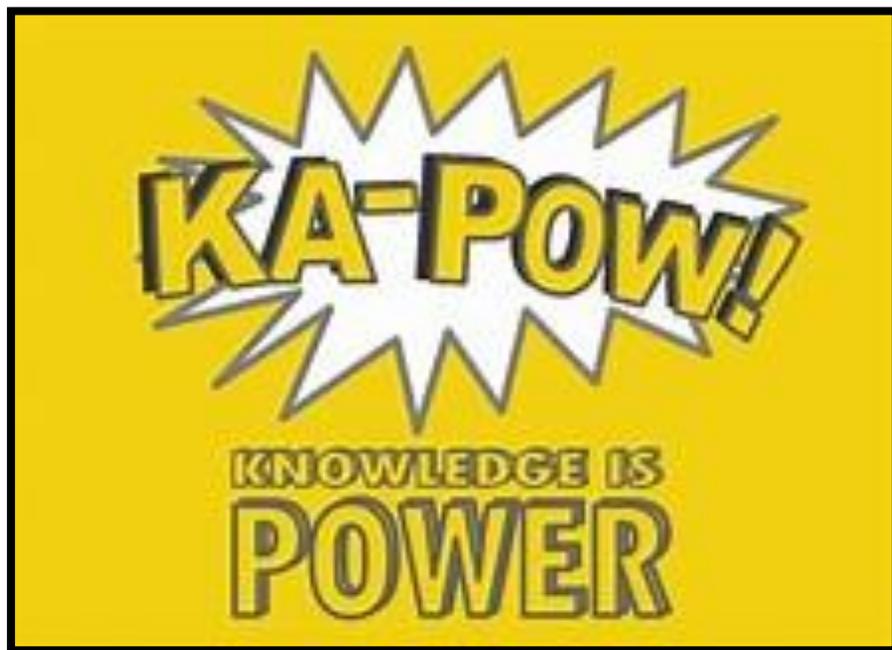




Year 8

Knowledge Organiser

Half Term 1



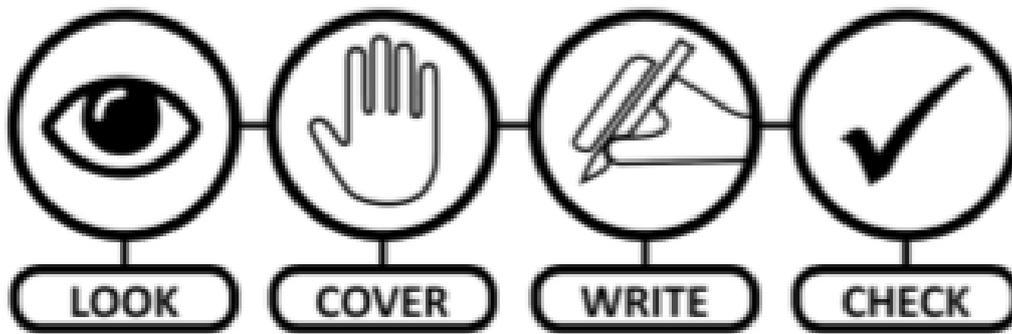
Name

Self-Quizzing Book

Knowledge organisers contain **critical** knowledge you must know. They will help you **remember more** and learn complex information and concepts. Using knowledge organisers will make you more successful in your subjects.

You need to bring your knowledge organiser booklet and self-quizzing book with you **every day**.

For homework you will be asked to self-quiz using your knowledge organisers. You will do this in this book using look, cover, write, check.



Look: Spend a small amount of time reading a section of the knowledge organiser and trying to memorise the content.

Cover: Cover up that section of your knowledge organiser.

Write: In your self-quizzing book, write out the information you have tried to memorise from the knowledge organiser.

Check: Uncover the section of your knowledge organiser and check every word, including spellings. Make any corrections using a **green pen**. If it is all correct, tick what has been written.

Repeat this process until **one whole page** of your self-quizzing book is full, with **no whole lines left empty**.

Respect

Resilience

Responsibility

Expectations

You should be proud of the work you produce and how hard you have worked.

There should be no wasted space on each page.

No whole lines should be left empty.

Corrections should be made in a **green pen**.

Example

Subject, underlined

Date in full, underlined

Corrections made in green pen.

Each line checked and ticked if correct.

Solid black line after each attempt

No whole lines left empty except between repeats.

Repeat until the whole page is full

History

Tuesday 20th October

William's problems- William faced 5 main problems when he won the Battle of Hastings and became king. ✓

1. Threat of invasion by Vikings from Scandinavia and rebellion in North England. (Scandinavia)
2. Needed money but did not know how wealthy England was. ✓
3. Needed control of London but there were troops and people who were loyal to Harold there.
4. There was a castle full of soldiers at Dover.
5. Many English did not want William as a king. He could not trust them to keep control of the country under control.

William's problems- William faced 5 main problems when he won the Battle of Hastings and became king. ✓

1. Threat of invasion by Vikings from Scandinavia and rebellion in North England. Scandinavia
2. Needed money but did not know how wealthy England was. ✓
3. Needed to take control of London but there were troops and people who were loyal to Harold there.
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William's problems- William faced 5 main problems when he won the Battle of Hastings and became king. ✓

1. Threat of invasion by the Vikings from Scandinavia and rebellion in the north of England.
2. Needed money but did not know how wealthy he was. ✓

Respect

Resilience

Responsibility

Pop Art 1960s

Meaning: A type of **modern art** that started in the **1960's** and uses images and objects from **ordinary life**.

Things to look for in a Pop Art painting:

Bright colours, patterns, bold outlines, repeat patterns, faces, food and words.

ANDY WARHOL



Andy Warhol

The most famous of the Pop Artists, Warhol's work is based on things that were **popular** in the **1960's**.

You will see **bright, eye catching colours** that are opposite on the colour wheel (**complementary**).

In factories during WW2 machines were developed to make lots of copies of items (**mass production**). Warhol makes copies and repeats **faces/objects**.

Everyday objects, food brands and celebrities were the theme of his **prints**.

Traditional Art (high art) featuring moral stories, was giving way to **advertising and mass media** (newspapers and TV).



Responding to the Pop Art Movement



The Pop Art movement focused on the means of producing multiple copies and **celebrities**. We will be using a type of **printing** called **Monoprinting** to **mass produce** copies of celebrities.

Observational drawings

Everyday objects and food were some of the things that inspired the movement.



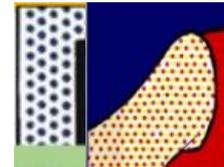
We will be doing a number of **observation drawings, paintings and mixed media collages** focused on **food and brands**.

BARBARA KRUGER



We will be looking at the work of **Barbara Kruger** and the importance of **messages in the media**. Pupils will design their own message in response to Kruger's work.

ROY LICHTENSTEIN



Lichtenstein had a unique style of using **stencils** to draw lots of dots in his work. This replicated the way **comics and newspapers** were printed – made up of lots of dots to form a picture.

This was known as the **Ben Day Dot Process**.

Lichtenstein tried to make his paintings appear like a machine had printed them.

Look out for **primary colours, bold outlines, flat block colours** and lots of **dots!**

CLAES OLDENBURG

Oldenburg uses a range of **materials** to his large **sculptures** of everyday objects and food.

These are made in a **larger scale** than the real thing.



METALS

Year 8: Design and Technology Test each other on the properties of metals.



Key Material Properties and Definitions

Strength- is the ability of a material to withstand a force without breaking or bending

Toughness- is the ability of a material to withstand blows or sudden shocks without breaking

Tensile strength- the resistance of a material to breaking under tension.

Brittle- hard but liable to break easily.

Ductile- is the ability of a material to deform, usually by stretching along its length.

Conductivity- is the ability of a material to conduct heat or electrical energy

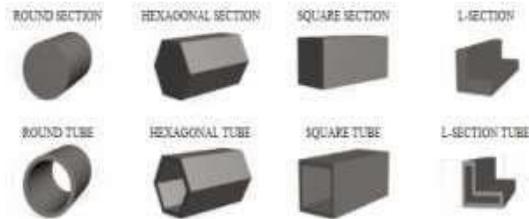
Malleable- is the ability of a material to permanently deform in all directions without cracking

Corrosion- Corrosion is the deterioration of a metal as a result of chemical reactions between it and the surrounding environment.

Hardness- is the ability of a material to resist wear, scratching and indentation

Metal Stock Forms:

If you use metals as part of a practical project a knowledge of the shape or 'section' of lengths of metals is important. The diagrams below show examples of solid lengths and also tubes. When you order metals you need to describe the section you want.



Types of Metal and Properties:

Metal is made from metal ores, which must be mined and processed to transform them into usable materials. It is rare for metals to be used in pure form. Normally they are mixed with other metals to improve their properties: the mixture is called an **alloy**. Most metals are good conductors. There are two main types of metal alloys: **ferrous and non-ferrous**.

Non- Ferrous Metals

- **Non-Ferrous Metals** do not contain Iron, are not magnetic and are usually more resistant to corrosion than ferrous metals.
- **Aluminium-** Ductile, soft, malleable, machines well. Very light. Window frames, aircraft, kitchen ware.
- **Copper-** Ductile, can be beaten into shape. Conducts electricity and heat. Electrical wiring, tubing, kettles, bowls, pipes.
- **Brass-** Hard. Casts and machines well. Surface tarnishes. Conducts electricity. Parts for electrical fittings, ornaments.
- **Silver-** Ductile, Malleable, solders, resists corrosion. Jewellery, solder, ornaments.
- **Lead-** Soft, heavy, ductile, loses its shape under pressure. Solders, pipes, batteries, roofing.

Alloys

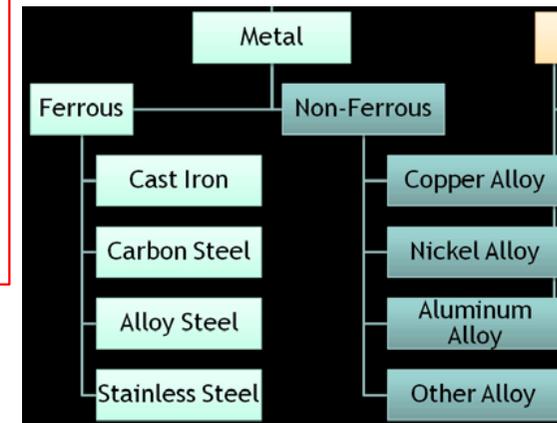
Alloys are sometimes described as a mixture of two or more metals. However, this is misleading, as often alloys are composed of just one metal, as well as other non-metal elements. Cast iron is an example, as it is a combination of iron (metal) and carbon (non-metal).



Ferrous Metals

Ferrous Metals mostly contain Iron. They have small amounts of other metals or elements added, to give the required properties. Ferrous Metals are magnetic and give little resistance to corrosion.

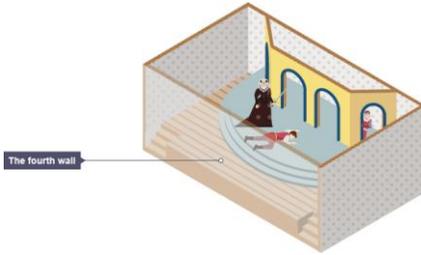
- **Mild steel-** Tough. High tensile strength. Can be case hardened. Rusts very easily. Most common metal used in school workshops. Used in general metal products and engineering.
- **Carbon steel-** Tough. Can be hardened and tempered. Cutting tools such as drills.
- **Stainless steel-** Tough, resistant to rust and stains. Cutlery, medical instruments.
- **Cast iron-** Strong but brittle. Compressive strength very high. Castings, manhole covers, engines.
- **Wrought iron-** us, tough, ductile, resistant to rusting. Ornamental gates and railings. Not in much use today.



Drama

Soap Operas

Half Term 2



The Fourth Wall

The fourth Wall is the imaginary line between the actors and the audience. Breaking the fourth wall would mean the actors talking directly to the audience.

Soap Operas

Characters

Stereotypical characters are used such as the rebellious teenager, the grumpy old people, the lads, the villain and the working class family.

Locations

The Local Pub – owned by a nosy landlord. Great for local parties and weddings. Usually a hot spot for arguments and fights too.

The Local Café – Perfect for a brew after a big night out. A good place to catch up on the latest gossip.

The family home – Up to four generations that live there. Lots of secrets floating around. People are often kicked out or moving back in.

The local garage (or other business) – Dodgy business deals happen here. It is the perfect place for hiding things you don't want anyone else to find.

Cliff Hangers

Each soap episode would end in a cliff hanger. A cliff hanger is a dramatic end to the episode, often leaving the audience with an unanswered question or an unfinished dilemma/disaster. This will make the audience want to watch the next episode so they can find out what will happen next.

Konstantin Stanislavski

- A Russian actor, director and theatre practitioner. Born in 1863 and died age 75.
- His ideas are still today very influential. He believed in naturalistic performances that were as realistic as possible.
- He developed a theory called 'The System' which is still used by many actors all around the world today. The term refers to the methods used to create a good performance in his actors.
- Emotion memory – this is when an actor finds a real past experience where they felt a similar emotion to the one their character is feeling. They then borrow those feelings to bring the character to life.
- Magic if – The actor puts themselves into the character's situation. What if I was in this situation. What would I do?
- Quotation "There are no small parts, only small actors"

Hot seating

A character is questioned by the group about their background, behaviour or motivation. This method may be used for developing a role in drama lessons or rehearsals. It is an excellent way of showing a clear understanding of the character you are playing. Characters can be hot seated individually, in pairs or in small groups. One person is in the hot seat while the group ask questions in a semi-circle.

Soap Opera Facts

- A Soap Opera is a series of television or radio programmes about the lives and problems of a particular group of characters.
- The series continues over a long period of time and is usually broadcast several times a week.
- A single story can be told for weeks, months or sometimes even years. There are usually multiple storylines.
- It is called a 'Soap' because soap manufacturers used to sponsor the radio dramas in the 1930's.
- A key aim is to make the drama happening on screen as realistic, natural and relatable as possible. However, the storylines are often dramatic to entertain.
- Examples include EastEnders, Emmerdale, Hollyoaks, Holby City, Coronation Street, Home and Away and Neighbours.
- Coronation street is the longest running Soap Opera in the world. It started in 1960 so it has been running for 61 years.

Literary Techniques & Definitions	
connotation	emotional associations of a word
denotation	exact dictionary definition of word
diction	word choice
fable	a short story that has a moral
simile	comparison using 'like' or 'as'
metaphor	direct comparison
inference	using knowledge to reach conclusion
foreshadowing	hint of what is to come
anecdote	short story of an individual or incident
fact	a thing that can be proven to be true
opinion	a personal belief
rhetorical question	a question which expects no answer
expert opinion	reference to someone who is trusted as an authority on a subject
statistic	numerical fact
triple	words, phrases or sentences that arranged in groups of three
linear structure	a sequence of events told chronologically
non-linear	events presented out of chronological order
statistic	numerical fact
triple	words, phrases or sentences that arranged in groups of three
flashback	a scene that interrupts the action of a work to show a previous event

Key Grammatical knowledge

clause	A clause is the group of words that contain a verb
simple sentence	A simple sentence is made of just one clause
compound sentence	When we join two simple sentences using “and”, “or” or “but”
main clause	A main clause can be a sentence on its own
subordinate clause	A subordinate clause only makes sense when attached to the main clause
complex sentence	A sentence that has multiple clauses

Key themes
innocence & ignorance
boundaries
family & friendship
complicity
lies and deceit
morality
freedom & confinement
nationalism

Key quotes

<i>“We don’t have the luxury of thinking”</i>
<i>“It’s not up to us to change things.”</i>
<i>“Those people... well, they’re not people at all Bruno.”</i>
<i>“Just because a man glances up at the sky at night does not make him an astronomer”</i>
<i>“I look just like you now,” said Bruno sadly, as if this was a terrible thing to admit.”</i>

Key Vocabulary	
Adjective	Meaning
naive	innocent
ingenuous	unsuspecting
obtuse	slow to understand
tenacious	determined
intrepid	adventurous
incredulous	disbelieving
belligerent	hostile
oblivious	unaware
inhumane	cruel
Verb	Definition
empathise	understand
epitomise	be a perfect example of
endeavour	try
exacerbate	worsen
segregate	set apart
confine	imprison
Noun	Definition
animosity	hatred
atrocities	extremely cruel act
deceit	lying
submission	yielding to superiority
complicity	involvement in something morally wrong

THE
BOY
IN THE
**STRIPED
PYJAMAS**

**Fictional
story set
in WWII**

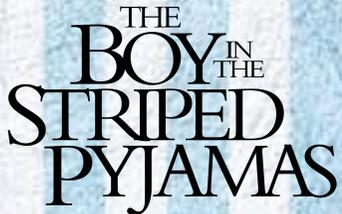
The book is set in Germany and Poland during World War II. Bruno's family move from Berlin (the capital of Germany) to Out-With (in Poland) because of Father's job. Father is in charge of a concentration camp.

KEY CONTEXT
Boyne was born in Ireland and studied English Literature and Creative Writing at university. He published <i>The Boy in the Striped Pyjamas</i> in 2006.
Adolf Hitler was the leader of Nazi Germany between 1934-1945. He was a dictator and known in Germany as 'Der Fuhrer'. His aggressive actions towards Jews and <i>Untermenschen</i> (undesirables) led to the deaths of millions of people across Europe.
The Holocaust is the genocide committed in World War 2. Approximately 6 million Jews were systematically murdered in Extermination Camps, such as Auschwitz in Poland. These camps were designed for the mass-murder of Jews during Hitler's 'Final Solution'.

LITERARY DEVICES
Simile: <i>It was as if he was the conductor of a barbershop quartet</i> (chapter 5)
Imagery: <i>colourful shop fronts; leeks and vegetables spilling out of the stalls</i> (chapter 2)
Varied adjectives: <i>Herr Liszt made a hissing sound ... he said in a sinister voice</i> (chapter 9)
Limited third person narration: the style of narration is third person, from Bruno's perspective. This reflects the innocence of Bruno's mind when compared to the sheer horror of the Holocaust.

SYMBOLS
Innocence and Ignorance: the story is told from the viewpoint of Bruno, who is young and naïve. As a result, he is unaware of the true extent of the events taking place around him. He is oblivious to a number of important factors in the war, for example 'The Fury' (his mispronunciation of Fuhrer) and 'Out-With' (Auschwitz). The reader is forced to infer a number of the more horrific images from the story.
Complicity: although a few of the characters are explicitly mentioned as supporters of the Nazi party, most of them end up complying with the regimes, goals and ideals – primarily through a sense of duty, fear or apathy. Through these characters, Boyne demonstrates how ordinary, otherwise kind, people became compliant with the horrors of the Holocaust.

KEY VOCABULARY
Prejudice: a negative opinion about someone which is not based on fact or reason
Anti-Semitism: hostility or prejudice towards Jews
Discrimination: the unfair treatment of people based purely on religion, race, age or gender
Propaganda: information used to promote a political cause. It may be misleading
Holocaust: destruction or slaughter on a mass scale
Final Solution: Hitler's final plan to exterminate the Jewish population by killing them in extermination camps
Auschwitz: the biggest concentration camp in Poland, where millions of Jews were sent to work and die
Extermination Camp: concentration camps which committed the mass-murders of Jews. Not all camps killed Jews
Commandant: leader of the concentration camp




Bruno
naïve, innocent, friendly
An innocent 9 year-old boy growing up in Berlin. He loves adventures, which leads him to discover the horrors of Out-With.



Gretel
'Hopeless Case'
Bruno's 12 year-old sister. She is obsessed with dolls and patronising towards Bruno. She thinks she knows everything, but is just as naïve as Bruno.



Shmuel
small, malnourished
A 9 year-old Auschwitz prisoner. He knows a lot about the realities of war and contrasts Bruno's naivety.



Lieutenant Kotler
handsome, mean
A young, well-dressed soldier who works for Bruno's father. He is cruel and violent towards the camp prisoners, and calls Bruno 'Little man'.



Father
proud, devoted
Bruno and Gretel's father is a high-ranking member of Hitler's regime. He is Commandant of Out-With and tries to protect his family from what happens there.



The Fury
powerful, authoritative
The Fury is the Chancellor of Germany and Father's boss. He is a strict leader and firmly in control wherever he goes. He is married to Eva.

STRUCTURING YOUR WORK USING WHAT, HOW AND WHY
Effective essay paragraphs are structured so that they answer three key questions:
W WHAT: What is the writer presenting / portraying / depicting? This is sometimes called a 'topic sentence' because it should establish the topic of the paragraph using the question's key words. <i>E.g. Exam Question: How does Boyne present Shmuel?</i> <i>When we are first introduced to Shmuel, Boyne presents him as a small, scared, malnourished boy. Unlike Bruno, he has a clear knowledge of what is happening in the camps, although he still does not understand it.</i>
H HOW: How are these ideas demonstrated and developed? Step 1: Introduce and embed a quotation so that you provide evidence for the point you have made in your first sentence. Try to use subject terminology where possible. Step 2: Explain what the line means on a literal level and what it suggests in relation to the question. Step 3: Zoom in on the most important words in the quotation and analyse their connotations (the deeper ideas, feelings and associations which they produce). <i>Shmuel is first introduced as a 'dot that became a speck ... that became a boy'. Boyne uses these repeated references to size to emphasise just how small and malnourished Shmuel is, especially when compared to Bruno who 'is starting to feel hungry' despite having had lunch before leaving the house. Boyne uses Shmuel to contrast Bruno and highlight his naivety and ignorance of the war. Shmuel isn't immediately identified as a boy, but as an insignificant speck in the distance, which could represent Bruno's understanding; as Shmuel becomes revealed, so does the truth of Out-With and its horrors.</i>
Y WHY: Why is this portrayal important? Why might it create shock / suspense / humour / sympathy for a reader? Why is Boyne presenting him this way? Why does it relate to context and what are the messages? <i>Boyne describes Shmuel in a sympathetic way to encourage the reader to feel disgust at a small boy being sentenced to live his life in a concentration camp. The reader develops a strong desire for Shmuel to survive the camp, which only deepens the feelings of anger and horror in the final chapters.</i>

SOPHISTICATED ANALYTICAL SENTENCE STRUCTURES
1. Reader positioning <i>e.g. The reader is positioned against / in favour / to think...</i>
2. Analysing the alternative interpretation <i>e.g. This image could also be interpreted as representing...</i>
3. Analysing the combined effect of several techniques <i>e.g. The writer uses ____ coupled with ____ to reflect...</i>
4. Tracing how key ideas are developed through a text <i>e.g. This idea / further sense of ____ is further developed by...</i>
5. Peeling away the layers of characterisation <i>e.g. On the exterior ____, yet on the interior we can infer ____.</i>
6. Deepening analysis <i>e.g. At first glance ____, however, on closer inspection ____.</i>
You should try to use two verbs, like these, in your analysis: <i>e.g. ... suggesting ____ and implying ____.</i>

Spanish Knowledge Organiser

Year 8 - Autumn 1

Week 1&2

Connectives

- **pero** - but
- **y** - and
- **sin embargo** - however
- **sobre todo** - especially
- **tambien** - also

Qualifiers

- **muy** - very
- **un poco** - a little
- **bastante** - quite
- **demasiado** - too

This year you will be learning sentences which use the 10 keys. For this first half term we would like to show you some of those key words that we want to see you continuing to use all year.

Week 3&4

Opinions

- **Me gusta** - I like
- **Me gusta mucho** - I really like
- **Me encanta** - I love
- **No me gusta** - I don't like
- **Odio** - I hate

Comparatives

- **más + adjective + que** - more + adjective + than
- **menos + adjective + que** - less + adjective + than

Week 5&6

Time phrases

- **El fin de semana pasado** - last weekend
- **El fin de semana próximo** - Next weekend
- **Todos los fines de semana** - every weekend
- **A veces** - sometimes

Tenses

- **Voy a + infinitive** - I am going to
- **Vamos a + infinitive** - We are going to
- **Fui** - I went
- **Comí** - I ate
- **Jugué** - I played
- **Fue** - it was

French Knowledge Organiser

Year 8 -Autumn 1

Week 1&2

Connectives

- **mais** - but
- **car** - because
- **cependant** - however
- **surtout** - especially
- **aussi** - also

Qualifiers

- **très** - very
- **un peu** - a little
- **assez** - quite
- **vraiment** - very
- **trop** - too

This year you will be learning sentences which use the 10 keys. For this first half term we would like to show you some of those key words that we want to see you continuing to use all year.

Week 3&4

Opinions

- **J'aime** - I like
- **J'aime beaucoup** - I really like
- **J'adore** - I love
- **Je n'aime pas** - I don't like
- **Je déteste** - I hate

Comparatives

- **plus + adjective + que** - more + adjective + than
- **moins + adjective + que** - less + adjective + than

Week 5&6

Time phrases

- **Le week-end dernier** - last weekend
- **le week-end prochain** - next weekend
- **tous les week-ends** - every weekend
- **parfois** - sometimes

Tenses

- **Je suis allé** - I went
- **J'ai mangé** - I ate
- **Je vais + infinitive** - I am going to

Modal verbs

- **je veux** - I want
- **je dois** - I must
- **je peux** - I can

Watch the video to learn more
<https://www.bbc.com/bitesize/clips/zxqjg82>

Year 8 Food Knowledge Organiser: Principals of Nutrition



Source: Public Health England in association with the Welsh government, Food Standards Scotland and the Food Standards Agency in Northern Ireland

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Fat

Function:
Energy
Warmth
Protection of organs

Sources
Saturated Fat
 Meat
 Processed Foods
 Lard
 Saturated Fats - solid at room temperature and are from animal sources. Unsaturated fats are liquid at room temperature and are vegetable sources..

Unsaturated Fat
 Avocado
 Nuts
 Olive oil

Too much	Too little
<ul style="list-style-type: none"> Obesity Type 2 diabetes Heart Disease 	<ul style="list-style-type: none"> Fat soluble vitamin deficiencies

Macronutrients

Needed in large amounts to help the body to function properly

Protein

Function:
Growth and Repair
Energy

Sources:
Plant
 Nuts
 Quorn
 Beans
 Lentils

Animal
 Eggs
 Fish
 Meat

Too much	Too little
<ul style="list-style-type: none"> Turns to fat if not turned into energy 	<ul style="list-style-type: none"> Anaemia Slow growth in children

Carbohydrates

Function:
Energy

Starches:
 Bread
 Pasta
 Rice
 drinks
 Wheat
 Potatoes
 Cereals

Sugars:
 Cakes
 Sweets
 Fizzy

We should consume no more than 30g of sugar per day

Too much	Too Much
<ul style="list-style-type: none"> Obesity Type 2 diabetes Heart Disease 	<ul style="list-style-type: none"> Tooth decay Type two diabetes Obesity

The 5 main groups
 The Eatwell Guide divides the foods and drinks we consume into 5 main groups:

1. fruit and vegetables
2. potatoes, bread, rice, pasta and other starchy carbohydrates
3. beans, pulses, fish, eggs, meat and other proteins
4. dairy and alternatives
5. oils and spreads

You should try to choose a variety of foods from each group to help you get the nutrients you need to stay healthy.

Using the Eatwell Guide
 You can use this guide to help you make healthier choices when:

- planning what to eat
- cooking or preparing a meal at home
- food shopping
- eating out or on the go

Most of the meals we eat are a combination of food groups. When planning meals, work out the main ingredients and think about how these fit within the 5 main food groups.

Micronutrients

Needed in small amounts to help the body to function properly

Watch the video to learn more
<https://www.youtube.com/watch?v=ISZLTJH5IYg>

Vitamin	Sources	Functions	Deficiency diseases
Vitamin A (fat soluble)	Fish, eggs, oranges	Helps with Eye sight and skin. It is also an antioxidant which protect the cells from harmful substance.	Night Blindness
Vitamin D (fat soluble)	Eggs, the sun	Helps our bones to grow. Aids the absorption of Calcium and prevents RICKETS	Rickets in children Osteoporosis in women
Vitamin C (Water soluble)	Oranges, tomatoes, vegetables	Helps to heal cuts, helps the immune system which prevents scurvy. Aids the absorption of Iron and prevents ANAEMIA	Scurvy and Anaemia
B Vitamins (Water soluble)	Cereals, meat, fish	Creates enzymes that break down food allowing absorption of Carbohydrate, Fats and Protein into our blood.	Beri Beri – lack of B1 - Thiamin Pellagra - lack of B3 - Niacin

Year 8 Food Knowledge Organiser: Function of ingredients

Gelatinisation

Definition

A sauce is a thickened, flavoured liquid which can be added to a range of savoury and sweet dishes.

There are several types of sauces based on different ways of thickening mixtures.

The main functions of sauces are:

- To add liquid to moisten a food or dish.
- To add flavour.
- **To add colour.**
- **To bind ingredients together.**
- To add nutrients.

To make dishes more interesting and appealing.

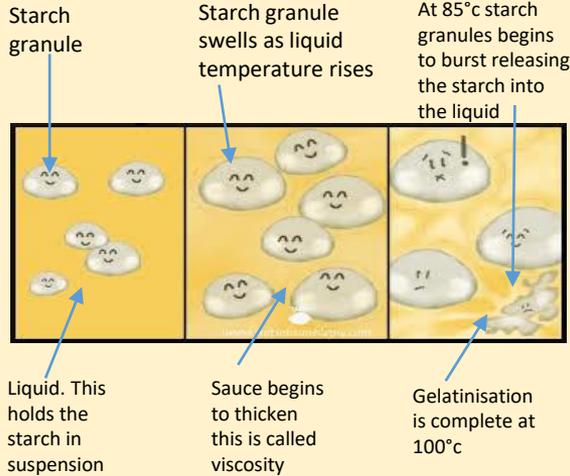
A wide variety of different sauces can be used to produce dishes using a vast range of skills, to develop differing flavours and textures. These can include a **coating, accompaniment** or **part of a meal**.

Starch grains are mixed into a liquid. The starch grains do not dissolve they are suspended in the liquid. This is called a **suspension**. When the starch grains are put in a liquid and then heated, the starch grains will start to absorb the liquid. They will swell and get bigger this will start at **60C**. This makes the sauce start to thicken, because there is less room for the swollen grains to move around. Stirring helps to keep the starch grains suspended

Watch Video on Gelatinisation :

<https://www.youtube.com/watch?v=zjyhMzjDaVI>

If the liquid is not stirred, the starch grains will join together and form lumps.
At **85C** the starch grains are so swollen that they start to burst and release starch molecules into the surrounding liquid. At boiling point **100C** the sauce completely thickens.
The whole process is known as **gelatinisation**.



Factors that affect gelatinisation

1. Type of Starch (Wheat Flour/Cornflour)
2. Quantity of starch
3. Amount of liquid
4. Temperature
5. Stirring

Cakes

Cake making methods

- **Rubbing in – Scones**
- **Creaming – Traditional and all in one – Muffins**
- **Melting – Ginger Bread**
- **Whisking – Swiss roll.**

The main ingredients in cake making are fat, sugar, flour and eggs. All methods use a raising agent and often a liquid such as milk.

Function of ingredients:

Ingredient	Function
Flour	<ol style="list-style-type: none"> 1. Forms structure of the cake. 2. As the cake is heated, protein (gluten) in the flour sets the framework and shape. 3. DEXTRINISATION occurs, starch converts into sugar when exposed to dry heat. This sugar then CARAMELISES on the surface.
Sugar	<ol style="list-style-type: none"> 1. Sweetens and adds flavour. 2. When creamed with fat, helps to hold air in the mixture. 3. CARAMELISATION gives colour.
Fat	<ol style="list-style-type: none"> 1. Adds colour and flavour 2. Holds air bubbles (foam) which creates texture and volume. 3. Produces a short crumb or rich even texture dependent on the ratio of fat and method used. 4. Increases shelf life.
Eggs	<ol style="list-style-type: none"> 1. Traps air when whisked into a foam. 2. Coagulates (set) on heating. 3. Emulsify – holds the fat in emulsion and keeps it stable 4. Add colour, flavour and nutritional value.
Raising agents	<ol style="list-style-type: none"> 1. Aerates the mixture increasing volume and resulting in a light texture.

Bread

Ingredient	Role
Strong Flour	Strong flour is high in GLUTEN (protein) that makes the dough stretchy and elastic.
Liquid	Hydrates the Yeast allowing the it to produce Carbon Dioxide (CO ₂). Bind dry ingredients.
Yeast	Biological raising agent produces Carbon Dioxide. Yeast requires 4 Factors for Growth; Food, Time, Temperature, Moisture.
Salt	Adds Flavour.

The Design Process

Brief



A brief is a set of **instructions** given to a designer by a company (**client**) about a job or task they wish to be completed.

A **company** (client) will ask a **graphic designer** to create a **product**. A product means an item that can be sold to people (**consumers**).

A brief will set out clearly what it is that should be made (**constructed**) and what requirements (**specifics**) will need to be included in the **design process**.

Isometric



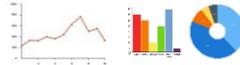
When the concept drawing is finished, the design will be turned into an isometric drawing where the size (**dimensions**) of the parts are finalised. Specific measurements (**metric – CM, MM**) are used so that it can be copied many times (**mass produced**).

The design will be computerised (**digitally formatted**) so that it can be **saved, shared** and **inputted** into the machines that produce it.

Market Research



Companies will employ people to conduct **surveys**. A survey is a set of **questions** that are asked to many people. Often companies would decide which people they will ask (**target audience**). They wish know peoples **preferences** and **spending habits**.



The answers are important to the **design process** and can influence the way the product is **designed**. To make it easy to see large amounts of **data**, companies use **graphs**.

Testing Models



When isometric drawings are complete, it will go through a process of being made **3D**. A number of **machines** will be used to create practice models (**prototypes**) to see how the product works. It must be easy for a human to use (**ergonomics**). **3D printers** are often used.

If the product is made out of different **materials** such as glass, metal or wood, these would require different methods of construction (**manufacturing**).

Design Process



Designers will explore lots of ideas before selecting the right one. Often this involves creating **mind maps**, **sketches** and **mood boards**.

A mind map starts with a single word and then **explores ideas** around it, these are sorted into **categories**.

When drawing sketches, designers will work out how it works (**functions**). Ideas at this stage can be really **creative** and **imaginative**.

A mood board is a collections of pictures, drawings, text (**typography**) and **materials** to do with the **theme**.

Packaging



When a final product has been made and passed safety standards, it will be labelled and have its own (**custom**) **packaging**.

Packing must –

- Be eye catching (**visually pleasing**) to attract customers to buy it.
- Protect the item inside it to **avoid damage** or **contamination**.
- Provide **accurate information** about the product inside.
- Stack easily for **transportation** from factory to shops.

Concept Art



Artists/**illustrators** will draw a number of different sketches of the product from different angles.

When designing, **colour** and **style** is important. It is important to think about how it looks (**aesthetics**). Designs will consider the mood board and specifics.

Drawings can be in **traditional** materials (pen, pencil, paint) or using **CAD** (Computer Aided Design) and electric drawing pads (**graphics tablets**).

Advertising



For companies to make money (**financial income**), they must tell as many people as possible about their product.

This often happens through **social media**, **adverts**, **radio stations**, **magazines** and **displays** in shops.

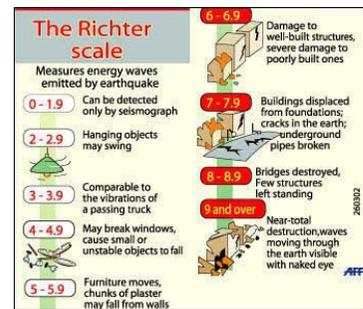
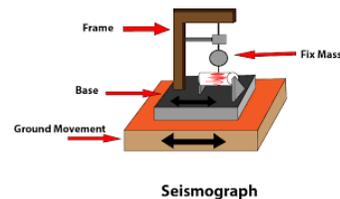
Its important that the product is well received by its target audience so that people buy it and share reviews of it. Companies make a **profit** when they sell items for more than the price of making it. .

Year 8 Geography: USA

- Formation of earthquakes in USA
- Measuring earthquakes
- San Andreas Fault earthquake 1989
- Volcanoes at destructive plate margins
- Mt St Helens eruption
- Yellowstone super volcano

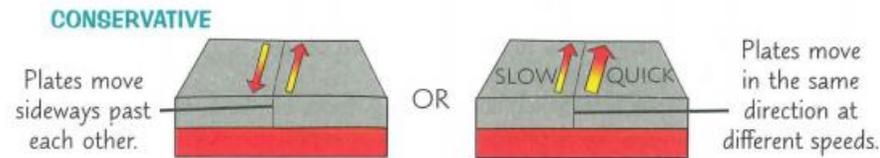
Measuring Earthquakes

Earthquakes are measured using seismographs, below, and measured on the Richter scale



Formation of earthquakes

Earthquakes will occur along plate margins, the point where 2 plates meet. Most earthquakes in the USA happen along the west coast, this is because it is a conservative plate boundary.



As the plates are moving past one another, there is a lot of friction and they often become stuck. Lots of pressure will build up; when they eventually move they release this pressure, which forms an earthquake

San Andreas Earthquake 1989

In San Andreas, there is a fault line, where two plates meet. This makes the location highly likely to experience an earthquake. This is what happened on the 17th of October 1989.

The earthquake was for a magnitude 6.9, it killed 63 people and injured 3,800 people. Many buildings were destroyed, leaving 12,000 people homeless. The earthquake was so strong that the two-tier Bay Bridge and Nimitz freeway both partially collapsed. Gas pipes ruptured, causing fires to break out. Hospitals were flooded with injured victims.

Officials were shocked at the amount of damage as the buildings and bridges were supposed to be earthquake-proof.

Mt St Helens eruption

Mt St Helens in the north west of America erupted on the 18th of May 1980, erupting from the side of the volcano and not from the top as usual. An estimated 540 million tons of ash drifted up to 2,200 square miles, settling over seven states. Electricity supplies were interrupted and telephone lines were cut. The ash and mudflow led to crops being damaged, causing a loss of \$175 million. Overall, 57 people died from the eruption and 200 homes were destroyed.

Yellowstone supervolcano

A supervolcano is a volcano on a massive scale. It is different from a volcano because it erupts less frequently but is more volatile.

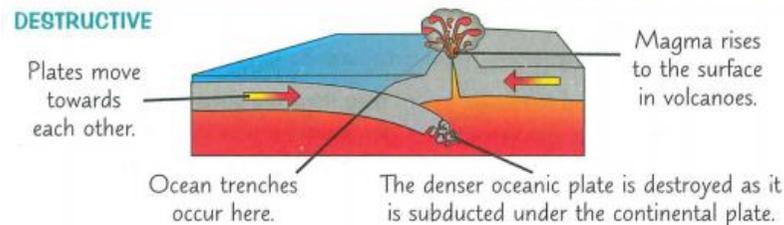
Possible effects

- Up to 90% of people killed within 1,000km
- Severely disrupt air, road and rail transport
- Contaminate water supplies
- Crush buildings
- Volcanic winter

Formation

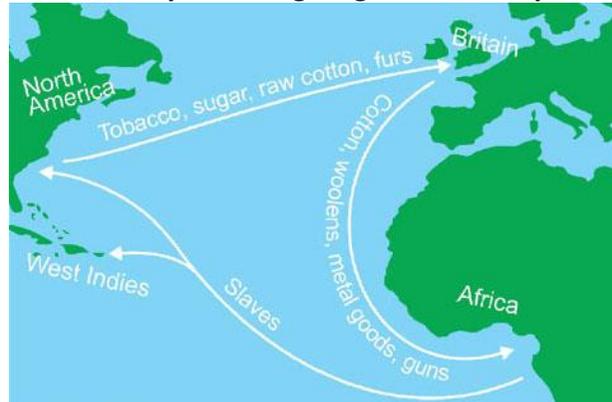
- Magma cannot escape to the surface and collects under the lower crust.
- An 'uplifted bulge' begins to form under the lower crust as the magma chamber enlarges
- Cracks appear on the surface. Gas and ash erupt from the magma chamber through these cracks.
- The magma chamber collapses and a depression is formed. This is called a caldera.

Formation of volcanoes



Here the oceanic plate sinks below the continental plate as it is denser. The point at which it subducts (sinks) lots of pressure and friction builds. As the oceanic plate moves downwards, it melts. This creates magma, which is very thick. This magma rises through to the surface and creates a volcanic eruption. These eruptions are often very violent and explosive. This repeated process leads to the formation of a volcano.

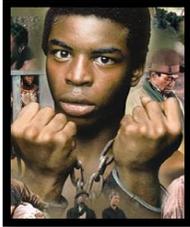
History Knowledge organiser- Slavery



Key Words

Slave- someone who is the property of someone else and is normally forced to do unpaid labour

Manacles- a device for confining the hands or feet. They were 2 metal rings joined by a metal chain.



Trade triangle/ triangular trade- the term used for the 3 part route in the slave trade

Middle Passage- this is the part of the triangular trade where slaves were taken by ship from Africa to the Americas

Plantation- a large farm estate that grew crops such as cotton, tea and sugar.

Underground railroad- a secret network of people and safe houses organised to help slaves escape to freedom.

Background

- Slavery began around 11,000 years ago.
- Slaves were almost always of a different ethnic group, race, religion, or political unit than their owners.
- The earliest slaves were probably war captives, although some people worked as slaves to pay off debts.
- Slave labour was needed for building projects, agriculture and mining, as well as for farm and housework.

Trade Triangle

Goods were taken to Africa and exchanged for slaves. Slaves were loaded onto the ship and taken to the Americas and sold. The money was used to buy goods which were taken back by ship to Europe.

Slave life

1. Capture

Slaves were captured in Africa by white slave traders. They were helped by other African tribes and received payment in goods such as guns. Captured slaves were chained up and often kept in a cage before being loaded onto a ship

2. Middle Passage

Slaves were loaded onto a ship and kept like cargo. Slaves were fed and exercised because the slave traders needed to keep them alive to sell. Some slaves rebelled on ships and attacked or killed the ship's crew. Many slaves died on the journey due to disease, the cold or by throwing themselves overboard.

3. Auction

After arriving in America slaves were prepared for auction- wounds would be covered up with tar and a bung was used to cover up dysentery. Plantation owners bid for slaves who then became their property. Families were separated

4. Life on the Plantation

Slaves worked for their masters- most worked on the plantations, such as in cotton fields. Some worked in the houses of their slave masters. They were housed and fed. Treatment varied for slaves. Slaves who did not do as they were told or who tried to run away were punished harshly.

Methods of slave resistance

- Poisoning the masters
- Running away
- Arson –setting fire to the slave owner's house
- Rebellling
- Working slowly/ did as little work as possible
- Injuring plantation animals
- Pretending to be mad.
- Some urinated in the food (or worse).
- Broke tools
- Intentionally destroyed crops
- Helped others to escape
- Bought themselves out of slavery
- Secretly supported runaways

The Underground railroad

- The people who helped *slaves* escape were called **conductors** or **engineers**.
- Places along the escape route were called stations
- Escaping slaves were called passengers or cargo.

Slave songs

- White people tried to **de-Africanize** the captive black workforce.
- Slaves were forbidden to speak their native languages, to play drums, or practice their mostly own religions.
- They were urged and often forced to become Christians by slave masters.
- Songs were a way of preserving their African culture and heritage. It helped to keep their spirits up during terrible times. Singing was a way to express themselves
- Often slaves put 'coded' messages into their songs.

The end of slavery

Slavery came to an end in America after the Civil War in 1865. BUT this was not the end of the story. Black people may have been free- but those that had been slaves did not own anything and still often had to work for their previous owners.

Section A

Cyberbullying- bullying someone through any use of technology.

Types of Cyberbullying:

- **Harassment:** Using text messaging, instant messaging and email to harass, threaten or embarrass the target.
- **Impersonating someone:** Developing a screen name that is similar to the victim's screen name and then posting rude or hurtful remarks while pretending to be the victim.
- **Creating Websites:** Spreading rumours, lies or gossip about the victim online through websites or blogs.

Ways to Prevent Cyberbullying:

- **Notice:** Recognise if there has been a change in mood or behavior and explore what the cause might be.
- **Talk:** Ask questions to learn what is happening, how it started, and who is involved.
- **Report:** Most social media platforms and schools have clear policies and reporting processes. If a classmate is cyberbullying, report it the school.
- **Support:** Peers, mentors, and trusted adults can sometimes intervene publicly to positively influence a situation where negative or hurtful content posts about a child.



Section B

Social Networks- A social networking service is a web application that people use to build social networks or social relations with other people who share similar personal or career interests, activities, backgrounds or real-life connections.

Advantages of Social networks

- Easy to keep in touch with friends and family wherever they are.
- Make new friends and find old ones you may have lost contact with.
- Share ideas, photos, music and video clips.
- Chat with friends for free.
- Play games alone or with friends.
- Funded by adverts so are free to use.



Disadvantages of Social networks

- Users can hide behind false online identities, which can be dangerous.
- People you don't know may gain access to your personal information.
- If you don't apply security settings, a potential employer may see something you've posted online that they don't like or agree with and decide not to hire you.
- Targeted adverts can be unsettling and intrusive.
- Viruses are becoming increasingly common on social networking sites.
- Keeping up to date and active in all of these communities can take up a lot of time.
- Meeting people online can be less fulfilling when compared to meeting people face to face.



Section C

Grooming- A 'groomer' is someone who makes an emotional connection with someone to try and make you do things like:

- Have sexual conversations online or by text messages
- Send naked images of yourself, which is sometimes called sexting
- Send sexual videos of yourself
- Do something sexual live on webcam
- Meet up with them in person.
- They might be old, or young. And they can be male or female.

Signs of Grooming:

- Send you lots of messages-This could be really often and they might message you in lots of different ways, for example through Facebook, text messaging and chat rooms.
- Ask you to keep your conversations secret
- Ask you who else uses your computer to find out if they could get caught by your parents or carers

What should you do if you think you are being groomed:

- Ask the person to stop
- Tell an adult you trust
- Report it



1950'S

ARTIST/BAND: Elvis Presley

NATIONALITY:

YEARS ACTIVE: 1954 -

TOTAL SALES:

ROCK STYLE: Skiffle, Rock'n'Roll

BADNESS: 3/10. Good boy

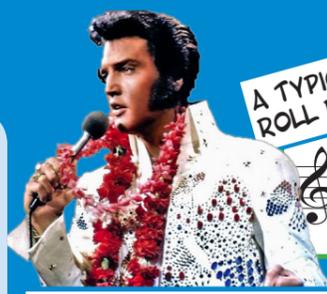
BIG HITS:

Hound Dog, Jailhouse Rock, Can't Help Falling in Love with You, In the Ghetto

SUPERPOWER: Hip swinging & Riff

MISCELLANY:

All the rights to Elvis songs are owned by BMG. (Simon Cowell) who gets paid whenever an Elvis song is played anywhere in the world!



A TYPICAL ROCK N ROLL BASS LINE.

C E G A B \flat A G E

ROCK Royalty

I SUPPOSE IT ALL STARTS WITH THE AMERICAN ELVIS PRESLEY. HE WAS ACTIVE RIGHT THE WAY UP TO 1977 - WHERE HE DIED ON TH LOO POOR CHAP. UNBELIEVABLY HE SOLD 1 BILLION RECORDS - NOT MILLION BUT BILLION. THE STYLE HE PLAYED AND SUNG IN WAS SKIFFLE AND THEN ROCK N ROLL.

RIFF: SHORT MUSICAL IDEA.

1. Fill in the missing details on the cards.
2. Learn how to play the Riffs on this sheet
3. Compose your own short riff and write the notes and the sounds you use in your jotters.

B E B A A
E E D D D

AC/DC: BACK IN BLACK.

DEEP PURPLE: SMOKE ON THE WATER

G D B \flat C G B \flat D \flat C G D B \flat C B \flat G

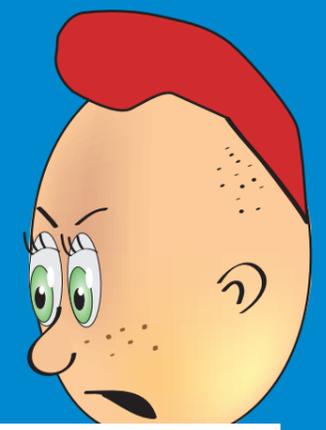
If behaviour was a flavour, the norm is ready salted.
No one likes to be called names - having our ears assaulted.
So think before you speak about the noise your planning on makin'
If it's not acceptable then you'll turn in to smoky bacon.

1980'S

MJ: BEAT IT!

1 2 3 4 + 1 + 2 + 3 4 + 1 + 2 3 4

LET'S KICK THE SHOW OFF WITH MICHAEL JACKSON - AS ROCKY AS HE GOT WITH "BEAT IT!" USE A GUITAR OR ORGAN SOUND AND KEEP PRACTISING UNTIL YOU GET THE TIMING RIGHT. PERSONALLY I WOULD DO THE FIRST TWO NOTES WITH MY LEFT HAND.



CREAM: SUNSHINE OF YOUR LOVE

1970'S

ARTIST/BAND: Queen

NATIONALITY:

YEARS ACTIVE: 1971-now

TOTAL SALES:

ROCK STYL

BADNESS: 2/10! well behaved

BIG HITS:

SUPERPOWER: Brian May Guitar

MISCELLANY:

Freddie Mercury was a tragically trained singer who tragically died of AIDS. As a band they treated music as a performance and were never afraid to try something.

QUEEN ARE A BRITISH BAND FROM THE 70'S. SELLING OVER 370 MILLION RECORDS. STYLE IS KNOWN AS THEATRE ROCK. BIG HITS INCLUDE: ANOTHER ONE BITES THE DUST, BOHEMIAN RHAPSODY, DON'T STOP ME NOW, KILLER QUEEN AND OF COURSE WE WILL ROCK YOU. FREDDIE MERCURY TRAGICALLY DIED OF AIDS.

G F# E E E

EE ?

1960'S

THE 50'S GAVE WAY TO THE 60S AND AS THINGS BECAME MORE ELECTRIFIED AND LOUDER MUSIC CHANGED TOO. THE BRITISH BAND "THE BEATLES" ACTUALLY OUT SOLD ELVIS BY 100MILLION AND IN THE SPACE OF TEN YEARS STARTING IN 1960. PAUL MCCARTNEY AND JOHN LENNON WROTE MOST OF THE SONGS AND IN THE 1980'S MICHAEL JACKSON BOUGHT THE RIGHTS TO THEM - UNTIL HE WENT BUST THAT IS!



ARTIST/BAND: The Beatles

NATIONALITY:

YEARS ACTIVE: 1960-1970

TOTAL SALES:

ROCK STYLE: Rock'n'Roll, Pop

BADNESS: 7/10. Drug Charges

BIG HITS:

Yesterday, Let it Be, Hey Jude, Yellow Submarine, Hard Days Night, Sgt. Pepper, Twist & Shout, Help!

SUPERPOWER: Songwriting

MISCELLANY:

Ringo the drummer narrated Thomas the Tank engine. The Beatles rights were owned by



ARTIST/BAND: The Who

NATIONALITY: British

YEARS ACTIVE: 1964-now

TOTAL SALES:

ROCK STYLE: Rock'n'Roll,

BADNESS:

BIG HITS:

My Generation, Pinball Wizard, Won't get fooled again, Who are you? (CSI Theme) Baba O'Reilly

SUPERPOWER: Stacking Amps/Windmill

MISCELLANY:

Started off as a J as The De-tours. Keith Moon the first drummer - couldn't play drums!

THE WHO STARTED THE HEAVY SOUND WE KNOW TODAY. THEY STARTED OFF AS A JAZZ BAND BUT THEN TURNED TO ROCK. THEY WERE 10/10 NAUGHTY WITH THEIR BEHAVIOUR - LIKE SMASHING UP HOTEL ROOMS BUT STILL MANAGED TO SELL 110MILLION RECORDS. BIG HITS INCLUDE: MY GENERATION, WHO ARE YOU? (THE THEME FROM CSI) AND MANY MORE.

8A Food and Nutrition

1. Nutrients

Diet	The food that you eat-provides the raw materials your body needs for energy.
Nutrients	Food substances that provide the raw materials- carbohydrates, fats, proteins, vitamins, minerals
Carbohydrates	Starch and sugars
Fats	Liquid fats are oils. Fats and oils are called lipids.
Fibre	Made of plant cell walls- not used by the body. Helps food move through the intestines and stops them getting blocked.
Uses of Water	<ul style="list-style-type: none"> • a lubricant • dissolves substances to be carried around body • fills up cells, holding shape • sweat to cool you down
Food Labels	Show the amounts of different nutrients in food.
Starch Food Test	Add 2 drops of iodine. If it turns blue-black starch is present.
Protein Food Test	Add 5 drops of biuret solution. If it turns purple protein is present.
Fat Food Test	Rub on some white paper and hold up to the light. fats will leave a greasy mark

2. Uses of Nutrients

Uses of Carbohydrates	The body's main source of energy. <i>Bread, potatoes, pasta</i>
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Uses of Fats	Another source of energy that is stored in your body. Some is stored under the skin to insulate the body. <i>Dairy products, fried food</i>
Maintaining Mass	The amount of fuel you use needs to be balanced by the amount you eat.
Kilojoules (kJ)	The units for measuring the energy in food.
Respiration	The process that releases energy from food.
Energy Needs	Depends on age, sex and how active you are.
Uses of Proteins	Make new cells allowing us to grow and repair our bodies. <i>Meat, fish, cheese, beans, milk</i>
Uses of Vitamins and Minerals	Used in small amounts to maintain health.
Vitamin A	Needed for healthy skin and eyes.
Vitamin C	Helps cells in tissues stick together properly.
Calcium	Needed to make bones.
Iron	Makes red blood cells.

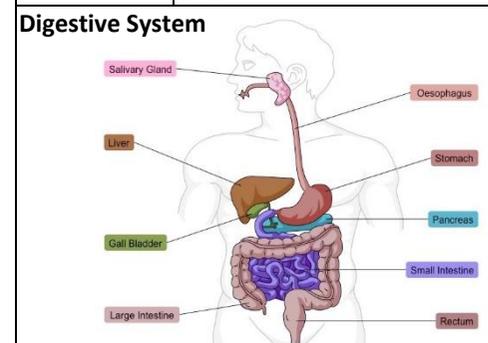
3. Balanced Diets

Balanced Diets	Eating a range of foods in the right amounts.
Malnutrition	Having too much / too little of a nutrient in your diet.
Deficiency Disease	Caused by lacking certain nutrients for a long time.
Kwashiorkor	Lack of protein causing a 'pot belly'.
Night Blindness	Lack of vitamin A.
Scurvy	Lack of vitamin C causing painful joints and bleeding gums.

Rickets	Lack of calcium / vitamin D causing bones not to form properly.
Anaemia	Lack of iron causing tiredness and shortness of breath.
Starvation	Lacking nearly all nutrients needed.
Obesity	Caused by eating food containing more energy than you need.
Heart Attack	Fat clogs arteries so little blood reaches the heart.
Reference Intakes	How much of each nutrient should be eaten in a day.

4. Digestion

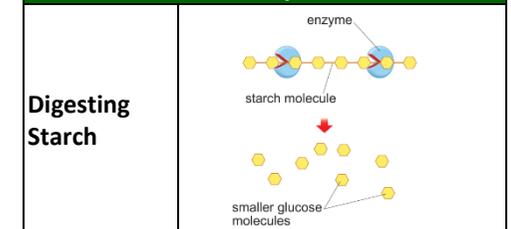
Digestion	Turning large insoluble molecules into small soluble ones.
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Mouth	Teeth grind food and saliva helps digest food.
Gullet	(oesophagus / food pipe) Muscles contract pushing the food down.
Stomach	Food churned with acid.
Small Intestine	More digestive juices added- small digested molecules absorbed into body.
Large Intestine	Water is removed from undigested food- faeces formed.
Rectum	Stores faeces

Anus	Faeces pushed out body- egestion.
Gut Bacteria	Microorganisms needed to help digest food.
Enzymes	Substances that speed up the breaking down of large molecules- biological catalysts.

5. Absorption



Blood	Digested nutrients dissolve in the blood plasma and are carried around the body to cells.
Diffusion	Movement of particles from an area of high concentration to low concentration.
Small Intestine Adaptations.	Has lots of tiny finger-shaped villi to increase surface area. Each villus has a folded top that forms microvilli. Villi walls are one cell thick for easier diffusion.
Alcohol	Causes fewer digestive enzymes to be released and can damage villi.

Lesson	Memorised?
1. Nutrients	
2. Uses of Nutrients	
3. Balanced Diets	
4. Digestion	
5. Absorption	

8E Combustion

1. Burning Fuels

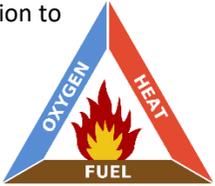
Fuel	A chemical substance from which stored energy can be transferred usefully to make things happen.
Fuel Cell	Used in hydrogen-powered vehicles, releasing energy from hydrogen.
Fuel Cell Word Equation Hydrogen + oxygen → water	
Reactants	The starting substances- on left of word equation.
Products	The new substances made- on right of word equation.
Combustion	Burning, usually in air. The reaction gives out energy which is transferred to the surroundings by heating or light.
Fossil Fuels	Fuels formed from living organisms that died millions of years ago- <i>petrol, diesel</i>
Hydrocarbons	Only contain carbon and hydrogen atoms- <i>petrol, diesel</i>
Combustion of Hydrocarbons	The carbon and hydrogen atoms react with oxygen. The carbon reacts to form carbon dioxide.
Carbon Dioxide	Carbon dioxide will turn limewater cloudy.

2. Oxidation

Oxidation	Reacting with oxygen.
Oxide	Compound formed by oxidation.

Metal Oxides	Formed when metals react with oxygen. <i>metal + oxygen → metal oxide</i>
Conservation of Mass	Mass is never gained or lost in a chemical reaction. The atoms in reactants just rearrange to form the products, no new atoms are made and none disappear.
Heating Zinc in Air	Forms a white powder zinc oxide. The mass will appear to increase because the zinc has combined with the oxygen in air.
Gas Products	If the product is a gas it may escape and make it seem like the mass has decreased.
Phlogiston	A substance scientists used to think explained why things burned that was then proven not to exist.

3. Fire Safety

Exothermic	A reaction that releases energy that we can feel as heat- <i>combustion</i>
Thermometer	Used to measure a change in the temperature.
Fire Triangle	Three factors allow combustion to occur. 
Putting Out a Fire	You must remove at least one of the three factors.
	Explosive Heating may cause an explosion.
	Flammable These substances catch fire easily.

	Oxidising These substances release oxygen.
Fire Extinguishers	Work by cooling a fire or stopping oxygen getting to the fuel.
Oil Fire	Water will sink through the oil and turn to steam making the fire spread out. Use foam or a fire blanket to keep oxygen away.
Electrical Fire	Water conducts electricity so you may get a serious shock. Turn off the electricity and use a powder or carbon dioxide extinguisher.

4. Air Pollution

Complete Combustion	Carbon burns in plenty of air only forming carbon dioxide.
Incomplete Combustion	Not enough oxygen for all the carbon to react with.
Products of Incomplete Combustion	<ul style="list-style-type: none"> carbon dioxide- linked to global warming carbon monoxide- poisonous gas soot- damage lungs and trigger asthma
Impurities	Small amounts of other substances in fuels.
Sulfur Dioxide	Formed when hydrocarbons have a sulfur impurity.
Nitrogen Oxide	Formed by high engine temperatures causing nitrogen and oxygen in air to react.
Pollutants	Something that can harm living things and damage the environment.
Catalytic Converter	Found in cars to react carbon monoxide with more oxygen forming carbon dioxide. Also breaks down nitrogen oxides.

Acid Rain	Sulfur dioxide and nitrogen oxides rise into the air and dissolve in water vapour. The rain is now more acidic.
Controlling Acid Rain	Neutralisation reactions used to remove acidic gases from chimney smoke. Acidic soil /water can be neutralised by adding calcium carbonate.

5. Global Warming

Greenhouse Gases	Trap energy from the Sun in the atmosphere <i>e.g. carbon dioxide</i>
Greenhouse Effect	Energy trapped by greenhouse gases is transferred back to the Earth's surface causing it to warm up.
Earth's Temperature Over Time	The temperature of the Earth has fluctuated over time it is rising rapidly now though.
Global Warming	Increase in global temperature due to more greenhouse gases in the air and the greenhouse effect.
Climate Change	Resulting from global warming- changes to weather patterns, more storms, flood, droughts, etc.
Evidence	There is now lots of evidence for global warming. average temperatures are increasing and ice caps are melting.

Lesson	Memorised?
1. Burning Fuels	
2. Oxidation	
3. Fire Safety	
4. Air Pollution	
5. Global Warming	

KS3 PE THEORY

KNOWLEDGE ORGANISER

Components of Fitness

Agility – the ability to change direction at speed whilst maintaining control.

Balance – maintenance of centre of mass over base of support.

Cardiovascular Endurance – the ability of heart and lungs to supply oxygen to working muscles.

Coordination – the ability to use 2 or more body parts smoothly and efficiently together.

Flexibility – the range of movement possible at a joint.

Muscular Endurance – ability of a muscle or group of muscles to undergo repeated contractions avoiding fatigue.

Power – product of strength x speed.

Reaction Time – the time taken to initiate a response to a stimulus.

Speed – the maximum rate at which an individual is able to perform a movement or cover a distance in a period of time.

Strength – the ability to overcome a resistance (4 types: maximal, dynamic, static, explosive).



Agility



Flexibility/Balance/Strength



Reaction Time

Health and Fitness

Health – A state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.

Fitness – The ability to meet or cope with the demands of the environment.

Movement Analysis

Flexion and Extension

Decreasing the angle at a joint

(hip/knee/elbow/shoulder)

Increasing the angle at a joint

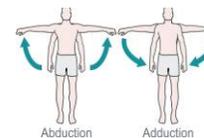


Abduction and Adduction

Movement away from the midline of the body

(hip/shoulder)

Movement towards the midline of the body

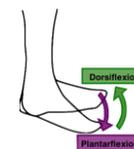


Dorsiflexion and Plantarflexion

Pulling toes up towards the sky

(ankle)

Pointing toes down towards the floor



Rotation

Circular movement around a fixed joint

(hip/shoulder)



Muscle Contractions

Isometric

(no movement)

Muscle remains the same length as it contracts



Isotonic

(movement):

When the contraction of a muscle causes it to change length:

Concentric – muscle shortens as it contracts

Eccentric – Muscle lengthens as it contracts

