KNOWLEDGE ORGANISER

YEAR 9

CYCLE 1

Name: ----------

Tutor group: ----------

The Regis School
The best in everyone™
Part of United Learning

September 2021

YOUR KNOWLEDGE ORGANISER

- 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 book for every lesson – it is part of your equipment.

USING THE KNOWLEDGE ORGANISER FOR REVISION

- Students remember 50% more when they test themselves after learning.
- You can use your book to help **memorisation**.
- **Read** a section of your Knowledge Organiser.
- **Cover** it up.
- **Write** out what you've remembered.
- **Check** the Knowledge Organiser to see if you're right.
- **Repeat** this process.
- Do this **every day** to help commit the information to your **long-term memory**.

HOW TO USE THE BOOK FOR SELF-QUIZZING

Read	Cover	Write	Check
READ a small section of the KO	COVER up the information so you are unable to read/ see it	WRITE out what you can remember into your self-quizzing book	CHECK what you have written and use a green pen to mark and correct

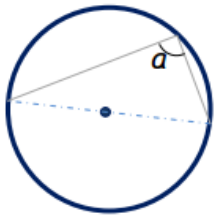
USING YOUR KNOWLEDGE ORGANISER FOR REVISION

Research shows that students remember 50% more when they test themselves after learning something.

You can use your 100% book to create **flashcards**.

These should be:

- **double-sided**
- **a question on one side, the answer on other**
- **a keyword on one side, a definition or image on the other**
- **used for self-testing.**

Circles	**Circles**
1. What is the size of angle a? 2. State the rule. 	1. What do you know about the angles x and y? 2. State the rule. 

Q1 What is **emulsion**? Oil, water, droplet, shake, immiscible, bond, mixture.	**Q2** What is **one similarity** between an **alkene** and an **unsaturated** fat?
Q3 What is the name for the **test** for **unsaturated fat** or **alkene**? Describe what you would **see**.	**Q4** Describe two ways that **saturated** fat and **unsaturated fat** (oil) are **different**.
Q5 What is **the advantage** of cooking food in **oil**? **Explain** your answer.	**Q6** **Describe** what an **emulsifier** molecule does.
Q7 Name the **two parts** of an **emulsifier** molecule.	**Q8** What is the difference between a **monounsaturated** fat and **polyunsaturated** fat? **Mono** = one **Poly** = many

FEEDBACK

Your teachers will give you feedback about your learning and progress in many different ways. These will include:

- Verbal feedback about something you are working on in the lesson (practical or written work).
- Verbal feedback through asking questions.
- Guided independent self-assessment.
- Guided peer assessment.
- Instant/quick written comments or identification of SPAG errors on your work as you complete it.
- Written feedback on your work and setting R4 or extension questions for you to complete.
- Knowledge quizzing/short tests that give you a score (i.e. 15/20).
- Longer tests that may also give a score (i.e. in %) as well as feedback about the content you need to re-learn/refresh.

You will be expected to respond to feedback in the following ways:

- ✓ Correcting all SPAG errors and copying out spellings as directed by your teacher.
- ✓ Answering R4 questions and completing extension questions/tasks in green pen.
- ✓ Giving peer feedback when it is expected by the teacher, using the format provided.
- ✓ Setting yourself targets when required, to ensure that you keep developing your knowledge and skills.
- ✓ Focusing on the areas of knowledge that you need to learn and quizzing yourself on these for homework.
- ✓ Showing that you take pride in your work by presenting it neatly.
- ✓ Always asking for help if you don't understand the work or what to do.

ENGLISH - GRAMMAR

1. Punctuation Marks

Full Stop Used at the end of a sentence	**Question Mark** Used at the end of an interrogative sentence to form a question.	**Exclamation Mark** Used at the end of an interrogative sentence to form a question.	**Comma** Use to separate clauses in a sentence
Speech Mark Used to show when a character speaks.	**Colon** Used to separate two independent clauses when the second explains or illustrates the first	**Semi Colon** Used to separate two independent clauses that about the same topic.	**Apostrophe** Used in 3 ways to show contraction, plural or possession.
Hyphen Can take the place of commas, parentheses, or colons – in each case to slightly different effect.	**Slash** Used to separate numbers, letters or words.	**Ellipsis** Use in non-fiction to show omission. In fiction show hesitancy or long pause.	**Parenthesis** Used to add extra information in a sentence

3. Sentence Types

Simple	Consists for one independent clause. (An independent clause contains a subject and verb and expresses a complete thought. Examples: • I like coffee. • Mary likes tea.
Compound	Is two (or more independent clauses joined by a conjunction or semi-colon. Each of these clauses could form a sentence alone. • I like coffee and Mary likes tea. • Mary went to work but John went to the party. • Our car broke down; we came last.
Complex	Consists of an independent clause plus a dependent clause. A dependent clause starts with a subordination conjunction or a relative pronoun and contains a subject and a verb but does not express a complete thought. • We missed our plane because we were late. • Our dog barks when she hears a noise.
Minor	Consists of a fragment, or incomplete clause that still conveys meaning. • Hello. • The more, the merrier.

2. Apostrophe Rules

To show contraction:
Used to show when letters are omitted from words.

- Do not = don't
- Could not = couldn't
- They are = they're

To show possession:
Can be used to show that one thing belongs to or is connected to something.

- The cat's tail was fluffy

Cat is a singular noun so you need to add an apostrophe and 's' to show that the tail belongs to the cat

- Charles's cat was naughty

Charles is a singular noun so, even though it ends in an 's' already, you need to add an apostrophe and another 's' to show that the cat belongs to Charles.

- The brothers' feet was muddy.

Brothers is a plural noun that ends in an 's' so you don't add another 's' after your apostrophe. You just add the apostrophe to show the feet belongs to the brothers.

- The children's toys were broken

Children is a plural noun but it doesn't end with an 's' so you need to add an apostrophe and 's' to show that the toys belong to the children.

4. Word Types

Noun: A name, place or thing	**Verb:** A being, doing or having word	**Adjective:** A word that describes the noun
Abstract Noun: An idea or concept e.g. bravery, courage, love	**Modal Verb:** A word that shows necessity or possibility	**Pronoun:** A noun that can be substituted for a name.
Concrete Noun: A noun that can be identified through one of the five senses (taste, touch, sight, hearing, or smell)	**Adverb:** A word that describes a verb	**Preposition:** The position or location of a word

THE REGIS SCHOOL SPELLING LIST
Year 9 – Autumn Term

Why is spelling important?

Aside from being given marks for spelling in exams, learning to spell is extremely useful if we want to become confident readers and writers. If you are constantly stopping to think about how words are spelled while you write, it can interrupt the flow of your thoughts, taking you away from what we want you to be thinking about: your choice of words and how you construct those words into sentences that communicate exactly what you want to say.

If you are a confident speller, you are also much more likely to make adventurous vocabulary choices, selecting the exact word to communicate your message, rather than playing it safe and using a word you already know how to spell.

Being a great speller makes you a more effective communicator, allowing you to share your own thoughts and ideas with the world!

Quizlet

All spellings are available on 'Quizlet'. Follow the link and, if you haven't done so already, create an account using your school email address

Link: https://quizlet.com/join/9Nx5MHGr4

Use the spelling pages to practice your weekly spellings. First, look carefully at the word. Study its shape and the order of the letters. Then, cover the spelling; try to see it in your mind's eye. Attempt to write the spelling out. Check your work- have you missed a letter? Got letters mixed up or jumbled? Try again. Even if you get it right first time, practice makes perfect. Fill in the grid to ensure you are ready for your test in tutor time.

Week 1 - 'ie' or 'ei'	Attempt 1	Attempt 2	Attempt 3
Society			
Receive			
Milieu			
Varieties			
Efficient			
Deficient			
Omniscient			
Sovereign			
Poltergeist			
Lieutenant			
Challenge Words			
Disorientating			
Hieroglyphic			

Week 2 – 'ou'	Attempt 1	Attempt 2	Attempt 3
Armour			
Borough			
Enormous			
Delirious			
Humorous			
Limousine			
Curvaceous			
Conspicuous			
Unanimous			
Monotonous			
Challenge Words			
Conscientious			
Insurmountable			

Week 3 – Vowel Combinations	Attempt 1	Attempt 2	Attempt 3
Anxious			
Furlough			
Chauffeur			
Plagiarism			
Simultaneous			
Hierarchy			
Foreigner			
Mischievous			
Connoisseur			
Manoeuvre			
Challenge Words			
Baccalaureate			
Haemorrhage			

Week 4 – 'qu'	Attempt 1	Attempt 2	Attempt 3
Unique			
Opaque			
Soliloquy			
Sequence			
Liquified			
Etiquette			
Statuesque			
Conquered			
Consequence			
Mannequin			
Challenge Words			
Acquaintance			
Acquiescent			

Week 5 – Double Letters	Attempt 1	Attempt 2	Attempt 3
Apparent			
Embarrass			
Vacuum			
Quizzical			
Witticism			
Abhorrent			
Penicillin			
Irredeemable			
Transferred			
Silhouettes			
Challenge Words			
Surveillance			
Hippopotamus			

Week 6 – 'x, y, z'	Attempt 1	Attempt 2	Attempt 3
Yacht			
Exotic			
Zealot			
Psychotic			
Rhythmic			
Complexity			
Kamikaze			
Auxiliary			
Trapezium			
Laryngitis			
Challenge Words			
Pseudonym			
Xenophobic			

Week 7 – 'g'	Attempt 1	Attempt 2	Attempt 3
Phlegm			
Iguana			
Caught			
Gherkin			
Ambiguity			
Signature			
Choreography			
Sociological			
Consignment			
Armageddon			
Challenge Words			
Sacrilegious			
Curmudgeon			

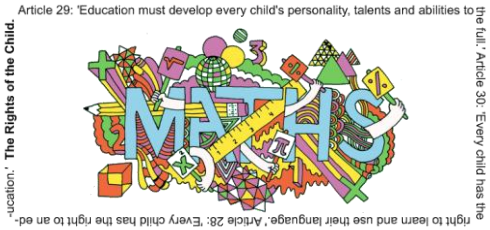
Week 8 - Adjectives	Attempt 1	Attempt 2	Attempt 3
Eager			
Scrawny			
Guilty			
Hilarious			
Substantial			
Sagacious			
Charismatic			
Facetious			
Gregarious			
Grotesque			
Challenge Words			
Scrumptious			
Rudimentary			

Week 9 – 'p'	Attempt 1	Attempt 2	Attempt 3
Poverty			
Puerile			
Rapidly			
Persuade			
Perception			
Discipline			
Portuguese			
Hypothesis			
Eponymous			
Impermissible			
Challenge Words			
Incomprehensible			
Sycophantic			

Week 10 – Exam Instruction	Attempt 1	Attempt 2	Attempt 3
Define			
Assess			
Contrast			
Relate			
Predict			
Justify			
Compare			
Analyse			
Criticise			
Summarise			
Challenge Words			
Demonstrate			
Evaluate			

Week 11 - Recap	Attempt 1	Attempt 2	Attempt 3
Borough			
Rapidly			
Exotic			
Deficient			
Witticism			
Liquified			
Conspicuous			
Mannequin			
Plagiarism			
Eponymous			
Challenge Words			
Acquiescent			
Incomprehensible			

MATHS CORE KNOWLEDGE



hegartymaths

http://hegartymaths.com

Maths Lesson Essentials!

- Have you written and underlined the date and title?
- Have you written the question and shown your working out?
- Have you shown your units?
- Have you brought your calculator?
- Have you marked your answer in green pen?
- Does your answer make sense?

NUMBER & ALGEBRA

Ascending
Descending
Denominator
Numerator
Solve
Solution
Decimal
Percentages
Binary
Integer

DATA

Mean
Median
Mode
Range
Scale
Proportion
Discrete data
Continuous data
Frequency
Cumulative frequency
Upper quartile
Lower quartile
Interquartile range
Distribution
Correlation
Scatter graph

SHAPE

Names 3D

Sphere
Cylinder
Tetrahedron
Prism
Cone
Pyramid

SHAPE

Names 2D

Quadrilaterals
Parallelogram
Trapezium
Rectangle
Rhombus

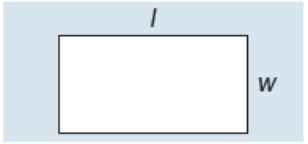
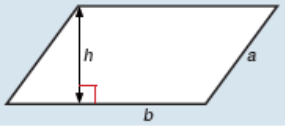
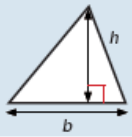
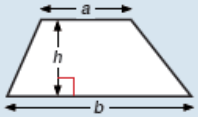
Triangles
Equilateral
Right-angle
Isosceles
Scalene

Keywords

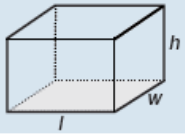
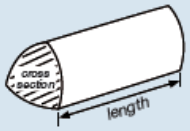
Circle
Polygon
Interior angles
Exterior angles
Acute angle
Right angle
Obtuse angle
Reflex angle
Vertically opposite angles
Corresponding angles
Alternate angles
Co-interior angles
Pythagoras
Trigonometry
Parallel
Perpendicular

MATHS CORE KNOWLEDGE

Areas

Rectangle = $l \times w$	
Parallelogram = $b \times h$	
Triangle = $\frac{1}{2} b \times h$	
Trapezium = $\frac{1}{2}(a + b)h$	

Volumes

Cuboid = $l \times w \times h$	
Prism = area of cross section × length	
Cylinder = $\pi r^2 h$	

Important Formulae

Compound measures

Speed

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

Pressure

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

Density

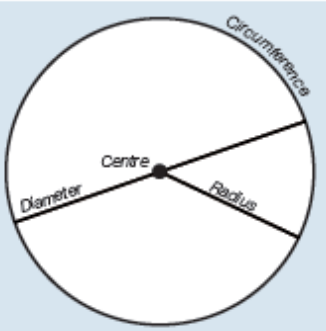
$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

Circles

Circumference = $\pi \times$ diameter, $C = \pi d$

Circumference = $2 \times \pi \times$ radius, $C = 2\pi r$

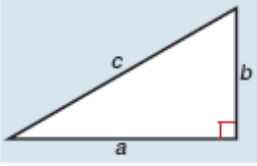
Area of a circle = π x radius squared $A = \pi r^2$



Pythagoras

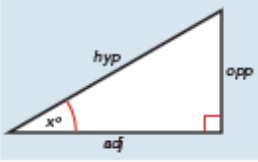
Pythagoras' Theorem

For a right-angled triangle,
$a^2 + b^2 = c^2$



Trigonometric ratios (*new to F*)

$$\sin x^\circ = \frac{\text{opp}}{\text{hyp}}, \cos x^\circ = \frac{\text{adj}}{\text{hyp}}, \tan x^\circ = \frac{\text{opp}}{\text{adj}}$$



http://hegartymaths.com

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SCIENCE CORE KNOWLEDGE

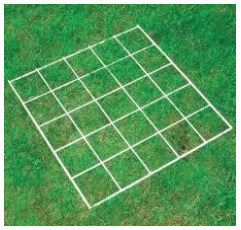
1. How Science Works Keywords

Keyword	Definition
Evidence	A set of data that proves a prediction or hypothesis.
Hazard	Something that could be dangerous.
Risk	Chance of something dangerous happening.
Prediction	Something you think will happen.
Hypothesis	Why you think something will happen.
Variables	Something that changes.
Independent variable	The variable that is changed or controlled in an experiment to test the effects on the dependent variable.
Dependent variable	The variable being tested and measured in an experiment.
Control variable	Something that is constant and unchanged during the experiment.
Repeatability	Closeness of repeats of results to each other.
Reproducibility	Agreement of results from different groups testing the same factor.
Accuracy	Closeness of a measured value to a standard or known value.
Precision	Closeness of two or more measurements to each other.
Reliability	The degree to which the result of a measurement can be depended on to be accurate.

2. Key Equipment

Measuring cylinders – 10 ml cylinders will allow measurement to the nearest 0.1 ml.
100 ml cylinders will allow measurement to the nearest 1 ml.

Thermometers – digital thermometers allow measurement to 1 decimal place, whereas alcohol thermometers only allow measurement to the nearest degree.



Quadrats – are used to do sampling and find the amount of a species in a certain area. Quadrats are placed onto the ground.

Metre ruler – used in multiple investigations in the lab. Allows us to measure to the nearest cm.

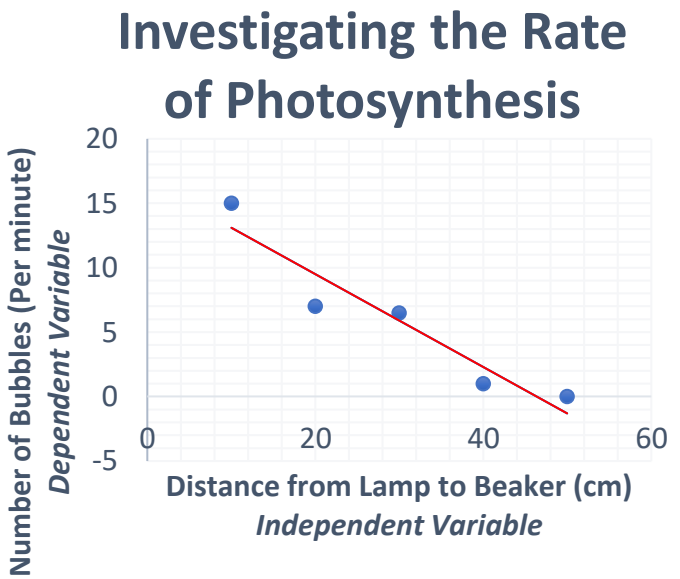
Measuring tape – used in sampling alongside the quadrat. Placed onto the ground to make a transect line to measure against.

SCIENCE CORE KNOWLEDGE

3. Graphing, Analysis and Evaluation Keywords

Keyword	Definition	Example
Hypothesis	An educated guess based on what you already know.	The rate of photosynthesis will increase as the lamp moves closer to the beaker.
Independent Variable	The variable that can be changed by the scientist, it is the cause. Found on the *x*-axis.	Distance from lamp to beaker (cm)
Dependent Variable	The variable that the scientist observes, it is the effect. Found on the *y*-axis.	Number of bubbles (per minute)
Control Variable	The variables that must always be kept the same	Temperature, the size of the pond weed, amount of water
Line of Best Fit	A line that goes roughly through the middle of all the scatter points on a graph.	The red line on the graph above shows the line of best fit for the data plotted.
Calculations	Use the correct equation to be used based on the variables of the experiment. Use correct units.	Calculation for mean of number of bubbles per minute: Trial 1 + Trial 2 + Trial 3 ÷ 3 15 + 14 + 15 ÷ 3 = 14.6
Results Analysis	Identify patterns in data. Describe what the table and graph show.	As the lamp is getting closer to the beaker, more bubbles are produced.
Conclusion	Answer your original question. State whether or not the hypothesis was supported.	The results prove that the rate of photosynthesis is effected by the distance of the light source. As the lamp was moved closer to the baker, more bubbles were produced.
Evaluation	Suggest an improvement for the equipment used. Suggest an improvement for the method used.	Use an LED lamp. Measure the volume of oxygen produced.

Distance from lamp to beaker (cm)	Number of bubbles (per minute)			Mean number of bubbles
	Trial 1	Trial 2	Trial 3	
10	15	14	15	14.6
20	7	7	7	7
30	7	7	6	6.7
40	1	2	1	1.3
50	0	0	0	0



ART

PRACTICAL SKILLS VISITED

Colour
Nuances of tone and colour within objects

Drawing
Continued reinforcement of basics of shape and shading
Complex shapes and compositions, detail
Highlight and reflections
Drawing for recording ideas in different ways

Painting
Use of acrylics
Use of different surfaces/mixed media work
Painting on a larger/smaller scale – painting to suit scale

Printing
Collagraph

3D
Sculpture/ installation

Photography
Using photographs and edits to support practical work

Literacy
Writing about Art and own ideas in details with a focus on evidencing ideas and thoughts through annotation in the sketchbook.

VOCABULARY

- **Installation** – artwork created by putting objects together in a particular way
- **Contemporary Art** – art that is being created in society today
- **Mixed media** – using different media together
- **Annotation** – adding useful notes to your work to explain ideas
- **Development** – showing progression within a project and showing links between artists you study and your own work
- **Refinement** – improving your ideas by trying them out in order to create a successful final piece
- **Collagraph –** a print that is created by building up a surface and then printing from this
- **Acrylic** – a thick, water based paint, often used as an alternative to oil paint

STRETCH / FURTHER READING

1. Complete at least one drawing a week from real life of ANYTHING using a different media – pencil, pen, thread, crayon etc . This will greatly improve your drawing skills.
2. Find out about installation Art – what artists first starting working in this way?
3. Take photographs that relate to your projects, this will make your work more personal and GCSE in style, preparing you for GCSE and also making your work stand out from the rest.
4. Visit a gallery/museum: Pallant House in Chichester is a good start. London – National Gallery, Tate Britain, Tate Modern, The British Museum and the V&A Museum are just a few that are free.

LINKS
Drawing
https://www.studentartguide.com/articles/realistic-observational-drawings

Artists

This year your teacher will be being more creative and choosing artists specifically for you and your class,. You need to ensure that you read about the artists fully to understand them and be able to say HOW they influence the work that you create.
LINKS
How to analyse and use artists work
https://www.bbc.com/bitesize/guides/zymtv9q/revision/1

COMPUTING – Threats to Computer Systems and Networks

Key Points

Threat / Attack	Type	Defenses
Malware	- Spyware - Key Loggers - Viruses	Anti-malware software Antivirus software Don't click on unknown links
Data Interception and theft	- Shouldering - interception	Hide password entry. User Training Access level permissions Secure network (no café) Encryption (Https) Physical Locks Biometrics
Social Engineering	Blagging Phishing	Security Training / Phishing Clues Network Policies Firewalls
Hacking	Brute Force attacks	Strong Passwords & update policy Limited attempts

Tasks

Write a brilliant password

Watch the hyperlinks in the online book.

What does a white hacker do

ACCOUNTS (complete in pencil)

Account	Site	Login	P/W hint
Login	17SurnameInitial		
OneDrive/Email	http://outlook.office365.com/owa/theregisschool.co.uk	@theregisschool.co.uk	
Homework	https://idea.org.uk (catch up missing ones from year 7 and 8)	50 points+ from each area + 50	
Classcharts	https://www.classcharts.com		
Keywords practice	https://quizlet.com/join/wh4mEe2hD **TRS CLASS OF 2023**		

COMPUTING – Threats to Computer Systems and Networks

Keywords	Definition
Authenticate	
Malware	
Phishing	
Pharming	
Adware	
Trojan	
Brute force Attack	
Denial of Service Attack	
Encryption	
SQL injection	

Homework Checklist

1	Text book Chapter 3	Resources area Term 1
2	Homework – Idea Badges	Internet & Web, What Is The Cloud? Teamwork (look on class charts for others to do)
3	Keywords – KO	You could also use Quizlet to practice. **TRS CLASS OF 2023**
4	Definitions and links	Online book – see network resources Chapter 3
5	Extension – hacking challenge	https://www.pbs.org/wgbh/nova/labs/lab/cyber/

DANCE – Key Concepts

Choreographer: Christopher Bruce

1. Christopher Bruce trained at the Ballet Rambert School before joining the company as a dancer in 1963. He served as Associate Director before becoming Associate Choreographer. In 1994 he became Artistic Director and 'relaunched' the company (which had been without an artistic director since the departure of Richard Alston in 1992). Bruce has created 30 dance works for Rambert as well as restaging works made for other companies.

2. “Not all my dances are thematic,” he says. “But what I would say is that I have to have a good reason for making the dance. I feel that there is a story I want to tell.”

3. Bruce's **choreography** reflects a range of **styles**: ballet, contemporary, folk and popular **dance**. He deals with themes linked to the human condition, political or social issues and tends to portray them through dramatic, emotive and theatrical elements.

Choreographer: Kenrick H20 Sandy

1. Kenrick "H20" Sandy is Atmosphere's Associate Creative Director and Choreographer. He is the choreographer of the Olympic Opening Ceremony. He is an IDO World Hip Hop Championship finalist and at the very forefront of UK hip hop. He is the Co-Creator and Choreographer of the Laurence Olivier Award Winning production 'Pied Piper' and a Judge of the Nike Dance Clash.

The Relationship between Constituent Features of Dance Work

1. Movement material such as actions, space, dynamics and relationship content
2. Costume, set design, aural setting and lighting to support the choreographic intent.
3. The ability to compare and contrast dance performance and choreography.

Choreographer: Wayne McGregor

1. Born in 1970, Wayne McGregor CBE is a multi award winning British choreographer and director, internationally renowned for trailblazing innovations in performance that have radically redefined dance in the modern era. Driven by an insatiable curiosity about movement and its creative potentials, his experiments have led him into collaborative dialogue with an array of artistic forms, scientific disciplines and technological interventions. The startling and multi-dimensional works resulting from these interactions have ensured McGregor’s position at the cutting edge of contemporary arts for over 25 years.

2. Since 2006, McGregor has been Resident Choreographer at The Royal Ballet, the first choreographer from a contemporary dance background to be invited into the role. Here, his productions are acclaimed for their daring reconfiguring of classical language. He has made 16 works for The Royal Ballet, from Chroma (2006) set to music by The White Stripes and Joby Talbot, and winner of the Olivier Award for Best New Dance Production, to Woolf Works (2015), an "exhilarating and ravishingly expressive" (*Guardian*) full length ballet based on the life and writings of Virginia Woolf.

DRAMA

Creating drama work develops the following Important Life Skills:

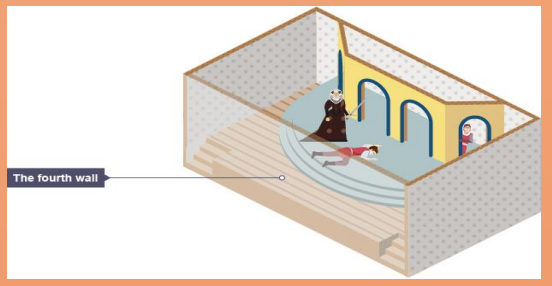
1.	**Confidence:** Belief in your own ability, skills and experience.
2.	**Creativity:** The ability to use your imagination to explore ideas, make decisions and express yourself.
3.	**Communication** The ability to convey or share ideas and feelings effectively.
4.	**Collaboration/Teamwork** The ability to work well with others to achieve a shared goal by communicating well, listening carefully and being responsible, supportive and honest.
5.	**Imagination:** to come up with new and creative ideas.
6.	**Problem solving** the process of finding solutions to something that needs to change.

Drama Vocabulary

1.	**Rehearsal**: developing and practising a play to make sure that it is ready to be performed in front of an audience.
2.	**Monologue**: A speech made by one actor.
3.	**Characterisation**: The thoughtful and detailed creation of a character.
4.	**Devising** : Working practically in a group to create a play.
5.	**Play text /Script**: is a piece of writing written for the stage. It is produced by a playwright.
6.	**Extract** : A small section from a play text / script.
7.	**Pastiche / Parody:** an imitation of the style of a particular writer, artist, or genre. (Parody: with deliberate exaggeration for comic effect.)

Naturalistic V Non-Naturalistic

1. **The fourth wall:** Is the term given to the invisible wall on the stage between the actors and the audience.



2. **Naturalistic:** A style of theatre/acting which aims to create a life-like representation of everyday life. The actors will perform their characters as if the audience are not there, imagining that there is a wall between them and the audience. (Know as the fourth wall.)

3. **Non-naturalistic:** A style of theatre that does not try to create a life-like representation of everyday life. Instead, it uses drama techniques and will often 'break the fourth wall' by delivering lines towards or interacting with the audience.

DRAMA: Vocal Skills

1.	**Voice Projection:** The volume of your voice.
2.	**Tone:** How your voice sounds in terms of emotion.
3.	**Pitch:** How high or low your voice is.
4.	**Pace:** The speed in which the character speaks.
5.	**Pause**: Gaps within speech to add tension.
6.	**Accent:** A distinctive way of speaking, especially one associated with a particular country, area, or social class.
7.	**Volume:** How loud of quietly you use your voice.

Non-Naturalistic drama techniques

1.	**Freeze frame:** A still frozen/image of actors on stage.
2.	**Levels:** Positioning the actors at different heights.
3.	**Body as Prop:** Using your body to create an object.
4.	**Mime:** When actor performs without props but suggests that they are there by pretending to interact with them.
5.	**Thought track:** A way to speak aloud the thoughts or feelings of a character in a freeze-frame.
6.	**Narration:** A **narrator** is like a storyteller informing the audience about the plot. They can also add a spoken commentary for the audience about the action onstage.
7.	**Direct Address:** When a character delivers their lines directly to the audience.
8.	**Choral movement:** When the two or more characters do the same movement at the same time.
9.	**Choral voice**: When the two or more characters say the same line at the same time.
10.	**Multi role:** When more than one actor represents one character.
11.	**Slow motion:** Slowing down the speed of the action taking place on stage.
12.	**Exaggeration:** To make something bigger/larger than it actually is.
13.	**Repetition:** To repeat something more than once.
14.	**Transitions:** Movement that links scenes or images from one to the other.
15.	**Soundscape:** A group of actors use their voice and body to create sounds that work together to suggest the mood or location of scene.
16.	**Sound collage:** Layering a series of short phrase about an incident, issue, theme or character in no specific order to present a feel for the thoughts, feelings and emotions present.

ENGLISH - READING ANALYSIS

1. WHAT, HOW AND WHY PROMPTS

What is the writer doing?

- The writer is …
- In the novel … the writer uses … to …
- The writer creates an atmosphere of … by using …

In Chapter 3 of, Of Mice and Men the writer uses sound imagery to create a contrast between the men outside the barn and the quiet, content atmosphere within the barn.

How are they doing this ? How do they use the language/language techniques/structure to do this? How do key words/phrases show this?

- For example (add quotation) the use of …
- The adjective/alliteration/simile/metaphor …
- This suggests/implies/demonstrates/presents/ highlights/
- The writer uses … coupled with … to highlight …

For example, 'From outside came the clang of horseshoes on the playing peg and the shouts of men, 'the use of onomatopoeia creates a sense of excitement and movement. This is contrasted in the next line 'But in the barn it was quiet and humming and lazy and warm.' The repetition of and builds up the atmosphere of lazy content in the barn.

Why are they doing this? Why did they choose that language? Why might they want us to interpret it in different ways?

- This may suggest … Alternatively it may suggest …
- The writer wants to create a feeling of … Additionally it may suggest …

This may suggest that the men outside the barn are enjoying a happy and relaxed game whilst inside the barn there is potentially nothing that concerns the majority of the men. Alternatively, the 'clang' and 'shouts' outside suggest the active minds of the men whilst the 'quiet' and 'humming' of the barn hint that something more sinister might be taking place in there.

2. Useful vocabulary to analytical writing

To describe a writer's intentions:

- portrays
- depicts
- represents
- demonstrates

To give an example or quotation:

- for example
- for instance
- specifically when
- in particular

To add information:

- furthermore
- in addition
- also
- additionally

To compare and contrast:

- whereas
- in comparison
- similarly
- in contrast

To conclude:

- in conclusion
- in closing
- given these facts

3. WRITING ABOUT THE EFFECT

3a. How the reader feels:

- Suspicion
- Outrage
- Disgust
- Curious
- Calm
- Joyous
- Anxiety
- Irritation
- Compassion
- Respect
- Horror
- Concern

3b. Evaluative Vocabulary

The writer …

- Builds
- Develops
- Contrasts
- Intensifies
- Reinforces
- Highlights
- Begins
- Maintains
- Introduces
- Emphasises
- Organises

4. LITERARY TECHNIQUES

4a. Language Techniques:

Superlative: an adjective showing the highest quality or degree

Hyperbole: A deliberate over exaggeration

Imagery: vivid description of a particular scene

Auditory imagery: vivid description of sounds

Tactile imagery: vivid description of tactile environment

Kinaesthetic imagery: vivid description of movement.

Alliteration: words close to or next to each other that start with the same sound.

Onomatopoeia: Words used to imitate sound.

Personification: Non-human things that are given human characteristics.

Simile: A comparison using like or as.

Sibilance: repetition of the 's' sound.

4b. Structural Techniques:

Contrast: the deliberate positioning of two or more objects/events/ characters who have distinctly different characteristics.

Listing: a number of connected items written one after the other to emphasise a particular quality.

Shifts in focus: the change of focus in or between paragraphs

Zooming in and zooming out: the narrowing and the widening of narrative focus.

Cyclical structure: the end of the extract/novel returns to the same topic as the opening

Chronological structure: arranged in order of time.

Shifts in tense: moves from past to present tense or vice versa

Dialogue: the speech of a character indicted by speech marks.

ENGLISH – WRITING

1. FICTION WRITING

1a. Literary Terminology

1st person narrator	Written from the perspective of 'I'.
omniscient narrator	An all seeing, all wise narrator
symbolism	The use of symbols to represent ideas or qualities
motif	Repeated image or idea.
foreshadowing	A warning or indication of a future event.
allegory	A story that can be interpreted to reveal a hidden meaning, usually a political or moral one.
oxymoron	A figure of speech in which apparently contradictory terms appear in conjunction.
personification	The attribution of a personal nature or human characteristics to something non-human.
antithesis	Character or ideas that are the complete opposite of each other.
Extended metaphor	Comparison between two unlike things that continues throughout a series of sentences in a paragraph.
Pathetic fallacy	When the weather reflects the feelings of the character and/or mood of the piece.
alliteration	The occurrence of the same letter or sound at the beginning of adjacent or closely connected words.
In medias res	When a piece of writing starts in the middle of the action without exposition.
Semantic Field	A group of words that share a similar theme or concept.

1b. 5 Part Story Structure for Narrative Writing

Exposition	Rising Action	Climax	Denouement	Resolution
This is where you outline your setting, introduce your main characters and the time in which your story is set.	The author puts the character into a complicated situation and forces them into an irreversible situation.	The story reaches a crucial moment. The tension builds reaching a peak.	The story explores the consequences of the climax. The tension starts to ease.	The story's central problem is finally resolved leaving the reader with a sense of completion.

1c. Ideas to structure a piece of Descriptive writing.

Drop: How can we drop the reader into the action
Shift: Will we shift in time, mood or place? Decide where you want to take your piece of writing.
Zoom in: What tiny detail shall we zoom in on and write a lot about?
Zoom out: Returning to the main scene what shall we focus on?
Leave: Write a one-line paragraph that finishes off your piece.

2. NON-FICTION WRITING

2a. Key Terminology

bias	An inclination or prejudice for or against one person or group.
humour	The quality of being amusing or comic.
tone	The choice of writing style the writer employs to convey specific feelings, emotions or attitudes.
empathy	The ability to understand and share the feelings of another.
anecdote	A short amusing or interesting story about a real incident or person.
irony	A state of affairs or an event that seems deliberately contrary to what one expects and is often amusing as a result.
sarcasm	The use of irony to mock or convey contempt.
Perspective	An attitude towards or way of regarding something: a point of view.
syntactic parallels	Repetition of sentences or clauses to emphasise a theme or idea.
Asyndetic list	Where there are no conjunctions between each item.
Syndetic list	Where there is always a conjunction between each item.
anaphora	The repetition of a word or phrase at the beginning of successive clauses.
Hypophora	A rhetorical device that involves asking a question and then quickly answering it.

2b. Forms of Non-Fiction Writing

Article	Letter	Essay	Speech	Leaflet
Clear/apt original title Strapline/ subheading Subheadings Introductory paragraph	Dear Sir/Madam or name Addresses Date Paragraphs Yours sincerely/ faithfully	An effective introduction and conclusion.	Clear address to audience Rhetorical indicators that an audience is being addressed throughout A clear sign off	Clear/apt/original title Organisational devices such as inventive subheadings or boxes Bullet points

2c. Ideas to structure a piece of Non-Fiction writing.

Plan 1	Plan 2
Introduction outlining your point of view/argument Point 1 (your 1st reason for or against) Point 2 (your 2nd reason for or against) Point 3 (your 3rd reason for or against) Conclusion – briefly concluding your argument with a strong statement.	Introduction outlining your point of view/argument. Point 1 (how the issue affects you locally) Point 2 (how the issue affects the country) Point 3 (how the issue affects the world) Conclusion – briefly concluding your argument with a strong statement.

ENGLISH – Of Mice and Men (Modern Text)

1. Context

Author: John Steinbeck (1902-1968)
Nationality: American
Other notable works: *'East of Eden', 'Grapes of Wrath', 'The Pearl'*
Dates: published in 1937
Era: Great Depression (1930s)
Genre: Great American Novel
Set: early 1930s in Salinas and Soledad, California during the Great Depression
Action takes place over three days in four different locations.
Form: Novella

Author biography:

- Born and grew up in and around Salinas, California.
- Attended Stanford University, but never completed his degree.
- Moved to New York in 1925 to become a freelance writer, returning to California when this plan failed.
- His first success was a collection of short stories called '*Tortilla Flat*' in 1935.
- Won the Nobel Prize for Literature in 1962.

Significance of title:

- The title comes from a poem by Scottish poet Robbie Burns written in 1785.
- The poem is called 'To a Mouse' and is about a mouse who builds a nest in a wheat field ready for the winter, but this is destroyed by a ploughman.

Social, Historical & Literary context:

The Great Depression

- The Great Depression took place following the Wall Street Crash in October 1929.
- Many people lost everything and mass unemployment ensued.
- At its peak it was estimated that 13-15 million Americans were unemployed.
- Famers were especially affected as they could not pay back the debts they had built up after World War One.
- A severe drought in the Dust Bowl (American West) made the situation worse.
- In the worst cases, the banks repossessed people's farms, making the famers and their families homeless.
- Many farmers migrated to California to look for work, as it was thought to have spare land and a lot of work but this was not always the case.
- The Great Depression lasted for ten years worldwide, and for the USA it did not fully end until 1941 when the country became involved in World War Two.

Life of an itinerant worker

- Ranch workers often moved from one place to another looking for work.
- Jobs on ranches would be temporary and seasonal.
- Wages for men like these were low and jobs were scarce.
- Insecure existence as jobs were scarce and wages were low.
- There was no welfare system so without work people struggled to survive.

The American Dream

- The belief that anyone, regardless of where they were born, their class, their background can achieve success though sacrifice, risk-taking and hard work, not by chance.
- Root of the idea could be said to be found in the American Declaration of Independence of 1776 which states: "all men… are endowed by their creator with certain inalienable rights... [including] life, liberty and the pursuit of happiness".
- The idea of the American Dream was severely tested during the Great Depression.

2. Key Characters

George Milton: *an itinerant farm worker. Lennie's friend and protector.*
Lennie Small: *an itinerant farm worker. George's companion.*
The Boss: *the owner of the ranch George and Lennie arrive to work at. Curley's father.*
Curley: *the son of the ranch owner.*
Curley's Wife: *the only female on the ranch. Married to Curley.*
Candy: *the old swamper/handyman on the ranch. Owns an old and weak sheepdog.*
Crooks: *the stable manager, and the only African American on the ranch.*
Slim: *a skilled mule driver. He is highly respected by the men on the ranch.*
Carlson & Whit: *ranch hands.*
Aunt Clara: *not an actual character in the text but referred to in the novella. Cared for Lennie until her death.*

3. Key Terminology

novella	A novella is a short novel or a long short story, categorised by having a story with a compact plot.
third person narrative	A type of narrative in which the story is related by an *omniscient* narrator who knows the thoughts and feelings of all the characters in the story.
setting	The time and place in which the story takes place in a piece of literature. Setting can establish the mood or atmosphere of a scene or story.
simile	A figure of speech comparing two unlike things that is often introduced by like or as.
symbolism	The use of symbols to express ideas or qualities.
motif	A dominant or recurring idea in an artistic work.
dialogue	A conversation between two or more people as a feature of a book, play, or film.
dialect	A particular form of a language which is used by people in a specific region or social group.
imagery	A way of describing something *symbolically*, using words to represent objects, actions, and ideas in such a way that it appeals to our physical senses.
Foreshadowing	A device in which the writer gives an advance hint of what is to come later in the story.

4. Key Vocabulary

	Definition
Soledad	A Spanish word meaning loneliness or solitude. One of the places where the novel is set.
Itinerant	A person who travels from place to place, often to seek work.
social hierarchy	The order in which a society categorises its people into rankings of socio-economic tiers based on factors like wealth, income, race, class, education, and power.
microcosm	A community, place, or situation regarded as capturing in miniature the characteristics of something much larger.
coercive	Using force or threats to control a person or group.
influential	Having great influence on someone or something.
subjugate	To bring under domination and control.
To ostracise	To exclude from a society or group.
disempower	To make a person or group less powerful or confident.
empower	To make a person or group more powerful or confident.
futility	Pointlessness or hopelessness
predatory	Seeking to exploit others.
disillusioned	The condition of being dissatisfied or defeated in expectation of hope.
fragility	The quality of being delicate or vulnerable.
marginalise	To treat someone or something as if they are not important.

ENGLISH – The Crucible (20th Century Play)

1. Context

Playwright: Arthur Miller (1915-2005)
Nationality: American
Other notable works: *'All My Sons', 'Death of a Salesman', 'A View from a Bridge'*
Dates: written in 1950-1952, performed 1952, published 1953
Era: 1950s at the time of The Cold War
Genre: Tragedy, tragic drama, American drama, realist drama.
Set: Salem, Massachusetts, USA 1692 (17th Century)
Structure: each of the four acts ends with a climax (unusual structure)

Playwright biography:

- Born in 1915 in New York City.
- Studied journalism before becoming a very successful writer.
- Famously married to the Hollywood actress Marilyn Monroe.
- Winner of many accolades including: Pulitzer Prize, seven Tony Awards, an Olivier and the John F Kennedy Lifetime Achievement Award.

Social, Historical & Literary context:

The Crucible

- 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.
- In 1947 he ordered all employees of the civil service to be screened for 'loyalty' to check they did not have Communist sympathies.
- 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.
- Miller was brought before Congress in 1956 and convicted of contempt of Congress for refusing to cooperate (his conviction was later overturned).
- Eventually McCarthy was condemned and the hysteria died down, but the damage caused to the lives of hundreds of people was already done.

2. Key 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.*

Betty Parris: *Reverend Parris's ten year old daughter. Cousin to Abigail Williams.*

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

Elizabeth Proctor: *loyal wife to John Proctor. She fires Abigail Williams as her servant before the play begins. Mary Warren is her servant during the events of the play.*

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

Thomas Putnam: *an influential citizen but not well liked in the community.*

Ann Putman: *the wife of Thomas Putnam.*

Rebecca Nurse: the wife of Francis Nurse and is *well respected in the community.*

Francis Nurse: *an influential citizen. He is well liked in the community but is enemies with Thomas and Ann Putnam.*

Giles Corey: *An elderly member of the community. He is a farmer and is well known for filing lawsuits.*

Tituba: *Rev. Parris' slave from Barbados.*

Mary Warren: *naïve and lonely servant of the Proctors.*

Mercy Lewis: *eighteen year old servant of Thomas and Ann Putnam.*

Susanna Walcott: *Abigail William's friend.*

Deputy Governor Danforth: *a Deputy governor of Massachusetts who comes to Salem to preside over the witch trials.*

Judge Hathorne: *a bitter, remorseless Salem judge.*

Ezekiel Cheever: *a court appointed official*

Marshall Herrick: *a court appointed official*

ENGLISH – The Crucible (20th Century Play)

3. Key Terminology

Tragedy	A play ending with the suffering and death of the main character.
Literary conventions	Defining features of particular genres such as novel, short story, ballad, sonnet, and play.
Tragic hero	A literary character who makes a judgment error that inevitably leads to his/her own destruction.
Hubris	A personality trait where someone has excessive pride or self-confidence.
Hamartia	The fatal flaw of a tragic hero.
Peripeteia	A sudden or unexpected reversal of circumstances, especially in a literary work like a tragedy.
Anagnorisis	The moment in a tragedy where the protagonist makes a critical discovery about themselves, another, or a situation, leading to the resolution of the narrative.
Catharsis	The purging of the emotions of pity and fear that are aroused in the viewer of tragedy.
Protagonist	The central character or leading figure in a poem, narrative, novel or any other story. Sometimes can also be referred to as a "hero" by the audience or readers.
Antagonist	A character who actively opposes or is hostile to someone or something. Also known as an adversary.
Plot device	An object or character in the story whose purpose is purely to drive the plot, maintain its flow or resolve situations within in.
Minor character	A character in a narrative that is not the focus of the primary storyline.
Foil Character	A character who contrasts with another character to highlight qualities of the other character.
Motif	A dominant or recurring idea in an artistic work which is used to reinforce the theme.
Theme:	An idea that is dominant or recurs in a piece of literature.
Characterisation	A narrative device in which in an author builds up a character in a narrative.
Allegory	An **allegory** in literature is an extended metaphor whereby characters, place or events are used to put forward a message about real life events or issues. (The Salem witch trials in the play are an allegory for the McCarthy witch hunt which took place in America in the 20th Century.)
Symbolism	The use of symbols to express ideas or qualities.
Stage directions	Instructions written into the script of a play, indicating stage actions, movements of performers, or production requirements e.g. set design or staging.
Exposition	Refers to part of the story used to introduce background information about events, settings, characters etc. to the reader.
Climax	The point of highest tension in a narrative or scene.

4. Key Vocabulary

	Definition
hysteria	Exaggerated or uncontrollable emotion or excitement.
hypocrisy	The practice of engaging in the same behaviour or activity for which one criticise or condemns another.
ideology	A set of beliefs and ideas on which people, parties, groups, or countries base their actions and decisions.
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.
theocracy	A type of government where the rulers believe they are guided by God.
witch-hunt	A search for people labelled "witches" or evidence of witchcraft, often involving moral panic or mass hysteria.
witch-hunt *(modern meaning)*	In modern times, a 'witch-hunt' describes the attempt to find and punish a particular group of people who are being blamed for something, often because of their opinions or beliefs, not because they have actually done anything wrong.
persecution	Hostility and ill-treatment, especially because of race or political or religious beliefs; oppression.
justice	The legal or philosophical theory which fairness is administered.
subjugate	To bring under domination or control.
Puritan	A member of a group of English Protestants of the late 16th and 17th centuries. They thought the Reformation of the Church under Elizabeth I as incomplete and wanted to simplify and regulate forms of worship.
Puritanical	Having or displaying a very strict moral attitude.
communism	A political system where all property is owned by the community and each person contributes and receives according to their ability and needs.
Social commentary	The expression of one's point of view or feelings towards society, usually through literature.
The Other	An individual or a group seen by a dominant group as not belonging.

Food Preparation & Nutrition: Nutritional Needs and Health

Introduction

You will need to know how to make informed choices to enable a varied, healthy and balanced diet

Keywords

1. Basal Metabolic Rate (BMR)
2. Physical Activity Level (PAL)
3. Estimated Average Requirement (EARs)
4. Energy Density
5. Amino Acids
6. High Biological Value (HBV)
7. Low Biological Value (LBV)
8. Protein Complementation
9. Kwashiorkor
10. Fatty Acids
11. Glycerol
12. Saturated Fats
13. Unsaturated Fats
14. Fat Soluble vitamins
15. Water Soluble Vitamins
16. Cholesterol
17. Hydrogenation
18. Dietary Fibre
19. Constipation
20. Diverticular Disease

Key Points

Saturated fats are considered to be more harmful to health because they raise levels of cholesterol.

Most of our energy should come from complex starchy foods.

Vitamins are micronutrients, required in small amounts to do essential jobs in the body.

Water makes up two thirds of the body, so it is vital to drink regularly to stay hydrated.

Nutritional needs change throughout life, but everyone needs to consider the current healthy eating guidelines when planning meals.

Energy balance is the balance of energy consumed through eating and drinking compared to energy burned through physical activity.

Macronutrients are needed by the body in large amounts.

Carbohydrates

Provides the body with energy.
Most of our energy should come from complex starchy food.
One third of your diet should come from starch foods.
If the diet contains more carbohydrates than the body needs, it will turn into fat and be stored in the body.

Fats

Animal fats are usually saturated **(solid)** and vegetable fats are usually unsaturated **(liquid).**
Saturated animal fats have been linked to increased cases of heart disease.
Fat provides us with energy.
It keeps the body warm.
It protects and cushions internal organs by covering them.

Protein

Essential for growth, repair, maintenance and energy.
High biological value (HBV) proteins come from animals.
Low biological value (LBV) proteins come from mainly plant foods.

Food Preparation & Nutrition: Micronutrients, Vitamins and Minerals

Introduction

Demonstrate the knowledge and understanding of the sources and functions of vitamins and minerals.

Keywords

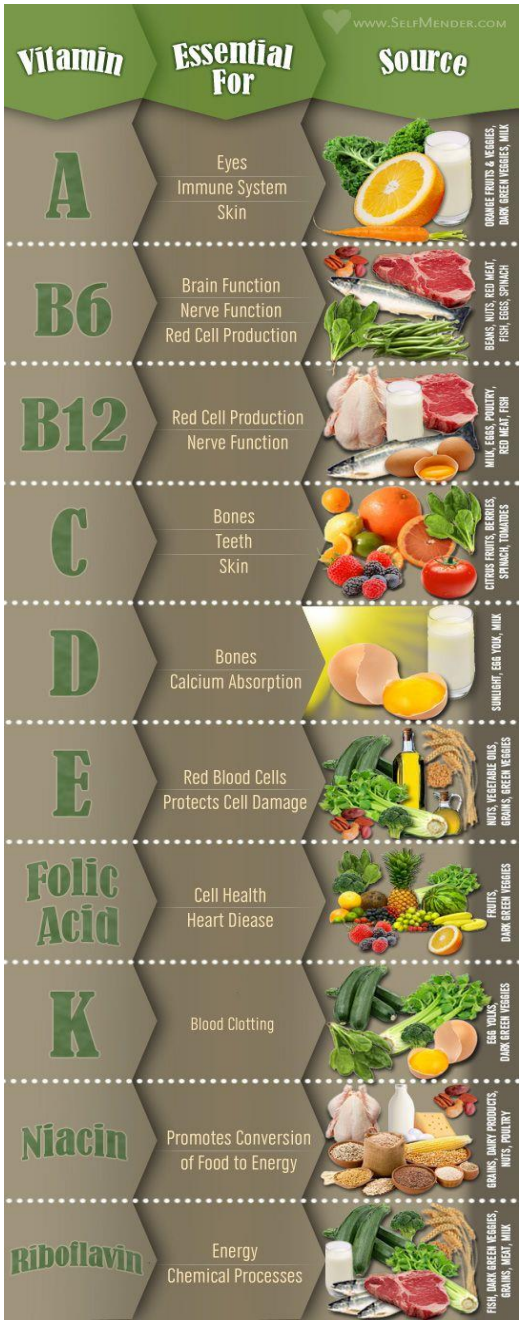
1. Fortified
2. Rickets
3. Antioxidant
4. Thiamin
5. Riboflavin
6. Spina bifida
7. Ascorbic acid
8. Haemoglobin
9. Anaemia
10. Thyroid

Key Points

1. Vitamins are micronutrients, required in small amounts to do essential jobs in the body.
2. Water soluble vitamins are easily destroyed during preparation and cooking. Vitamin **A** and **C**
3. Fat soluble vitamins are **A and D**
4. Water makes up two thirds of the body, so it is vital to drink regularly to stay hydrated.
5. Nutritional needs change throughout life, but everyone needs to consider the current healthy eating guidelines when planning meals.

Key Points

Type	Benefits	Sources	Quantity
Calcium	Calcium is vital for building strong bones and teeth. The time to build strong bones is during childhood and the teen years, so it's very important to get enough calcium now to fight against bone loss later in life. Weak bones are susceptible to a condition called osteoporosis, which causes bones to break easily.	Milk and other dairy products – such as yogurt, cheese, and cottage cheese – are good sources of calcium. You'll also find this mineral in broccoli and dark green, leafy vegetables. Soy foods and foods fortified with calcium, including some kinds of orange juice and soy milk, are also good sources.	Teen boys and girls need 1,300 mg (milligrams) of calcium each day.
Iron	Iron helps red blood cells carry oxygen to all parts of the body. Symptoms of iron-deficiency anaemia include weakness and fatigue, light headedness, and shortness of breath.	Iron-rich foods include red meat, pork, fish and shellfish, poultry, lentils, beans and soy foods, green leafy vegetables, and raisins. Some flours, cereals, and grain products are also fortified with iron.	Teen boys need 11 mg of iron a day and teen girls need 15 mg. Girls need higher amounts because they lose iron through blood during menstruation.



1. Parler d'autres langues, c'est important ou non?

Y ou	Franchement, je suis tellement fier que je peux parler une deuxième langue	Honestly, I'm so proud that I can speak a 2nd language
My	Mon père m'a dit que ça va m'aider à trouver un stage à l'etranger	My Dad told me that it's going to help me to find a job abroad.
Cependant	Cependant, savoir parler des langues est aussi indispensable pour certaines professions en Angleterre	However, knowing how to speak languages is also essential for certain jobs in England
Aussi / ask	Aussi il nous aide à comprendre mieux notre propre langue	Also it helps us to understand our own language better

2. Comment être un voyageur responsable?

Y	Pour être un touriste responsable, il faut avoir un impact positif sur l'environnement.	To be a responsible tourist, you must have a positive impact on the environment
M	Mon ami adore voyager en avion, mais je voyage en bateau car c'est mieux pour la planète	My friend loves travelling by plane but I travel by boat because it's better for the planet
C	Cependant ma tante pense que le bateau est trop lent, même si c'est respecteux de la Terre	However my Aunt thinks that the boat is too slow even through it's respectful to our Earth
A	Aussi j'adore acheter les souvenirs: dorénavant je vais essayer d'acheter les produits du commerce équitable	Also I love buying souvenirs: from now on I'm going to try to buy faire trade products.

3. Comment seraient tes vacances idéales?

Y	Pour mes vacances des rêves, je logerais dans une tente sur une île déserte	For my dream holidays, I would stay in a tent on a desert island
M	Mais mon ami m'a dit qu'il serait mieux de loger dans une auberge de jeunesse pour qu'on puisse rencontrer de nouveaux amis	But my friend told me that it would be better to stay in a youth hostel so that we can meet new friends
C	Cependant, les auberges me donnent la chair de poule!	However, hostels give me the creeps!
A	Aussi je voudrais nager avec les poissons tropicaux, faire des randonnées et regarder le coucher du soleil.	Also I would like to swim with tropical fish, go hiking and watch the sunset

4. Parle-moi d'une occasion spéciale que tu voudrais aller voir.

Y	Un jour je voudrais assister à la fête de la musique en France. La fête a lieu le 21 juin car c'est le jour le plus long de l'année.	One day, I would like to attend World Music Day in France. The festival takes place on June 21st because it's the longest day of the year.
M	Mon frère voudrait aller à Paris le 14 juillet pour voir les feux d'artifice qui seront tirés devant la tour Eiffel.	My brother would like to go to Paris for July 14th to see the fireworks set off in front of the Eiffel tower.
C	Cependant, les feux d'artifices me font peur!	However, fireworks scare me!
A	Aussi ils ont même été interdits dans certaines villes.	Also they have even been banned in some towns.

AIM HIGH PHRASES

1) Qui s'appelle…	Who is called…
2) Il faut que je sois honnête,	Truth be told,
3) Pour que je puisse être…	So that I can be…
4) Il serait mieux si j'étais…	It would be better if I was…
5) Après avoir visité,	After having visited,

5. Parle-moi d'un problème que tu as eu en vacances

Y	Avant de partir, j'avais tout préparé: j'avais fait ma valise et trouvé mon passeport	Before leaving, I had prepared everything: I had packed my suitcase and found my passport
M	Mais mon frère s'est cassé la jambe en faisant de la voile et l'hôtel était sale! Il y avait même un cafard dans mon lit!	But my brother broke his leg while sailing and the hotel was dirty! There was even a cockroach in my bed!
C	Cependant, le paysage était beau, même si le camping-car est tombé en panne!	However, the landscape was beautiful, even though the camper van broke down!
A	Aussi on a voulu se bronzer mais il y avait des déchets partout à la plage, donc on a rebroussé chemin!	Also we wanted to get a tan but there was litter everywhere on the beach so we turned back!

6. Es-tu déjà allé à un évènement à l'etranger?

Y	L'année dernière, je suis allé au carnaval à Nice, qui est très célèbre	Last year, I went to the carnival in Nice, which is very famous
M	Maman a fait des crêpes. Je les adore!	Mom made pancakes. I love them!
C	Cependant j'ai assisté au défilé pour la première fois!	However, I took part in the parade for the first time!
A	Aussi on a vu un spectacle son et lumière. C'était un rêve devenu réalité	Also we saw a light and sound show. It was a dream come true

GEOGRAPHY – Topic 1 – Life in an Emerging Country (Nigeria)

Background information:

1. Development means positive change that makes things better.
2. As a country develops it usually means that the people's standard of living and quality of life improve. ***(B)***
3. Different factors can affect development such as economic, social and political factors. ***(A)***
4. Emerging countries have begun to experience higher rates of development, with a rapid growth in secondary industries. ***(A, C)***
5. Emerging countries have some of the fastest rates of urbanisation in the world. ***(D)***
6. This is causing urban areas (cities) to become highly populated, this process can have both opportunities and challenges. One such challenge is the growth of squatter settlements. ***(E)***
7. Emerging countries often host the factories of many transnational companies. They provide wages and taxes, and can promote development. However, they can also cause negatives. ***(F, G)***

A.	Characteristics of emerging countries
BRIC countries	Brazil, Russia, India, China.
MINT countries	Mexico, Indonesia, Nigeria, Turkey.
Industrialisation	The process of a country moving from mostly agriculture (farming) to manufacturing (making) goods.
Employment structure	How the workforce is divided up between primary, secondary, tertiary and quaternary employment.
Secondary industry	An industry which manufactures goods.
Exports	Sending goods to another country for sale.
Urbanisation	The growth in the number/ proportion of people living in towns and cities.

B.	Development indicators
GDP per capita	The total value of goods and services sold by a country in a year divided by the population.
HDI	A development measure which combines GDP per capita, life expectancy and literacy rate.
Life expectancy	The average age you are expected to live to in a country.

C.	Encouraging development
Subsidy	Money given by a government to help an industry keep down the cost of exports.
Tax breaks	Reduces the amount of tax a company must pay (for a fixed period), therefore increasing profit.
Minimum wage	The lowest wage permitted by law in a country.
Trade unions	An organisation of workers who work to protect the rights of those employed.

D.	Rural to urban migration
Rural to urban migration	The movement of people from rural areas (countryside) to urban areas (cities).
Push factor	Things that make people want to leave an area e.g. a lack of jobs.
Pull factor	Things that attract people to live in an area e.g. good schools.
Mechanisation	When machines begin to do the work which humans once completed.

E.	Squatter settlements
Squatter settlement	An area (often illegal) of poor quality housing, lacking basic services.
Inequality	Differences in wealth, and wellbeing.
Sanitation	Measures to protect public health e.g. clean water and disposing of sewage.
Informal economy	Jobs which are not taxed, workers do not have contracts or rights.
Quality of life	A measure of how 'wealthy' people are, using housing, employment and environment, rather than income.

F.	Transnational corporations (TNCs)
TNC	Those that operate across more than one country.
Footloose	Industries which are not tied to a location due to natural resources or transport links.
Globalisation	The increased connectivity of countries around the world e.g. through trade.
Host country	The country where the TNC places it's factories.
Source country	The country where the headquarters for the TNC is located e.g. a developed country.

G. Impact of TNCs

Positive:	Negative
1. More jobs/ worker skills 2. More taxes/GDP increases 3. Invest in infrastructure projects.	1. Can exploit workers e.g. long hours. 2. Most of the profits from TNCs leave the country where production takes place. 3. Increased levels of pollution from industrial waste).

Case study: Shell in Nigeria

Social	Economic	Environmental
Companies invest in the area improving services like roads Working conditions often poor Gas flares used	65,000 direct jobs, 250,000 indirect 91% of contracts given to Nigerian companies Oil theft / sabotage costs billions Fishermen / farmers lost jobs after oil spill TNC profit mostly goes back overseas	Bodo oil spill in 2008/09 (11 million gallons) Oil pollution kills fish and damages farmland Gas flares contribute to global warming

Living in Lagos (21 million and counting)

Opportunities:	Challenges:
More schools. 68% have a secondary education Electricity for people to cook and have lighting (+ develop businesses) Water treatment plants provide safe water piped to city Rapid growth of Lagos = jobs in construction (Eko Atlantic). 80% Nigeria's industry is here: 2 major ports, banks, factories = more jobs	Rapid population growth means population density is now 20,000 people per km2.. 2/3 people live in slums. 60% of the population live in slums like **Makoko** **1.**Communal toilets shared by 15 households > waste into lagoon > health problems i.e. cholera **2.**Communal water point can be 3km away, illegal electricity connections often get cut off, only 1 school Limited formal jobs. 60% work in informal jobs like scavenging in the Olusosun dump Waste disposal and emissions are not controlled > air and water pollution. 10,000 illegal industries Traffic congestion is really bad (2 hour commutes)

GEOGRAPHY – Topic 2 – Climate Change

Background information:

1. Since the 1860s the global climate has been recorded.
2. Since then the climate globally has increased by 0.8° Celsius.
3. Climate scientists can use methods to find out about the global climate before we started recording it. ***(B)***
4. From this evidence we can see that the planet has always gone through periods of warming and cooling. ***(A)***
5. However, the rapid increase of carbon dioxide in the atmosphere from burning fossil fuels, is causing the enhanced greenhouse effect. ***(D)***
6. The enhanced greenhouse effect is causing changes to the planet, such as the melting of Artic sea ice, rising temperatures, and an increase in extreme weather events such as tropical storms. ***(E, F)***
7. Countries are trying to resolve the climate change issue by limiting the amount of carbon dioxide released into the atmosphere, this is known as mitigation. ***(G, H)***
8. Some countries are trying to adapt to climate change by building flood barriers and growing drought resistant crops. ***(G, H)***

A.	**Changes in climate**
Climate change	The process of the Earth's climate changing over time.
Glacial periods	Cold periods.
Inter-glacial periods	Warm periods.

B.	**Measuring climate change**
Ice cores	Each layer of ice in a core represents a different year. CO_2 can be measured in each layer, and therefore the temperature.
Tree rings	Each ring represents a different year. Thicker rings show a warmer climate.
Historical evidence	Paintings and diaries e.g. paintings of ice fairs on the frozen Thames 500 years ago.

C.	**Natural climate change**
Volcanic eruptions	Ash from volcanic eruptions can block sunlight, making it colder.
Sun spots	The sun can give out more energy due to an increase in sun spots.
Orbital change	The orbit of the sun changes from oval (ellipse) to circular approx. 98,000 yrs.

D.	**Human-induced climate change**
Greenhouse effect	The way that gases in the atmosphere trap heat from the sun. Like glass in a greenhouse they let heat in, but prevent most from escaping.
Greenhouse gases	Gases like carbon dioxide and methane that trap heat around the Earth, leading to climate change.
Transport	More cars, so more CO_2 causing the enhanced greenhouse effect.
Farming	Farming livestock produces methane, this is a greenhouse gas.
Energy	More energy required, meaning more fossil fuels burnt, so more CO_2.

Enhanced greenhouse effect

1. Sun rays travel through the atmosphere.
2. As they reflect back off the earth; some rays escape and some are trapped.
3. This balance is needed to keep the earth warm enough for life.
4. The atmosphere is made up of many gases, but two important gases are $C0_2$ and methane. GREENHOUSE GASES.
5. Human activity means we are giving off more greenhouse gases.
6. These make a thicker layer in the atmosphere.
7. The prevents as much heat escaping.
8. Earth becomes hotter

F.	**Effects on the environment**
Sea temperature rises	Coral bleaching and destruction of marine ecosystems/ loss of biodiversity
More droughts	Migration/ death of species which can not survive drought conditions.
Melting glaciers (ice rivers)	Will send more fresh water into the sea, causing the sea level to rise.
Melting Arctic ice	Loss of habitats for animals, such as polar bears.

G.	**Strategies to resolve climate change**
Adaptation	Adapting to climate change to make life easier.
Adaptation examples	1. Building flood defences. 2. Growing new crops to suit the new climate. 3. Irrigation channels, sending water from areas of surplus to deficit.
Mitigation	Trying to stop climate change from happening by reducing greenhouse gases.
Mitigation examples	1. International agreements. 2. Alternative energies. 3. Carbon capture.

H.	**Place specific examples**
Adaption	***The Thames Barrier.*** Positive: Stops flooding due to rising sea levels. Negative: Expensive
Mitigation	***The Paris Agreement.*** Positive: Countries are trying to lower CO_2 emissions. Negative: The USA pulled out and China did not sign up.

E.	**Effects on people**
Tropical storms	Increase in frequency and intensity so more damage.
Sea-level rise	Increased risk of floods, damaging property and businesses especially in coastal areas.
Melting Arctic ice	Affects trading routes in the Arctic Circle, displacement of habitats, loss of biodiversity.
More droughts/ floods	Crop failure due to more extreme weather, could lead to starvation and famine.
Cost of defence	Governments have to spend more money on disasters instead of developing.
Environmental Refugees	Pressure on countries to accept refugees.

1. Sollen Sprachen an der Schule Plicht sein?

Y ou	Wenn man mich fragt, bin ich sehr stolz darauf, dass ich eine andere Sprache kenne.	Honestly, I'm so proud that I know another language.
Mein(e)	Mein Vater sagt, dass Deutsch wird mich helfen, eine gute Arbeit Ausland zu finden.	My Dad says that German is going to help me find a good job abroad.
Contrast	Jedoch, muss man eine Fremdsprache auch wissen, um einen guten Beruf in England zu finden.	However, you must know a foreign language to find a good job in England as well.
Add	Zum Beispiel habe ich einen Freund, dessen Vater vier Sprachen spricht und im Botschaft arbeitet	Also it helps us to understand our own language better

2.Soll Tourismus umweltfreundlicher sein? Warum?

Y	Ich denke, dass Tourismus eine positive Rolle im Leben des Volkes und im Umweltschütz haben soll.	I think that tourism should play a positive role in the life of the people and in the environment protection.
M	Meine Stiefmutter glaubt, dass alle Touristen umweltfreundlich sind.	My stepmother believes that all tourists are environmentally friendly.
C	Jedoch gibt es so viele Urlauber, die Müll produzieren und die Luft verschmutzen,	However there are so many tourists who produce rubbish and pollute the air.
A	Zum Beispiel fahre ich immer mit dem Schiff oder mit dem Zug, weil sie weniger Luftverschmutzung bewirken.	For example, I always travel by boat or by train, because they cause less air pollution.

3. Wie wäre dein Traumurlaub?

Y	Mein Traumurlaub wäre in einem Zelt auf einer aufgegebenen Insel.	My dream holiday would be in a tent on a desert island
M	An der anderen Seite will meine beste Freundin in einem Jugendherberge bleiben, um mit neuen Freunden zu treffen.	But my friend told me that it would be better to stay in a youth hostel so that we can meet new friends
C	Jedoch gruseln die Jugendherberge mich	However, hostels give me the creeps!
A	Es wäre besser, wenn ich allein reisen könnte, um meine Urlaub zu wahlen.	It would be better if I could travel alone in order to choose my own holiday.

4.Welches Festival oder Event möchtest du in der Zukunft besuchen?

Y	In der Zukunft möchte ich die Weihnachtsmarkts in Deutschland und Österreich besuchen, um typische Schmucke zu kaufen.	In the future I'd like to visit the Christmas markets in Germany and Austria, in order to buy traditional decorations.
M	Mein Halbbruder möchte lieber das Oktoberfest besuchen, weil er typische Essen und Getränke schmecken will.	My half brother would rather visit the Oktoberfest, because he wants to try typical food and drinks.
C	Jedoch kann ich kein Bier trinken, weil ich nicht mündig bin.	However I can't drink beer because I am not older enough.
A	Wenn ich reich wäre, würde ich die Weihnachtsmarkts in meiner Stadt organisieren.	If I were rich I'd organise the Christmas markets in my own town.

AIM HIGH PHRASES

1) um … zu	in order to…
2) Es wäre besser, wenn … hätte(n)	It would be better if … had …
3) was sehr (+ adjective) ist	So that I can be…
4) , weil es … sein kann.	because it can be…
5) Wenn ich die Wahl hätte, würde ich…	If I had the choice I would…

5. Was für Probleme hast du schon im Urlaub erlebt?

Y	Ach so… Mein letzter Urlaub war ein Albtraum – Ich bin mit meiner Familie nach Griechenland gefahren.	Oh well, my last holiday was a nightmare! I went to Greece with my family.
M	Wenn wir aus dem Reisebus ausstiegen, glitt meine Mutter und sie ist sich die Beine gebrochen	While we were getting off the bus, my mom slipped and broke a leg.
C	Jedoch hat das Personell sie geholfen und sie waren sehr hilfsbereit mit ihr.	However, the staff helped her and they were really helpful.
A	Als ich ein Kind war, gingen wir immer nach Griechenland aber wir haben nie Probleme gehabt!	When I was little, we used to always go to Greece, but we never had a problem!

6.Erzähl mir von einem Festival oder Event, auf das du gegangen bist.

Y	Letztes Jahr habe ich den Karneval in London besucht, wo viele Touristen gehen.	Last year, I went to the carnival in London, where many tourists go
M	Meine Nichte hat eine Maskenkostüm getragen!	My niece wore a costume!
C	Jedoch habe ich normale Kleidungen getragen, weil ich nicht kreativ bin.	However, I wore normal clothes as I am not as creative.
A	Als wir im Restaurant aßen, haben wir einen Schauspieler gesehen –es lohnte sich!	When we were eating at the restaurant we saw an actor - it was worth it!

HISTORY : Edwardian Britain and the First World War

Timeline

1901	Queen Victoria dies and her son Edward VII succeeds her.
April 1912	Titanic collides with an iceberg on her maiden voyage sinking in the Atlantic ocean.
28 June 1914	Gavrilo Princip shoots Archduke Franz Ferdinand in Sarajevo resulting in the First World War.
August 1914	The German Army launches the Schlieffen Plan.
1st July 1916	The Battle of the Somme begins
11 November 1918	Germany signs the Armistice ending 4 years of brutal trench warfare.
28 June 1919	The Treaty of Versailles is signed in Versailles, Paris. The Big Three dictated a peace for Germany to sign. The resulting Treaty is a leading cause for Hitler rising to power in the 1930's.

Key People

Edward VII	Albert Edward; 9 November 1841 – 6 May 1910 was King of the United Kingdom of Great Britain and Ireland and Emperor of India from 22 January 1901 until his death in 1910.The eldest Edward was related to royalty throughout Europe.
Captain Edward Smith	Was the captain of the RMS Titanic, and perished when the ship sank on its maiden voyage.
Field Marshal Alfred von Schlieffen	as a German field marshal and strategist who served as chief of the Imperial German General Staff from 1891 to 1906
Field Marshall Douglas Haig	During the First World War, he commanded the British Expeditionary Force (BEF) on the Western Front from late 1915 until the end of the war. He was commander during the Battle of the Somme,
Woodrow Wilson	Served as the 28th president of the United States from 1913 to 1921. One of the Big Three signatories at the Treaty of Versailles he championed a fair treaty.
George Clemenceau	Was the Prime Mister of France from 1917-20. One of the Big Three signatories at the Treaty of Versailles. He wanted to punish Germany harshly.
David LLoyed George	The British Prime Minister 1916-22 and one of the Big Three signatories at the Treaty of Versailles .

The Big Picture

Great Britain	They were seen as the strongest country in Europe, they were heavily reliant on trade with their overseas Empire that stretched from Australia, India, African nations to The Americas. They had the largest navy and felt vulnerable to other nations who sought to develop their navies. When Germany began to build their navy they saw this a direct challenge and began to consider an alliance with France. They had a small army.
France	They were a very strong imperial power that had a large army. They sought revenge with Germany after they lost the Franco-Prussian war and had been humiliated.
Germany	They were a newly unified country in 1870, it had previously been lots of states, but it was unified by their leader Otto von Bismarck. The King of Prussia became the Kaiser (king) of Germany. Kaiser Wilhelm II began to demand more status in the 1900s and desired more land,. They had won a war against France in 1870 and made the French pay them money for compensation and demanded the border territories of Alsace and Lorraine.
Austria-Hungary (Habsburg) –	Their empire extended across central Europe and into South Eastern Europe, known as the Balkans. Their empire was weakening as nationalist threats broke out, encouraged by the demise of the Ottoman Empire (Turkey). They saw their biggest threat as Russia, who were looking to expand in the region, to get a warm water port in Europe.
Russia	They were the largest country by far and had huge numbers of people in their nation, however it was seen as 'backward' by the other European nations. They had no over seas empire, but had expanded into Asia. Their military potential was vast but limited due to its lack of industrialisation of weapon supplies. They exited WWI in 1917 due to a communist revolution, which replaced their monarchy.

Spark – Assassination of Archduke Franz Ferdinand .

Reasons for WW1 Starting

Militarism—Building up armies, getting ready for war.

- In 1905, Britain launched a brand new warship known as the Dreadnought. It was the most modern and effective warship of its time, unrivalled by any other ships
- In 1907, Germany wanted to increase its naval strength and created their own dreadnoughts. It started an arms race between the two powers. Germany's geography and the fear of her being surrounded by powerful countries like France and Russia led to her building up her army.
- By 1914, England was spending £50 million to prepare for war; Russia was spending £65 million ; Germany was spending £60 million; France was spending £37 million; Italy was spending £10 million and Austria Hungary was spending £22 million.
- Militarism was a leading cause of WW1 because it caused fear and tension as well as the belief that if there was a war their country would win.

Alliances—Agreements or promises to help another country .

- In 1839, Britain signed an agreement with Belgium. It promised to hep if Belgium was attacked by Germany.
- In 1882, Germany, Austria– Hungary and Italy formed the Triple Alliance . This treaty stated that if any of the countries were attacked they would all promise to go to war against the attacker.
- In 1907, France, Russia and Britain signed the Triple Entente agreement forming a closer bond which one another.

Imperialism—Building an empire.

- Germany was trying to increase the size of its empire both in Europe and overseas to try and rival the powers of France and Britain.
- In 1884, 90% of Africa was split up between all the great powers of Europe
- Russia wanted a bigger empire with access to the Mediterranean Sea. It was an enemy of Austria Hungary and supported the small Balkan countries
- Britain and France both didn't want to see their empires challenged

Nationalism– Having pride in and love of your country and your national identity . You are willing to die to defend it (Patriotism)

- Serbia wanted to unite all the Slav people in the A ustro Hungarian Empire. This resulted in the assassination of the Archduke Franz Ferdinand which set the world on course for the First World War.
- The other countries of Europe were so patriotic about their countries that they were happy to join the army to fight.

HISTORY : Edwardian Britain and the First World War

Key Terms :

Alliance	An agreement between countries that benefits each of them.
Annex	To seize an area of land, normally by force, and make it part of your country.
Armistice	A ceasefire between the Allies and the Germans. It signaled the end of war.
Arms Race	**A** competition between countries over the development and production of weapons.
Artillery	Heavy guns and mechanized cannons firing shells.
Balance of Power	A belief in that the size and power of the alliances of the Great Powers would prevent either side starting a war.
Gas	A poisonous agent used in warfare. It was used for one of the first times in WWI and had a damaging psychological impact, leading to shellshock.
Great Powers	Countries that have international influence and military strength.
Harland and Wolff	The Shipbuilding company that made the White Star Lines Olympic class trio: RMS Titanic; RMS Olympic and RMS Britannic.
Imperialism	Extending a nation's power and influence by colonizing other countries.
Militarism	A belief that it is necessary to have strong armed forces and that this force should be used as a solution to any threat.
Nationalism	An intense form of patriotism where the value and importance of your country is exaggerated.
Reparations	Financial compensation for war damage paid by a defeated state.
Schlieffen Plan	The German war plan to invade France quickly and encircle Paris.
Stalemate	A situation where neither side fighting in a war can make progress .
Trench system	Connection of long narrow ditches for soldiers to take shelter from enemy fire and a supply of ammunition and medical support.
Treaty	A formal agreement between states. E.g. The Treaty of Versailles,
Trigger	**A**n event or action which has immediate significant consequences**,** e.g. the assassination at Sarajevo
Ultimatum	A final demand, the rejection of which will result in a breakdown of relations. E.g. What Austria-Hungary presented to Serbia in July 1914.

Knowledge Outcomes:

1.. When did Queen Victoria die?	1901
2. What era succeeded the Victorian era?	Edwardian
3. Who was the Captain of the Titanic?	Captain Edward Smith
4. How long was the Titanic?	269m
5. When did Titanic sink?	15th April 1912
6. What lands had been taken from France by Germany in the war between them in 1871?	Alsace and Lorraine
7. Which Great Power had the largest and most powerful navy in 1900?	Great Britain
8. Which Great Power believed they were encircled and therefore felt threatened?	Germany
9. What was Germany's plan for war?	The Schlieffen Plan
10. What was the BEF?	The British Expeditionary Force – 150,000 highly trained and well-equipped men.
11. Who did Serbia have an alliance with?	Russia
12. What was the aim of the Black Hand?	To unite all Serbs under the leadership of Serbia no matter where they lived in the Balkans
13. Who assassinated the Austro-Hungarian Arch Duke Franz Ferdinand?	Gavrilo Princip
14. What was the area between the two front line trenches of the opposing side known as?	No Mans Land
15. What was Trench Foot?	A disease men caught from standing in wet trenches in their boots – their feet became infected and the skin burst
16. When was the Battle of the Somme?	July to November 1916
17. How many casualties did Britain suffer on the first day of the Battle of the Somme?	57,470
18. When did the war end?	11 November 1918
19. What was the Peace treaty signed in 1919	Treaty of Versailles

Percentages and multipliers

Introduction

Percent' means 'out of 100'. If 70 percent of the population own a pet, this means that 70 out of every hundred people own a pet. The symbol % means percent.

Key words

Multiplier	The decimal equivalent of a percentage; it can be used to solve % problems
Increase	The product of the original amount and a multiplier greater than 1
Decrease	The product of the original amount and a multiplier between zero and 1
Reverse percentage	To find the original percentage
Profit	To sell an item for greater than cost
Loss	To sell an item for less than cost
Interest	Money paid regularly at a rate either from money borrowed or money lent
Simple interest	The interest paid out by banks each year for money borrowed or invested. The amount of interest received is the same every year.

Further links

Hegartymaths (Clips 84-88, 90-92, 93, 96)
MathsWatch (Clips 86, 108, 109,110, 111, 164)
Corbett Maths (Clips 234-240)

Decimal multipliers

The decimal equivalent of a %. It is found by dividing the % by 100 as in the following examples:

72% = 0.72
9% = 0.09
2.7% = 0.027
163% = 1.63

Finding a % using a multiplier

1) Find 27% of 4573.

0.27 x 4573 = 1234.71

2) Find 8.7% of 365.

0.087 x 365 =31.755

% increase or decrease

Original amount x multiplier = new amount

(Think of the original amount as *100%*)

If we ***increase*** by ***12%*** then the multiplier is the decimal equivalent of ***100 + 12 = 112%*** which is ***1.12***

1) Increase £3000 by 12%.

1.12 x 3000 = £3360

If we ***decrease*** by **12%** then the multiplier is the decimal equivalent of ***100 – 12 = 88%*** which is ***0.88***

2) Decrease £3000 by 12 %.

0.88 x 3000 = £2640

Percentage profit and loss

$$\% \text{ profit} = \frac{\text{actual profit}}{\text{original amount}} \times 100$$

$$\% \text{ loss} = \frac{\text{actual loss}}{\text{original amount}} \times 100$$

Reverse %

This means finding the original amount when we are given the new amount after a % increase or decrease.

Original amount x multiplier = new amount

If an item costs £560 *after* a 20% discount (***decrease***), then the decimal multiplier is 0.8

(***remember***: 100% – 20% = 80%)

Original x 0.8 = 560
Original = 560 ÷ 0.8
= £700

If a person receives £1260 after a pay rise (***increase***) of 5%, then the decimal multiplier is 1.05

(***remember***: 100% + 5% = 105%)

Original x 1.05 = 1260
Original = 1260 ÷ 1.05
= £1200

Repeated % increase/decrease

1) ***Increase*** £22 500 by 3% and then 3% again.

22 500 x 1.03 x 1.03 = £23 870.25
(or more simply 22 500 x 1.03^2)

2) ***Decrease*** £22 500 by 3% and then 3% again.

22 500 x 0.97 x 0.97 = £21 170.25
(or more simply 22 500 x 0.97^2)

Fractions and the 4 operations

A fraction is a numerical quantity that is not a whole number (e.g. 1/2, 0.5).

Key words

Operations	Addition, subtraction, multiplication and division
Numerator	The number above the line in a fraction.
Denominator	The number below the line in a fraction
Common denominator	A common denominator of a set of fractions may be found by multiplying all the denominators of the fractions together.
Reciprocal	Any non-zero number multiplied by its reciprocal is equal to 1. e.g. 5/3 is the reciprocal of 3/5. 5/3 x 3/5 =15/15=1
Top heavy (improper) fraction	A fraction whose numerator is bigger than the denominator
Mixed number	A top-heavy fraction written as a whole number and a proper fraction

Further links

Hegartymaths (Clips 63, 64, 65, 66, 67, 68, 69, 70, 71, 72)
MathsWatch (Clips 71, 73, 74, 76)
Corbett Maths (Clips 132, 133, 134, 139, 140, 142)

Addition/Subtraction

These operations require a common denominator

1) $\frac{4}{5} + \frac{3}{7}$

(A common denominator is 5 x 7 = 35)

$$\frac{4}{5} + \frac{3}{7} = \frac{4 \times 7}{5 \times 7} + \frac{3 \times 5}{7 \times 5}$$

$$= \frac{28}{35} + \frac{15}{35}$$

$$= \frac{28 + 15}{35}$$

$$= \frac{43}{35} \quad (= 1\tfrac{8}{35})$$

2) $\frac{4}{5} - \frac{3}{7}$

$$\frac{4}{5} - \frac{3}{7} = \frac{4 \times 7}{5 \times 7} - \frac{3 \times 5}{7 \times 5}$$

$$= \frac{28}{35} - \frac{15}{35}$$

$$= \frac{28 - 15}{35}$$

$$= \frac{13}{35}$$

Multiplication/Division

These operations ***DO NOT*** require a common denominator.

1) To multiply two or more fractions, simply multiply the numerators together and multiply the denominators together.

$$\frac{4}{7} \times \frac{9}{11} = \frac{4 \times 9}{7 \times 11}$$

$$= \frac{36}{77}$$

2) To divide two fractions, you multiply the first fraction by the ***reciprocal*** of the second.
Sometimes this is known as ***keep-change-flip***
(***Keep*** the first fraction the same
Change ÷ to x
Flip the second fraction over)

$$\frac{4}{7} \div \frac{9}{11}$$

$$= \frac{4}{7} \times \frac{11}{9}$$

$$= \frac{4 \times 11}{7 \times 9}$$

$$= \frac{44}{63}$$

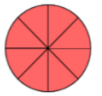
Useful *fraction* ↔ *decimal* ↔ *%* conversions

$0.25 = 1 \div 4 = \frac{1}{4} = \frac{5}{20} = \frac{25}{100} = 25\% =$ 

$0.3\dot{3} = 1 \div 3 = \frac{1}{3} = \frac{3}{9} = \frac{9}{27} = 33.3\dot{3}\% =$ 

$0.6\dot{6} = 2 \div 3 = \frac{2}{3} = \frac{6}{9} = \frac{18}{27} = 66.6\dot{6}\% =$ 

$0.75 = 3 \div 4 = \frac{3}{4} = \frac{15}{20} = \frac{75}{100} = 75\% =$ 

$1 = 1 \div 1 = \frac{1}{1} = \frac{2}{2} = \frac{3}{3} = \frac{4}{4} = \frac{9}{9} = 100\% =$ 

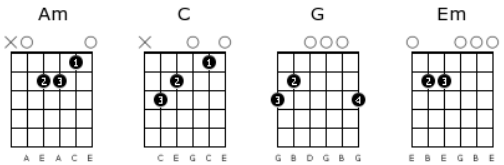
MUSIC

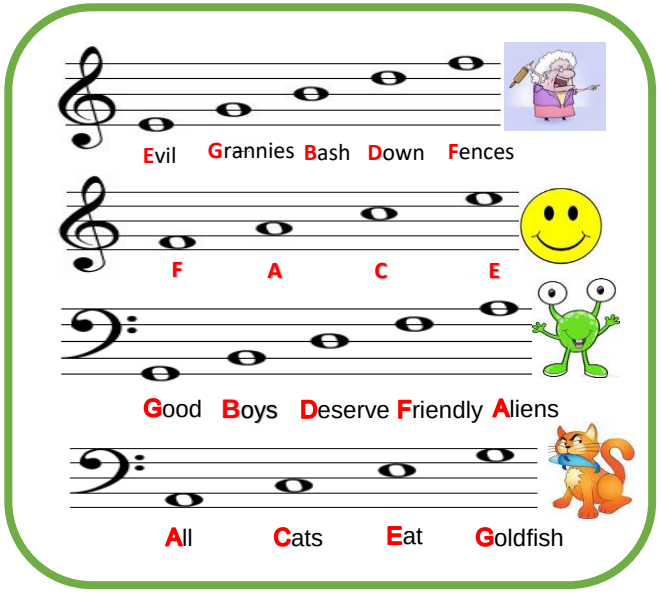
Keywords		
Dynamics	Symbol	Definition
Fortissimo	*ff*	Very Loud
Forte	*f*	Loud
Mezzoforte	*mf*	Moderately Loud
Mezzopiano	*mp*	Moderately Quiet
Piano	*p*	Quiet
Pianissimo	*pp*	Very Quiet
Crescendo	<	Becoming gradually louder
Decrescendo	>	Becoming gradually quieter

Tempo	Definition
Lento	Slowly
Largo	Slow and stately
Adagio	Leisurely
Andante	At a walking pace
Allegro	Fast
Vivace	Lively
Presto	Very Quickly

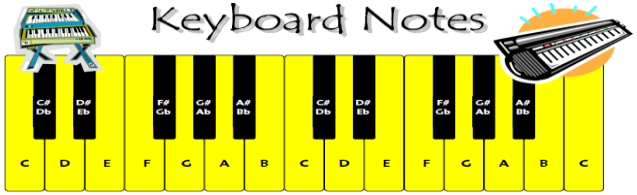
Stretch and Challenge

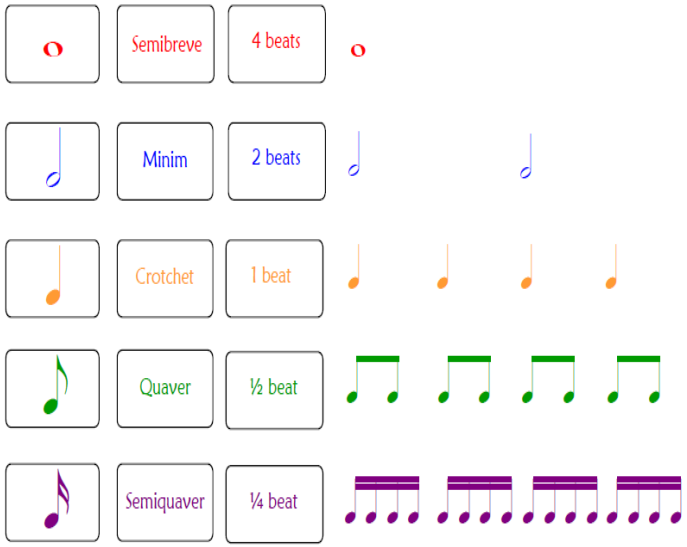
Can you play these chords on a guitar?





Common Chord Guide			
A	A C# E	**D**	D F# A
Am	A C E	**E**	E G# B
Bb	Bb D F	**Em**	E G B
B	B D# F#	**F**	F A C
Bm	B D F#	**Fm**	F Ab C
C	C E G	**G**	G B D
Cm	C Eb G	**Gm**	G Bb D





PHYSICAL EDUCATION

Principles of Training

1	**Frequency** – how often you train **Intensity** – how hard you train **Time** – how long you train for **Type** – what particular training you do

Additional Principles of Training

2	**Specificity** – training should be specific to your sport/activity/fitness goals.
3	**Progressive Overload** – training needs to be demanding enough to cause your body to adapt.
4	**Adaptation** – how your body increases its ability to cope with training loads.
5	**Reversibility** – if you stop training, or if the intensity is not enough to cause adaptation, training effects are reversed.
6	**Variation** – vary your training programme to avoid boredom.
7	**Individual Differences/Needs** – the programme should be designed to meet your training goals, needs, ability, skill level and exercise likes/dislikes.
8	**Rest and Recovery** – these are essential to allow the body to repair and adapt. The rate of progression can be reduced if the body does not recover.

What KPI's will I be assessed in?

1	Advanced Skills	6	Being a Role Model
2	Decision Making	7	Personal Fitness
3	Analysing Performance	8	Principles of Training
4	Leadership	9	Nutrition and Hydration
5	Adaptability		

What sports will I be assessed in?			Fundamental Skills
1	Invasion	Football, Hockey, Handball, Basketball, Rugby, Netball	Throwing, Catching, Passing, Dribbling, Tackling, Shooting
	Net and Wall	Badminton, Tennis, Volleyball	Attacking shots, Defensive shots, Serving
2	Artistic	Gymnastics and Trampolining	Balance, Travel, Vaulting, Landing, Timing, Rotation, Aesthetics
3	Striking and Fielding	Rounders, Stoolball, Softball, Cricket	Striking, Throwing, Catching, Long Barrier, Decision Making
4	Athletics	Long Jump, High Jump, Shotput, Discus, Javelin, Long Distance, Short Distance, Relay	Running, Jumping, Throwing, Pacing
5	Swimming	Front Crawl, Backstroke, Breast Stroke, Butterfly, Personal Survival	Streamlining, Breathing, Technique

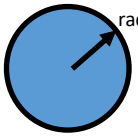



PRODUCT DESIGN – Maths, Drawing and Evaluation

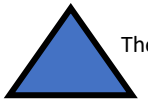
Area: the two-dimensional space taken up by something; for example, the area of a sheet of material like card
Measured in a size appropriate to the problem: either cm^2 or m^2 for larger problems.

Area of a rectangle = width × length

Area of a circle = πr^2



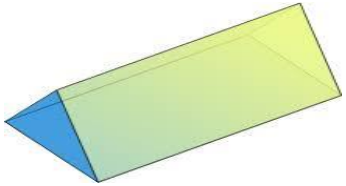
π = 3.142
The radius is half the diameter
The circumference of a circle = πD

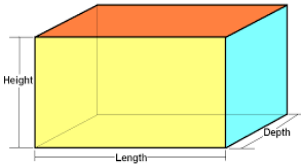


The area of a triangle = $\frac{\text{base} \times \text{height}}{2}$

Volume -
Description: the space taken up by something: for example, the volume of a material like wood or plastic – or even gas.
Measured in: a size appropriate to the problem: either cm^3 or m^3 for larger problems

Applications – this could be useful to work out the volume of a material and therefore its cost – or the amount of paint or other liquid used if we use litres or ml instead of cm or metres
For any solid with a linear cross section (the same shape all way along, the volume is just the end area times the length! Easy.

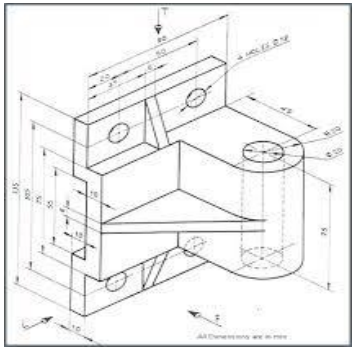




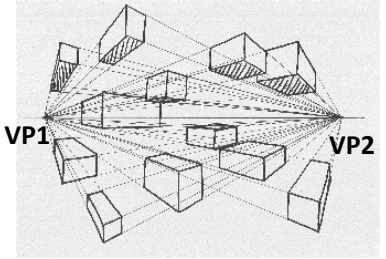
Volume: examples
For the shapes above, put together some examples and work out the volumes.

Stretch: what if you have a more complex shape like a house – how would you work out the volume now? Would it not be just the area of a rectangle and that of a triangle times the length?

Estimation
You must be able to estimate (accurate guess) **roughly** what the answer to a problem may be. For this you could round figures up or down and work the easier answer out in your head so you know if your calculator answer is correct later.

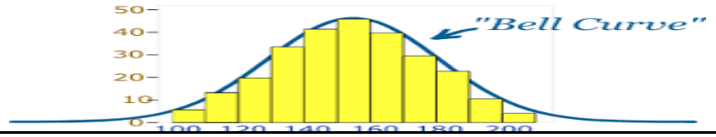


Isometric drawing: used for practising drawing in 3D for design ideas. Ask for isometric paper to practise on!



Perspective drawing:
Often used architecture. All lines that are not vertical go back to vanishing points.

Distribution curve.
You need to be able to graphically represent data like this.
This is a good way of showing a collecting of measurements. For example you could have collected the heights of all the students in your year group and represented the data in the yellow graph. From this you could easily see what the average and the sizes either side to help you design products better.



Average or Mean
The is adding up all the data you have and dividing by the number of sets of data you have.
Example: you want to know the average head size so you can design a hat that would fit an average person.

Person 1	head size 420 mm	Person 3	head size 520 mm
Person 2	head size 480 mm	Person 4	head size 360 mm

The Average = $\frac{420 + 480 + 520 + 360}{4}$ = 445

For you to do
1). What is the average bottle volume size? 140 ml, 210 ml, 183 ml, 189 ml, 112 ml, 439 ml
2). What is the mean shoe size? 10, 6, 9, 8, 15

You need to also understand that abnormal measurement could effect you averages. From those last examples can you spot the abnormal measurement that you may like to take out to get a better average?

Literacy – Be Able to Write an Evaluation

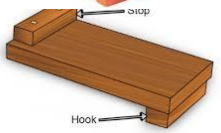
- What skills have you learnt during this project?
- What skills have you developed (improved)?
- What aspects (parts) of your project do you think have gone well?
- What aspects of your project do you think have gone badly?
- Compare your finished project to your final design drawing, what changed did you make and why?
- If you were given a chance to re do the project, what would you do differently?

PRODUCT DESIGN – Tools

Tenon Saw For cutting straight vertical cuts. The depth of the cut is restricted by the brass spine. You must stretch the index finger out when using this saw to steady it and get a more accurate cut. Start cutting on a corner, drawing back several times. Use a bench hook

Fret Saw For cutting **curved** lines in **thin** material with a thin blade. Always keep your fingers clear. Make sure the guard is intact. Cut slowly. Use the clamp to stop wood rattling about. The manual equivalent is a **coping saw** – you can turn the blade around by unscrewing the handle then tightening up again.

Bench Hook and Clamp Use the bench hook to help cut wood with accuracy. Top tip – always cut all the way through your work into the bench hook to avoid splintering the back of your work. Use a clamp for shorter pieces of wood



Squares: 45 degree and 90 degree Take care of these – your work accuracy depends on them being accurate! You must keep the stock (wooden bit) tight against your work and your pencil must be sharp!

Bevel Edge Chisel For removing wood. Always chisel away from yourself. Use only for cutting wood – they must be razor sharp! Bevel edge facing down .

Vernier Measuring with accuracy. Accurate to .01 of a mm. Do not forget to zero it first! You will use this to check the sizes of drills and your work

Steel Rule Measuring with accuracy up to 1/2 mm depending on your eyes! It starts at zero on the end, unlike a ruler that has material on the end first. Make sure that you look at the measurements from above to get an accurate reading. You also need a sharp pencil!

Wood Plane For shaving slithers of wood off your work. The aim is to take a shaving cut that is complete and lasts the whole length of your work. Always rest it on its side so you don't blunt the blade or damage my desk. Usually we use a wood plane along the grain.

Pillar Drill

We use this for drilling vertical holes in material. Almost always you will clamp your work down first. Wear glasses, use the guard and know how to turn it off in an emergency. Do not use if you are unsure – ask!

Plastics

Introduction: Polymers have a wide variety of uses in everyday life. You need to be able to name a range of different polymers and their uses.

Keywords

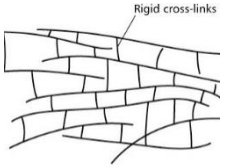
Synthetic polymer	A synthetic material made mostly from oil
Thermoforming (thermosetting) polymer	can be remoulded and re shaped, it can be recycled
Thermosetting polymer	cannot be re shaped or recycled
Insulator	a material with low conductivity preventing electrical current or heat to flow
Polymer	Plastic

Further Links

Page 43 to 46 in the Edexcel text book

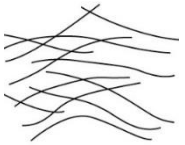
Exam Tips

Thermosets



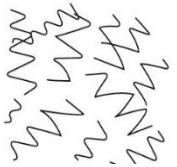
- Can't be Recycled
- Resist heat
- Rigid Cross links

Thermoplastics



- Easily moulded into shape
- Can be recycled
- Can be reheated and remoulded

Elastomers



- Good elasticity
- Can be thermosetting or thermo plastic

Exam questions

1. Explain why some plastics cannot be reformed with heat
2. Explain why we cannot make most products out of 100% recycled plastics
3. Explain why we cannot make most products out of 100% recycled plastics

Stretch

Symbol	Name of plastic	Properties	Uses
01 PET	Polyethylene Terephthalate	Strong, tough and a barrier to moisture and gas.	Drink bottles, salad dressing bottles, jam jars
02 PE-HD	High Density Polythene	Stiff, tough, resistance to moisture, permeability to gas	Milk, juice and water bottles, bin and shopping bags.
03 PVC	Polyvinyl Chloride	Versatile, strong and tough.	Juice bottles, cling film, PVC piping
04 PE-LD	Low density Polyethylene	Easy to process, strong, tough, flexible, barrier to moisture	Frozen food bags, squeeze bottles, flexible lids
05 PP	Polypropylene	Strong, tough, resistance to heat, chemicals or grease.	Microwave bowls, yogurt pots, margarine tubs, takeaway tubs
06 PS	Polystyrene	Versatile easy to form	Egg cartons, Styrofoam cups and burger/ chip boxes.
	Other Plastics		Baby milk bottles, electronic casing.

PRODUCT DESIGN – Timbers

INTRODUCTION:
Timber is wood that comes from tree trunks. Wood in various forms can be used to make sheet materials with better properties.

Keywords

Hardwood	Broad leaved trees which drop in the winter. Expensive due to slow growth times. Not necessarily hard!
Softwood	Evergreen needle leaves. Fast growing and cheaper.
Grain	Fibres that run the length of the tree to carry food and water. Leaves the patterns we see in wood.
Man-made (manufactured) board	Not limited to the size of a tree trunk, consistent properties.
MDF	Dust with a glue to hold it together
Veneer	Thin slice of wood used as a decorative surface for products
Durable	how long a material lasts – possibly when exposed to weather

Further Links

YouTube – manufacturing veneer

YouTube – sectioning of logs ready for use

Exam Tips

Know the difference between hardwood and softwoods and boards, including examples.

Hardwood: slow growing (100 years+) so more expensive especially if it need to be transported a long way. Broad leaves that drop in the winter. Can be more durable.

Softwood: fast growing (30 years) evergreens with needle leaves. Can be lighter and weaker but not always

Board: particles or thin layers of wood glued together, Consistent properties in any size. Surface finish to match any application. Can be stronger than plain wood.

Exam Questions

1. Give two advantages of manufactured board.
2. Do most softwoods keep their needles in winter?
3. What material is mostly wood dust glued together?
4. Name a traditional English wood used for house building for centuries.
5. Give two advantages and two disadvantages of MDF.

Stretch

6. Discuss the difference between hardwood and softwood. Pay particular attention to factors that may affect the durability of a product.

7. Choose a hardwood and a softwood and list why they could be a good choice for a coffee table material.

8. Explain what aesthetic advantages a wood has over a manufactured board for the product of your choice.

Hardwood examples

Type	Description	Advantages	Disadvantages	Common uses
Pine		• Very durable • Easy to work • Quite cheap as it grows quickly enough to be forested • Reasonably strong, lightweight and easy to work with	• Can warp, crack and splinter more than some other woods	• House construction, for roof joists and floorboards • Furniture, doors, interior woodwork
Cedar		• Natural oils make it resistant to water and fungal growth	• More expensive than pine and not as strong	• Outdoor furniture, fences, sheds, boats

Softwood examples

Type	Description	Advantages	Disadvantages	Common uses
Oak		• Strong and durable • Has an attractive grain when well finished	• Expensive • Becoming rarer • Harder to work with than some woods • Corrodes iron and steel	• Used a lot for building houses and boats in the past • Now used for high-end furniture and wine and whisky barrels
Mahogany		• Has a very attractive finish • Quite easy to work	• Expensive • Environmental problems with sourcing from tropical forests • Oils in the wood can give some people a skin rash or breathing problems	• High-quality furniture, jewellery boxes, windows
Beech		• A tough wood • Does not crack or splinter easily • Hard	• Expensive • Not very resistant to moisture • Not suitable for exterior use	• Toys, cooking implements, solid and laminated furniture
Balsa		• Very lightweight • Easy to cut	• Much too soft and weak for most products	• Model making, primary school projects, surf board cores • Used for rafts in ancient times

Manufactured boards

Type	Description	Advantages	Disadvantages	Common uses
Plywood	• A tree trunk is sliced into thin layers called veneer • These layers are glued together with the grain lines going in alternate directions	• Flat and structurally strong • Surface looks like wood • Resistant to warping, cracking and twisting	• Quite expensive • Edges can look rather rough • Susceptible to water damage if wrong grade is used	• Building and furniture panels that need some strength
Medium density fibreboard (MDF)	• Wood dust and fibres are mixed with a glue and pressed into flat sheets under extreme heat and pressure	• Cheap (made from waste wood) • Smooth ungrained surface is good for painting or staining • Easy to machine	• Does not look good, so needs coating • Weak compared to real wood or plywood • Tools blunt quickly due to the glue	• Cheap flat-pack furniture, wall panels, display cabinets, storage units

THEME F – RELIGION AND HUMAN RIGHTS – JUSTICE, PREJUDICE AND DISCRIMINATION

Keyword	Definition
Social justice	Ensuring that society treats people fairly whether they are poor or wealthy and protects people's human rights
Human rights	The basic rights and freedoms to which all human beings should be entitles
Justice	Fairness
Responsibility	Having a duty to do something
Duty	Having an obligation to do something
Equality	The state of being equal, especially in status, rights and opportunities
Prejudice	Unfairly judging someone before the facts are known; holding biased opinions about an individual or group
Discrimination	Actions or behaviour that result from prejudice
Positive discrimination	Treating people more favourably because they have been discriminated against in the past or have disabilities
Heterosexual	To be sexually attracted to members of the opposite sex
Homosexual	To be sexually attracted to members of the same sex
Disability	A physical or mental impairment which has an adverse effect on a person's ability to carry out normal day-to-day activities
Racism	Prejudice or discrimination directed towards a person or group of people based on race or ethnicity
Stereotype	An oversimplified image of a person or group of people

Problems related to the topic	Explanation
Social justice	Life is not always fair. There are some things which are unfair which are beyond human control; there are other situations which we could call injustices and these occur when people increase or cause the unfairness upon others.
What are human rights?	In 1948 the United Nations General Assembly adopted The Universal Declaration of Human Rights (UDHR), which sets out the basic human rights that everyone should be entitled to, regardless of their nationality.
What do Christians say?	The Bible teaches that God is a God of justice: 'all his ways are just' (Deuteronomy 32:4), and is full of teachings about the importance of social justice, and the duty to care for others. Jesus said that the second most important commandment is to 'love your neighbour as yourself'. Many Christians have campaigned for social justice. In the nineteenth century, the anti-slavery campaigner, William Wilberforce, the prison reformer, Elizabeth Fry, and the politician, Lord Shaftesbury (who worked to improve factory conditions and to educate poor children), were all inspired by their faith.
Equality – Christian view	Christians believe that people are special and precious, because, according to Genesis 1:27, they have been created in God's image. People are born into different circumstances but all are equally valuable and can have a relationship with God.
Gender Prejudice and Discrimination - Christian view	Catholic and Orthodox churches do not support women becoming priests. They argue that men and women are equal but have different roles. In Britain in 1993 the Church of England allowed women to be ordained as priests and in 2014 a woman became a Bishop for the first time.
Sexuality – Christian view	In the Bible, heterosexual relationships are portrayed as natural and what God intended. Much more controversial are homosexual relationships. Within Christianity there is a diversity of opinion, from condemning homosexual acts as sinful to seeing homosexuality as morally acceptable.
Disability – Christian view	Christians oppose discrimination against disabled people because it does not show Christian love (agape). Jesus healed the sick and disabled and taught his followers to 'love your neighbour as yourself'.
Racism – Christian view	Most Christians today oppose racism in all its forms, and Desmond Tutu (South Africa) and Martin Luther King Jr (USA) are examples of Christians who have campaigned against racist beliefs and policies.

CHALLENGE Go to the links below and extend your knowledge on:
https://www.youtube.com/watch?v=T87DNKBvYIY,
https://www.youtube.com/watch?v=Eh_HXrurrTA&t=504s,

THEME F – RELIGION AND HUMAN RIGHTS – RELIGIOUS FREEDOM

Keyword	Definition
Freedom of religion	The right to believe or practise whatever religion one chooses
Freedom of religious expression	The right to worship, preach and practise one's faith in whatever way one chooses
Human Rights	The basic rights and freedoms to which all human beings should be entitles
Evangelism	Spreading the Christian gospel by public preaching or personal witness
Key pieces of scripture or sacred writings	'Everyone has the right to freedom of… religion' – Article 18, The Universal Declaration of Human Rights 'Be completely humble and gentle; be patient, bearing with one another in love' 'Watch out for those who cause divisions… keep away from them' 'If it is possible as far as it depends on you, live at peace with everyone'
Examples of exam questions	Explain two contrasting beliefs in contemporary British society about freedom of religious expression. **(4 marks**) Explain two similar beliefs in contemporary British society about the right of freedom of belief. **(4 marks)** Explain two religious beliefs about freedom of religious belief. Refer to scripture of sacred writings in your answer. **(5 marks)** 'People should have the freedom to say whatever they want about religion'. Evaluate this statement. **(12 marks)** 'Freedom of religion and religious expression is not possible in the modern world'. Evaluate the statement. **(12 marks)** 'Rights are more important than responsibilities'. Evaluate the statement. **(12 marks)** 'Rights are more important than responsibilities'. Evaluate the statement. **(12 marks)**

Problems related to the topic	Explanation
Religious Freedom	Article 18 of The Universal Declaration of Human Rights says: 'Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief, and freedom, either alone or in community with others and in public or private, to manifest his religion or belief in teaching, practice, worship and observance'. In Britain today, the official state religion is Christianity, and the Anglican Church is the official church in England. No one can be forced to join the Church. The government protects freedom of religious expression, which is the right of individuals to worship in whatever way they choose, or not at all, and laws forbid the persecution of members of other faiths or non-believers. Believers are free to evangelise providing that they do not preach hatred and intolerance. This freedom of religion in the UK has not always been the case; throughout history people have been fined, imprisoned or killed for worshipping in ways or following particular denominations or religions not supported by the government or monarch. In some places differing religious views have lead to conflict; for example, conflicts between Catholics and Protestants in Northern Ireland, and Crusades organised by Christian Kings in the Middle Ages to recapture the city of Jerusalem from Muslim control. In the 20th and 21st centuries, Christians have been persecuted by communist governments and by dictators, for example in North Korea, or in countries where Christians are the minority, for example in the Middle East and Pakistan.
Religious teachings on freedom of religion	Christian teaching encourages tolerance and harmony. When Christian denominations fight each other, they are not following what the Bible says. Ephesians 4:2 says, 'Be completely humble and gentle; be patient, bearing with one another in love'. Romans 12:18 says, 'If it is possible, as far as it depends on you, live at peace with everyone'. Romans 16:17 says 'Watch out for those who cause divisions… keep away from them'. No religion teaches religious intolerance. Religious freedom is encouraged by religions for different reasons. Islam teaches that religious freedom is part of God's design, and freedom of belief is taught in the Qur'an. Christians believe that Jesus taught religious freedom. The freedom to believe and worship, in public or private, to change religion or not follow any religion is regarded by most Christians as a fundamental human right.

CHALLENGE
Go to the links below and extend your knowledge on:
https://www.bbc.com/bitesize/guides/zcb42hv/revision/1,
https://en.wikipedia.org/wiki/Freedom_of_religion,

SCIENCE – 9CR Reactivity

1. Keyword

Reactivity	How easily a substance takes part in a chemical reaction
Acidic	pH value 7
Alkaline	pH value more than 7
Oxide	Compound containing oxygen and another element
Displacement reaction	Where a more reactive element takes the place of a less reactive element in a compound

3. Reaction of metals and acids

Metal + acid → a salt + hydrogen

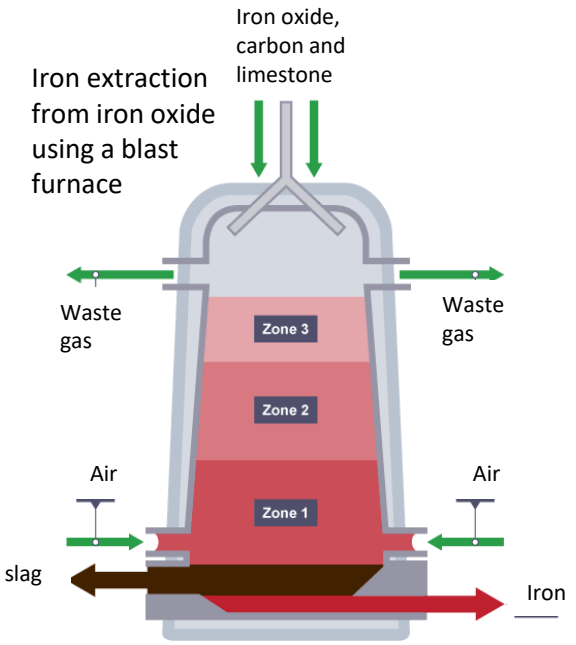
The reaction between metal and acid gets faster when more reactive metals are used.

4. Extraction of metals

less reactive than carbon:
Extracted from their metal oxide by carbon.
Metal oxide + carbon → metal + carbon dioxide

More reactive than carbon:
Extracted from their metal oxide by electrolysis

Iron extraction from iron oxide using a blast furnace



5. Metal oxides

Bases – they dissolve to form alkaline solutions

Non-metal oxides

They dissolve in water to form acidic solutions

6. Displacement reactions

Magnesium + copper sulphate → magnesium sulphate + copper
Mg + $CuSO_4$ → $MgSO_4$ + Cu

Zinc + lead nitrate → zinc nitrate + lead
Zn + $Pb(NO_3)_2$ → $Zn(NO_3)_2$ + Pb

2. Reactivity Series

Most reactive

Potassium
Sodium
Calcium
Magnesium
Aluminium
Carbon
Zinc
Iron
Tin
Lead
Copper
Silver
Gold
Platinum

Least reactive

SCIENCE – 9CE Energetics and Rates

1. Keywords

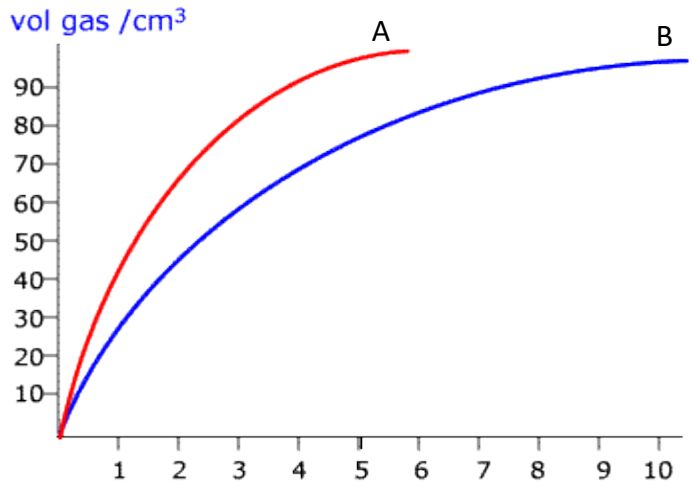
Thermal decomposition	Breaking down a compound by heating it
Oxidation	A reaction where oxygen is added to a substance
Complete combustion	Burning a substance in plenty of oxygen
Incomplete combustion	Burning where there is a limited supply of oxygen
Hydrocarbon	A compound that only contains carbon and hydrogen
Fuel	A material that is burned to release energy, e.g. coal
Catalyst	A substance that increases the rate of a reaction without being used up in the reaction
Exothermic	A reaction that transfers energy to the surroundings
Endothermic	A reaction that takes in energy from the surroundings

2. Combustion

Complete combustion	Incomplete combustion
Hydrogen combines with oxygen to make H_2O	Water and carbon dioxide still produced
Carbon combines with oxygen to make CO_2	Toxic carbon monoxide and carbon particles (soot) are also produced

3. Factors Affecting Rate of Reaction

Factor	Change	Effect on Rate	Reason
Temperature	Increase	Increase	The particles are moving faster so collide more often and with a greater proportion of successful collisions
Concentration	Increase	Increase	The are more particles so collisions are more frequent
Surface area	Increase	Increase	There are more particles available so more collisions
Catalyst	Add	increase	The lower activation energy means more particles can successfully collide



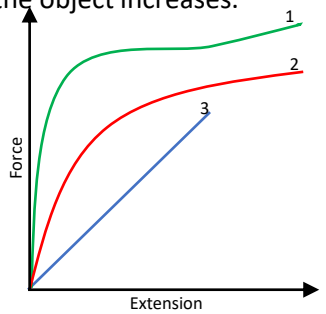
A – reaction with catalyst
B – reaction with no catalyst

SCIENCE – 9PF Forces in Action

1. Keywords	Definition
Force	A push or a pull that can change the motion of an object. The unit for force is newtons (N)
Resultant force	The overall force acting on an object
Moment	A turning effect of a force
Pivot	Point around which something can rotate/turn
Force multiplier	Reduces the amount of force needed by increasing the distance that the force is applied over
Work done	The amount of energy it takes to do a task. Work done is measured in Joules (J) **Work = force × distance**
Equilibrium	When the opposing forces are balanced
Compression	When an object is squashed
Extension	Increase in length
Deformation	Changing shape or size as a result of a force
Elastic	An object that returns to its original shape after being deformed by a force
Hooke's law	The extension of an object is directly proportional to the force applied to the object **Force = spring constant × extension**

2. Hooke's Law and Energy Stores

Work is done by a force when it deforms an object, the energy is stored by the object as **elastic potential energy.**
The extension of an object increases as the force on the object increases.



1	Polythene strip	Obeys Hooke's Law?	No
2	Rubber band	Obeys Hooke's Law?	No
3	Steel spring	Obeys Hooke's Law?	Yes

3. To Calculate Extension

1. Measure the original length of the object
2. Measure the stretched length of the object
3. Extension = stretched length – original length

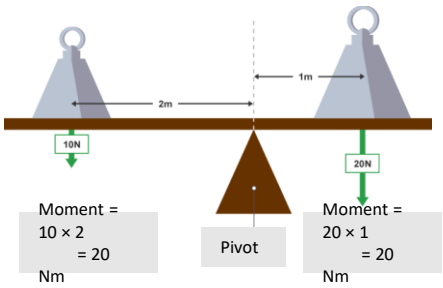
4. Moments

1. To calculate a moment you need to know:
- How much force is being applied (newtons, N)
- The distance from the pivot that the force is being applied (metres, m)

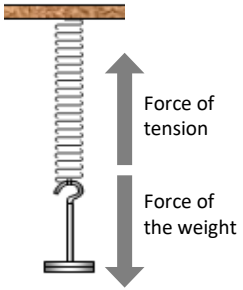
Moment = force × distance

2. The unit for moment is newton metre (Nm)

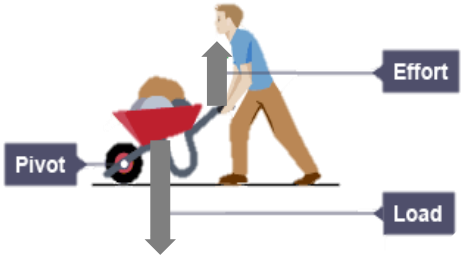
3. A small force over a large distance can generate the same moment as a large force over a small distance.



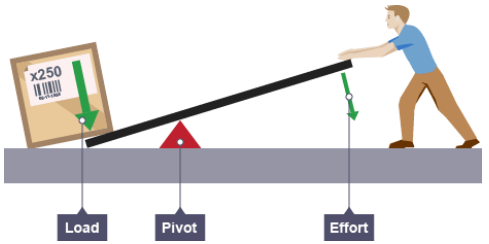
5. Balanced Forces of Weight on a Spring



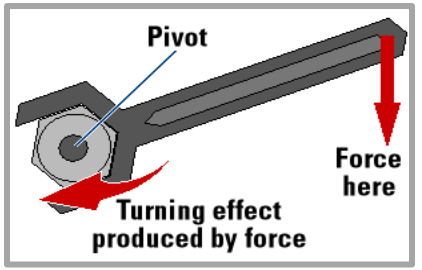
Simple machines give a bigger force with a smaller movement.



The load on a wheelbarrow is near the pivot. When force is applied to the handles they move a larger distance than the load does



The plank of wood is acting as a lever. Levers are simple machines that reduce the force needed to do a task.



The spanner is acting as a **force multiplier** using moments

SCIENCE – 9PM Matter

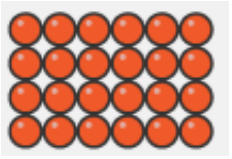
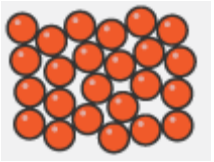
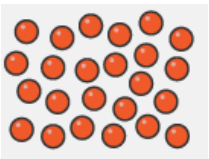
1. Keyword	Definition
Pressure	Force divided by area
Density	The mass per unit of volume of a substance
Concentration	The amount of substance per unit volume of solvent
Melting	Solid changing to liquid
Sublimation	Solid changing to gas without changing to liquid
Freezing	Liquid changing to solid
Evaporation	Liquid changing to gas
Condensation	Gas changing to liquid
Dissolve	When a substance breaks up and mixes completely with a solvent to produce a solution
Diffusion	The movement of molecules from an area of higher concentration to an area of lower concentration
Brownian motion	The random movement of particles of gas due to collisions with other particles of gas
Reversibility	The ability of a substance to go back to its previous state
Upthrust	Upwards force exerted by a liquid on an object floating in it

5. The pressure in liquids increases with depth as the weight of the liquid above is greater.

The jet coming from the lower hole is more sideways as there is more pressure

6. Liquid pressure is exerted on the surface of on object in a liquid causing upthrust.
As an object starts to sink in liquid the liquid pressure increases and upthrust increases. The object floats if the upthrust is equal and opposite to the objects weight. The object sinks if the weight is greater than the maximum uphtrust.

2.

State	Solid	Liquid	Gas
Diagram			
Arrangement of particles	Regular arrangement Very close together	Randomly arranged Close together	Randomly arranged Far apart
Movement of particles	Vibrate about fixed position	Move around each other	Brownian motion
Energy of particles	Low energy	Higher energy	Very high energy
Density of substance	High density	Lower density	Very low density

3. The particles in a substance stay the same when it changes state: only their closeness, arrangement or motion change. This means the mass of the substance stays the same.

4.

	Melting	Evaporation	Condensing	Freezing
Arrangement of particles	From regular and compact to random	Much further apart	Become much closer together	Stay close together and become regular
Motion of particles	Start to move around each other	Start to move quickly in all directions	Slow down and only move around each other	Stop moving around and only vibrate on the spot
Energy change	Particles gain energy	Particles gain energy	Particles lose energy	Particles lose energy

A Physical change in a substance does not change what the substance is and it can be reversed, e.g. melting ice then freezing water. In a chemical change a reaction occurs and a new substance is formed

TEXTILES

Mary Quant

Mary Quant (born 11 February 1934) is a Welsh **fashion designer** and British fashion icon, who was instrumental in the mod fashion movement. She was one of the designers who took credit for inventing the **miniskirt and hot pants**. Born in Blackheath, London, to Welsh parents, Quant brought **fun** and **fantasy** to fashion in the 1960s.

Introduction

Textiles are highly adaptable and can be constructed to maximise different properties including a very high strength to weight ratio, which means less material can be used to make strong and robust products. Textiles are available in any different forms including rolls, yarns and fibres. They can be made into a multitude of shapes and products using different processing methods.

WEAVING

Woven fabrics are made from weaving two yarns together, using a loom. The yarn that is used from the top to the bottom of the loom is the warp thread. The yarn that goes under and over the warp yarn is known as the weft thread. Where the weft thread turns around at the edge of a fabric it is known as the selvedge.

KNITTING

Knitting is forming loops on a set of needles and pulling a thread though the loops.

BONDING

Fibres are bonded together by heating, gluing or stitching the fibres together. A bonded fabric has no weft or warp threads and no right or wrong side. They are usually inexpensive fabrics that do not fray, such as felt.

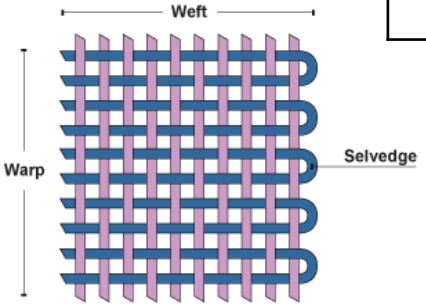
silk

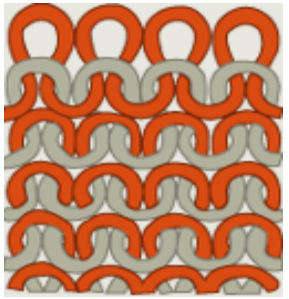
camel

cotton

linen

wool





TEXTILES

Keywords

Embroidery

CAM embroidery

Laminated fabrics – Gore-Tex, PVC, faux leather

Piping – used along the edges or seams of a fabric to strengthen, protect, neaten or highlight.

Applique

Batik – wax and tjanting tool

Stiffening/interfacing

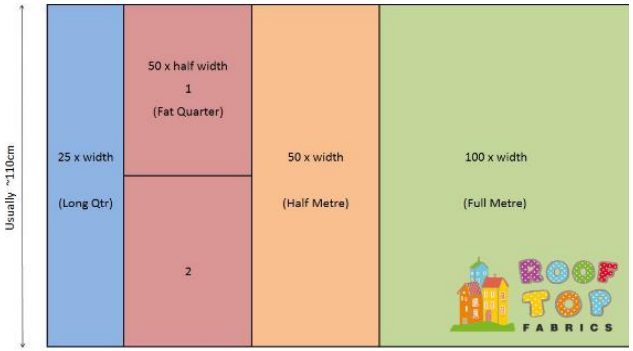
Rivets

Webbing

Most textiles come in a range of standard sizes. Standard practice is to use length x width for fabrics. Some fabrics are available in range of weights from light through to heavy.

Keywords

Drape	Yarn	Ball	Fabric	Hank	Reel



Yarn is available in hanks, balls and reels and is generally sold by weight. Reels tend to be used for machine production and hanks and balls are better for handmade constructions. A standard ball of yarn weighs around 100g.

Shears

Rotary cutter

Stitch Unpicker

Band Saw

Thread snips

Pinking Shears

Paper scissors

Craft knife

Embroidery scissors

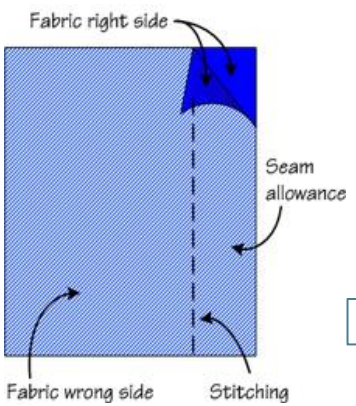
Die Cutter

TEXTILES

Plain Seam

1. Take two pieces of fabric and pin right sides together. *Tip- lay pins horizontally, so you can stitch over them.*
2. Machine straight stitch along the raw edge where you've just pinned your fabric together with a 1.5cm seam allowance.
3. On the wrong side press open your seam.

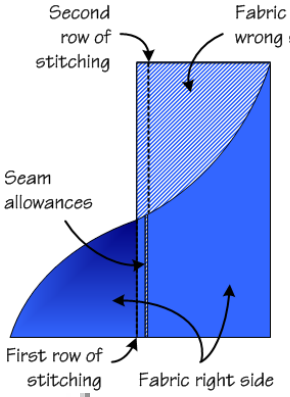
There are several ways to finish a plain seam e.g. pinking shears, overlocking, zigzag cut or binding.



French Seam

1. First, on right side of the fabric, mark the stitching line with 1.5cm seam allowance.
2. Then on the wrong side mark a line halfway through the original seam allowance, and stitch along this line.
3. Trim the seam allowance a bit.
4. Now fold the fabric over at the seam RIGHT SIDES TOGETHER, covering the raw edges. Press.
5. Stitch on the original seam line. (at the 1.5cm mark) right sides of the fabric together

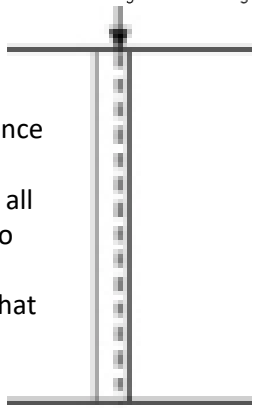
French seams are used on babies clothing or thin/sheer fabrics.



Flat Felled Seam

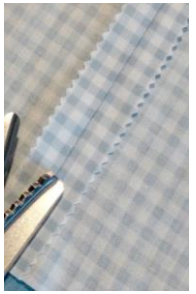
1. Make a plain seam.
2. Press both the seam allowance to one side. One seam allowance is trimmed to ½ cm.
3. Turn the larger seam allowance up and over the smaller one, all the way nearly to the seam line stitched earlier. Use an iron to press this.
4. Now fold the whole seam over on itself to the other side so that the raw edge is now hidden and press again.
5. Edge stitch over the fold. Make sure that an even distance is maintained from the original seam line.

Mostly used in sports wear, men's shirts, jeans children's clothes, pyjamas etc. It provides adequate strength to the seam line. This seam can be stitched inside as well as outside the garment.



Open Seam

Zig Zag



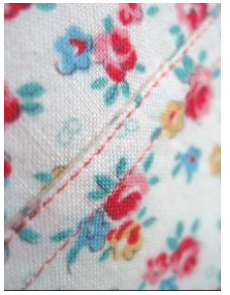
Pinked

Bias bound

Overlocked

French seam

Flat fell seam



Standard components

Buttons

Elastic

Zips

Ribbons

Eyelet

Buckle

Toggle

Press studs

Hook & Eye

Cord

Velcro

Beads

Sequin