



ASH MANOR SCHOOL  
Aspire & Achieve

# Year 9 Autumn Term Knowledge organiser

Name:

Tutor group:

Tutor:

Tutor room:

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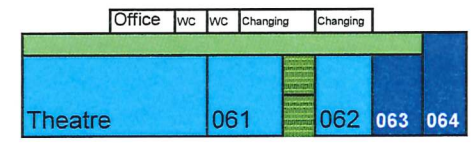
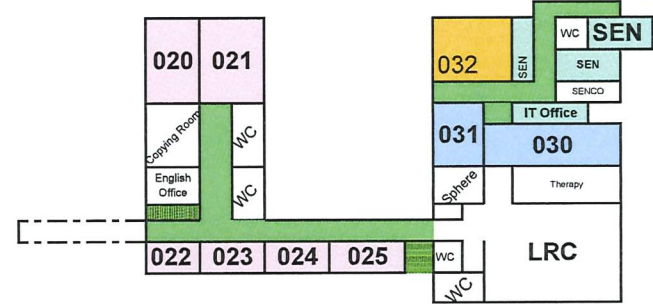
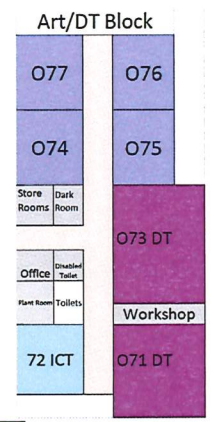
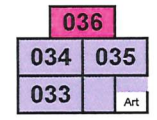
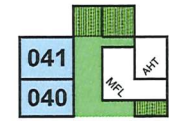
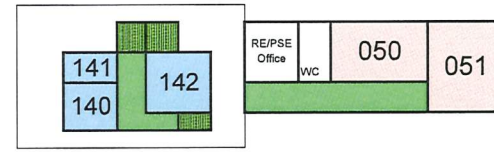
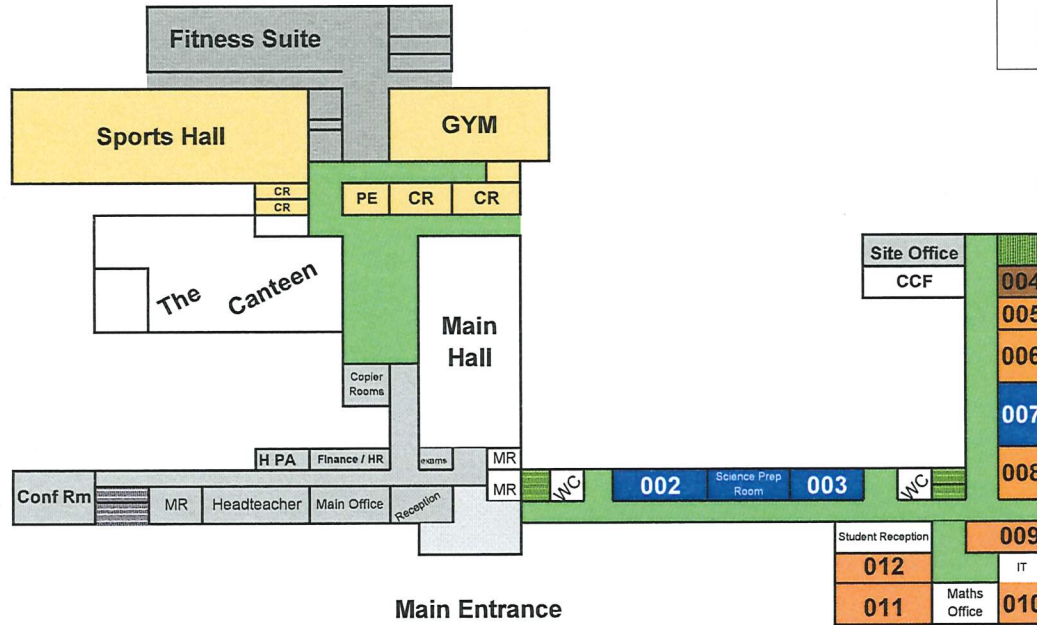
## Key School information

Times of the school day	
8.00am – 8.30am	Breakfast in canteen
8.35am	Pre-lesson 1 bell
8.40am-9.30am	Lesson 1
9.30am-10.20am	Lesson 2
10.20am-10.40am	Morning break
10.40am-11.30am	Lesson 3
11.30am-12.20pm	Lesson 4
12.20pm-1.00pm	Lunch
1.00pm-1.20pm	Tutor time / Assembly
1.20pm-2.10pm	Lesson 5
2.10pm-3.00pm	Lesson 6
3.00pm-4.00pm	Extended learning and extra-curricular clubs

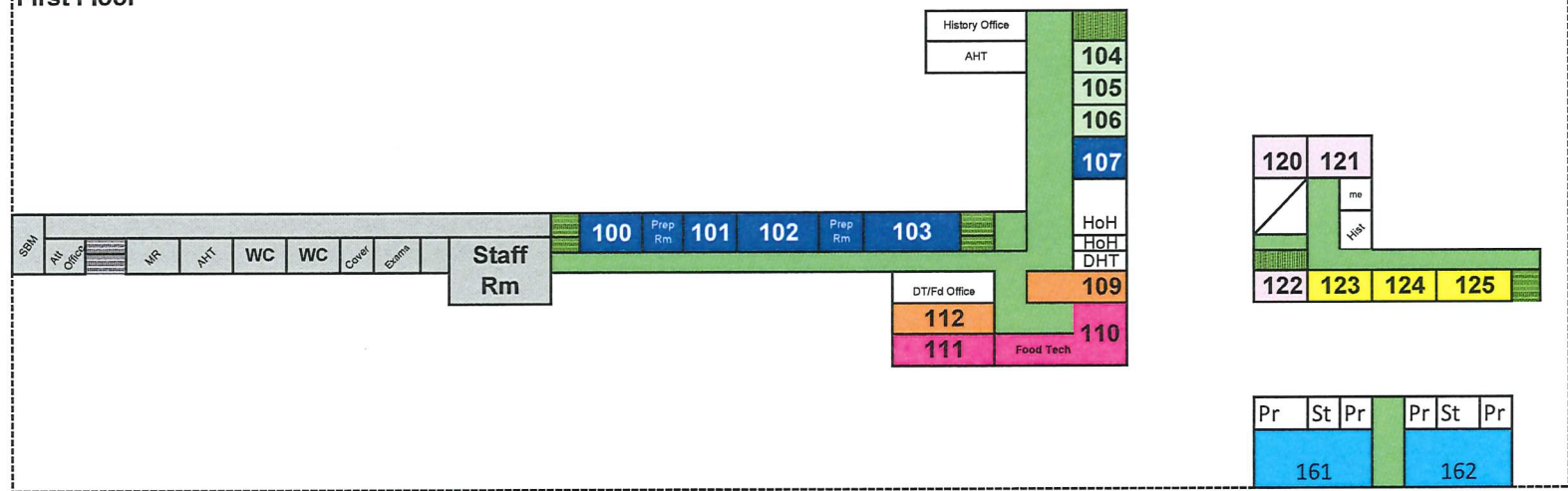
Term dates	
<b>Autumn term</b>	<b>Y7:</b> 04/09/23 to 15/12/23 <b>Y8-11:</b> 05/09/23 to 15/12/23
Half term	23/10/23 to 27/10/23
<b>Spring term</b>	03/01/24 to 28/03/24
Half term	12/02/24 to 16/02/24
<b>Summer term</b>	15/04/24 to 19/07/24
Half term	27/05/24 to 31/05/24

Important IT details	
<b>Username</b>	
<b>Password reminder</b>	

School Site Map



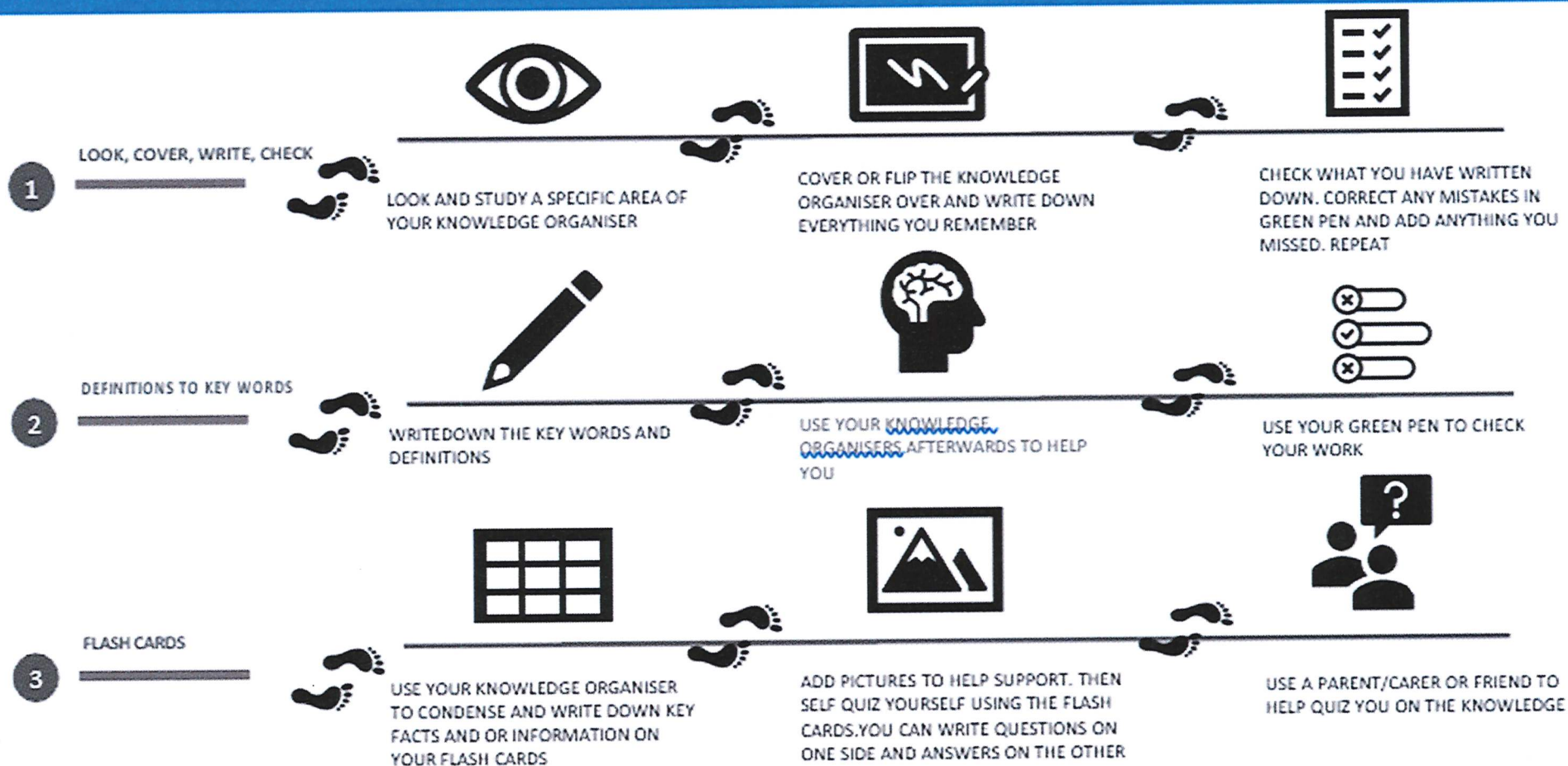
First Floor



- Science
- Maths
- English
- Art
- Computing Studies
- MFL
- History / Classics
- Geography
- Performing Arts
- PE
- SEND
- RE
- DT/Food
- Business studies
- non student areas

# How to use Knowledge Organisers – a step by step guide

Knowledge organisers contain critical knowledge you must know. This will help you recap, revisit and revise what you have learnt in lessons in order to remember this knowledge for the long term. You must have this for every lesson – it is part of your equipment.



KNOWLEDGE ORGANISERS ARE ALSO AVAILABLE ON THE SCHOOL'S WEBSITE:  
<https://www.ashmanorschool.com/>

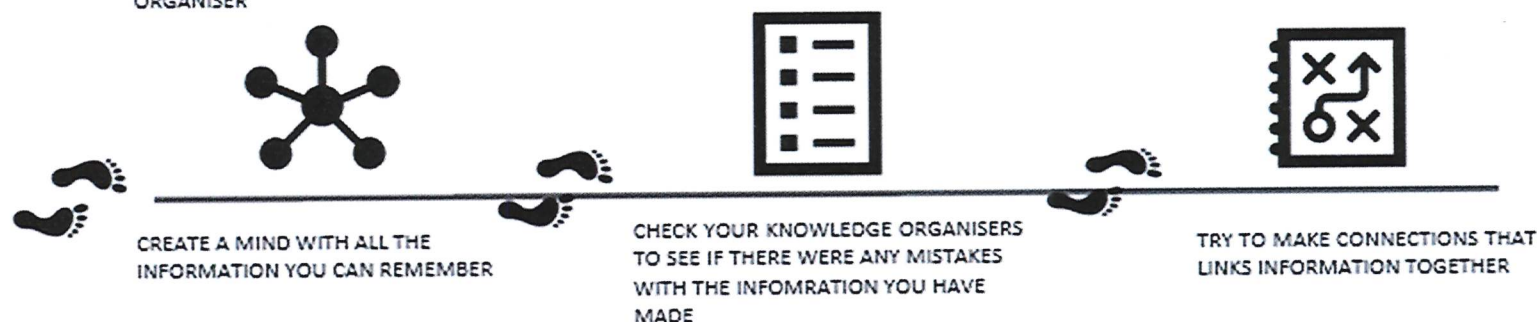
# How to use Knowledge Organisers – a step by step guide

Knowledge organisers contain critical knowledge you must know. This will help you recap, revisit and revise what you have learnt in lessons in order to remember this knowledge for the long term. You must have this for every lesson – it is part of your equipment.

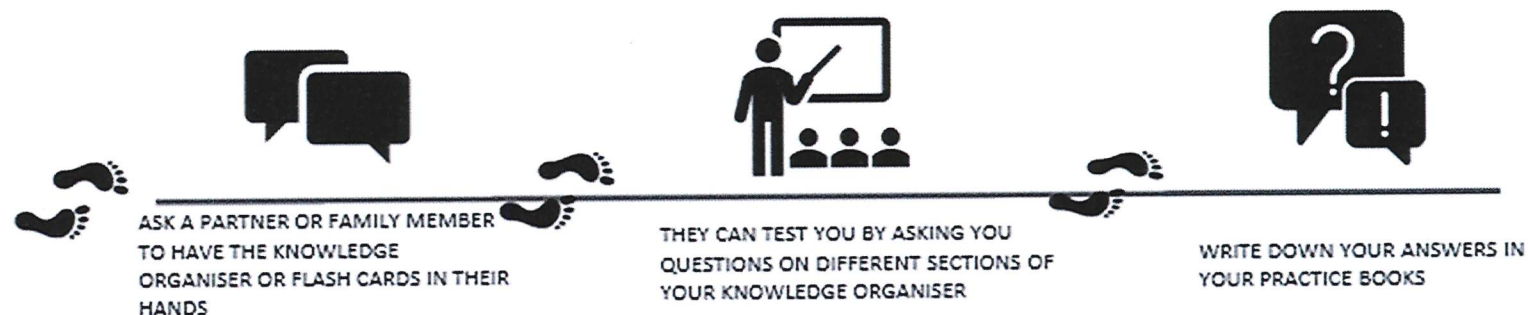
## 4 SELF QUIZZING



## 5 MIND MAPS



## 6 PAIRED RETRIEVAL



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<https://www.ashmanorschool.com/>

# Art

## Artist research

I have done the following:

- ✓ Written an opinion - minimum 4 sentences.
- ✓ Written facts about the artist - minimum of 3.
- ✓ Included a bold title with appropriate font.
- ✓ Included images of the artist's work - minimum of 2.
- ✓ Used appropriate colours in the background, title and writing.
- ✓ Considered the layout of my page before sticking it down.

## Key words:

**Secondary source** - working from images, photos, video, internet

**Primary source** - working from life - the object, person, place or event is in front of you

## Water Colour and Coloured pencil



**LAYERING**  
The simplest approach to blending colors together by layering one color directly over the other. Use light pressure and apply each layer smoothly.

## Mixed Media



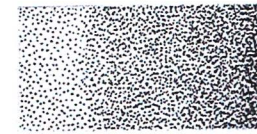
Roller

Printing ink

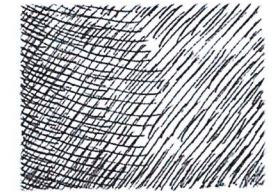
## Mono printing

Apply the paper, face down, onto the inked surface and draw out your design on the back of the paper whilst it is on the ink. The pressure will lift ink from the table to leave an image of what you have drawn on your paper.

## Layers



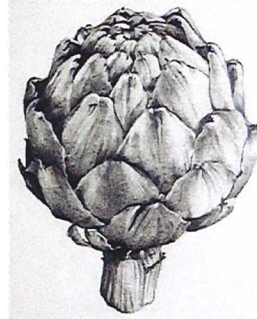
1 2 3 4



**Mark making** can be used to add texture to your work. Or it can be used with pen/pencil as an alternative to tonal pencil drawing.

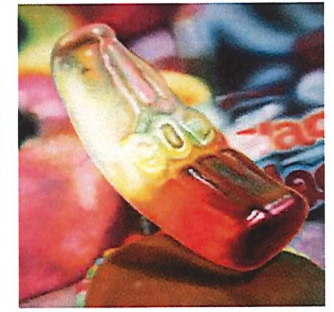


Tonal shading: creating a 3D effect by adding contrast- light and dark with pencil pressure



## Sarah Graham Born 1977

Contemporary British Artist.  
Large scale acrylic paintings based on childhood treats.



# COMPUTING YEAR 9 AUTUMN 1

## INTRODUCTION TO PYTHON

### SUMMARY

- Programming is writing computer code to create a program, in order to solve a problem. Programs consist of a series of instructions to tell a computer exactly what to do and how to do it.
- An algorithm is a set of instructions that describes how to get something done. It is crucial that the steps in an algorithm are sequenced and performed in the right order - otherwise the algorithm will not work correctly. Algorithms can be designed using pseudocode and flow charts. They are written using statements and expressions. There are three basic building blocks (constructs) to use when designing algorithms: sequencing, selection and iteration. We create programs to implement algorithms. Algorithms consist of steps, where programs consist of statements.
- In programming, iteration is often referred to as 'looping', because when a program iterates it 'loops' to an earlier step. It is implemented using FOR and WHILE statements. Selection is implemented in programming using IF statements.

### VARIABLE

**Computer programs use variables to store information.**

Variables could be used to store the score in a game, the number of cars in a car park or the cost of items on a till. They work in a similar way to algebra, where a letter in your code can stand for a number.

### SELECTION

**Selection is a decision or question**

At some point, a program may need to ask a question because it has reached a step where one or more options are available. Depending on the answer given, the program will follow a certain step and ignore the others

### SEQUENCING

**Sequencing is the specific order in which instructions are performed in an algorithm.**

Algorithms consist of instructions that are carried out (performed) one after another.

### ITERATION

**Iteration is the process of repeating steps.**

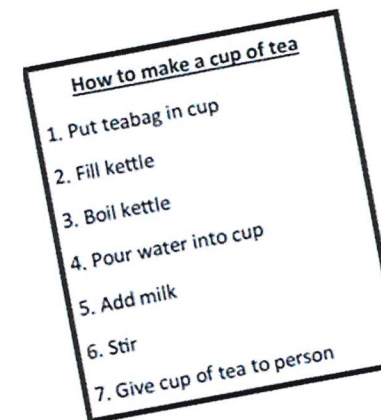
Iteration allows us to simplify our algorithm by stating that we will repeat certain steps until told otherwise. This makes designing algorithms quicker and simpler because they don't have to include lots of unnecessary steps.

### KEY VOCABULARY

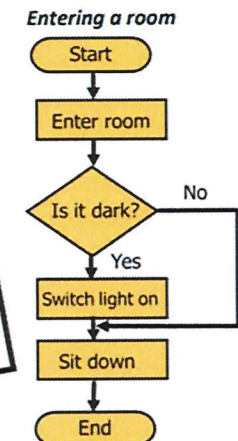
Algorithm	A sequence of logical instructions for carrying out a task. In computing, algorithms are needed to design computer programs.
Flowchart	A diagram that shows a process, made up of boxes representing steps, decision, inputs and outputs.
Instruction	A single action that can be performed by a computer processor
Programming	The process of writing computer software.
Programming language	A language used by a programmer to write a piece of software. There are many programming languages.
Pseudocode	A method of writing up a set of instructions for a computer program using plain English. This is a good way of planning a program before coding
Sequence	The specific order in which instructions are performed in an algorithm.
Variable	In a computer program, this is a memory location where values are stored.

Algorithms can be represented as pseudocode or a flowchart, and programming is the translation of these into a computer program.

### PSEUDOCODE



### FLOWCHART





## COMPUTING YEAR 9 AUTUMN 1

### MICROSOFT OFFICE

#### SUMMARY

- Presentation Software such as PowerPoint used for giving simple explanations to a large audience
- Word Processing Software such as Microsoft Word used for writing reports and essays
- Spreadsheet Software such as Microsoft Excel are used for organising and manipulating data and present complex data simply
- Desktop Publishing such as Microsoft Publisher - used to create documents like leaflets, brochures and newsletters
- Database software such as Microsoft Access is used to hold large quantities of data in an organised way

#### RELATIONAL DATABASE

A relational database has more than one table and the tables are linked using key fields. For example, a library database could have three tables: Customer - when a customer joins the library a record is created. It stores their details such as their first name and surname and includes a unique Customer ID. Book - each book in the library has a record. It stores details about the book, such as the author and title and includes a unique book ID. Lending - when a customer borrows a book, the lending table stores the customer's unique ID and the book's unique ID in a record. The record could also include additional information such as when the book was borrowed and when it's due back.

#### VALIDATION

For example, a secondary school student is likely to be aged between 11 and 16. The computer can be programmed only to accept numbers between 11 and 16. This is a range check.

#### TYPES OF VALIDATION

There are a number of validation types that can be used to check the data that is being entered.

Lookup  
Format Check

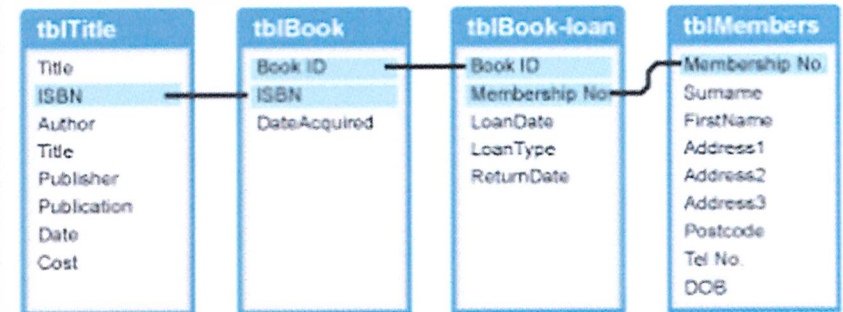
Range Check  
Presence Check

Spell Check  
Length Check

#### KEY VOCABULARY

House Style	A set of rules, which state how all documents and written communication, should be formatted. It includes- the colours to be used. - the font style and size
Strapline	A heading or caption
Target Audience	The group at which your product is aimed
Validation	Checking input data is sensible and in the right format

#### Library relational database



## Dance: Performance Skills Knowledge Organiser

### PHYSICAL SKILLS

Posture  
Balance  
Coordination  
Flexibility  
Strength  
Stamina  
Extension

<u>NAME IT</u>	<u>EXAMPLE</u>	<u>EXPLAIN IT</u>
<i>At the start of the dance, I needed good posture.</i>	<i>This was when I stood upstage facing the front and performed slow walks toward the audience with an upright stance.</i>	<i>My posture was effective here because it helps to show that I am confident in my performance.</i>

<u>NAME IT</u>	<u>EXAMPLE</u>	<u>EXPLAIN IT</u>

### TECHNICAL SKILLS

Action  
Space  
Dynamics  
Relationships  
Timing

<u>NAME IT</u>	<u>EXAMPLE</u>	<u>EXPLAIN IT</u>
<i>I needed to be able to transfer my weight correctly as I travelled.</i>	<i>This was when I extended my leg to the side and fell into a plie and ran in a large semi circle upstage</i>	<i>Being able to move across a wide area of the stage created a strong performance.</i>

<u>NAME IT</u>	<u>EXAMPLE</u>	<u>EXPLAIN IT</u>

## Dance: Performance Skills Knowledge Organiser

### EXPRESSIVE SKILLS

Projection  
Focus  
Spatial awareness  
Facial expression  
Sensitivity to other dancers

<u>NAME IT</u>	<u>EXAMPLE</u>	<u>EXPLAIN IT</u>
<i>Musicality is an important expressive skill I used.</i>	<i>In the chorus section of the music, there was strong accents.</i>	<i>I wanted to emphasise these through my musicality in order to make my performance exciting to the audience.</i>

<u>NAME IT</u>	<u>EXAMPLE</u>	<u>EXPLAIN IT</u>

### MENTAL SKILLS

#### PREP FOR PERFORMANCE

Systematic repetition  
Mental rehearsal  
Rehearsal discipline  
Response to feedback

<u>NAME IT</u>	<u>EXAMPLE</u>	<u>EXPLAIN IT</u>
<i>I used systematic repetition when rehearsing my performance in order to improve my movement memory.</i>	<i>I repeated each section over and over again in rehearsals.</i>	<i>This was so in the performance I would be able to remember the dance and perform to the best of my ability.</i>

<u>NAME IT</u>	<u>EXAMPLE</u>	<u>EXPLAIN IT</u>

### MENTAL SKILLS

#### DURING PERFORMANCE

Movement memory  
Commitment  
Concentration  
Confidence

## Drama: Performing from a Text Knowledge Organiser

### Stimulus

#### CONTEXT:

Apartheid From 1948-1994, the South African government enforced apartheid. This meant that black and white people were forced to live separately, go to different schools and black people could not vote. White people got privileges and ruled the country. However, this all came to an end when black people finally got the right to vote and elected Nelson Mandela as president. He had spent 27 years in prison for fighting for black people's rights.

#### MALORIE BLACKMAN:

Blackman was the Children's Laureate from 2013 to 2015. Blackman's motivation for writing Noughts and Crosses: 'I wanted to turn society as we know it on its head in my story, with new names for the major divisions in society. I wanted to see this new world through the eyes of the main two characters, Callum (a nought) and Sephy (a Cross). Race and racism are emotive issues that most people are loathe to discuss, but I think they should be discussed, no matter how painful.'



### Style

Practitioner	Information
Brecht  (German Playwright)	Created Epic Theatre where his main aim was to use Verfremdungseffekt. The aim is to distance the audience from the action to stop them from becoming sympathetic with the characters and storyline.

### Conventions / Form / Strategies

Episodic Structure	
Political Message	
Direct Address / Breaking the Fourth Wall	
Speaking Stage Directions	
Multi-roling	
Placards	
Music / Songs	
Tickle and Slap	

### Skills

Performer	Designer
<p style="text-align: center;"><u>Vocal skills</u></p> <ul style="list-style-type: none"> <li>pitch</li> <li>tone</li> <li>pace/tempo</li> <li>pause</li> <li>accent</li> <li>volume</li> <li>clarity</li> </ul> <p style="text-align: center;"><u>Physical skills</u></p> <ul style="list-style-type: none"> <li>gesture</li> <li>stillness</li> <li>fluency</li> <li>expression</li> <li>posture</li> <li>facial expressions</li> <li>eye contact</li> <li>movement</li> </ul> <p style="text-align: center;"><u>Space</u></p> <ul style="list-style-type: none"> <li>proxemics</li> <li>relationships</li> <li>positioned</li> <li>blocking</li> <li>interaction (set / audience)</li> </ul>	<p style="text-align: center;"><u>Sound design</u></p> <ul style="list-style-type: none"> <li>• music</li> <li>• sound effects</li> <li>• live sounds</li> <li>• recorded sounds</li> <li>• volume</li> <li>• reverb/echo</li> <li>• sound sources amplification including use of microphones</li> <li>• positioning of sound sources on stage</li> </ul> <p style="text-align: center;"><u>Set design (including props)</u></p> <ul style="list-style-type: none"> <li>• choice of stage</li> <li>• backdrop/cyclorama</li> <li>• set dressing</li> <li>• props</li> <li>• furniture</li> <li>• colour</li> <li>• use of space</li> <li>• entrances and exits</li> <li>• sight lines</li> </ul>

# Drama: Performing from a Text Knowledge Organiser

## 150 word Artistic Intention

What themes are shown throughout your chosen play? Explain why you chose to perform the sections you did – How did you edit them? Do they represent key moments in the plot or developments of character? (Approximately 75 words on this)

Overall performance intention – Will you use a practitioner? Why? How? Performance style? (*two to three sentences*)

How do you intend to perform your character (main character you play if you multi-role) and why – remember to include as many key drama and performance terms here as possible (Approximately 75 words here)

### Sentence Starters

Noughts and crosses explores the themes of...

Within our chosen extracts, the theme of... is shown when... and...

The extracts we have chosen provides us with the opportunity to show...

This is important because...

### Sentence Starters

We will perform the extracts in the style of...

We will use... when...

Our intention is to highlight...

### Sentence Starters

#### Performer

#### Designer

I intend to create a character which ...

In the first extract, my character...

Through the use of... I will demonstrate my character's...

I will show my character's status by...

Vocally, I will demonstrate my character's emotions in this extract by ...

My body language will be ... and this is intended to demonstrate...

In contrast, throughout the second extract, I will perform my role by...

**SOUND DESIGNER**  
*Key Vocabulary: Diegetic, Non-diegetic, Band, Sound effects, Found Sound, Recorded, Live, Silence.*

**SET DESIGNER**  
*Key Vocabulary: Flats, Levels, Location, Symbolic, Realistic, Scene change, Texture, Materials, Props*

Through set/sound design, I intend to create a[n]... mood and atmosphere.

The stage type / music I chose was... because...

Considering semiotics, I have decided to... and this is intended to symbolise...

**Ambiguous:** Open to more than one interpretation; not having one obvious meaning. Not clear or decided.

**Relentless:** Continuing in a severe or extreme way.

**Equality/inequality Equality:** The right of different groups of people to have a similar social position and receive the same treatment.

**Justice/injustice Justice:** fairness in the way people are dealt with.

**Retaliation:** The act of hurting someone or doing something harmful to someone because they have done or said something harmful to you.

**Empathy:** The ability to share someone else's feelings or experiences by imagining what it would be like to be in that person's situation.

**Victimised:** To treat someone in an intentionally unfair way, often because of their race, sex or beliefs.

**Segregation:** The act of keeping one group of people apart from another and treating them differently, especially because of race, sex, or religion. Ignorance Lack of knowledge, understanding, or information about something.

**Prejudice:** An unfair and unreasonable opinion or feeling, especially when formed without enough thought or knowledge.

**Rebellious:** If a group of people are rebellious, they oppose the ideas of the people in authority and plan to change the system, often using force.

## Gothic Conventions

- Abandoned houses supposedly uninhabited
- Isolated, bleak settings
- Majority of the story takes place at night/in darkness
- Supernatural entity that wants revenge
- Frequent use of the colour black
- Death of a character or those close to a character
- Rational protagonist who doesn't believe in the supernatural
- Presence of evil/religious imagery
- Inhuman or monstrous antagonist

## Stylistic Features and Methods

- Pathetic Fallacy – When the weather reflects the tone/mood of the scene.
- Protagonist – main character.
- Antagonist – The villain of the story.
- Epistolary Narrative – A story told in a series of letters.
- Motif – A dominant or recurring idea.
- Unreliable narrator – where the narrator's perspective is limited to their view only.
- Characterisation – construction of a fictional character.

## Gothic Quotes

"I heard many things in hell. How then am I mad?"  
The Tell-Tale Heart

"It was on a dreary night of November that I beheld the accomplishment of my toils"  
Frankenstein

"the dreadfulness of her expression began to fill me with fear"  
The Woman in Black

## Key Themes:

The Supernatural - The Unknown - Mystery – Fear – Isolation  
– Monsters – Evil - Death/Murder – Darkness

## Origins of Gothic Literature

The term 'Gothic' was first coined in 1764 by English author Horace Walpole in his novel, *The Castle of Otranto*, which he subtitled 'A Gothic Story'.

The novel was set in a haunted castle where the protagonist is plagued by supernatural occurrences.

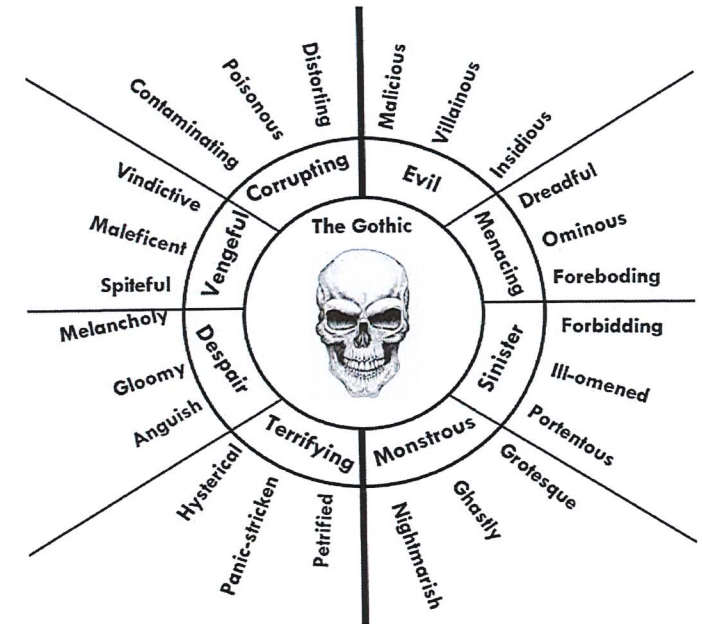
Walpole used the word 'Gothic' because it refers to medieval buildings like castles and churches, where a lot of Gothic fiction is set.

Gothic Literature became immensely popular in England and Germany during the 18th and 19th century, with many other genres borrowing its conventions.

Gothic fiction is all about creating terror in the reader.

## Gothic Texts

- 'Dracula' by Bram Stoker
- 'Frankenstein' by Mary Shelley
- 'The Red Room' by H.G. Wells
- 'The Black Cat' by Edgar Allan Poe
- 'Tell Tale Heart' by Edgar Allan Poe
- 'The Hound of The Baskervilles' by Arthur Conan Doyle
- 'The Woman in Black' by Susan Hill
- 'Coraline' by Neil Gaiman
- 'Click Clack the Rattlebag' by Neil Gaiman
- 'The Haunting of Hill House' by Shirley Jackson
- 'The Stranger Diaries' by Elly Griffiths



# Autumn English Language YEAR 9

## Paragraphing:

Always start a new paragraph whenever you change:

- Time
- Place
- Topic
- Person

Remember **TiPToP**

## Writing: composing a text for a purpose

### Sentence types:

- Declarative** - make statements (most likely to be fact or opinion statements)
- Exclamative** - express emotion (most likely to end with an exclamation mark)
- Imperative** - give commands (include imperative verbs)
- Interrogative** - ask questions (end with a question mark)

## Punctuation

- . **Full stop** – ends a sentence
- , **comma** – separates ideas
- : **Colon** – introduces a list
- ; **semi-colon** – separates clauses
- ! **Exclamation mark** – adds emphasis
- ? **Question mark** - interrogative
- “ ” **Speech marks** – indicates speech
- **Hyphen** – shows connection
- ... **Ellipsis** – creates mystery/intrigue

## Word bank

### Ways to start sentences

- Start your sentence with an 'ed' word:** Alarmed, Angered, Abandoned, Astonished, Bewildered
- Start your sentence with an 'ing' word:** Hiding, Jumping, Knowing, Riding, Praying, Thinking, Stopping
- Start your sentence with an adverb:** Accidentally, Bravely, Cheerfully, Defiantly, Fortunately, Menacingly
- Adverbial phrase for when something happens:** After running up the hill, Before charging into battle,
- Adverbial phrase for how something happens:** With her feet squelching in the mud, Jane trudged...
- Adverbial phrase for where something happens:** Around, Behind, Beneath, Beside, In, On, Over, Past
- Start with a simile.** (A simile compares two things): As dark as... As busy as... As clear as...

**A drop in clause adds in extra information:** The dragon, who had fearsome talons, flew off into the sky.  
The brave knight, who was wearing a coat of armour, strode through the castle doors.

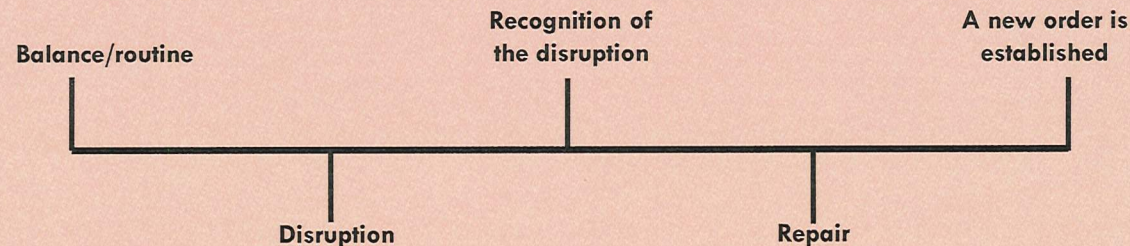
## Word types

- Noun** – Person, place, thing
- Pronoun** – In place of a noun 'you'
- Verb** – an action or state
- Adjective** – describes a noun
- Adverb** – describes a verb
- Preposition** – shows the relationship between objects
- Determiner** – used in front of a noun to show the type 'the' 'a'
- Conjunctions** – joining words

## Top tips

- Remember that all sentences and names start with a **capital letter**.
- Always write in complete sentences.
- Include descriptive detail to set the scene for the reader.
- Use a variety of sentence starters and vocabulary.
- Write with a range of punctuation.

## Structuring a story (Todorov's theory of equilibrium)



## Common Errors

- **There/their/they're** – there= place, their=belongs, they're=they are.
- **Which/witch** – which=choice, witch=supernatural
- **To/too/two** – to=the direction, too=a lot, two=2

## Characters



**Abigail Williams:** the 17-year-old niece of Reverend Parris. She is an orphan and a former servant to the Proctors.

**Reverend Parris:** the minister of Salem, Betty's father, and Abigail's uncle. Tituba is his slave.



**John Proctor:** a farmer, and the husband of Elizabeth. He is well respected in the local community and values his reputation.

**Rev John Hale:** minister in the nearby Massachusetts town of Beverly, and an expert in identifying witchcraft.



## Why did Miller write the play?

- To interest the audience about witchcraft and the McCarthy trials
- To highlight how both hysteria and intolerance can lead people to becoming illogical and inhumane towards others
- To emphasise and warn the audience of the dangers of mass hysteria that parallels the McCarthy trials
- To remind us that fear can cause us to commit unusual actions but we must rise above it and think carefully about the impacts and consequences

## Themes



fear



Influences of the past



supernatural



Isolation

## Key vocabulary:

- Protagonist – the main character of a narrative
- Antagonist – person who actively opposes or is hostile to someone or something
- Hysteria- Exaggerated or uncontrollable emotion or excitement.
- Integrity- The quality of being honest and having strong moral principles.
- Patriarchy- A system of society or government in which men hold the power and women are largely excluded from it.
- Witch-hunt -A search for people labelled "witches" or evidence of witchcraft, often involving moral panic or mass hysteria.
- Persecution- Hostility and ill-treatment, especially because of race or political or religious beliefs; oppression.

## Context:

The play was first performed in 1953 at the height of the McCarthy trials. Considered an attack on the anti-Communist McCarthyism.

### The Salem Witch Trials (1692)

The play is a fictionalised account of the famous 17th Century witch trials.

Hysteria began when a group of girls fell ill and it could not be explained why.

In a Puritan society, anything that could not be explained was said to be the work of the devil.

Villagers then began to accuse each other of witchcraft, which then extended to people with grudges and jealousies.

Many made accusations as revenge for petty things.

Within a few weeks, dozens of people were in jail.

By the end of the trials, twenty innocent men and women were hanged and hundreds were convicted.

### McCarthyism (1947-1956)

An American Senator called Joseph McCarthy rose to power by stirring up the nation into becoming terrified of Communists.

Stemmed from the fear and tension between the U.S. and the Soviet Union during The Cold War.

Anyone named as a Communist was placed on "Blacklists" that prevented them from getting work.

The McCarthy hearings (also known as McCarthy trials) ran from April to June 1954.

Many non-Communists confessed to being Communists and falsely named others as Communists in order to escape punishment.

## Key Quotes:

"Because it is my name! Because I cannot have another in my life!"

"Until an hour before the Devil fell, God thought him beautiful in Heaven."

"He have his goodness now. God forbid I take it from him."

"I look for John Proctor that took me from my sleep and put knowledge in my heart!"

"Life, woman, life is God's most precious gift; no principle, however glorious, may justify the taking of it."

"He have his goodness now. God forbid I take it from him!"



**Evaluation:** making of a judgment about the amount, number, or value of something

**Question style:** 'Explore the importance of ... in the novel' OR 'In what ways is ...significant in the novel.'

<b>What?</b>	What is the writer trying to tell us about the character/theme/setting?	<i>The character is presented as... Poe presents XXX as ... and ...</i>
<b>How?</b>	How do they use language/structure to do this? How do key words/phrases show this?	<i>The adjectives/noun/verb/phrase/image ... This suggests/implies/indicates/demonstrates...</i>
<b>Why?</b>	Why are they doing this? Why did they choose that language?	<i>The writer wants us to understand the significance of ... It can be seen that/it might be thought that/some readers might think</i>

**The reader feels:** empathy, sympathy, resentment, indignation, respect, disapproval, horrified, anticipation, admiration, relief, apprehension, critical, disappointment, anxious, disillusioned, impatient.

- ✓ Personal response, fully related to the text
- ✓ Critical style and interpretation
- ✓ Well-chosen references to support a range of points
- ✓ Understanding of context
- ✓ Convincing explanation of the relationship between the text and context

**Terminology:**

1. **Framed narrative** – a story within a story
2. **First-person narrative** – writing from an individual view 'I'
3. **Unreliable narrator** – untrustworthy storyteller
4. **Pastiche** – an imitation of
5. **Semantic field** – a set of words related in meaning
6. **Pathetic fallacy** – when the weather reflects the mood
7. **Sibilance** – repetition of the 's' sound – creates a sense of evil
8. **Gothic** – Genre of writing that includes: isolation, supernatural and fear.
9. **Personification** – giving human qualities to an inanimate object.
10. **Symbolism** – images or items that represent a theme or idea

**Adverb**

<i>Inherently Intrinsically Innately Naturally [In a way that is characteristic or natural]</i>	<i>Significantly Crucially Notably Particularly [In a way that is important/ needs to be known]</i>	<i>Undoubtedly Undeniably Unquestionably Indubitably [In a way that is true/ can't be argued]</i>	<i>Arguably Debatably Probably Potentially Possibly [In a way that could be true]</i>
---	---	---	---

*Expresses a clear evaluation of the writer's ideas*

**adjective**

<i>bitter resentful disgruntled discontented spiteful exasperated displeased</i>	<i>subtle crafted precise skillful adept expert masterful</i>	<i>bleak harsh grim ominous shocking gruesome gloomy</i>	<i>angry outraged aggrieved incensed infuriated enraged indignant</i>	<i>optimistic hopeful jovial amiable affable genial exuberant</i>
--	---	--	---	---

*Demonstrates a deeper understanding of the ideas*



# Reading Tracker

BOOKS I'VE READ

STAR RATING

Recommended Reads

Recommended Reads




★	★	★	★	★
★	★	★	★	★
★	★	★	★	★
★	★	★	★	★
★	★	★	★	★
★	★	★	★	★
★	★	★	★	★
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★	★	★	★	★
★	★	★	★	★

Books don't just go with you, they take you where you've never been

#READINGCHALLENGE



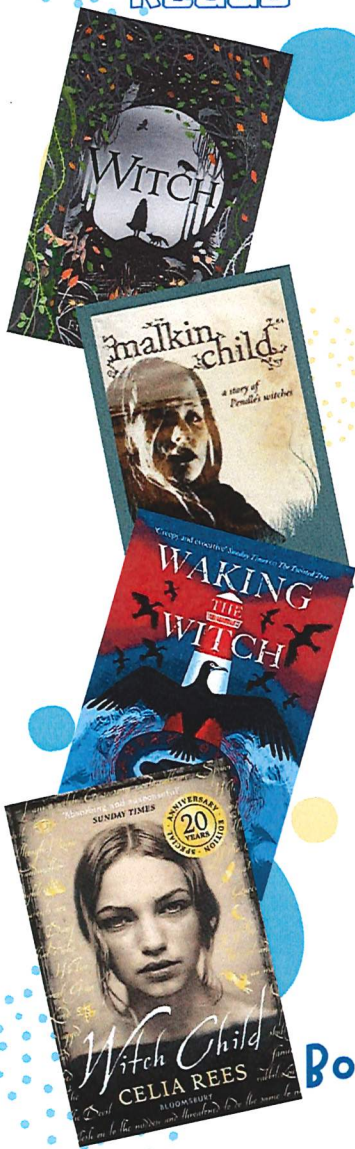
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Books don't just go with you, they take you where you've never been

#READINGCHALLENGE

# Food and Nutrition

## Carbohydrates

Carbohydrates are one of the 3 MACRONUTRIENTS. They have 2 functions for our diet:

1. They provide us with ENERGY
2. They provide us with FIBRE



There are two groups of carbohydrates:

### Sugars

Monosaccharides  
Disaccharides

### Complex Carbohydrates

Polysaccharides

50% of our daily diet should be made up of carbohydrates each day (preferably complex carbs)

**Deficiency** = Weight loss, lack of energy, weakness.

**Excess** = Obesity, Type 2 Diabetes, tooth decay.

## Protein

Protein is one of the 3 MACRONUTRIENTS. They have 3 functions for our diet:

1. They help the body to GROW.
2. They help the body to REPAIR itself.
3. They provide us with ENERGY.



Proteins are made up 'building blocks' called **AMINO ACIDS**.

Some protein foods contain all of these amino acids (HBV); Meat, fish, eggs, cheese, dairy, soya.

Some protein foods do not contain all amino acids (LBV); Beans, seeds, nuts, cereals.

**Deficiency** = Lack of growth, poor skin and nails

**Excess** = Liver and kidneys could be under pressure

## Fats

Fats are one of the 3 MACRONUTRIENTS.

They have 4 functions for our diet:

1. They provide us with ENERGY.
2. They help to INSULATE the body.
3. They PROTECT bones & kidneys
4. They give fat soluble vitamins (A,D,E & K)

There are two main types of fat:

### Saturated Fat

These fats usually come from ANIMAL sources.  
e.g. meat, butter, lard

### Unsaturated Fat

These fats usually come from PLANT sources  
e.g. olive oil, vegetable oil, nuts, avocado



**Deficiency** = Lack of energy, feeling of cold, no store for fat soluble vitamins

**Excess** = Obesity, too much saturated fat can lead to coronary heart disease (CHD)

## Vitamins & Minerals

### Vitamin A

Vitamins are found in a wide range of **unprocessed** plant and animal foods. This means they have not been cooked or had anything added to them.

### Vitamin B

### Vitamin C

### Vitamin D

### Vitamin E

### Vitamin K

If we are **deficient** (not getting enough) in certain vitamins and minerals we can become unwell.

Fatigue, heart disease, high blood pressure & some cancers are just some of the problems that can occur.



## Minerals

### Calcium

### Iron

### Sodium

### Iodine

Just like **vitamins**, minerals help your body grow, develop, and stay healthy.

The body uses minerals to perform many different functions from building strong **bones** to transmitting **nerve** impulses.

Some minerals are even used to make hormones or maintain a normal **heartbeat**.

## The Eatwell Guide

The Eatwell Guide is a recommendation by the government to help us follow a healthy diet. It shows the proportions of how much of each food group we need to eat each day to achieve a well-balanced and healthy diet.

### Planning balanced meals

Whenever you are planning meals for people, there are a few considerations to ask and think about;

- Likes and dislikes of foods
- Do they have food allergies or intolerances? (e.g. wheat or dairy)
- Do they follow a religious diet?
- Do they have a health condition?
- Do they need help in buying, preparing or cooking food?
- What type of meal would suit their lifestyle? (e.g. are they active or not)
- How much time is available to cook the food?
- How much will the food cost?
- Which foods are available to buy?
- Are the foods in season?
- Is the meal for everyday or a special occasion?



### The Eatwell guide recommends;

Sweet, salty and fatty foods such as crisps, chips, cakes and biscuits should be eaten **less often** and in **small** amounts!

# Food and Nutrition

## Food poisoning

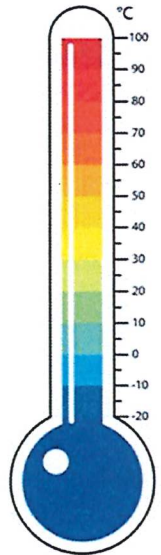
Food poisoning can be caused by:

- **Bacteria**, e.g. cross-contamination from unclean hands, dirty equipment, or bacteria already present in high risk foods (e.g. meat, fish, eggs, dairy).
  - **Physical contaminants**, e.g. hair, plasters, packaging etc.
  - **Chemicals**. E.g. cleaning chemicals such as washing up/sanitiser.
- Bacterial contamination is the most common cause of food poisoning. Micro-organisms occur naturally in and around vegetables, fruit, animals, people, water, soil and in the air. Most bacteria are harmless but a small number can cause illness. Harmful bacteria are called **pathogenic** bacteria. The process of food becoming unfit to eat through oxidation, contamination or growth of micro-organisms is known as food spoilage.



## Food Temperatures

To reduce the risk of food poisoning, good temperature control is vital.



- **100°C** – Water boils. All bacteria killed.
- **75°C** – High risk food (e.g. meat and fish) needs to reach this temperature for bacteria levels to be safe before eating.
- **5-63°C** – The **DANGER ZONE**. Harmful pathogenic bacteria can rapidly grow between these temperatures.
- **0-5°C** – Fridge temperature. Make sure foods are cool before putting into the fridge to stop going into the Danger zone
- **-18°C** – Freezer temperature. Harmful bacteria is dormant. This means it hasn't been killed but cannot grow either.

Heat transfers create different sensory properties to foods. E.g. Crunchy, soft, light etc. The three used when cooking are

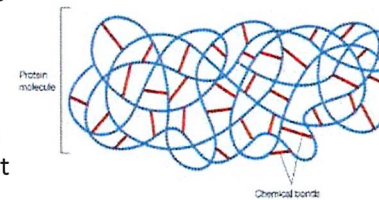
**CONDUCTION,**  
**CONVECTION** and  
**RADIATION.**

## The Chemical Properties of Protein

Proteins are **large** molecules that are made up of individual units called '**amino acids**'.

Protein molecules are held together by '**chemical bonds**'.

As they are so large, protein molecules are often folded into compact '**bundles**' so that they take up less space.



When foods containing protein are cooked, whisked or had acids added to them, the **chemical bonds** in the molecules **break**.

When the chemical bonds break, Proteins molecules '**denature**'.

## Heat Transfers

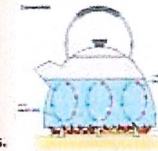
Food is cooked for a variety of reasons. High risk foods must be cooked properly to destroy the food poisoning bacteria (**pathogens**) they are likely to contain. Some foods contain natural **toxins** (poisons) that would be harmful if the food was eaten raw. Cooking **destroys** these toxins and makes the food safe to eat

**CONVECTION** is the heat transfer through gases and liquids.

When heating a liquid, the liquid near the heat source heats up.

The warmer liquid rises above the colder surrounding liquid. The colder moves to the bottom, creating a circular motion, known as convection currents.

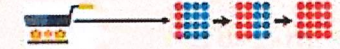
Convection occurs in ovens as the hot air rises and cool air falls.



Cooking improves the **texture** of food and makes it easier to eat, swallow and digest. E.g. Cooking starchy foods cause starch granules to swell, gelatinise and thicken or soften a food.

**CONDUCTION** is heat transfer due to the vibration of particles.

When a pan is placed on hob, heat energy from the hob causes the particles in pan to **vibrate** & gain heat. The particles collide with particles nearby & pass on their heat.



When food is placed in the pan, the heat then transfers to food and cooks it.

Cooking develops flavour by causing **chemical reactions** to take place in the food. E.g. When cooking cakes: the **fat melts**, **proteins in the egg coagulate**, the **sugar caramelises** and the **starch gelatinises**.

Radiation is heat transfer through **waves of radiation**.

There is **no direct contact** between the heat source and the food.

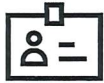
**Toasters, grills, microwaves and BBQ's** use radiation to cook food.

Radiation waves are emitted and as they reach the food they are absorbed and heat up the food.



## Qui Suis-Je? Who am I?

### Identity and Culture



#### Quelle est ta personnalité?

*What is your personality?*

*Je pense que je suis travailleur.euse et très calme. Je ne suis pas plutôt bavard.e et je n'aime pas les gens qui parlent trop haut. Pourtant je crois que j'ai le sens de l'humour ce qui m'aide à trouver des amis et de résoudre beaucoup de problèmes à l'école.*

#### Décris ton/ta meilleur(e) ami(e)

*Describe your best friend*

*Ma meilleure amie s'appelle Anne. Elle est grande et assez mince. De plus, elle a les cheveux bruns et beaucoup de taches de rousseur et ses yeux sont beaux et verts. Je l'admire car elle est toujours patiente et gentille, elle travaille aussi énormément à l'école.*

#### C'est quoi un bon ami pour toi?

*What is a good friend to you?*

*Pour moi, un bon ami est quelqu'un qui dit toujours la vérité et m'accepte tel.le que je suis et on s'entend comme les deux doigts de la main. À mon avis, le meilleur ami ne doit jamais se moquer de moi ou être méchant parce que c'est inadmissible pour moi.*

#### Parle moi de ta famille

*Speak to me about your family*

*Dans ma famille il y a quatre personnes : mon père, ma mère, mon frère et moi. À mon avis, on est grands et beaux. Mon frère, qui s'appelle, John ressemble beaucoup à ma mère et moi, je ressemble plutôt à mon père. Cependant de caractère tout le monde est différent. Ma mère est la plus patiente, gentille et responsable. Je peux me confier à elle. Cependant mon père est impatient et paresseux donc on se dispute souvent. Mon frère est méchant et débrouillard et c'est pourquoi on s'entend comme chat et chien.*

#### Tu t'entends bien avec ta famille?

*Do you get on well with your family ?*

*Ma mère est travailleuse et sage, je m'entends donc bien avec elle. Je me confie à elle quand j'ai des problèmes. Mon frère, qui s'appelle John, est vraiment têtu et énervant donc je me dispute avec lui presque tous les jours. On ne peut pas dire dans ma famille: 'tel père, tel fils' car les deux sont de caractère différent. Moi, j'adore mon père qui est sympathique et poli, mais de temps en temps, je me fâche contre lui puisqu'il me traite comme un bébé.*

#### Qu'est-ce que tu vas faire ce week-end avec tes amis?

*What are you going to do with your friends this week ?*

*Ce week-end, je voudrais faire du shopping avec mes amis car j'ai grandi et j'ai besoin de nouveaux vêtements. Cependant s'il fait chaud on ira ensemble à la plage et je pense que cela sera très amusant, s'il pleut on va aller au cinéma.*

#### Comment étais-tu quand tu étais plus jeune ?

*What were you like when you were younger?*

*Quand j'étais plus jeune j'étais vraiment dynamique et sportif.ve. Le sport était ma vraie passion. J'aimais passer du temps avec mes amis en pratiquant du sport. On allait souvent au parc où l'on jouait au foot, mais j'aimais aussi m'amuser avec eux en jouant aux jeux vidéo.*

#### Est-ce que tu es sorti(e) récemment?

*Have you been out recently ?*

*Il y a deux jours, mes amis et moi avons fait de l'équitation puisque on adore beaucoup les chevaux. Je crois que c'était vraiment chouette. En plus, le week-end dernier, on a fait ensemble du sport puisque c'est toujours bon pour la santé. Moi, j'ai joué au basket pendant que mes amis jouaient au foot dans le parc. Puis, on a pique-niqué parce qu'il y avait du soleil et il faisait assez chaud. C'était une journée formidable pour tout le monde et je l'ai aimée.*

#### Qui est ton modèle?

*Who is your role model?*

*Moi, j'admire mon grand frère. Il m'impressionne énormément. Il est à la fois intelligent, sage et travailleur. Il va bientôt terminer ses études de droit. Il fait du bénévolat dans une organisation caritative britannique. Je suis fière de lui. Je pense que tout le monde devrait suivre l'exemple d'une autre personne.*

#### Pourquoi est-ce que tu admires cette personne?

*Why do you admire this person ?*

*J'admire mon frère parce qu'il étudie beaucoup et en même temps, il veut faire du bénévolat dans une organisation caritative britannique. Il consacre donc son temps libre et partage sa connaissance du droit pour aider les gens qui en ont besoin. C'est extraordinaire pour moi !*

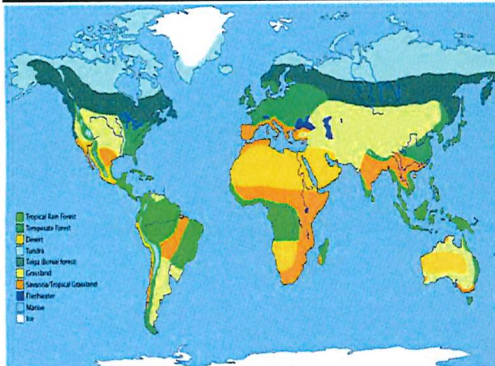
#### Question you will ask:

#### Fancy Phrases:

<b>Qualifiers</b>	Un peu <b>a bit</b> Très/Beaucoup <b>very/a lot</b> Assez <b>quite</b> Trop <b>too/too much</b> Quelque chose <b>somewhat</b>	<b>Time expressions</b>	L'année dernière <b>last year</b> Il y a deux ans <b>two years ago</b> Quand j'étais petit(e) <b>when I was little</b> L'année prochaine <b>next year</b> Dans deux ans <b>in two years' time</b>	<b>Simple future</b>	J'irai <b>I will go</b> Je serai <b>I will be</b> J'aurai <b>I will have</b> Je ferai <b>I will do/make</b> Je visiterai <b>I will visit</b>
<b>Adverbs</b>	Tous les jours <b>every day</b> Toujours <b>always</b> Ne... jamais <b>never</b> Quelquefois <b>sometimes</b> Constamment <b>constantly</b>	<b>Variety of pronouns</b>	Marie aime <b>Marie likes</b> Ce qu'elle adore le plus/le moins <b>What I like the most/least</b> Le meilleur/le pire <b>the best/worst</b> Nous nous entendons bien <b>we get on well</b>	<b>Conditional</b>	J'irais <b>I would go</b> Je serais <b>I would be</b> J'aurais <b>I would have</b> Je ferais <b>I would do/make</b> Je visiterais <b>I would visit</b>
<b>Connectives</b>	Néanmoins <b>nonetheless</b> Pourtant <b>however</b> Pour cette raison <b>because of that</b> Grâce à <b>thanks to</b> Par exemple <b>for example</b>	<b>Variety of persons</b>	Il/elle a <b>she/he/it has</b> Il/elle fait <b>she/he/it does/makes</b> C'est <b>it is</b> Nous avons visité <b>we visit/visited</b> C'est bien passé <b>we have/had a good time</b>	<b>Si clauses</b>	Si je gagnais au Lotto, j'irais à New York <b>If I won the lottery, I would go to New York</b> Si je pouvais, je travaillerais comme médecin <b>If I could, I would work as a doctor</b> Si je pouvais, j'étudierais le français à la fac <b>If I could, I would study French at university</b> Si j'étais riche, j'acheterais une grande maison <b>If I were rich, I would buy a mansion</b> Si j'avais de l'argent, j'habiterais en France <b>If I had money, I would live in France</b>
<b>Comparisons Superlatives</b>	Plus/Moins... que <b>more/less than</b> Mieux/Pire... <b>QUE better/worse than</b> Le plus/Le moins <b>the most/least</b> Le meilleur/le pire <b>the best/worst</b> Ce que j'aime le plus/le moins <b>what I like the most/least</b>	<b>Infinitive phrases</b>	Je veux + INF <b>I want to</b> Je dois + INF <b>I have to</b> Je peux + INF <b>I can</b> J'ai l'intention de + INF <b>I intend to</b> J'ai décidé de + INF <b>I decided to</b>	<b>Subjunctive</b>	Si seulement je pourrais... <b>I wish I could</b> Si seulement il y aurait <b>I wish there were</b> Quand je serai adulte <b>when I am older</b> Je ne pense pas qu'il soit... <b>I don't think it is</b> Il se peut qu'il ait <b>I/it may have</b>
<b>Sequencers</b>	Premièrement <b>firstly</b> Puis <b>then</b> Donc <b>so</b> Depuis <b>afterwards</b> Finalement <b>finally</b>	<b>Passé Composé</b>	Je suis allé(e) à <b>I went to</b> J'ai été <b>I was</b> J'ai eu <b>I had</b> J'ai fait <b>I did/made</b> J'ai visité/J'ai rendu visite à <b>I visited</b>	<b>Idiom</b>	Ça coute les yeux de la tête <b>he/she is a star</b> Je fais la grasse matinée <b>I have a lie in</b> Je dis ça, je dis rien <b>I'm just saying</b> Je saute du coq à l'âne <b>This is unrelated</b> Revenons à nos moutons <b>Back to the matter at hand</b>
<b>Negatives</b>	Ne ... jamais <b>never</b> Ne ... plus <b>no longer</b> Ni... ni <b>neither... nor</b> Non plus <b>neither</b>	<b>Imperfect</b>	J'allais <b>I used to go</b> J'étais <b>I used to be</b> J'avais <b>I used to have</b> Je faisais <b>I used to do/make</b> Je visitais <b>I used to visit</b>		
<b>Opinions with reasons</b>	Je crois que... parce que <b>I believe that... as</b> Je pense que... car <b>I think that... since</b> A mon avis... même si <b>In my opinion... although</b> Il me semble que ... vu que <b>It seems to me that... seeing that...</b> Je suis convaincu que... étant donné que <b>I am convinced that... given that</b>	<b>Immediate future</b>	Je vais être <b>I'm going to be</b> Je vais avoir <b>I'm going to have</b> Je vais faire <b>I'm going to do</b> Je vais aller <b>I'm going to go</b> Je vais visiter <b>I'm going to visit</b>		

**What is an Ecosystem?**  
A community of plants (flora) and animals (fauna) that interact with each other and their physical environment.

**Biomes**  
A biome is a **large geographical area of distinctive plant and animal groups**, which are adapted to that particular environment. The climate and geography of a region determines what type of biome exists.



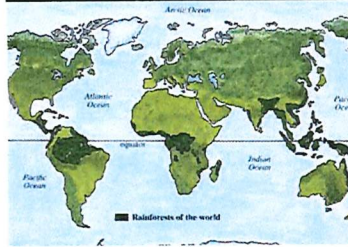
Coniferous forest
Deciduous forest
Tropical rainforests
Tundra
Temperate grasslands
Tropical grasslands
Hot deserts

Biome's climate and plants						
Biome	Location	Temperature	Rainfall	Flora	Fauna	
Tropical rainforest	Centred along the Equator.	Hot all year (25-30°C)	Very high (over 2,000mm/year)	Tall trees forming a canopy; wide variety of species.	Greatest range of different animal species. Most live in canopy layer	
Tropical grasslands	Between latitudes 5°- 30° north & south of Equator.	Warm all year (20-30°C)	Wet + dry season (500-1500mm/year)	Grasslands with widely spaced trees.	Large hooved herbivores and carnivores dominate.	
Hot desert	Found along the tropics of Cancer and Capricorn.	Hot by day (over 30°C) Cold by night	Very low (below 300mm/year)	Lack of plants and few species; adapted to drought.	Many animals are small and nocturnal: except for the camel.	
Deciduous & coniferous forest	Between latitudes 40°- 60° north of Equator.	Warm summers + mild winters (5-20°C) 4 seasons	Variable rainfall (500-1500mm/year)	Mainly deciduous trees; a variety of species.	Animals adapt to colder and warmer climates. Some migrate.	
Tundra	Far Latitudes of 65° north and south of Equator	Cold winter + cool summers (below 10°C)	Low rainfall (below 500mm/year)	Small plants grow close to the ground and only in summer.	Low number of species. Most animals found along coast.	
Polar	North/South Poles Arctic/Antarctic	Very low temperatures year round can reach -50°C	Very low rainfall	Some plants such as mosses and lichens	Very few- polar bears, penguins	

The **most productive biomes** – which have the greatest biomass – grow in climates that are **hot and wet**.

**Tropical Rainforest Biome**  
Tropical rainforest cover about **6 per cent** of the Earth's surface yet they are home to **over half of the world's plant and animals**.

**Interdependence in the rainforest**  
A rainforest works through **interdependence**. This is where the plants and animals **depend on each other** for survival. If one component changes, there can be **serious knock-up effects** for the entire ecosystem.



**Distribution of Tropical Rainforests**  
Tropical rainforests are **centred along the Equator** between the Tropic of Cancer and Capricorn. Rainforests can be found in South America, central Africa and South-East Asia. **The Amazon** is the world's largest rainforest and takes up the majority of northern South America, encompassing countries such as Brazil and Peru.

**Rainforest nutrient cycle**  
The **hot, damp conditions** on the forest floor allow for the **rapid decomposition** of dead plant material. This provides plentiful nutrients that are easily absorbed by plant roots. However, as these nutrients are in high demand from the many fast-growing plants, they do not remain in the soil for long and stay close to the surface. If vegetation is removed, the soils quickly become **infertile**.

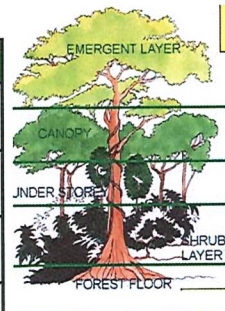
**Climate of Tropical Rainforests**

- Evening temperatures rarely fall below **22°C**.
- Due to the **presence of clouds**, temperatures rarely rise above **32°C**.
- Most afternoons have heavy showers.
- In an area of low pressure. (causing the rainfall)

## Year 9 Geography Autumn Term Ecosystems

**Layers of the Rainforest**

Emergent	Highest layer with trees reaching <b>50 metres</b> .
Canopy	80% of life is found here as it receives <b>most of the sunlight and rainfall</b> .
Under Canopy	Consists of trees that reach <b>20 metres high</b> .
Shrub Layer	Lowest layer with <b>small trees</b> that have adapted to living in the shade.

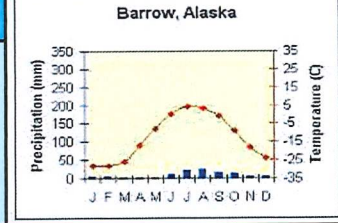


**Adaptations to the rainforest**

Buttress roots	<b>Big roots</b> to support emergent of 50 metres.
Drip tip leaves	Allows heavy rain to <b>run off leaves easily</b> .
Lianas & Vines	<b>Climbs trees</b> to reach sunlight at canopy.
Spider monkeys	Use their tails as an extra limb to climb trees.

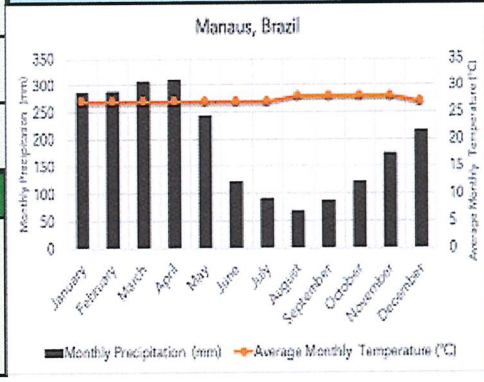
### Climate of Cold Environments

- Tundra:** Warm months only reach a max of **10°C** while winters can plunge to **-50°C**. Precipitation is low, less than **380mm**
- Polar:** very cold year round, winters tend to drop to **-40°C** but can reach **-90°C**. Very little rainfall- less than **100mm a year**. Antarctica is a cold desert!



### Distribution of Cold Environments

Tundra is located at **high latitude** (above **60° north**) in Northern Canada, Northern Europe e.g. Scandinavia and Alaska. Polar environments are found around the north and south poles.



### Adaptations Cold Environments

<b>Plants</b>	Most plants become <b>dormant</b> to survive cold, dark winters. Plants are <b>low-growing</b> to avoid strong winds. <b>Shallow roots</b> because of permafrost. E.g. Bearberry plant.
<b>Animals</b>	Well insulated, they have <b>thick fur</b> like Polar bears. Some animals <b>hibernate</b> . <b>White coats</b> for camouflage E.g. Arctic fox.

### Why are Tundra & Tropical Rainforests so different?

<b>Latitude</b>	Tropical Rainforests are located a <b>low latitude</b> meaning the sun's radiation is <b>more concentrated</b> causing <b>higher temperatures</b> . Tundra is at <b>high latitude</b> and the earth is more curved here meaning the sun's radiation is <b>less concentrated</b> causing <b>colder temperatures</b> .
<b>Air Pressure</b>	<b>Tropical Rainforests</b> are located in an area of <b>low pressure</b> where air is rising near the equator leading to <b>high rainfall</b> . <b>Tundra</b> is located in an area of <b>high pressure</b> where air is falling leading to <b>less rainfall</b> .
<b>Therefore</b>	<b>Tropical rainforests</b> have <b>high biodiversity</b> due to warm climate, high rainfall therefore more plants and animals. Tundra the opposite- low biodiversity, low rainfall, low temperatures.



## Tropical Rainforests: Case Study The Amazon

The Amazon is the **largest rainforest** on earth covering an area of **8million km<sup>2</sup>** (the UK is 250,00km<sup>2</sup>) It covers countries such as **Brazil, Peru, Colombia, Venezuela, Ecuador, Bolivia, Guyana, Suriname, French Guiana.**



### Impacts of deforestation

#### Economic development

- + In March 2018 Brazil exported **\$600 million of beef**
- + One mining company in **Peru** employs **over 8,000 people**
- The loss of biodiversity will reduce tourism and local **Brazilian rubber tappers** have lost their livelihood.

#### Soil erosion

- Brazil is losing **100 tonnes** of topsoil every year. This may lead to landslides and flooding.
- Soil fertility reduced as more water reaches soil

#### Climate Change

- Rainforests are **carbon sinks**- the **Amazon stores 140billion tonnes** of carbon, deforestation releases this CO<sub>2</sub> Up to **75% of Brazils CO<sub>2</sub> emissions** come from deforestation.

### Sustainable Management of Rainforests

Uncontrolled exploitation can cause irreversible damage such as loss of biodiversity, soil erosion and climate change.

#### Possible strategies include:

- **Selective logging & replanting** - Trees are only felled when they reach a particular height and trees are replaced. This can take place over many years. Trees are removed without harming the surrounding forest.
- **Education** - Ensuring people understand the consequences of deforestation both locally and globally.
- **Ecotourism** - tourism that promotes the environments & conservation.
- **Conservation**- setting up national parks & nature reserves.
- **Reducing debt**- Debt can be cancelled by HICs if LICs protect their TRFs.
- **International Hardwood Agreements**- put in place to prevent illegal logging.

Why are Rainforests important? Rainforest provide key goods and perform essential services

Goods	Services
<b>80%</b> of HIC foods originates from the TRF, <b>40%</b> of trees logged for paper, <b>70%</b> of the plants have proven anti-cancer properties, provide commodities such as <b>rubber</b> .	<b>1/5</b> of our fresh water is found in TRFs, <b>50%</b> of the world's plants & animals here, Rainforests act as <b>carbon sink</b> reducing climate change

### What are the causes of deforestation in the Amazon?

#### Logging: 2-3% of deforestation

- Most widely reported cause of destruction to biodiversity.
- Timber is harvested to create **commercial items** such as furniture and paper.
- **Violent confrontation** between indigenous tribes and logging companies.

#### Mineral Extraction: < 2%

- **Precious metals** are found in the rainforest.
- Areas **mined** can experience **soil and water contamination**.
- **Indigenous people** are becoming **displaced** from their land due to roads being built to transport products.

#### Energy Development: 2%

- The **high rainfall** creates ideal conditions for **hydro-electric power (HEP)**.
- The **Balbina Dam** near **Manaus** flooded 2,400km<sup>2</sup> of rainforest.
- **New roads** are also needed to transport resources causing more deforestation.

#### Cattle Ranching: 65-70%

- **Biggest** cause of deforestation in the Amazon.
- Forest is cleared to make space for **cattle grazing**. Normally by **slash and burn**.
- There are around **200 million cattle** on **450,000km<sup>2</sup>** of pasture.

#### Commercial Farming: 5-10%

- **Soy** is also farmed here- up to **250,000 km<sup>2</sup>** of former forest has been used for it's production.
- **Rice, cane** and **sugar cane** are also grown and sold for **profit**.

#### Subsistence Farming: 20-25%

- Forest is cleared by **small-scale farmers** who need to grow food for **themselves & their families**
- Many **indigenous people** are subsistence farmers. Many farmers have been settled along the **trans-Amazonian Highway** by the Brazilian government.

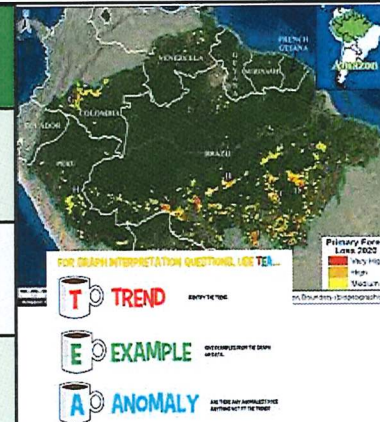
### Key Word

### Definition

<b>Biodiversity</b>	The variety of life in the world or a particular ecosystem. High biodiversity = a wide variety of plants & animals.
<b>Ecosystem</b>	A community of plants and animals that interact with each other and their physical environment.
<b>Commercial farming</b>	Farming to sell produce for profit to retailers or food processing companies.
<b>Deforestation</b>	The chopping down and removal of trees to clear an area of forest.
<b>Subsistence farming</b>	A type of agriculture producing food and materials for the benefit only of the farmer and their family.
<b>Sustainability</b>	Actions that meet the needs of the present without reducing the ability of future generations to meet their needs.
<b>Flora</b>	Plants.
<b>Fauna</b>	Animals.
<b>Climate</b>	The average weather conditions in a place over 30 years. Typically the temperature and precipitation.
<b>Precipitation</b>	Rain/hail/sleet/snow.

**Key Geographical Skill: Describing distribution-** this means describe how something is spread out. Use **TEA**

<b>Trend</b>	Using compass direction describe the general pattern	The highest forest loss tends to be in the <b>South</b> of the Amazon
<b>Evidence</b>	Give examples from the map e.g. names of countries/%s	For example in the <b>South of Brazil</b> with very high loss
<b>Anomaly</b>	Comment on anything that doesn't fit the pattern	<b>However</b> there areas of high forest loss in the <b>North West</b> in Colombia



### PEEL Extended Writing E.g. Assess the human impacts on the TRF (9 marks)

<b>Point</b>	Make a <b>clear point</b> with a <b>judgment</b> if appropriate	Humans have a huge impact on Tropical Rainforests.
<b>Evidence</b>	Use <b>geographical detail</b> e.g. name of a place, statistic, real life example. This can be a case study or from a figure provided.	For example <b>65-70%</b> of deforestation in the <b>Amazon</b> is caused by cattle ranching.
<b>Explain</b>	Use <b>connectives</b> to develop your explanation. Saying what something is, why it is happening. <b>Think so what!</b>	This is where.... This causes so much deforestation because... this has huge impacts because... this leads to...
<b>Link</b>	Link back to the question.	This shows how humans have huge negative impacts on tropical rainforests.

## Year 9 History: Term 1

### Tyranny and Dictatorship

**Tyrant** – A cruel and oppressive ruler.

**Dictator** – A ruler or single party with total power over a country, typically they control the country through force.

**Democracy** – A system of government where the people are ruled by elected representatives.

**Tacitus** – A Roman historian who hated Emperors and was a near-contemporary of Nero's. He told the story of Nero's life using Senate (government) records and personal letters to describe Nero's reign. He claimed to write without bias.

**Suetonius** – A Roman biographer who was trying to make the Julio-Claudian Emperors look bad and was a near-contemporary of Nero's. He was a massive gossip who wanted to write an entertaining book, using Senate records and personal letters as his sources.

### Was Nero a tyrant?

**The Great Fire of Rome** – A fire in 64 CE, which destroyed 75% of the city and burned for 6 days. Some stories say that Nero watched and played a lyre as the city burned. Nero blamed Christians for the fire and had them persecuted.

**Domus Aurea** – Nero's golden palace, which he raised taxes in order to build. It was built on the area which was destroyed by the Fire of Rome. Visitors would be greeted by a giant statue of Nero dressed as a god.

**Charity** – Coins (e.g. a sestertius) from Rome depict Nero as giving to charity.

**Debasement** – When valuable metals are taken out of coins to be used elsewhere. Nero appears to have done this and used the money to build his palace.

**Nature** – What a source is.

A gold aureus coin, minted in Rome in 54 CE.

It shows Nero facing his mother, surrounded by a list of his titles.



**Content** – What the source says/shows.

Historians then infer what they can work out from the source.

**Origin** – Who produced the source, when and where.

**Purpose** – Why a source was made.

**Nero** – Emperor of ancient Rome between 54 – 68 CE. He was the final ruler of the Julio-Claudian family, and became Emperor at 17 years old after the suspicious death of his step-father, Claudius. He considered himself an artist and an athlete.

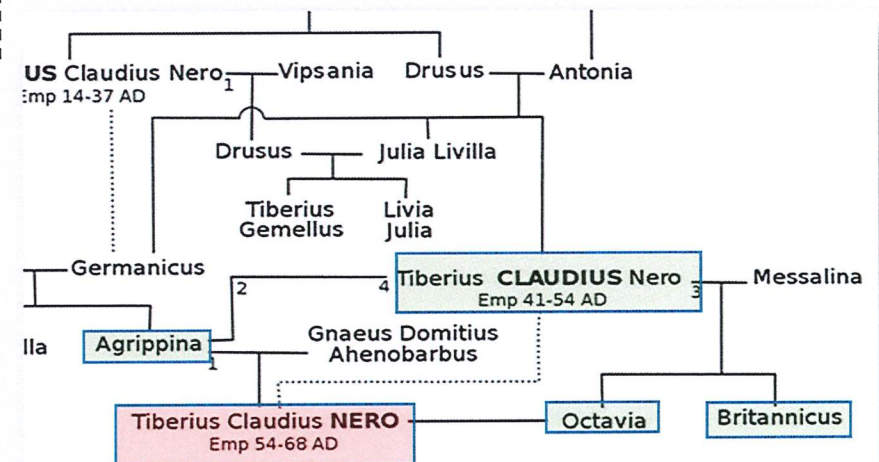
**Agrippina the Younger** – The mother of Nero. She is rumoured to have killed her husband/uncle, Claudius, so that Nero could become king. Some sources suggest that Nero had an affair with Agrippina, and later ordered her to be murdered.

**Claudius** – The step-father and great-uncle of Nero. He was the Emperor of Rome until he died, supposedly after eating a dish of poisoned mushrooms.

**Octavia** – The first wife of Nero (and his step-sister). She was killed on Nero's orders so that he could marry Poppaea.

**Britannicus** – Step-brother of Nero. He died at a feast that Nero was also at (Nero was jealous of his singing and threatened by the fact that Britannicus had a claim to the throne).

**Poppaea** – The mistress, then second wife of Nero. Nero apparently kicked her to death while she was pregnant.



**Ideology** – Political beliefs.

**Communism** – A social system where everything is owned by the people, then redistributed equally or based on people's needs (e.g. the Soviet Union).

**Fascism** – A political system based on a powerful leader, state control, and being proud of country and race. Political opposition is not allowed (e.g. Nazi Germany).

**Soviet Union (USSR)** – The name of the communist collection of states controlled by Soviet Russia between 1917-1991.

**Josef Stalin** – The leader of the USSR between 1924-1953. He used the popularity of his predecessor (Lenin), as well as propaganda, and terror (e.g. the Soviet concentration camps, called gulags) to keep control of the people.

### Why did Hitler and the Nazis gain power in Germany?

**Adolf Hitler** – A man born in Austria-Hungary. He fought for Germany in World War I, and later became the dictator of Nazi Germany.

**Weimar Republic** – The name of the German government between World War I and the rise of Hitler.

**Treaty of Versailles** – The peace treaty agreed on at the end of the First World War. Germany was blamed for everything and the main terms can be remembered through the term B.R.A.T. (Germany had to accept **blame**, Germany had to pay **reparations**/money for the damage in the war, Germany had to reduce the size of their **army** to 100,000 men, and Germany had to give up **territory**/land.). The Treaty was very unpopular with the German people.

**Hitler's character** – Hitler was an incredibly skilled public speaker, and very charismatic. Many people in Germany voted for him because they thought that he would be a strong leader.

**Weak Economy** – The German economy was very weak after World War I because of the reparations that Germany had to pay, hyperinflation, and the Great Depression in 1929.

**Weakness of the Government** – The Weimar Republic was weak because there were too many political parties who disagreed on how to run Germany. They were also blamed for dealing with the Great Depression badly.

**Nazi ideas and blaming others** – The Nazis taught that Germany was strong and had been betrayed in World War I. The German people liked to hear that the problems of Germany could be blamed on other groups (e.g. the Jews living in Germany). For example, the Nazis blamed their political enemy, the communists, when the Reichstag government building was burnt down.

### Methods of control in a dictatorship

**Propaganda** – Biased or misleading information designed to make people think in a certain way.

**Cult of Personality** – The use of media and propaganda to create an idealised image of a leader.

**Police State** – The use of the police, secret police, and force to control people. In the Nazi police state the SS, Gestapo (secret police), legal system and concentration camps worked together to try and control the German population.

**Historical Interpretation** – The opinion of an historian.

**Interpretation 2: E. Brown, 1987**

Nero was surely the worst of the Julio-Claudian Emperors. In his short reign, he was responsible for much neglect and unhappiness of the Roman people, including 'the Great Fire of Rome'. His unhealthy relationship with his mother, alongside his brutal treatment of those around him and failure to respect some of the oldest and most important Roman beliefs (such as the sanctity of the Vestal Virgins and the fire they had to protect), demonstrate that Nero was both uninged and a bad leader for the Roman people.

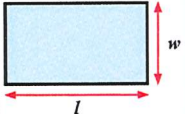
**Explanation** – Saying what evidence means or shows.

**Evidence** – Factual evidence selected used to support an argument.

**Descriptive language** – Used to emphasise a point.

# Year 9 Mathematics Key Information

**Area of a Rectangle**  
 $A = l \times w$

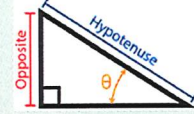


**Speed**

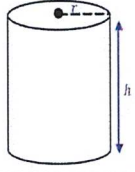


**Percentage Change**  
 $\frac{\text{actual change}}{\text{original}} \times 100$

**Sinθ**  
 $\text{Sin}\theta = \frac{\text{Opp}}{\text{Hyp}}$

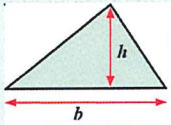


**Cylinder**  
 $\text{Vol} = \pi r^2 h$



**Prime Number**  
 A number that has exactly 2 factors  
 2, 3, 5, 7, 11, 19, ...

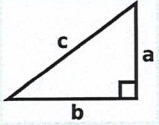
**Area of a Triangle**  
 $A = \frac{1}{2} \times b \times h$



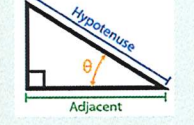
**Density**



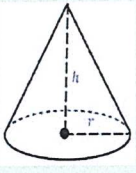
**Pythagoras' Theorem**  
 $a^2 + b^2 = c^2$



**Cosθ**  
 $\text{Cos}\theta = \frac{\text{Adj}}{\text{Hyp}}$

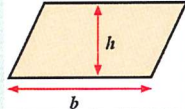


**Cone**  
 $\text{Vol} = \frac{1}{3} \pi r^2 h$

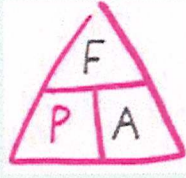


**Square Number**  
 A number multiplied by itself  
 $5^2 = 5 \times 5 = 25$

**Area of a Parallelogram**  
 $A = b \times h$

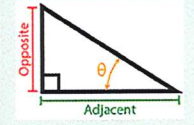


**Pressure**

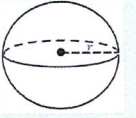


**Metric Length Conversions**  
 $1\text{km} = 1000\text{m}$   
 $1\text{m} = 100\text{cm}$   
 $1\text{cm} = 10\text{mm}$

**Tanθ**  
 $\text{Tan}\theta = \frac{\text{Opp}}{\text{Adj}}$

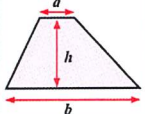


**Sphere**  
 $\text{Vol} = \frac{4}{3} \pi r^3$   
 $S.A. = 4\pi r^2$

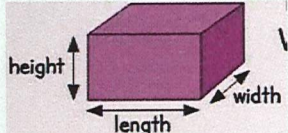


**Cube Number**  
 A number multiplied by itself and then itself again  
 $5^3 = 5 \times 5 \times 5 = 125$

**Area of a Trapezium**  
 $A = \frac{1}{2} \times (a + b) \times h$



**Volume of a Cuboid**  
 $V = l \times w \times h$

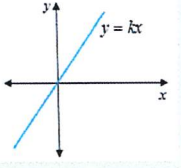


**Metric Mass Conversions**  
 $1 \text{ tonne} = 1000\text{kg}$   
 $1\text{kg} = 1000\text{g}$   
 $1\text{g} = 1000\text{mg}$

**Exact Values of Sin**

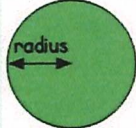
θ	0°	30°	45°	60°	90°
sinθ	0	1/2	√2/2	√3/2	1

**Direct Proportion**  
 $y \propto x$   
 $y = kx$

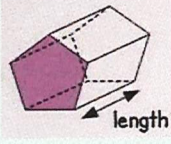


**Multiple**  
 The first 5 multiples of 12 are 12, 24, 36, 48 and 60

**Area of a Circle**  
 $A = \pi \times r^2$



**Volume of a Prism**  
 $V = \text{area of cross-section} \times \text{length}$

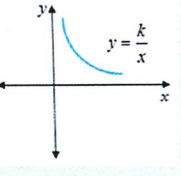


**Metric Capacity Conversions**  
 $1\text{l} = 1000\text{ml}$   
 $1\text{l} = 100\text{cl}$   
 $1\text{cl} = 10\text{ml}$

**Exact Values of Cos**

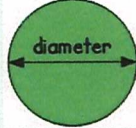
θ	0°	30°	45°	60°	90°
cosθ	1	√3/2	√2/2	1/2	0

**Inverse Proportion**  
 $y \propto \frac{1}{x}$   
 $y = \frac{k}{x}$

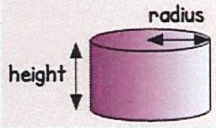


**Factor**  
 The factors of 12 are 1, 2, 3, 4, 6 and 12

**Circumference of a Circle**  
 $C = \pi \times d$



**Volume of a Cylinder**  
 $V = \pi \times r^2 \times h$



**Error Interval**  
 $7.4 \text{ rounded to } 1\text{dp}$   
 $7.35 \leq x < 7.45$

**Exact Values of Tan**

θ	0°	30°	45°	60°	90°
tanθ	0	1/√3	1	√3	

**Rules of Indices**

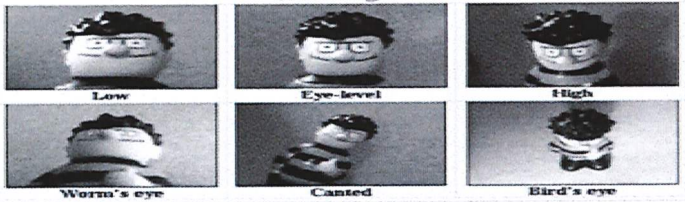
Rule 1 $a^0 = 1$	Rule 4 $(a^m)^n = a^{m \times n}$
Rule 2 $a^m \times a^n = a^{m+n}$	Rule 5 $a^{-m} = \frac{1}{a^m}$
Rule 3 $a^m \div a^n = a^{m-n}$	Rule 6 $a^{m/n} = \sqrt[n]{a^m}$



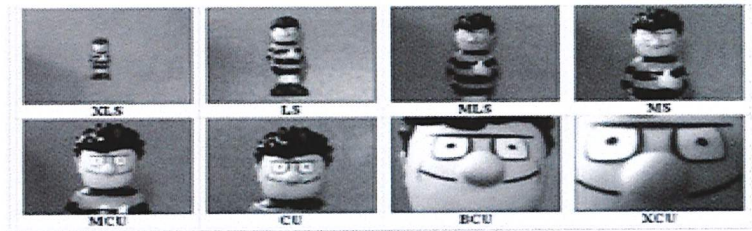
Key Words	
Blockbuster	a Hollywood movie that's made with a large budget and big stars.
Independent Film	An indie film is any feature-length or short film that is made without a major studio or big production company attached.
Marketing	the action or business of promoting and selling products or services, including market research and advertising.
Vertical Integration	Vertical integration refers to the process of acquiring business operations within the same production vertical. A company that opts for vertical integration takes complete control over one or more stages in the production or distribution of a product.
Conglomerate	a large corporation.
Subsidiaries	a company controlled by a holding company.
Horizontal Integration	Horizontal integration and vertical integration are competitive strategies that companies use to consolidate their position among competitors. Horizontal integration is the acquisition of a related business. A company that opts for horizontal integration will take over another company that operates at the same level of the <u>value chain</u> in an industry.
Zeitgeist	the defining spirit or mood of a particular period of history as shown by the ideas and beliefs of the time.
Globalisation	the process by which businesses or other organizations develop international influence or start operating on an international scale.
Public Service Broadcaster	Public broadcasting involves radio, television and other electronic media outlets whose primary mission is public service.
Commercial Broadcaster	Commercial broadcasting is the broadcasting of television programs and radio programming by privately owned corporate media, as opposed to state sponsorship.
Manufactured Artist	artists who don't have any input in their music, have writing camps and have a big team of people working with them to make decisions.
Authentic Artist	Artists that influence their own music and image.
Performance Video	A video that is styled to be like a performance to an audience.
Narrative Video	A video with a story.
Convergence	Technological convergence, also known as digital convergence, is the tendency for technologies that were originally unrelated to become more closely integrated and even unified as they develop and advance.
Freemium Gaming	Freemium, a portmanteau of the words "free" and "premium," is a pricing strategy by which a basic product or service is provided free of charge, but money is charged for additional features, services, or virtual or physical goods that expand the functionality of the free version of the software.
Intrinsic Narrative	Story is written for the player to play.
Extrinsic Narrative	Story can be controlled and changed by the player.
Hyperreality	an inability of consciousness to distinguish reality from a simulation of reality, especially in technologically advanced postmodern societies

Key Theories	
Connell's Theory of Gender	Subordinated Femininity: women are subservient to men and have little power. Emphasised Femininity: the idea that women must conform to the needs and desires of men, through their looks and sexual appeal. Resistant Femininity: women as resisting the stereotypes and presenting themselves as powerful. Hegemonic Masculinity: perpetuates the idea that men are dominant in society/ Stereotypical, manly man. Complicit Masculinity: men who subvert the stereotypes of men, often engaging more with 'feminine' roles such as the stay at home dad. Subordinated Masculinity: LGBTQ+. Considered to lack power in society.
Laura Mulvey's Male Gaze Theory	Laura Mulvey's Male Gaze Theory: Female images in media texts are objectified and viewed through the eyes of a heterosexual man.
Judith Butler's Theory of Gender Stereotypes	Suggests that the existence of stereotypes is due to the fact that they are repeated over and over again in the media.
Propp's Character Theory	Hero, Villain, False Hero, Donor (gives the hero something), Helper, Princess, Father, Dispatcher (sends hero on their way).
Todorov's Theory of Equilibrium	Equilibrium: state of balance. Disequilibrium: state of conflict/chaos. New Equilibrium: resolution.
Binary Opposites	opposition exists in narratives to propel a story forward.
Enigma Codes	questions/mystery exist in media texts to engage the audience.
Active Audience Theories	Suggests that audiences can respond to and interpret media texts in their own ways. Uses and Gratifications Theory: suggests audiences choose to go to media texts to gain: Personal Identity, Information, entertainment, education or social interaction. Dyer's Utopian Theory: suggests audiences go to media texts to gain a sense of escapism from their normal lives.
Passive Audience Theories	Suggests that audiences accept the messages of the media without questioning them. Hypodermic Needle Model: messages are injected into the minds of audiences, without them questioning it. Cultivation Theory: The more an audience is exposed to something, the more likely they are to believe it is true.

Shot Angles



# Media Studies



Codes	Technical, written and symbolic tools used to construct or suggest meaning in media forms and products.
Genre	a style or category of art, music, or literature.
Mise-en-scene	the arrangement of the scenery, props, etc. on the stage of a theatrical production or on the set of a film. The setting or surroundings of an event.
Anchorage	Where the meaning of a media text is fixed or stabilised by a caption, shot type, costume or so on ( <i>ie: it anchors the meaning</i> ).
Semiotics	the study of signs and symbols and their use or interpretation.
Signifier	a sign's physical form (such as a sound, printed word, or image) as distinct from its meaning.
Signified	the idea or meaning being expressed by that signifier.
Denotation	the literal meaning of a sign.
Connotation	the associated meaning of a sign.
Polysemic	a sign with multiple connotations can be described as polysemic.
Representation	the way a person or social group is presented.
Conform	following the rules or expectations.
Subvert	going against the rules or expectations.
Under-representation	a person or social group who isn't represented often or enough in media.
Misrepresentation	a person or social group is represented inaccurately through media.
Stereotypes	an assumption made about a person or social group.
Direct Mode of Address	visually, looking towards the audience, verbally, addressing them with "you."
Indirect Mode of Address	no reference made to the audience; lack of eye contact or direct speech.
Demographic	socioeconomic factors relating to an audience.
Psychographic	specific interests or attitudes of an audience.
Geographic	the location of a specific audience.

Social Mobility	the movement between social class levels.
Cultural Capital	social assets (education, intellect, style of speech, dress, etc.) The term was coined by 1970s French sociologist Pierre Bourdieu, who developed the idea as a way to explain how power in society was transferred and social classes maintained.
Mass Audience	a large audience, made up of varying demographics, psychographics and geographics.
Niche Audience	a specific audience type with specific interests and socioeconomic factors.
Diegetic Sound	Natural, ambient sound.
Non-Diegetic Sound	Edited or added sound.
Dialogue	Speech in a narrative.
Cross Cut	Transitioning between two lines of action, indicating they are happening at the same time.
Cutting on action	Transitioning from one angle of the action, to the other, to show what has happened.
Continuity editing	Editing that creates a smooth flow to the order of events.
Dissolve	A gradual scene transition, where the end of one shot is overlapped by another.
Montage	Many scenes edited together to create a summary of events.
Jump Cut	A cut that creates a lack of continuity, by leaving out parts of the action.
Smash Cut	An abrupt cut, going from loud to quiet, or quiet to loud.
Invisible Cut	Where the cut is hidden, so the audience are unable to see it.
Shot reverse shot	Cutting between over the shoulder shots, to show a conversation taking place.
Shallow Focus	Where the subject closest to the camera is in focus.
Deep Focus	Where the subject furthest away from the camera is in focus.
Focus Pull	Pulling the focus from shallow to deep, or deep to shallow.
J-Cut	Where the audio begins before the scene in which it appears.
L-Cut	When the audio from the previous scene continues into the next scene.
CGI	Computer Generated Image.
Panning, tracking and tilting	Panning – camera stays put, but pans the scene in front. Tracking – camera moves with the subject moving in the shot, or follows the subject around. Tilting – camera stays still, but tilts up and down.

# Music - Year 9

## Texture – Knowledge Organiser



### A. Texture

**TEXTURE** describes how much is going on in the music at any one time. It is about the different ways instruments and voices are combined in a piece of music. In its simplest form, texture can be described as **how much sound** we hear.

**THIN TEXTURE:** (*sparse/solo*) – small amount of instruments, sounds or melodies.



**THICK TEXTURE:** (*dense/layered*) – lots of instruments, sounds or melodies.

### B. Monophonic Textures

**MONOPHONIC TEXTURE** – a single melody line either vocal or instrumental without any harmonies, although it may be played by more than one instrument or voice.



**SOLO** – a single melody line played or sung (called **A CAPPELLA**) by only one performer without any accompaniment or harmonies.

**UNISON** – instruments or voices playing or singing notes at the same pitch.

**OCTAVES** – instruments or voices playing or singing the same note but at different pitches.

### C. Homophonic Textures

There are two types of **HOMOPHONIC TEXTURE**:  
**MELODY AND ACCOMPANIMENT** – a melody line with harmonic accompaniment. Since the melody line is the most important, it is usually at the top of the texture.



**BROKEN CHORDS** are formed of playing the notes of a chord separately, one after another. Broken chord patterns provide a more gentle, flowing accompaniment to a melody than when the notes of a chord are played together.



Harmonic Chords



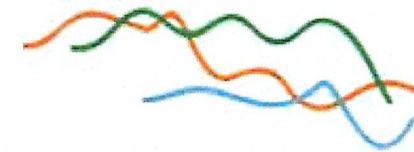
Broken Chords

**BLOCK CHORDAL** – where voices or parts move together with the same (or very nearly the same) rhythm, with or without a definitive melody line (e.g. *hymn-singing*)



### D. Polyphonic Textures

**POLYPHONIC TEXTURE** (also called a **CONTRAPUNTAL TEXTURE**) – weaving together two or more equally important vocal or instrumental melodic lines which fit together harmonically and 'interweave' creating a rich, complex, 'busy' web of sound.



**IMITATION** – 'to copy': one vocal or instrumental part starts off playing a melody, which is immediately copied, or imitated by another voice or part, though not necessarily at the same pitch. Usually, it is only the first few notes of the melody which are imitated, and several voices or instrumental parts may take turns to imitate the opening of the original melody.

**CANON** – a particular type of imitation: like a round, where the imitating voice or instrumental part repeats the entire melody, not just the opening.

Just as in a round, several voices or instrumental parts might be involved in the canon.

**ANTIPHONAL** – a special kind of imitation where a musical phrase is passed between different groups of voices or instruments. In some antiphonal music, the instruments or voices are placed in different parts of the building, or on different sides of a concert platform. This produces a kind of stereo or quadraphonic effect as a musical phrase is passed from one group to another.

**LAYERED TEXTURE** – music made up of different layers of sound which are all important to the rich texture

of the music. These could be different rhythmic as well as melodic lines and is a feature of African music as well as Gamelan and modern music.



### E. Heterophonic Texture

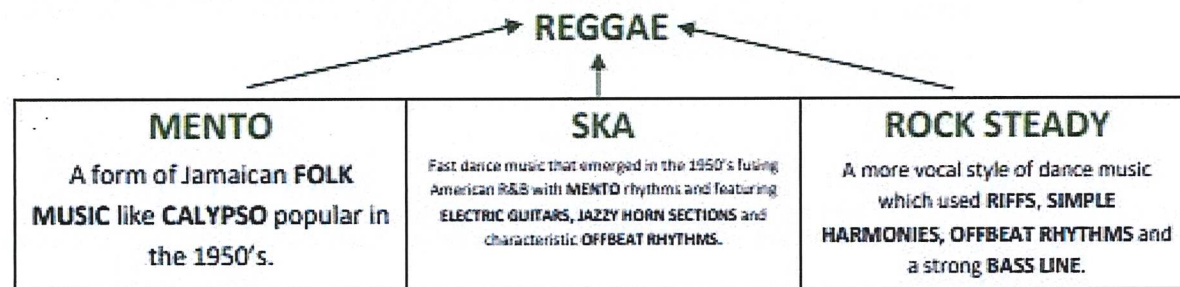
**HETEROPHONIC TEXTURE** - the **simultaneous performance of different versions of the same melody**. E.g. one voice or instrument performs a melody while, at the same time, another performs a more elaborate, decorated version of it. Other voices or instruments may join in with yet more versions of the melody, perhaps elaborating it further still, or even simplifying it (picking out just a few important notes). **HETEROPHONIC** texture is found in the folk-music of certain European countries, in Turkish music, Japanese *gagaku* music, Indonesian *gamelan* music and in Arabian music.





### A. How did Reggae develop?

REGGAE is one of the traditional musical styles from JAMAICA. It developed from :



Reggae was first heard in the UK in the 1950's when immigrants began to settle. During the 1960's, people began importing singles from Jamaica to sell in UK shops. Now, Reggae is known as the national music of Jamaica.

### B. Where is Jamaica?



### C. What are Reggae Songs About?

Reggae is closely associated with **RASTAFARIANISM** (a religious movement worshipping Haile Selassie as the Messiah and that black people are the chosen people and will eventually return to their African homeland). The **LYRICS** of Reggae songs are strongly influenced by Rastafarianism and are often political including themes such as **LOVE, BROTHERHOOD, PEACE, POVERTY, ANTI-RACISM, OPTIMISM** and **FREEDOM**.

### D. Offbeat Rhythms & Syncopation

**OFFBEAT RHYTHMS** – Rhythms that emphasise or stress the **WEAK BEATS OF A BAR**. In music that is in 4/4 time, the first beat of the bar is the strongest, the third the next strongest and the second and fourth are weaker. Emphasising the second and fourth beats of the bar gives a “missing beat feel” to the rhythm and makes the music sound **OFFBEAT**, often emphasised by the **BASS DRUM** or a **RIM SHOT** (hitting the edge of a **SNARE DRUM**) in much Reggae music.

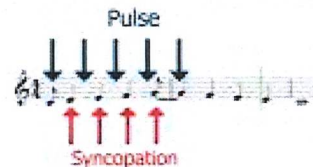
#### ONBEAT RHYTHM GRID

Pulse Beat	1	2	3	4	1	2	3	4
“Onbeat” Rhythms (strong beats)	↓	↓	↓	↓	↓	↓	↓	↓

#### OFFBEAT RHYTHM GRID

Pulse Beat	1	2	3	4	1	2	3	4
“Offbeat” Rhythms (weak beats)	↓	↓	↓	↓	↓	↓	↓	↓

**SYNCOPIATION** – A way of changing a rhythm by making some notes a bit early, often so they cross over the main beat of the music giving the music a further **OFFBEAT** feel – another common feature of Reggae music.



### E. Musical Features of Reggae

- OFFBEAT RHYTHMS AND CHORDS** (see D)
- SYNCOPIATED RHYTHMS AND MELODIES** (see D)
- SUNG LYRICS** (see C)
- LEAD SINGER** often with **BACKING SINGERS** sometimes singing in **CALL AND RESPONSE** (see F3) accompanied by a Reggae band which often features: **BRASS INSTRUMENTS** and **SAXOPHONES, ELECTRIC GUITARS, BASS GUITAR, KEYBOARDS, DRUMS AND PERCUSSION INSTRUMENTS, VOCAL AND INSTRUMENTAL IMPROVISATIONS** (see F2)
- MELODIC RIFFS** (see F5)
- SLOW, RELAXED** (“chilled!”) **TEMPO**
- 4/4 METRE/TIME SIGNATURE**
- Most Reggae songs are structured in **VERSE AND CHORUS/POPULAR SONG FORM**.
- SIMPLE HARMONIES** (see F4)

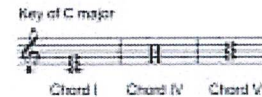


- LYRICS (MELODY)
- SYNCOPIATED RHYTHMS
- RIFFS
- OFFBEAT CHORDS
- BASS LINE RIFFS

**THICK TEXTURAL LAYERS** (see F9)  
 “The Reggae Trifle” is an example of how many Reggae songs are “layered”.

### F. Reggae Key Words

1. **MELODY** – The main “tune” of a piece of music, often sung by the **LEAD SINGER**.
2. **IMPROVISATION** – Previously unprepared performance.
3. **CALL AND RESPONSE** – Similar to a “Question and Answer” often the call sung by the lead singer and answered by the backing singers or instruments (the response) – musical dialogue.
4. **SIMPLE HARMONIES** – using a limited number of **CHORDS**, mainly **PRIMARY TRIADS** such as the **TONIC, DOMINANT** and **SUBDOMINANT** chords.



5. **RIFF** – A repeated musical pattern. Often the **BASS GUITAR** played repeated **MELODIC BASS RIFFS** in Reggae songs.
6. **BASS/BASS LINE** – The lowest pitched part of a piece of music often played by the **BASS GUITAR** in Reggae which plays an important role.
7. **CHORD** – 2 or more notes played together in **HARMONY**.
8. **RHYTHM** – A series of long and short sounds.
9. **TEXTURE** – Layers of sound combined to make music.

### G. Who was Bob Marley?

**BOB MARLEY** was a famous reggae singer, **SONGWRITER**, and musician who first became famous in his band The Wailers, and later as a **SOLO ARTIST**. He was born Nesta Robert Marley on February 6th, 1945 in Nine Mile, Saint Ann, Jamaica. Although he grew up in poverty, he surrounded himself with music and met some of the future members of The Wailers. Bob Marley became involved in the Rastafarian movement and this influenced his music style greatly. Bob Marley and The Wailers worked with several famous musicians before



becoming famous on their own. His career flourished and he became a cultural icon. He was the first international superstar to have been born in poverty in a Third-World country.



# Discrimination

**Recall:**  
**Discrimination**

What is discrimination in simple words?

Discrimination is the unfair or prejudicial treatment of people and groups based on characteristics such as race, gender, age or sexual orientation.

**Define:**  
**The Equality Act 2010**

The Equality Act 2010 legally protects people from discrimination in the workplace and in wider society.

It replaced previous anti-discrimination laws with a single Act, making the law easier to understand and strengthening protection in some situations. It sets out the different ways in which it's unlawful to treat someone.

**Define:**  
**Disability Discrimination**

Direct discrimination is where you are treated less favourably because of your disability than someone without a disability would be treated in the same circumstances.

**Define:**  
**LGBTQ+**

LGBTQ+ stands for lesbian, gay, bisexual, transgender, queer (or sometimes questioning), and others. The "plus" represents other sexual identities

**Describe:**  
**Ally**

A heterosexual and cisgender person who supports and/or accepts equal civil rights, gender equality, and LGBT social movements, challenging what they perceive as homophobia, biphobia, and transphobia

**Understand:**  
**Impact of unintended harm**

Just because someone did not intend to be prejudice/discriminatory does not lessen the impact on the person experiencing it.

The appropriate response is to acknowledge your mistake, apologise to the other person and move more carefully in future.

**Apply:**  
**Withdraw and report**

You won't always want to challenge discrimination directly. The situation could make you feel so unsafe or uncomfortable that all you want to do is walk away - and that's absolutely fine. Withdraw from what's happening and report what you've heard to a teacher, parent or another adult you trust.



**Where to go for more information or advice:**

Speak to your tutor/HoH/The Bridge

[www.childline.org.uk](http://www.childline.org.uk) 0800 1111

[www.report-it.org.uk](http://www.report-it.org.uk)

[www.gov.uk](http://www.gov.uk)

[www.citizensadvice.org.uk](http://www.citizensadvice.org.uk)

[www.stonewall.org.uk](http://www.stonewall.org.uk)



# Stress and Anxiety

**Define: Chronic Stress**

The response to emotional pressure suffered for a prolonged period of time in which an individual perceives they have little or no control.

**Define: Stress**

A state of mental or emotional strain or tension resulting from adverse or demanding circumstances.

**Define: General Anxiety Disorder**

A condition characterized by 6 months or more of chronic, exaggerated worry and tension that is unfounded or much more severe than the normal anxiety most people experience.

**Define: Social Anxiety Disorder**

Also called social phobia, is intense anxiety or fear of being judged, negatively evaluated, or rejected in a social or performance situation.

**Symptoms of Chronic Stress**

Chronic stress affects the whole body. It can have several physical or psychological symptoms, which can make functioning on a daily basis more challenging.

The type and severity of symptoms vary considerably from person to person.

Signs and symptoms of chronic stress can include:

- Irritability, which can be extreme
- Fatigue
- Headaches
- Difficulty concentrating,
- Rapid, disorganized thoughts
- Difficulty sleeping / insomnia
- Digestive problems and changes in appetite
- Feeling helpless
- A perceived loss of control
- Low self-esteem
- Loss of sexual desire
- Nervousness
- Frequent infections or illnesses
- High blood pressure

**Anxiety Disorders**

Anxiety is an evolutionary and survival mechanism which is often linked to the flight or fight response. The brain responds to a perceived threat or danger by releasing stress hormones such as adrenaline and cortisol which cause the physical symptoms of anxiety. Once the threatening situation has stopped, the body will usually return to normal.

But if someone has an anxiety disorder these feelings of fear and danger can be ongoing and interrupt their daily routine long after the threat has gone. They can make them feel like things are worse than they actually are.

**General Anxiety Disorder** is a long-term condition that causes a person to feel anxious about a wide range of situations and issues, rather than a specific event. People with GAD feel anxious most days and often struggle to remember the last time they felt relaxed. As soon as 1 anxious thought is resolved, another may appear about a different issue.

**Social Anxiety Disorder**, also called social phobia, is a long-lasting and overwhelming fear of social situations. Social Anxiety is more than shyness. It's an intense fear that does not go away and affects everyday activities, self-confidence, relationships and work or school life.

**Things to Remember**

- Everyone experiences stress and anxiety at points in their lives.
- Only a Doctor or Mental Health Professional can diagnose Chronic Stress or an Anxiety Disorder.
- There are treatments available and coping mechanisms.
- Having a stress or anxiety disorder is not a sign of weakness and is more common than people think.

**Where to get more help and support**

- Parents and trusted family
- School Staff and Wellbeing Team
- GP or Practice Nurse.
- MIND - <https://www.mind.org.uk> Help line - **0300 123 3393** open 9am to 7pm, Monday to Friday or Text: 86463
- Young Minds - <https://youngminds.org.uk> Text: 85258 or Parents Helpline: 0808 802 5544
- Stem4 - <https://stem4.org.uk/>





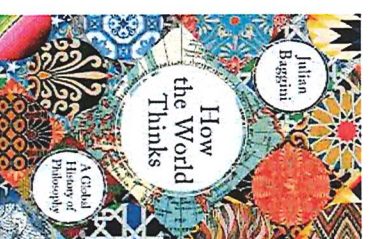
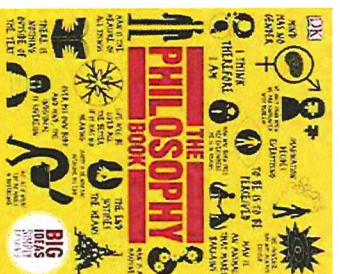
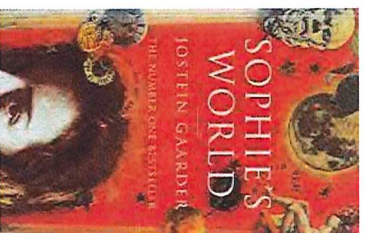
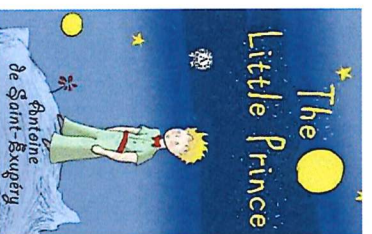
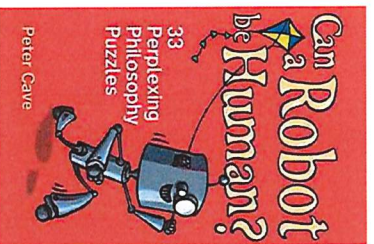
## Year 9 Term 1 Philosophy

### Key Words

Philosophy	'The love of wisdom', the study of the fundamental nature of knowledge, reality and existence using reason and logic	Aquinas	Thomas Aquinas (1225-1274) suggested arguments for God's existence eg First Cause and Design Arguments
Plato	Plato (424-348 BC) Ancient Greece; used and developed Socratic questioning skills	Descartes	Rene Descartes (1596-1650); doubted everything - scepticism
Locke	John Locke (1632-1704) questioned whether humans are born with certain ideas or knowledge – innatism or do humans learn from experience – empiricism?	Sartre	Sartre (1905–1980) was a French philosopher; says humans have a fear of freedom; existentialism; what is the meaning of life
Heidegger	Heidegger (1889–1976) an incomprehensible German philosopher!	Dawkins	Richard Dawkins (1941-) Atheist and evolutionary biologist; souls do not exist
Daoism	The Dao Te Ching – by Lao-Tze (The Book of The Way – by 'Old Man') 2500 year-old Chinese text of poems about life, wisdom, how to live in accordance with The Way (which is seen as The Ultimate Truth – Christians call God)	Utilitarianism	Tradition from 18th/19th Century philosophers Jeremy Bentham and John Stuart: an action is right if it tends to promote happiness or pleasure and wrong if it tends to produce unhappiness or pain
Utopia/Dystopia	Political Philosophies about how we should structure society	Confucius	Learnt knowledge is more important than creativity – hard work and reflection is better. These are important as a corrective to our own excesses






### Key Questions

 <b>Philosophy</b>	<p>There is no physical world. Only minds and experiences exist.</p> <p>All human actions are determined and set in motion by external forces: humans, therefore, do not have free-will.</p> <p>It is possible to prove that God exists using rational arguments</p> <p>It is important to doubt the things we assume to be true-- to question the assumptions we are taught to live by.</p> <p>There is more to reality than meets the eye.</p> <p>Humans are afraid to be free. They prefer the comfort and security of pretending they are not free.</p> <p>The mind only exists as an illusion created by a purely physical world</p> <p>Humans are born with certain instincts or innate ideas</p> <p>life has no fixed (objective) meaning: any meaning (value/purpose) we want in our lives we have to create ourselves</p> <p>The Universe is absurd: it has no order, it has no rationality or reason. We are talking monkeys on a giant floating space-ship!</p>
<b>Further Reading</b> 	<p>Peter Cave <i>Can a Robot be human?</i></p> <p>Antoine de Saint-Exupery <i>The Little Prince</i></p> <p>Jostein Gaarder <i>Sophie's World</i></p> <p>Will Buckingham <i>The Philosophy Book</i></p> <p>Julian Baggini <i>How the World Thinks</i></p>



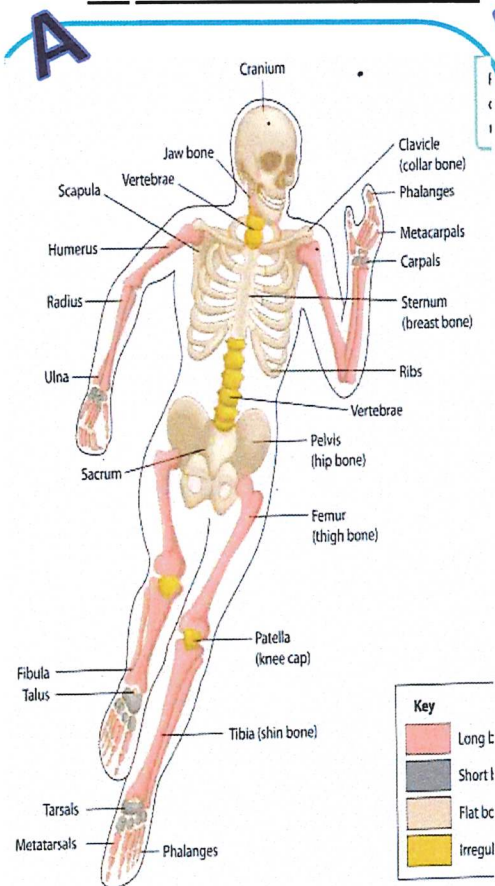
## Year 9 Term 2 Does God Exist?

Key Words		
The Problem of Evil and Suffering	A theological problem that many theologians have tried to answer	Natural Evil/Suffering
Theist	A person who believes that God exists.	Moral Evil/Suffering
Atheist	A person who believes there is no God.	Free Will
Agnostic	A person who believes we cannot know whether or not God exists.	The Story of Job
Humanist	A person who holds that ultimate human happiness can be achieved without the need for God or religion.	Evolution
Evil	a force that causes bad things to happen; morally bad behaviour.	Secular
		Non-religious.

Key Ideas		
Reasons to believe in God	 <ul style="list-style-type: none"> <li>• Tradition, cultural history, shaped by who you grow up with</li> <li>• The Cosmological Argument or First Cause Argument: Everything has a cause, the universe must have needed a cause, that cause could only be a supernatural being such as God.</li> <li>• Descartes Ontological Argument: God is defined as a perfect being, It is more perfect to exist than to not exist, Therefore God exists.</li> <li>• The Teleological Argument or Design Argument: Nature is full of complex and beautiful designs. This implies that there was a designer, That designer is God.</li> <li>• Religious experience: People claim to have ‘revelations’ from God</li> <li>• Conscience: we have an innate sense of right and wrong, this could be explained by God or a higher power, therefore God exists.</li> <li>• The Bible or other sacred text: The Bible is the word of God. The Bible is inerrant (without error) and infallible (without falseness). The Bible claims that God exists. Therefore God exists.</li> <li>• Miracles: Miracles break the laws of nature and people have experience of them, only God can cause miracles, therefore God exists</li> <li>• Pascal’s Wager: If you believe in God and you’re right- you go to heaven; if you believe in God and you’re wrong nothing happens, if you DON’T believe in God and you’re wrong you go to Hell: therefore as a wager (a bet/gamble) it makes sense to believe in God</li> </ul>	
The Problem of Evil and Suffering	 <p>If God exists, then God is all-powerful, all-knowing, and benevolent (all-loving) If God is all-powerful, then God has the power to eliminate all evil. If God is all-knowing, then God knows when evil exists. If God is benevolent, then God has the desire to eliminate all evil. Evil exists. If evil exists and God exists, then either God doesn’t have the power to eliminate all evil, or doesn’t know when evil exists, or doesn’t have the desire to eliminate all evil. Therefore, God doesn’t exist.</p>	
Original Sin	 <p>The Bible story of Adam and Eve that tells how they were tempted to eat the fruit from the tree of knowledge of good and evil and thus brought suffering into the world; The Christian belief that all humans are born with the tendency towards evil and the ability to cause suffering.</p>	
The Free Will Defence	 <p>God has maximised the goodness in the world by creating free beings. Being free means we have a choice to do evil things. Evil exists so we have freedom – god created the best possible world</p>	
The Theory of Evolution	 <p>In 1859 Charles Darwin published his book ‘The origin of Species by means of natural selection’ in which he explained the theory of evolution. He suggested that, as the earth cooled, conditions became right for the beginning of life. Single-celled creatures appeared in the sea which, over a long period of time, evolved into other species. Some were able to survive on land and others gradually developed the ability to fly. According to this theory humans evolved over millions of years from animals on land and scientists have discovered bones from several different extinct species which are possible ancestors of the human race.</p>	<p>Fundamentalist Christians believe the origin of human life was exactly as recorded in Genesis, the first book in the Bible. Other Christians believe the Bible is concerned with why creation happened and that God set everything in motion and evolution is the way God designed life to advance and evolve.</p>

# The structure and functions of the musculoskeletal system

## 1. Skeletal System



### Types of bone:

- Long Bone**-(humerus/ femur/ulna)
- Short Bone**-(carpals/ tarsals)
- Flat Bone**-(cranium/ sternum)
- Irregular Bone**-(vertebrae)

### Functions of the Skeletal System:

- Support
- Protection of vital organs by flat bones
- Movement
- Structural shape and points for attachment
- Mineral storage
- Blood cell production.

### Movement at a joint:

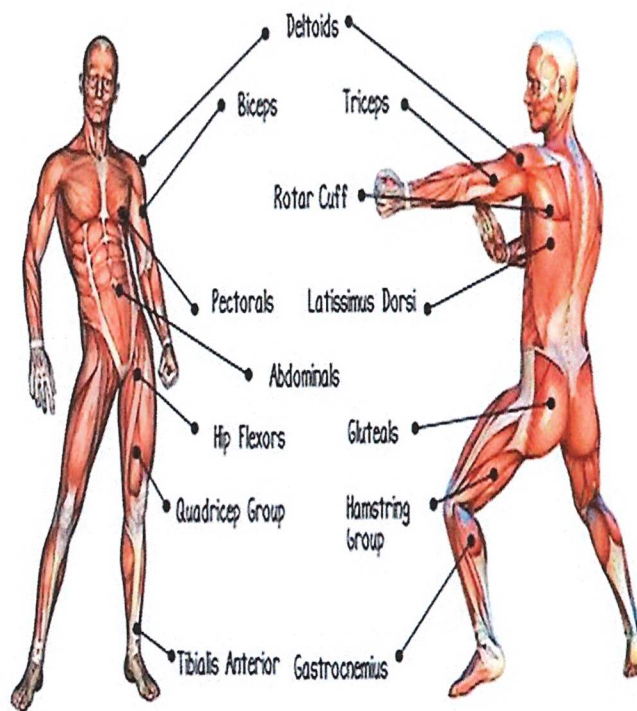
- Flexion**-decrease in the angle of the bones at a joint
- Extension**- increasing the angle of bones at a joint
- Abduction**- movement away from the body midline
- Adduction**- movement towards the body midline
- Rotation**- movement around an axis
- Circumduction** - turning or circular motion around a joint (which occurs in more than one plane).
- Plantar flexion**-pointing the toes at the ankle/increasing the ankle angle
- Dorsi flexion**- toes up at the ankle/ decreasing the ankle angle.

## E

### Components of a synovial joint

- Articulating bones:** Where two or more bones meet to allow movement at a joint
- Synovial membrane:** secretes synovial fluid
- Synovial fluid:** provides lubrication
- Joint capsule:** encloses/supports
- Bursae:** sacks of fluid to reduce friction
- Cartilage:** prevents friction/bones rubbing together
- Ligaments:** attach bone to bone.

## 2) Muscular System

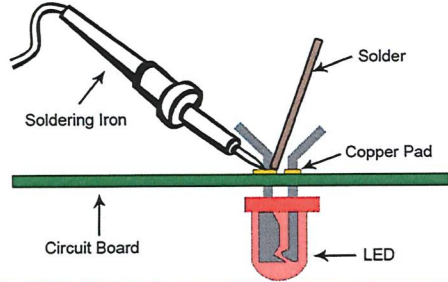


### Antagonistic pairs

- The body work antagonistically on the major joints of the skeleton to affect movement in physical activity at the major movable joints
- Agonist (prime mover)**- Muscle or group responsible for the movement. In the upwards phase of a bicep curl, the agonist muscle is the bicep.
- Antagonist**- Acts to produce the opposite action to the agonist. They work in antagonistic pairs. In the upwards phase of a bicep curl the antagonist muscle is the tricep.

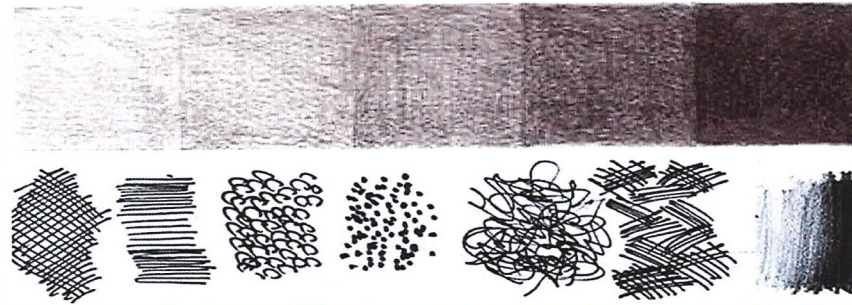
# Product Design

## How to Solder:



## Tone and Texture

Different marks/tones can be used to render a design idea to make it look 3D.



## Annotating

All of your work must be accompanied by a brief annotation.

### WHAT

What have you done?  
What was your inspiration?

### HOW

How did you come up with your ideas?  
How did you create the piece?  
How does the piece link to your artist/designer?

### WHY

Why did you make the piece, how does it link to the project?  
Why did you make the piece that way?

### WWW/EBI

What has gone well?  
What can be improved?  
Which is the best one and why?

### NEXT –

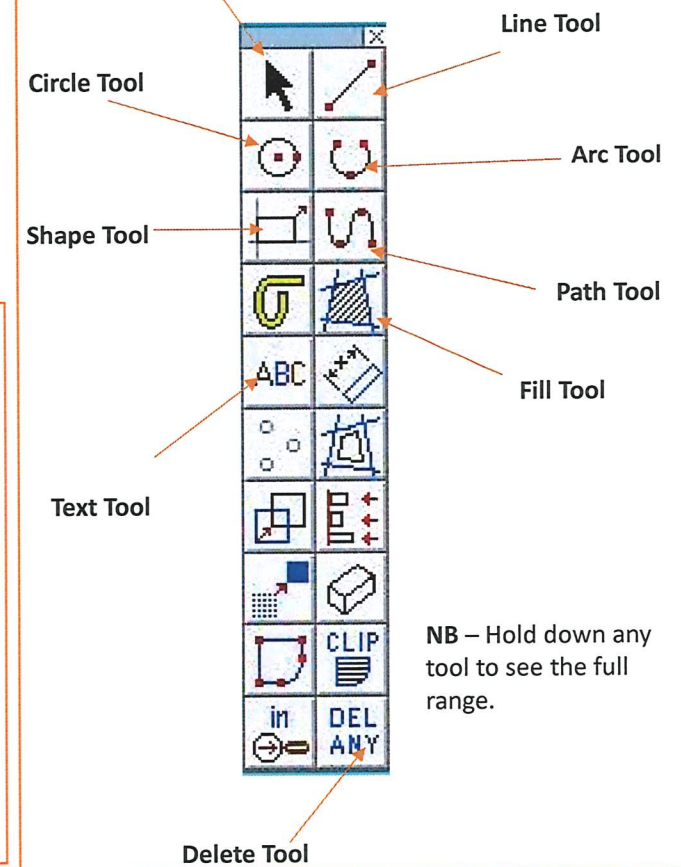
Your next steps are...?

## Research Types:

- ✓ Location Analysis
- ✓ Product Analysis
- ✓ Designer
- ✓ Design Movement
- ✓ Museum
- ✓ Existing Product
- ✓ Materials
- ✓ Joining Methods
- ✓ Technique Trials

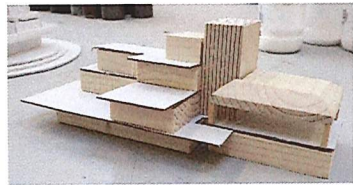
## 2D Design CAD Software

### Select Tool



## Modelling:

- Remember to take pictures along the way.
- What materials could you use to model your idea?
- Did it work? Explain your answer.
- Describe the quality of your work.
- What could you do to improve and refine your idea?
- What finishes will you apply to the final product?



## Final Idea Modelling:

- Remember to take pictures/screenshots along the way.
- What materials could you use to model your idea?
- Did it work? Explain your answer.
- Describe the quality of your work.
- What could you do to improve and refine your idea?
- What finishes will you apply to the final product?

## Freehand Drawing

Light Sketch



Refine



Refine



Define



There are **three** states of matter – **solid, liquid** and **gas**. To explain the properties of the states, the **particle theory** is used. It is based on the fact that all matter is made up of tiny particles and describes the **movement** and **distance** between particles.

YEAR 9 CHEMISTRY  
STATES OF MATTER AND SEPARATING MIXTURE

**Pure substances** have **specific** melting and boiling temperatures. These can be used to distinguish pure substances from mixtures.

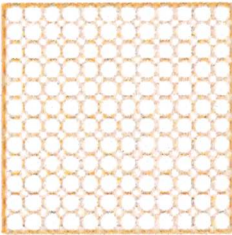
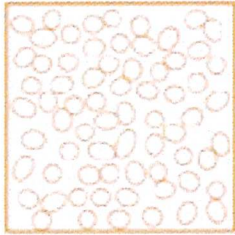
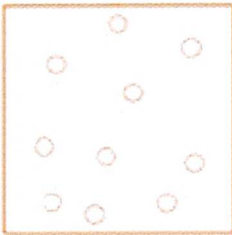
These are PHYSICAL changes and can easily be reversed, unlike CHEMICAL changes.

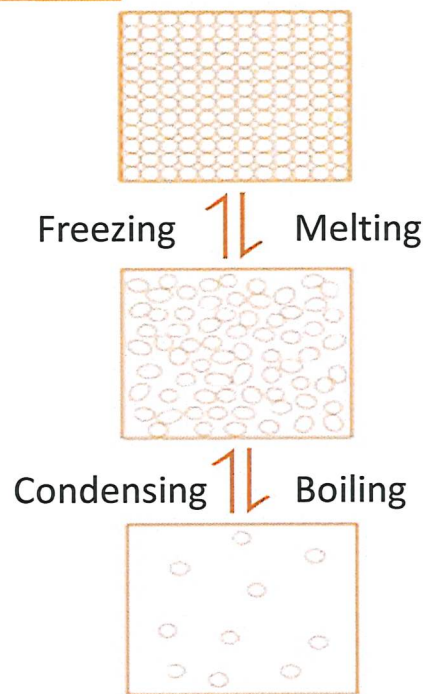
**Melting** and **freezing** take place at the **melting point**. **Boiling** and **condensing** take place at the **boiling point**.

The **amount of energy** required to change the state depends on the **strength of the forces** between the particles of the substance.

The **stronger the forces** between the particles the **higher the melting and boiling point** of the substance.

The type of bonding and the structure of the substance depend on the particles involved.

Solid	Liquid	Gas
Close together, regular pattern, vibrate on the spot.	Close together, random arrangement, move around each other.	Far apart, random arrangement, move quickly.
		



<b>Solvent</b>	the liquid in which a solute dissolves
<b>Solute</b>	the substance that dissolves in a liquid to form a solution
<b>Solution</b>	is the mixture formed when a solute has dissolved in a solvent
<b>Soluble</b>	describes a substance that will dissolve
<b>Insoluble</b>	describes a substance that will not dissolve

**YEAR 9 CHEMISTRY**  
**STATES OF MATTER AND SEPARATING MIXTURE**

A mixture consists of **two or more** elements or compounds **not** chemically combined together. The chemical properties of each substance in the mixture are **unchanged**.

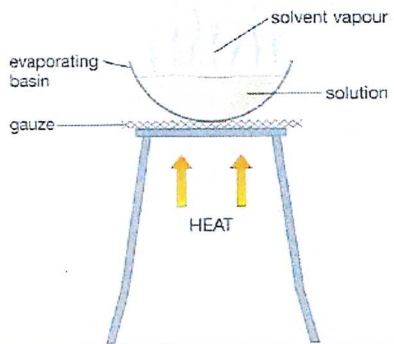
Mixtures can be separated by **physical processes** including:

1. Filtration
2. Crystallisation
3. Simple distillation
4. Fractional distillation
5. Chromatography

These physical processes do not involve chemical reactions and no new substances are made.

**Crystallisation**

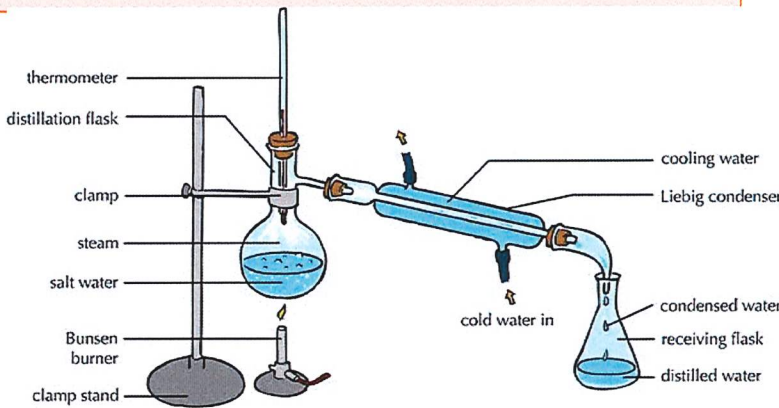
This technique separates a soluble substance from a solvent by evaporation



Example - crystallisation of sodium chloride from salt solution

**Simple distillation**

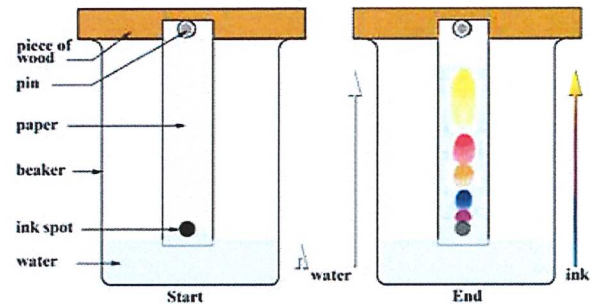
This technique separates a liquid from a mixture by evaporation, followed by condensation



Example - obtaining water from sea water

**Chromatography**

This technique separates mixtures of soluble substances.



Example - separating the different colours in ink



## The periodic table of the elements

1		2												3	4	5	6	7	0																
				<b>Key</b>										<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     1 H hydrogen 1                 </div>				<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     4 He helium 2                 </div>																	
<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     relative atomic mass atomic symbol name atomic (proton) number                 </div>																																			
<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     7 Li lithium 3                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     9 Be beryllium 4                 </div>												<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     11 B boron 5                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     12 C carbon 6                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     14 N nitrogen 7                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     16 O oxygen 8                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     19 F fluorine 9                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     20 Ne neon 10                 </div>											
<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     23 Na sodium 11                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     24 Mg magnesium 12                 </div>												<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     27 Al aluminum 13                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     28 Si silicon 14                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     31 P phosphorus 15                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     32 S sulfur 16                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     35.5 Cl chlorine 17                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     40 Ar argon 18                 </div>											
<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     39 K potassium 19                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     40 Ca calcium 20                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     45 Sc scandium 21                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     48 Ti titanium 22                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     51 V vanadium 23                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     52 Cr chromium 24                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     55 Mn manganese 25                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     56 Fe iron 26                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     59 Co cobalt 27                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     59 Ni nickel 28                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     63.5 Cu copper 29                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     65 Zn zinc 30                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     70 Ga gallium 31                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     73 Ge germanium 32                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     75 As arsenic 33                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     79 Se selenium 34                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     80 Br bromine 35                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     84 Kr krypton 36                 </div>	
<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     85 Rb rubidium 37                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     88 Sr strontium 38                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     89 Y yttrium 39                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     91 Zr zirconium 40                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     93 Nb niobium 41                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     96 Mo molybdenum 42                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     [98] Tc technetium 43                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     101 Ru ruthenium 44                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     103 Rh rhodium 45                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     106 Pd palladium 46                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     108 Ag silver 47                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     112 Cd cadmium 48                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     115 In indium 49                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     119 Sn tin 50                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     122 Sb antimony 51                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     128 Te tellurium 52                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     127 I iodine 53                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     131 Xe xenon 54                 </div>	
<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     133 Cs cesium 55                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     137 Ba barium 56                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     139 La* lanthanum 57                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     178 Hf hafnium 72                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     181 Ta tantalum 73                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     184 W tungsten 74                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     186 Re rhenium 75                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     190 Os osmium 76                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     192 Ir iridium 77                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     195 Pt platinum 78                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     197 Au gold 79                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     201 Hg mercury 80                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     204 Tl thallium 81                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     207 Pb lead 82                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     209 Bi bismuth 83                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     [209] Po polonium 84                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     [210] At astatine 85                 </div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     [222] Rn radon 86                 </div>	

\* The elements with atomic numbers from 58 to 71 are omitted from this part of the periodic table.

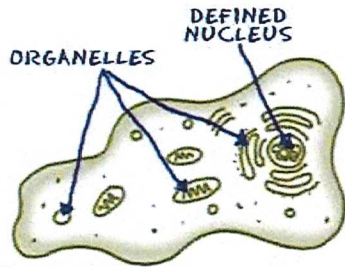
The relative atomic masses of copper and chlorine have not been rounded to the nearest whole number.

# Biology – Year 9

## Key Concepts

### Prokaryotic and Eukaryotic cells

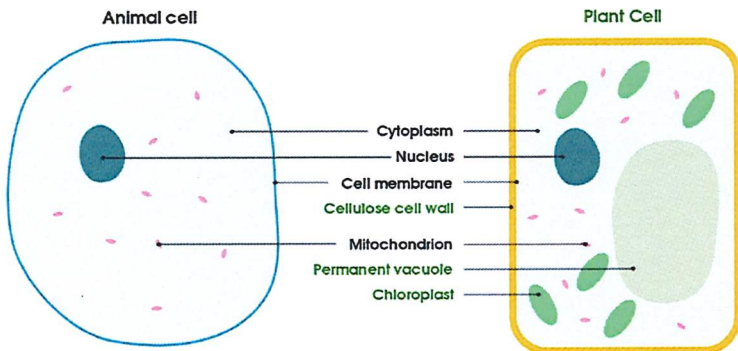
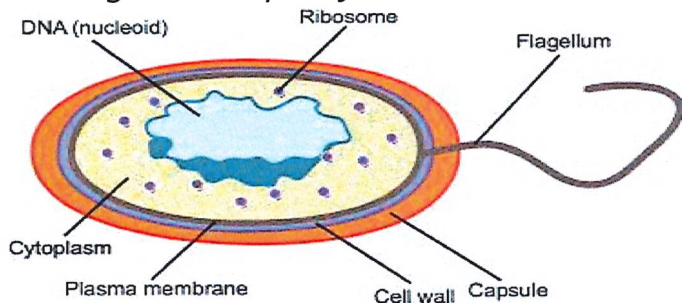
- Eukaryotic cells:
- DNA in the nucleus
- Membrane bound organelles



### Prokaryotic cells:

DNA free in the cytoplasm

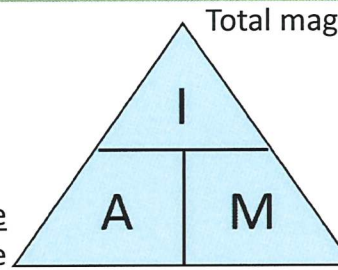
No organelles apart from ribosomes



### Microscopy

$$\text{Actual size} = \frac{\text{Image size}}{\text{Magnification}}$$

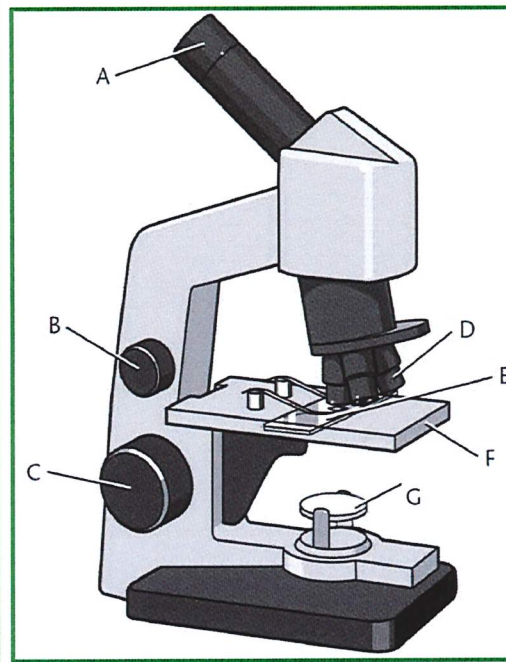
$$\text{Magnification} = \frac{\text{Image size}}{\text{Actual size}}$$



Total magnification = Eyepiece lens x Objective lens

### Unit conversions:

Prefix	Effect on unit	Example
milli-	÷ 1000	millimetres (mm)
micro-	÷ 1 000 000	micrometres (µm)
nano-	÷ 1 000 000 000	nanometres (nm)
pico-	÷ 1 000 000 000 000	picometres (pm)



- A – Eyepiece lens
- B – Fine focusing wheel
- C – Coarse focusing wheel
- D – Objective lens
- E – Slide
- F – Stage
- G – Mirror (Light source)

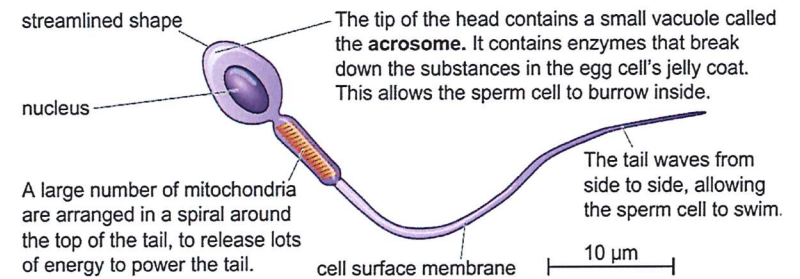
### Specialised cells

Specialised cells are made through a process called **differentiation**

### KEYWORDS:

- Specialised
- Function
- Cells
- Humans
- Adapted

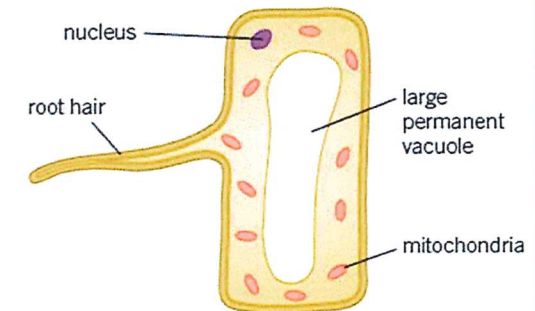
### Sperm cell



### Root hair cell

Increased surface area

Many mitochondria



### Investigative skills

- Hypothesis** – State and explain your prediction
- Dependent** – The variable that is measured
- Evaluation** – How the experiment can be improved
- Independent** – The variable that is changed
- Control** – The variable that is kept the same
- Risk assessment** – Hazards and how to overcome them

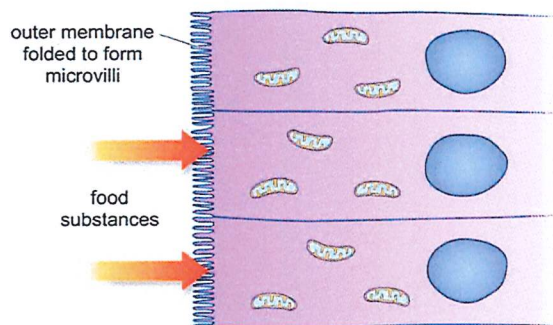
# Biology – Year 9

## Key Concepts

### Specialised cells cont.

#### Cells from intestine lining

**Microvilli** increase surface area



#### Egg cell

The cell membrane fuses with the sperm cell membrane. After fertilisation, the cell membrane becomes hard to stop other sperm cells entering.

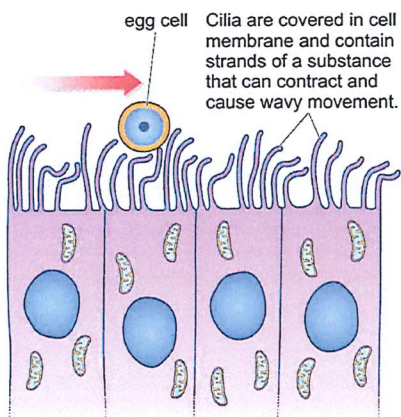
The jelly coat protects the egg cell. It also hardens after fertilisation, to ensure that only one sperm cell enters the egg cell.



The cytoplasm is packed with nutrients, to supply the fertilised egg cell with energy and raw materials for the growth and development of the embryo.

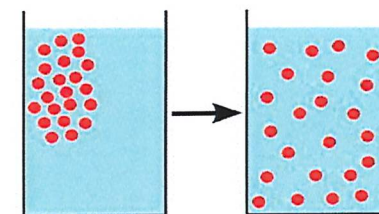
haploid nucleus

#### Oviduct lining cells



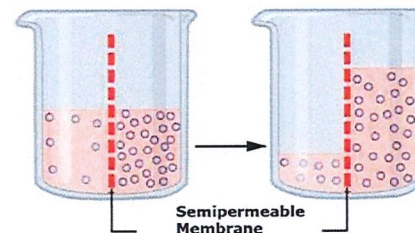
### Diffusion

Movement of molecules from high concentration to low concentration



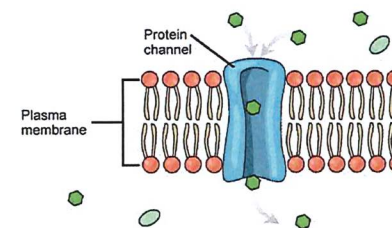
### Osmosis

Movement of solvent (water) across a semipermeable membrane from high solvent concentration to low solvent concentration



### Active transport

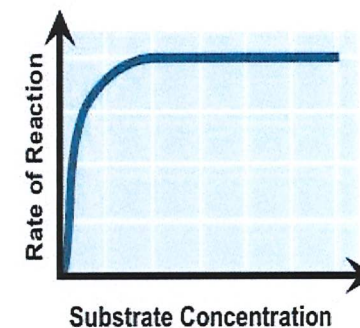
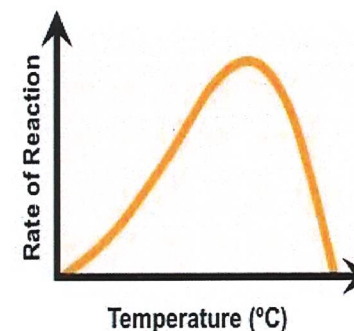
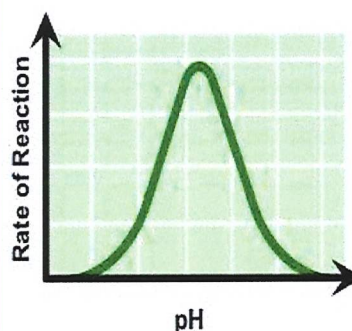
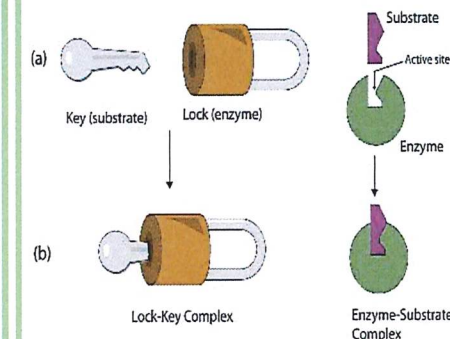
Movement of dissolved molecules into or out of a cell through the cell membrane, from a region of lower concentration to a region of higher concentration (requires energy)



### Enzymes

**Active site** - the region of an enzyme where substrate molecules bind and undergo a chemical reaction

**Denature** - If enzymes are exposed to extremes of pH or high temperatures the shape of their active site may change



Enzymes have **optimum conditions** in which they work. If they are in the wrong pH or too hot temperatures the enzymes denature. **Denature** means that the **active site** changes shape and the **substrate** no longer fits therefore no reactions will take place.

## P1: Motion

### Lesson sequence

1. Vectors and scalars
2. Speed-time graphs
3. Distance-time graphs
4. Acceleration
5. Velocity-time graphs

### 1. Vectors and scalars

**Magnitude** is a scientific word for size.

**Scalar quantities** have **magnitude** (but no direction). For example:

- Distance – 10 m
- Speed – 25 m/s
- Mass – e.g. 50 kg

**Vector quantities** have **magnitude and direction**. For example:

- Displacement – The distance and direction travelled in a straight line. eg 10 m north
- Velocity – The speed in a certain direction. eg 25 m/s east
- Force – 30 N left
- Acceleration – 3 m/s<sup>2</sup> south
- Momentum – 400 N m/s right

**Vectors** can be represented by **arrows**. The **length** of the arrow represents the **magnitude**.

### 2. Speed

word equation	<b>speed (m/s) = <math>\frac{\text{distance (m)}}{\text{time (s)}}</math></b>
symbol equation	<b><math>s = x/t</math></b> s = speed x = distance t = time
Instantaneous speed	Speed at a particular point in time.
Average speed for a journey	Average = $\frac{\text{total distance}}{\text{total time taken}}$
Calculating distance travelled	Distance = average speed x time <b><math>x (m) = s (m/s) \times t (s)</math></b>

**Light gates:** Equipment that can be used for measuring time accurately with fast-moving objects to help find their speed.

### 3. Distance-time graphs

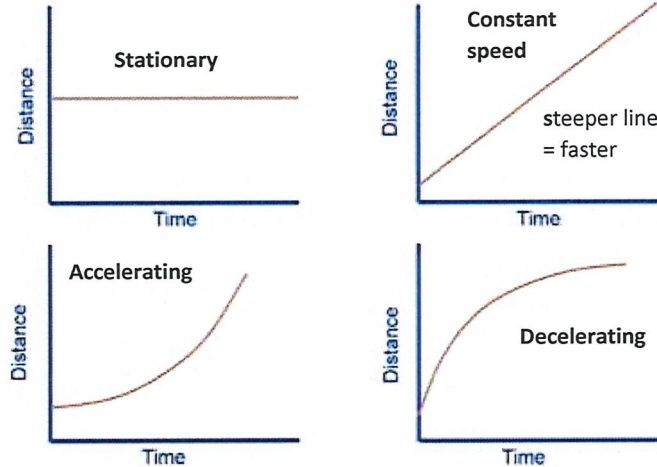
A graph describing how your distance travelled changes with time over the course of a journey.

**Time is on the x-axis**

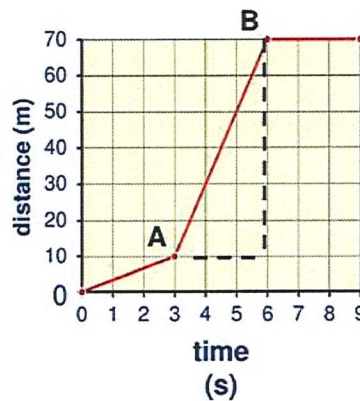
**Distance on the y-axis.**

### Some typical speeds

- Walking – 1-2 m/s
- Running – 3-8 m/s
- Cycling – 5-20 m/s
- Driving – 10-40 m/s
- Flying – 250 m/s



### Calculating Speed from a distance-time graph – finding the gradient



- Gradient =  $\frac{\text{Change in distance}}{\text{Change in time}}$
- Gradient =  $\frac{\text{Distance at B} - \text{Distance at A}}{\text{Time at B} - \text{Time at A}}$
- Gradient =  $\frac{70\text{m} - 10\text{m}}{6 - 3} = \frac{60\text{m}}{3}$
- Gradient = 20m/s

### 4. Acceleration

**Acceleration** is the rate of change of velocity

**You accelerate** when you **change speed** or when you **change direction**

Speeding up = **positive acceleration**

Slowing down = **negative acceleration** (also called **deceleration**)

word equation

**Acceleration (m/s<sup>2</sup>) =  $\frac{\text{change in velocity (m/s)}}{\text{time (s)}}$**

symbol equation

$$a = \frac{v - u}{t}$$

a = acceleration  
v = final velocity  
u = initial velocity  
t = time

**Linking acceleration and distance travelled (higher tier only)**

$$x = \frac{v^2 - u^2}{2a}$$

x = distance travelled  
a = acceleration  
v = final velocity  
u = initial velocity

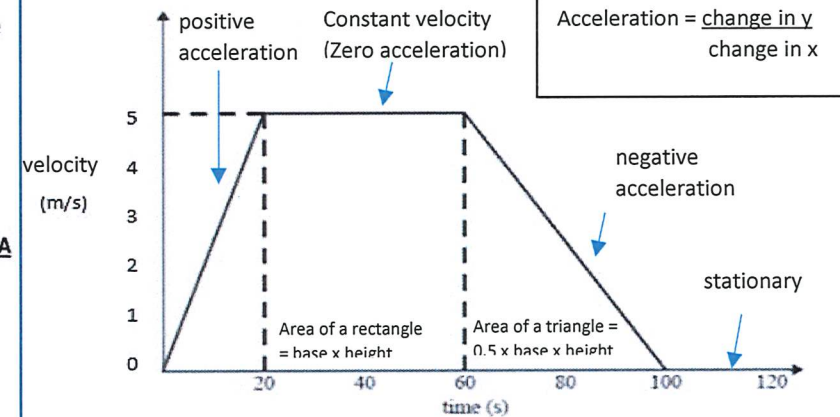
**Acceleration due to gravity**

(free fall) = 10 m/s<sup>2</sup>

### 5. Velocity-time graphs

A graph showing how your velocity (speed) changes over time.

**Time is on the x-axis, velocity is on the y-axis.**



**Distance travelled = area under the velocity-time graph.**  
Divide the graph into rectangles and triangles, find the area of each and add them together.

## P2: Forces and motion

### Lesson sequence

1. Resultant forces
2. Newton's first law
3. Mass and weight
4. Newton's second law
5. Newton's third law
6. Momentum (HT)
7. Stopping distances
8. Car safety

### 1. Resultant forces

<b>Force arrows</b>	Arrows can be used to represent forces: - Direction = direction of force - Length = size of force
<b>Resultant force</b>	The combined effect of several forces acting on an object
<b>Calculating resultant force</b>	Subtract the total force in one direction from the total force in the other direction.
<b>Balanced forces</b>	When the resultant force is zero (because forces acting in opposite directions are the same size).
<b>Unbalanced forces</b>	When the resultant force is non-zero (because there is more force in one direction than another).

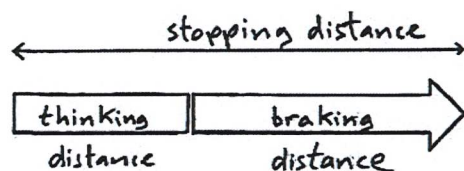
### 2. Newton's first law of motion

An object will move at the same speed and direction unless it experiences a resultant force.

**Resultant forces cause acceleration:** speeding up, slowing down or changing direction

It is a **common misconception** that forces are needed to keep you moving. They are NOT!

Without friction and air resistance slowing an object down, it would keep moving forever!

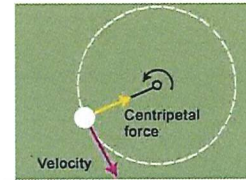


**Circular motion** – when an object moves in a circle it is **accelerating** because it is **changing velocity** (its direction changes even if its speed does not).

As the object is accelerating, it must be experiencing a **resultant force**. The force that causes an object to move in a circle is called the **centripetal force** and it acts towards the centre of the circle.

Examples include:

- Gravity – keeps the Earth orbiting the sun
- Tension – pulls a bucket swinging on a rope into a circular path
- Friction – turns cars round a roundabout



### 3. Mass and weight

**Mass:** the quantity of matter in an object. Units = kilograms, kg.

**Weight:** a force caused by gravity pulling downward on an object's mass. Units = newtons, N.

**Gravitational field strength:** the strength of gravity, which is different on different planets. Units = newtons per kilogram, N/kg.

**On Earth g = 10 N/kg**

**Calculating weight:**

Weight (N) = mass (kg) x gravitational field strength (N/kg)

$$W = m \times g$$

### Free fall and terminal velocity

**Air resistance** is a force created by the air pushing against you as you move.

**Faster movement → greater air resistance.**

While falling, an object will accelerate until the air resistance is equal to the weight; then there is no resultant force so **speed stays constant (terminal velocity)**.



### 8. Stopping distances

**Stopping distance** - the distance travelled from seeing a hazard to having stopped.

**Thinking distance** - The distance travelled from seeing a hazard to starting to brake.

Thinking distance is increased by: higher speed, tiredness, illness, drugs, distractions, old age

**Braking distance** - The distance travelled from starting to brake to having stopped.

Braking distance is increased by: higher speed, poor brakes, poor tyres, wet/icy/gravelly road, downhill, mass.

### 4. Newton's second law of motion

$$F = m \times a$$

F = force (N)

m = mass (kg)

a = acceleration ( $m/s^2$ )

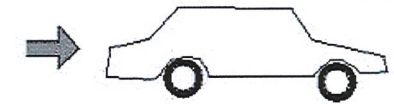
Same force



small mass: large acceleration



large mass: small acceleration



$$\text{Force} = \text{mass} \times \text{acceleration}$$

**Inertial mass** is the mass calculated by measuring the acceleration produced by force, using the equation  $m = F / a$  (higher tier only)

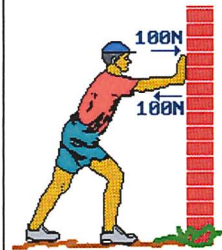
Inertial mass is the same as mass measured with a mass balance, but it gives us a way to measure mass where there is no gravity, such as in space.

### 6. Newton's third law

For every action force there is an equal but opposite reaction force.

If object A applies an action force to object B, then B applies a reaction force to A of same size and opposite direction.

(Note: Action reaction forces are the same type of forces and affect two different objects whereas balanced forces act on the same object and can be different types of force)



**7. Momentum** - The tendency of an object to keep moving.

Momentum (kg m/s) = mass (kg) x velocity (m/s)

$$p = m \times v$$

**Conservation of momentum**

**Total momentum before an event = total momentum after the event**

Calculating force

Force (N) = change in momentum (kg m/s) / time (s)

$$F = (mv - mu) / t$$

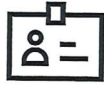
### 9. Crash hazards

Crashes cause **large decelerations, creating large forces**, which can injure you.

Greater momentum change → greater force (see equation in section 7 above)

Car safety features such as **crumple zones, (stretchy) seat belts, air bags**, **increase the time a collision takes, reducing deceleration and forces.**

**Mi Gente** *My people*  
**Identity and Culture**



**Describe a un(a) buen(a) amigo/a tuyo/a**

*Describe a good friend of yours*

*Mi mejor amigo se llama Paco. Es muy alto y tiene el pelo corto, negro y rizado. A veces es un poco terco, pero siempre está contento*

**¿Qué aplicaciones usas para estar en contacto con tus amigos?**

*What applications do you use to stay in contact with your friends?*

*Normalmente uso a Snapchat para chatear con mis amigos. Es fácil usarlo y se puede ver lo que hacen tus amigos.*

**¿Estás enganchado/a a tu móvil?**

*Are you hooked on your phone?*

*Diría que estoy muy enganchado a mi móvil porque siempre tengo que mirarlo. Es tan difícil separarnos porque siempre tengo que saber lo que pasa en el mundo.*

**¿Qué piensas de las redes sociales?**

*What do you think about social networks?*

*A mí me encantan las redes sociales y todos mis amigos usan Facebook, así que es el canal de comunicación más importante en mi vida. Sé que hay peligros, pero las ventajas superan las desventajas.*

**¿Que te gusta leer? ¿Por qué?**

*What do you like to read? Why?*

*Cada noche de la semana me gusta leer una novela de amor ya que me permite relajarse, pero cuando tengo tiempo, por ejemplo, los sábados y los domingos, leo un libro de aventura. Prefiero leer en mi móvil porque pesa menos que un libro.*

**¿Te llevas bien con tu familia?**

*Do you get on well with your family?*

*Me llevo superbién con mi madre, pero me peleo todo el tiempo con mi padrastro ya que no me conoce. Mi madre y él se casaron hace un par de meses así que aún es temprano. Espero que nos vamos a llevar mejor en el futuro.*

**Describe a una persona de tu familia**

*Describe a member of your family*

*Mi hermano mayor es bastante gordo y lleva una barba pelirroja, muy parecido pirata. De vez en cuando nos llevamos como perro y gato, pero al fin y al cabo es mi mejor amigo y me confío en él.*

**¿Quiénes son más importantes, tus amigos o tus padres?**

*Who are more important, your friends or your family?*

*Para mí, mi familia es importante, pero los amigos se pueden elegir. A veces mis padres no me apoyan, pero mis amigos sí, así que diría que mis amigos son más importantes visto que nunca me juzgan.*

**¿Cómo es un buen(a) amigo/a?**

*What makes a good friend?*

*Cuando era más joven, te hubiera dicho que un buen amigo es alguien divertido y lleno de energía, pero ahora te diría que un buen amigo es alguien que está allí para ti. Claro que es importante divertirse, pero una persona en la que se puede confiar es vital.*

**¿Qué planes tienes con tus amigos este fin de semana?**

*What plans do you have with your friends this weekend?*

*El sábado vamos a ir al parque juntos para jugar al fútbol, como hacemos cada fin de semana. Pero este domingo por la tarde iremos a un restaurante alemán para probar platos típicos antes de nuestras vacaciones a Berlín el mes próximo.*

**Question you will ask:**

Qualifiers	UN POCO <i>a bit</i> MUY/MUCHO <i>very/a lot</i> BASTANTE <i>quite</i> DEMASIADO <i>too/too much</i> ALGO <i>somewhat</i>
Adverbs	TODOS LOS DÍAS <i>every day</i> SIEMPRE <i>always</i> NUNCA <i>never</i> A VECES <i>sometimes</i> CONSTANTEMENTE <i>constantly</i>
Connectives	A PESAR DE TODO <i>nonetheless</i> NO OBSTANTE <i>however</i> POR ESO <i>because of that</i> GRACIAS A <i>thanks to</i> POR EJEMPLO <i>for example</i>
Comparisons Superlatives	MÁS/MENOS QUE <i>more/less than</i> MEJOR/PEOR QUE <i>better/worse than</i> EL MÁS/EL MENOS <i>the most/least</i> EL MEJOR/PEOR <i>the best/worst</i> LO QUE MÁS/MENOS ME GUSTA <i>what I like the most/least</i>
Sequencers	PRIMERO <i>firstly</i> LUEGO <i>then</i> ENTONCES <i>then</i> DESPUÉS <i>afterwards</i> FINALMENTE <i>finally</i>
Negatives	NUNCA <i>never</i> YA NO <i>no longer</i> NO... NI... NI <i>neither... nor</i> TAMPOCO <i>neither</i> JAMÁS <i>never, ever</i>
Opinions with reasons	Creo que... ya que <i>I believe that... as</i> Pienso que... puesto que <i>I think that... since</i> Opino que... aunque <i>I think that... although</i> Me parece que... porque <i>it seems to me that... because</i> Estoy convencido de que... dado que <i>I am convinced that... given that</i>

Time expressions	EL AÑO PASADO <i>last year</i> HACE DOS AÑOS <i>two years ago</i> CUANDO ERA PEQUEÑO/A <i>when I was little</i> EL AÑO QUE VIENE <i>next year</i> DENTRO DE DOS AÑOS <i>in two years' time</i>
Variety of pronouns	A ANA LE GUSTA <i>Ana likes</i> LO QUE MÁS/MENOS ME GUSTA <i>What I like the most/least</i> LO BUENO/MALO <i>the good/bad thing</i> LO MEJOR/LO PEOR <i>the best/worst</i> NOS LLEVAMOS BIEN/MAL <i>we get on well/badly</i>
Variety of persons	TIENE <i>she/he/it has</i> HACE <i>she/he/it does/makes</i> ESTÁ <i>is (location)</i> VISITAMOS <i>we visit/visited</i> LO PASAMOS BIEN <i>we have/had a good time</i>
Infinitive phrases	QUIERO <i>I want to</i> TENGO QUE <i>I have to</i> PUEDO <i>I can</i> SOLÍA <i>I used to</i> PREFIERO <i>I prefer</i>
Preterit	FUI <i>I went</i> FUI <i>I was</i> TUVE <i>I had</i> HICE <i>I did/made</i> VISITÉ <i>I visited</i>
Imperfect	IBA <i>I used to go</i> ERA <i>I used to be</i> TENÍA <i>I used to have</i> HACÍA <i>I used to do/make</i> VISITABA <i>I used to visit</i>

Immediate future	VOY A IR <i>I'm going to be</i> VOY A SER <i>I'm going to be</i> VOY A TENER <i>I'm going to be</i> VOY A HACER <i>I'm going to do</i> VOY A VISITAR <i>I'm going to visit</i>
Simple future	IRÉ <i>I will go</i> SERÉ <i>I will be</i> TENDRÉ <i>I will have</i> HARÉ <i>I will do/make</i> VISITARÉ <i>I will visit</i>
Conditional	IRÍA <i>I would go</i> SERÍA <i>I would be</i> TENDRÍA <i>I would have</i> HARÍA <i>I would do/make</i> VISITARÍA <i>I would visit</i>
Si clauses	Si ganara la lotería, iría a Nueva York <i>If I won the lottery, I would go to New York</i> Si pudiera, trabajaría de médico <i>If I could, I would work as a doctor</i> Si pudiera, estudiaría español en la universidad <i>If I could, I would study Spanish at university</i> Si fuera rico/a, compraría una mansión <i>If I were rich, I would buy a mansion</i> Si tuviera dinero, viviría en España <i>If I had money, I would live in Spain</i>
Subjunctive	OJALÁ PUDIERA <i>I wish I could</i> OJALÁ HUBIERA <i>I wish there were</i> CUANDO SEA MAYOR <i>when I am older</i> NO CREO QUE SEA <i>I don't think it is</i> PUEDE QUE TENGA <i>I/it may have</i>
Idiom	ES UN SOL <i>he/she is a star</i> HABLANDO CON LA MANO EN EL CORAZÓN <i>being honest</i> ESTOY EN MI SALSA <i>I am in my element</i> ME HACE ILUSIÓN <i>I am excited about</i> CUESTA UN OJO DE LA CARA <i>it's expensive</i>

# TEXTILES

## Key words:

**Bobbin** - a cylinder or cone holding thread, yarn, or wire, used in weaving and machine sewing.

**Embroidery** - Decorative hand stitching.

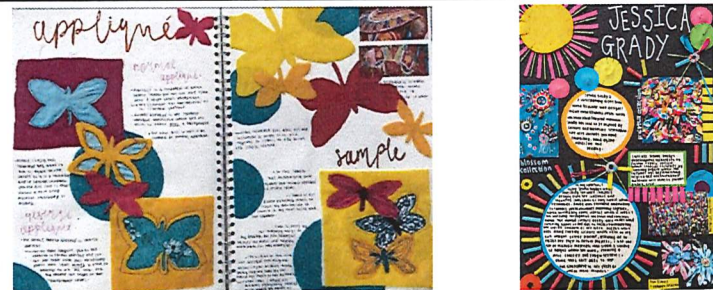
**Heat trapping** - Fusing different materials in plastic.

**Slashing** - Layers of fabric where the top layer is cut away to reveal the layers underneath.

**Warp** - Vertical structure of a weave.

**Weaving** - Forming fabric by interlacing threads.

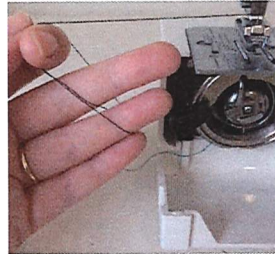
**Weft** - Horizontal woven threads of a weave.



## Sketchbook Presentation Success Criteria

- ✓ Used appropriate colours in the background, title and writing.
- ✓ Used appropriate font for the title.
- ✓ Considered the layout of my page before sticking it down.
- ✓ Creatively laid out my work on the page - e.g. used flaps, layered work, used a window, mounted the work.

## How to pick up the bobbin thread:



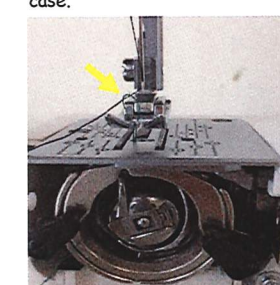
1. Holding the top thread with your left hand, wind the balance wheel towards you.



2. Keep winding the wheel towards you until the needle had gone down into the bobbin case.



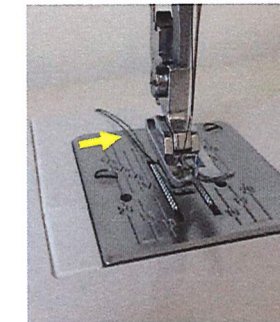
3. Keep winding the balance wheel towards you (keep hold of the top thread!) you will start to see the bobbin thread come up.



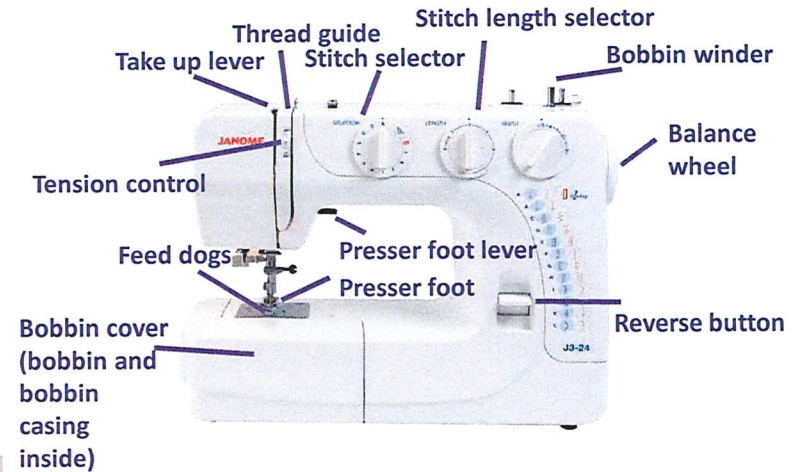
4. When the bobbin thread has been pulled up by the needle there will be a loop.



5. Pull the loop until you bring up the end of the thread.



6. Take both threads to the back of the presser foot.

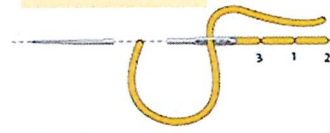


## Hand Embroidery:

### Running stitch



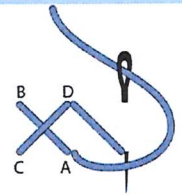
### Backstitch



### Couching



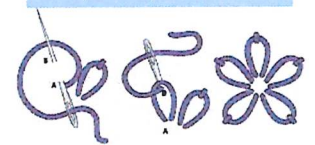
### Cross stitch



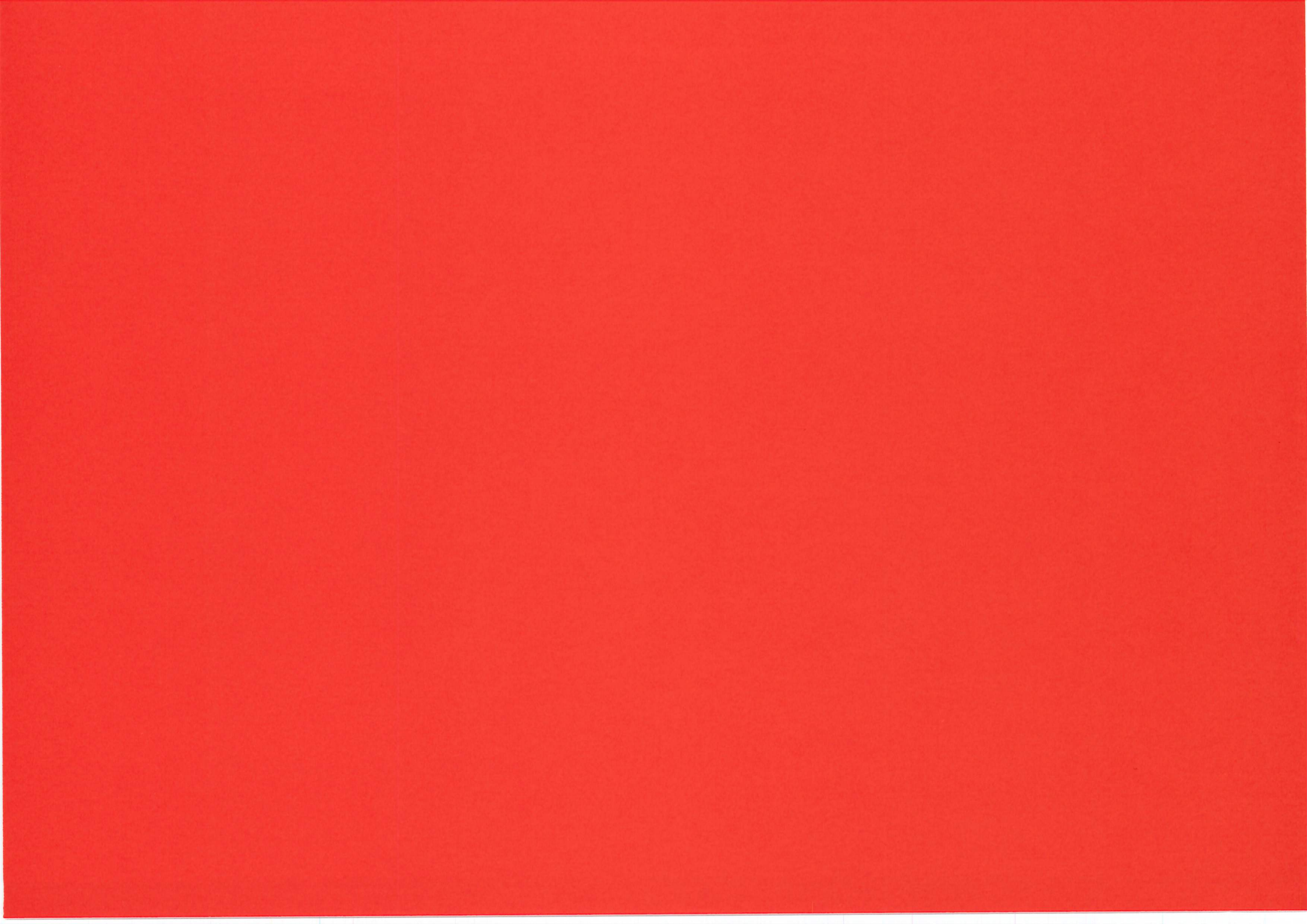
### Chain stitch

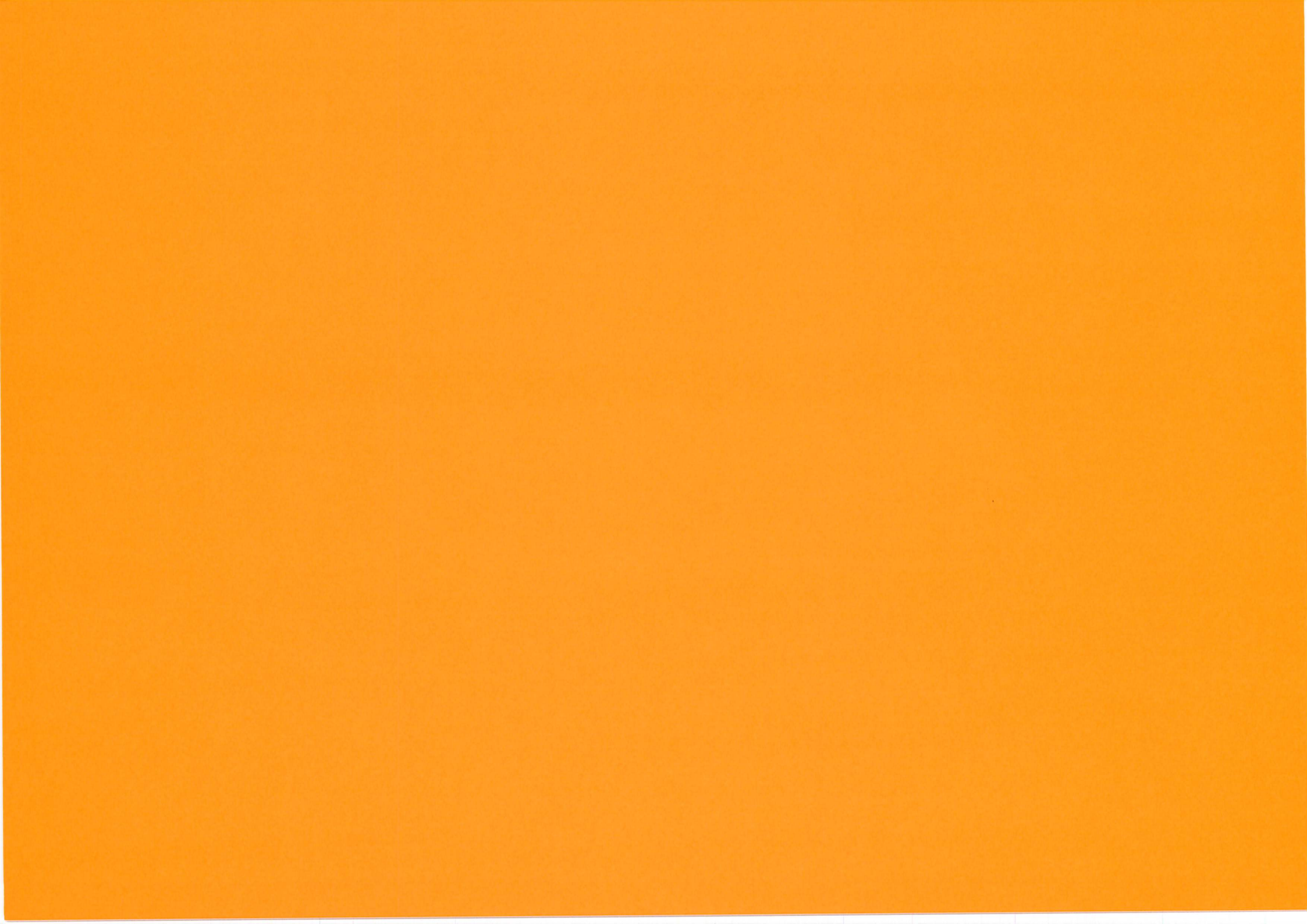


### Lazy daisy stitch











## Notes

## Notes

## Notes

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## Notes