- Known for taking bright, vibrant photographs of a variety of subjects
- In class we will be photographing – fruit, veg and any other items that relate to your hobbies such as cards or a playstation pad
- Your homework task is – take twenty photos from a birds eye view – showing the title 'colour'

## Olivia Parker

- Born in Boston, USA
- Known for taking photos of 'collections'. She takes images ranging from shells to peas in a pod
- In class we will be photographing – collections of many different items such as shells, shoes, cans and pinecones
- Your homework task is - Create 20 **compositions** using items found in your house, your garden or anywhere showing the title 'collections'.



## Portfolio construction


**Artist research** – Compare and contrast artists, explaining likes and dislikes. Research other artists you like and reference them in your portfolio.

**Contact sheets** – Circle which photos are successful and which photos could have been better, explaining why.

**Edited images** – Include screengrabs and annotations, explaining in depth about how you created these images and where would you go next with them?

**Celebration image (pictured)** – Show off your favourite three pieces of work, explaining combinations of photographers and where you got the ideas from.

**Composition:** use perspective, movement, and light to transform the world we see and create an unrecognizable image.

**Birdseye view:** an elevated view of an object or location from a very steep viewing angle, creating a perspective as if the observer were a bird in flight looking downward

**Grayscale:** A range of grey shades that are used in a monochrome display (black and white)

**Focal point:** What you are looking at and what you are focusing on.

**High Contrast:** A high contrast between your light and dark areas with not much grayscale in between

**Framing:** The process of composing a picture eg. Up close or frame within a frame

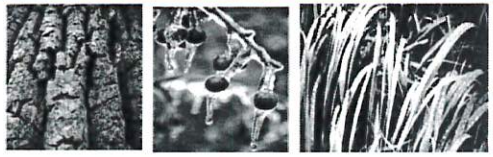
SMITHILLS SCHOOL SUCCESS FOR ALL

84

Photography Knowledge Organiser

Term 4 round up

## Ansel Adams



- What do you like about his work?
- Known for taking black and white images based on nature
- Discuss his wide range of subjects he has looked at throughout his career
- Your homework task is – Try taking pictures of landscapes such as bushes, trees, parks, sunrises

## Rachel Levy

- Takes pictures of colourful flowers that are dying and showing decay throughout
- Very simple compositions
- In class we will be photographing – dying flowers
- Your homework task is - Take 20 images of single items on a white backdrop to emphasize the colour. This can be a flower or a piece of food. Think about contrasting colours.

## Portfolio construction

**Artist research** – Compare artists to each other; discuss what they have in common or what is very different and refreshing about them
**Contact sheets** – Do not forget to include re shoots and why you had to re do?
**Edited images** – Explain examples of your work and how you did them; ie a step by step.
**Celebration image (pictured)** – Put it next to one of their work and explain the links

**Composition:** use perspective, movement, and light to transform the world we see and create an unrecognizable image.
**Birdseye view:** an elevated view of an object or location from a very steep viewing angle, creating a perspective as if the observer were a bird in flight looking downward
**Grayscale:** A range of grey shades that are used in a monochrome display (black and white)
**Focal point:** What you are looking at and what you are focusing on.
**High Contrast:** A high contrast between your light and dark areas with not much grayscale in between
**Framing:** The process of composing a picture eg. Up close or frame within a frame

SMITHILLS SCHOOL SUCCESS FOR ALL

4h

# The Exam

For Unit R184, you'll sit an **exam** to show what you've learned.

## The basics...

- You have **1 hour and 15 minutes** to complete the exam.
- It's worth **70 marks** and makes up **40%** of your overall Sport Studies mark.
- There will be a variety of questions ranging from **1 to 8 marks**.

The other 60% comes from the two coursework units that you'll do

## What does it cover?

Unit R184 is about the issues that are impacting sport within the UK. Topics include:

1) Issues which affect **participation** in sport:
   - user groups, barriers to participation and solutions to overcome them.
   - factors which affect a sport's popularity and emerging/new sports.
2) The role of sport in promoting **values**:
   - sporting values and initiatives/campaigns which promote them.
   - the Olympics and Paralympic movements.
   - etiquette, sporting behaviour and PEDs.
3) The implications of hosting a **major sporting event** for a city or country:
   - features of major sporting events.
   - positive and negative aspects of hosting (pre-event, during and post-event).
4) The role **National Governing Bodies (NGBs)** play in the development of their sport
5) The use of **technology** in sport:
   - How it is used.
   - Its positive and negative effects.

The last three topics are in this Course Booklet

## There are three sections in the exam

- **Section A** has 30 marks. It's made up of **multiple choice** and **short/medium answer questions**.
- **Section B** has 25-30 marks and **Section C** has 10-15 marks. These have **context-based questions** — you'll be given a short scenario and have to **apply** your knowledge and understanding to it.
- Sections B and C will include some **short and medium answer questions**, along with a **longer, extended-answer question** which requires you to **analyse** and **evaluate**.

## Read the questions carefully

Here's an example of a **short-answer question** with some handy tips.

'Explain' means you have to give reasons for something. Make sure you use words like 'because', 'therefore' or 'this means' in your answer

There are 2 marks available — 1 for the explanation, 1 for the example

'Using a sporting example' means you must back up your answer with a particular sporting activity. If you don't, you won't get full marks, even if the rest of your answer is fabulous.

4 Using a sporting example, explain how technology can enhance performance.

.....

.....

[2]

# Marriage and the Family

**Big Picture:**

## 1. Key Concepts

**Marriage**
**Why can marriage be important (all forms)?**
Christians believe that marriage is:
Part of God's plan for many, but not all, human beings; it is a gift from God.
A lifelong, monogamous relationship, between one man and one woman.
The right relationship for sexual relations and having children.
Christianity teaches that single people should live a celibate life. However, individual Christians and groups of Christians can have different views on this.
Non-religious people may or may not agree with marriage, depending on their personal beliefs.

**Sexual relationships**
**What are the different views on sexual relationships?**
The Bible has strict teachings about sexual relationships, and some Christians believe God will punish sexual immorality.
Some Christians believe sex should only take place between a man and a woman within marriage.
Atheist views about sexual relationships differ according to personal beliefs.
Humanists think sexual relationships are a matter of personal choice, as long as everyone involved is happy with those choices.

**Families**
**Why is family life important to Christians and other groups?**
These days, there are many kinds of family structure in the UK.
Christian families also come in various shapes and sizes and they believe that:
The family is important for society and the Christian faith.
Parents and children have responsibilities towards each other.
Children must obey and respect their parents.
Parents must look after their children, keep them safe and bring them up as Christians.
The Christians family is one of the main ways children learn about the Christian faith.
Humanists believe that:
The overall happiness of the family is more important than the structure of the family unit.
Parents should bring up their children to be caring and reasonable people.

**Support for families in the local parish**
**How do Churches try to support families religiously and in a wider sense to stay together?**
Christians believe they have a responsibility to care for, and help, others – particularly the family.
Local churches provide both pastoral and spiritual care. They try to help families in their parish in a variety of ways including:
Opportunities for families to worship and develop their faith together -Running separate children's groups or clubs including Sunday schools, Supporting families through the different stages, for example births, marriages and deaths.
Offering counselling to help them resolve problems.
Giving support as a way of showing God's love; helping families also makes the Church stronger.

**Contraception**
**What are the variety and uses of contraception to prevent and limit family size?**
Christian Churches have different teachings about contraception.
The Church of England and other Protestant traditions like the Methodist Church agree with the responsible use of contraception.
The Roman catholic Church disagrees with all artificial methods of contraception, but permits a natural method based on the woman's menstrual cycle. Some Roman Catholics think artificial methods are more practical in the modern world.
Humanists are very supportive of the use of contraception

**Divorce**
**Why is divorce required and what are the implications of divorce for families?**
All Christians agree that, ideally, marriages should last a lifetime.
Some Christian Churches, like the Church of England, accept that sometimes divorce is the 'most loving thing to do' for all concerned.
Churches accept divorce will also in exceptional circumstances permit remarriage in a church.
The Roman Catholic Church does not permit divorce. Humanist views on divorce sometimes agree with Christian views.

**Equality of men and women in the family/ society.**
**Gender prejudice and discrimination.**
The Roman Catholic Church teaching is based on a traditional biblical model. It states that men and women have been created equal by God but for different purposes.
Many Christians disagree with this. They believe this view is no longer suitable for modern society.
The Church of England and many other Protestant Churches support flexible gender roles within the family., depending on the needs of the family. Both sides of this debate use biblical texts to support their views.
Humanists believe that men and women should both be happy with the roles they play within the family.
Some atheists, particularly feminist atheists, are very critical of the traditional Christian family roles for men and women. They say these beliefs have caused the mistreatment of women within the family and society.

## 2. Vocabulary

| | |
|---|---|
| Nuclear family<br>Extended family | Mum, dad and children.<br>Several generations such as grandparents and uncles living l a household. |
| Blended family | Husband and wife with children from previous relationships. |
| Divorce | The legal ending of a marriage. |
| **Re-marriage** | Re-marrying another person. |
| **Contraception** | Methods used to prevent a pregnancy. |

## 3. Skills

**Discuss** differing attitudes towards marriage and sexual relationships.
**Evaluate** whether these family life impacts on the lives of Christians.
**Explain** why the local parish is important to Christians.
Explain the roles of men and women are different in Christianity.
**Interpret** SOWA and consider their application for and against one of the concepts

5

## 4. Key SOWA

Mark 10:6–9;
1 Corinthians 6:7–20
Ephesians 6:1–4;
Matthew 19:13–14
Reference to Humanae Vitae;
Matthew 19:1–12;
Genesis 1–3 and Ephesians 5:21–30;
Galatians 3:23–29;

## 5. Key Figures

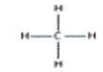
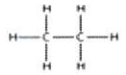
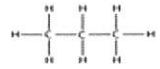
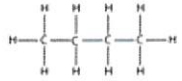
| | |
|---|---|
| **Jesus** | Son of God/founder of Christianity. |
| **Pope** | Head of the Catholic Church across the world. |
| | |
| | |
| | |

## 6. Assessment Criteria

| | |
|---|---|
| **State/ Outline** | Give 3 examples in 3 different sentences |
| **Explain** | 2 developed reasons in 2 sentenced. (develop with examples / SOWAs or explanation) |
| **Explain and SOWA** | 2 developed reasons in 2 sentences. (develop with examples / SOWAs or explanation) and link in a SOWA to support the points. |
| **Evaluate** | Higher level answers will state which is the stronger argument and WHY this argument is more compelling. |

# Year 10 Separate Science Chemistry Organic Chemistry

## 1. Alkanes

| General formula | $C_nH_{2n+2}$ | |
|---|---|---|
| Name | Molecular formula | Displayed formula |
| Methane | $CH_4$ |  |
| Ethane | $C_2H_6$ |  |
| Propane | $C_3H_8$ |  |
| Butane | $C_4H_{10}$ |  |

## 4. Cracking

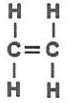
| | | |
|---|---|---|
| Cracking | *The breaking down of long chain hydrocarbons into smaller chains* | The smaller chains are more useful. Cracking can be done by various methods including catalytic cracking and steam cracking. |
| Catalytic cracking | *The heavy fraction is heated until vaporised* | After vaporisation, the vapour is passed over a hot catalyst forming smaller, more useful hydrocarbons. |
| Steam cracking | *The heavy fraction is heated until vaporised* | After vaporisation, the vapour is mixed with steam and heated to a very high temperature forming smaller, more useful hydrocarbons. |

| | |
|---|---|
| Alkanes to alkenes | *Long chain alkanes are cracked into short chain alkenes.* |
| Alkenes | *Alkenes are hydrocarbons with a double bond (some are formed during the cracking process).* |
| Properties of alkenes | *Alkenes are more reactive that alkanes and react with bromine water. Bromine water changes from orange to colourless in the presence of alkenes.* |

Decane → pentane + propene + ethane

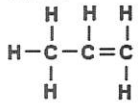
$C_{10}H_{22} \rightarrow C_5H_{12} + C_3H_6 + C_2H_4$

# Structure and formulae of alkenes



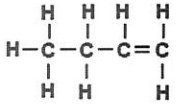
- Alkenes are hydrocarbons
- This means they are made of hydrogen and carbon only

ethene



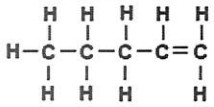
- Alkenes have at least 1 carbon – carbon double bond (C=C)
- This is why there is no methene…there is only one carbon

propene



- Alkenes are referred to as unsaturated because they have at least one double bond
- They aren't saturated because this double bond can be broken and another atom/molecule added

butene



- The 'functional group' of alkenes is C=C
- General formula = $C_nH_{2n}$

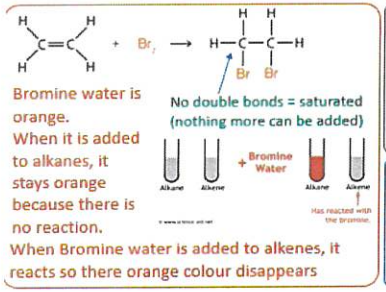
pentene

# Reactions of alkenes

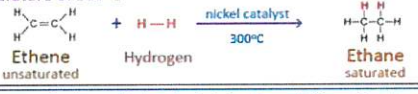

- Alkenes react with oxygen in combustion reactions just as alkanes but they burn with a smokier flame

The smoky flame is caused by carbon (soot) being produced as a result of incomplete combustion


- The double bond between carbon atoms in an alkene can be broken in an addition reaction where hydrogen, water or halogens can be added:

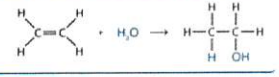



Alkenes can be turned into alkanes by the addition of hydrogen (hydrogenation) in the presence of a nickel catalyst and a temperature of 300°C



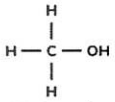

Alkenes can be turned into alcohols by the addition of water (hydration) in the presence of hot phosphoric acid as a catalyst

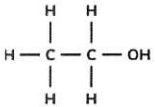
The ethanol produced in this reaction is very pure (unlike in fermentation)

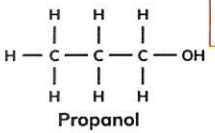


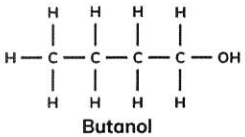
# Year 10 Separate Science Chemistry Organic Chemistry

## Structure and formulae of alcohols


Methanol


Ethanol


Propanol


Butanol

Formulas:
- Methanol – $CH_3OH$
- Ethanol – $C_2H_5OH$
- Propanol – $C_3H_7OH$
- Butanol – $C_4H_9OH$

- Alcohols are NOT hydrocarbons
- Alcohols are made from hydrogen, carbon and oxygen
- Ethanol is the main alcohol in alcoholic drinks
- Alcohols are referred to as saturated because they have all single bonds
- The 'functional group' of alcohols is -OH

## Reactions of alcohols

**Combustion**

Alcohols can be used as fuels because they undergo complete combustion reactions just like alkanes

$C_2H_5OH + 3\ O_2 \rightarrow 2\ CO_2 + 3\ H_2O$

Just like alkanes, if there is a lack of oxygen, incomplete combustion will occur, producing carbon monoxide or carbon

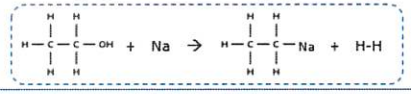
**Oxidation**

Alcohols can be oxidised (the addition of oxygen) to produce carboxylic acids


**Reactions with sodium**

All alcohols react with sodium to produce hydrogen:

$2\ C_2H_5OH + 2\ Na \rightarrow 2\ C_2H_5ONa + H_2$




**Solubility in water**

The shortest alcohols dissolve in water easily but the larger the alcohol, the less likely it is to dissolve

| Name | Solubility in Water (g/100g) |
|---|---|
| methanol | infinitely soluble |
| ethanol | infinitely soluble |
| propanol | infinitely soluble |
| butanol | 9 |
| pentanol | 2.7 |
| hexanol | 0.6 |
| heptanol | 0.18 |
| octanol | 0.054 |
| decanol | insoluble in water |

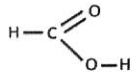
**Producing ethanol** - Most ethanol is made from plants by fermentation so it a renewable resource

glucose → ethanol + carbon dioxide

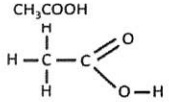
In order for this process to happen, the following conditions need to be met: reaction in water, yeast used as a biological catalyst, temperatures between 25°C and 40°C and anaerobic conditions (no oxygen). If there is any oxygen present, oxidation will occur and a carboxylic acid will be produced. The ethanol produced in this reaction is dilute so it must be distillated to produce pure ethanol

## Structure and formulae of carboxylic acids

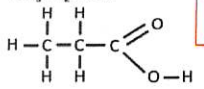
methanoic acid
HCOOH



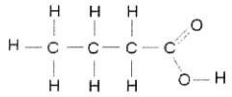
ethanoic acid
$CH_3COOH$



propanoic acid
$CH_3CH_2COOH$



butanoic acid
$CH_3CH_2CH_2COOH$



Formulas:
- Methanoic acid – HCOOH
- Ethanoic acid – $CH_3COOH$
- Propanoic acid – $C_2H_5COOH$
- Butanoic acid – $C_3H7COOH$

- Carboxylic acids are NOT hydrocarbons
- Carboxylic acids are made from hydrogen, carbon and oxygen
- Ethanoic acid is the main component in vinegar
- The 'functional group' of carboxylic acids is -COOH

## Reactions of carboxylic acids

**Reacting with carbonates**

Carboxylic acids will react with carbonates in the same way any acid would:

Carbonate + Acid → Carbon dioxide + Water + Salt

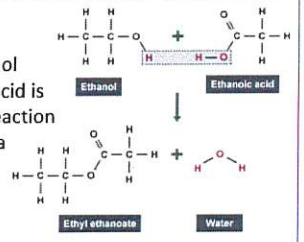
$Na_2CO_3 + CH_3COOH \rightarrow CO_2 + H_2O + CH_3COONa$

You would observe bubble being formed as the carbon dioxide is produced

**Producing esters**

Carboxylic acids react with alcohols to make esters

The reaction between an alcohol and a carboxylic acid is a condensation reaction because water is a product.




Esters smell sweet so they are used in perfumes and food flavourings.

**Acidic**

Carboxylic acids are acidic so when they dissolve in water they release hydrogen ions ($H^+$). This release of hydrogen ions is what causes them to be acidic. This will result in the solution have a low (ish) pH around 5/6.

Carboxylic acids don't have a lower pH because they are only weak acids, so only partially dissociate in solution

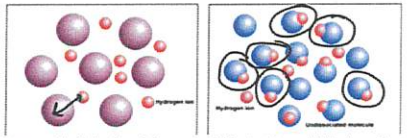
A strong acid will fully ionise in solution (give up all of its $H^+$)

Hydrochloric acid is a strong acid

$HCl \rightarrow H^+ + Cl^-$

A weak acid will only partially ionise in solution

$CH_3COOH \rightleftharpoons H^+ + CH_3COO^-$


Strong acid – fully dissociates


Weak acid – partially dissociates

## Task 1:

## Q1.

***Historia de una escalera*, a play by Antonio Buero Vallejo**

You read this extract adapted from the play.

It is a conversation between Don Manuel and Doña Asunción.

| | |
|---|---|
| **Don Manuel** | Y Fernando, ¿qué hace? |
| **Doña Asunción** | Trabaja en la papelería. Pero no está contento. ¡El salario es tan bajo! Tiene muchos planes. Quiere ser arquitecto, ingeniero… En su tiempo libre le gusta leer y pensar. Siempre en su cama. Y escribe cosas también, poemas. ¡Muy bonitos! |

Finish the sentences.

Write the correct letter in each box.

**1** Fernando works…

| | | |
|---|---|---|
| **A** | as an architect. | |
| **B** | as an engineer. | |
| **C** | in a stationery shop. | |

**(1)**

**2** Doña Asunción thinks that Fernando…

| | | |
|---|---|---|
| **A** | does not earn very much. | |
| **B** | has no plans for the future. | |
| **C** | enjoys his job. | |

**(1)**

**3** Fernando likes to spend his time…

| | | |
|---|---|---|
| **A** | eating and reading. | |
| **B** | sleeping and writing. | |
| **C** | reading and thinking. | |

**(1)**

**(Total 3 marks)**

## Task 2: Q2.

**Life at school**

Your friends tell you about their school in Tenerife.

El director de mi instituto es trabajador. No le tenemos miedo. Su relación con los estudiantes, los profesores y los padres es estupenda.
**Antonio**

Yo soy poco creativa y, por eso, me cuesta mucho diseñar y dibujar. Estoy harta de las clases y los profesores.
**Beatriz**

Bueno, el gimnasio es muy antiguo y los vestuarios están sucios, las pistas de tenis no están mal y tenemos un nuevo campo de deportes genial.
**Azucena**

Los profesores preparan bien sus clases y explican con paciencia. Afortunadamente, no toleran el mal comportamiento de los alumnos tontos.
**Rafael**

What are your friends' opinions about these aspects of their school?

Write **P** for a **positive** opinion.
**N** for a **negative** opinion.
**P + N** for a **positive** and **negative** opinion.

| | | |
|---|---|---|
| 1 | Antonio's opinion of the headteacher | |

**(1)**

| | | |
|---|---|---|
| 2 | Beatriz's opinion of Art | |

**(1)**

| | | |
|---|---|---|
| 3 | Azucena's opinion of the PE facilities | |

**(1)**

| | | |
|---|---|---|
| 4 | Rafael's opinion of the teachers | |

**(1)**
**(Total 4 marks)**

## Task 3:

## Q3.

**Fundraising activities at Pepe's school**

You read this email from your Spanish friend, Pepe, about his school's fundraising activities.

When do these fundraising activities happen?

Write **P** if the activity happened in the **past**.
**N** if the activity is happening **now**.

**F** if the activity is going to happen in the **future**.

| | | |
|---|---|---|
| 1 | Non-uniform day | |

**(1)**

| | | |
|---|---|---|
| 2 | Cake sale | |

**(1)**

| | | |
|---|---|---|
| 3 | Car washing | |

**(1)**

| | | |
|---|---|---|
| 4 | Sponsored walk | |

**(1)**
**(Total 4 marks)**

## Q4.

**Task 4:**

**Bullying**

You read a report about bullying in Spain.

Ayer se celebró el Día Mundial contra el Acoso Escolar.

Los niños españoles de 11 años son los que sufren más el acoso escolar.

Además, el 30% de los niños españoles reciben insultos, no por su inteligencia sino por su apariencia física.

Muchos estudiantes menores de 14 años usan las redes sociales y a los profesores les preocupa que sus alumnos reciban mensajes crueles.

Answer the questions in **English**.

**1** When did the World Anti-Bullying at School Day take place?

_____

**(1)**

**2** What are 30% of Spanish children bullied about?

_____

**(1)**

**3** Who are worried about online bullying?

_____

**(1)**
**(Total 3 marks)**

## Task 5:

## Q5.

**Deberes en vacaciones**

Lees las opiniones de dos expertos argentinos sobre los deberes.

| | |
|---|---|
| Durante las vacaciones a unos niños les gusta ver la tele, otros dibujan y a la mayoría les encanta leer. En mi opinión, es necesario jugar. Creo que los niños no deben estudiar durante las vacaciones. Lo más importante para los niños es divertirse, en mi opinión. | Para muchos niños las vacaciones son ideales para repasar y es muy beneficioso para ellos. Además, para muchos padres es importante seguir rutinas. Si los niños repasan durante las vacaciones tienen menos posibilidades de suspender cuando regresan. |
| **Gregorio** | **Inma** |

Contesta las preguntas en **español.**

**Ejemplo:** Según Gregorio, ¿cuál es el pasatiempo **más** popular para los niños durante las vacaciones?

**leer**

**1** Según Gregorio, ¿qué deben hacer los niños durante las vacaciones?

Escribe **dos** actividades.

1 _____

2 _____

**(2)**

**2** Según Inma, ¿para qué son útiles las vacaciones para muchos niños?

_____

**(1)**

3 Según Inma, ¿qué peligro hay para los niños que no estudian?

_____

**(1)**
**(Total 4 marks)**

Year 10 Urdu: Spring 2: Travel & Tourism

**Big Picture: Why are we learning this now?**
In this unit we are going to talk about travel and tourism with a focus on roleplay questions and solving problems whilst on holiday.

| Masla | Dushwaari | Rakaavat | Museebath | Barbaadi |
|---|---|---|---|---|
| مسلہ | دشواری | رکاوٹ | مصیبت | بربادی |

## 1. Key Concepts

**The present tense tells us something that is happening NOW and includes opinions. E.g. I like to go on the beach.**
ہے ہیں ہوں

**Present continuous tense: what you are currently doing. E.g. I am looking for a room with a seaside view.**

## 2. Processes: Subordinate Clause

**Even though ....., [independent]**

| Halaankay | حالانکہ |
|---|---|

## 3. Sentence starters

مجھے ایک ایسا کمرہ چاہیے جو .....

میری شکایت یہ ہے کہ .....

اگر آپ کے پاس ..... نہیں ہے تو .....

میں اِس ملک میں .....

## 4. Vocabulary 1: Accommodation

| | | |
|---|---|---|
| Rehaaish | Accommodation | رہاءش |
| Makaan | Property | مکان |
| Kiraaya | Rent | کڑایا |
| Munaasib | Reasonable | مناسب |
| Mehnga | Expensive | مہنگا |
| Sstha | Cheap | سستا |

## 5. Vocabulary 2: Adjectives

| | | |
|---|---|---|
| Zabardhasth | Fantastic | زبردست |
| Shaandhaar | Excellent | شاندار |
| Bakwaas | Rubbish | بکواس |
| Behthareen | Best | بہترین |
| Badthareen | Worst | بدترین |

## 6. Assessment

میں آپ کی کیا مدد کر سکتا ہوں؟

اپنی گمشدہ چیز کے بارے میں بتاو؟

آپ کو اپنا کمرہ کیسا لگا؟

اپنی زاتی معلومات مجھے دیں؟