FRAMWELLGATE
SCHOOL DURHAM

KNOWLEDGE ORGANISER

YEAR 8 - 2026/27

NAME:

REGISTRATION GROUP:

0191 386 6628
enquiries@framdurham.com

CONTENTS

YEAR 8

03 Art & Design

06 Computer Science

09 English

16 Food & Nutrition

19 French

32 Geography

36 Food & Nutrition

49 Maths

54 Music

57 PE

63 R.E

66 Science

87 Tech

YEAR 8

ART & DESIGN

YEAR EIGHT ART & DESIGN

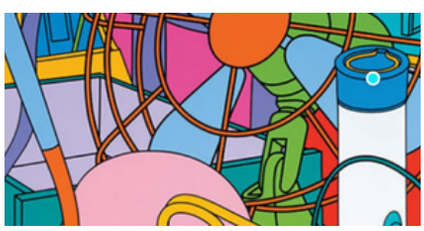
Knowledge Organiser

It's impossible for us to include every **skill, technique or artist** that we will look at on this sheet - instead we have set up a website for you with all the information you need.

Scan the QR codes with a phone to access the pages

UNIT 1
artists record their observations

We will **work from observation** to produce drawings of objects before **developing these into colourful pieces** of work using **painting techniques**.



UNIT 2
artists try to change the world

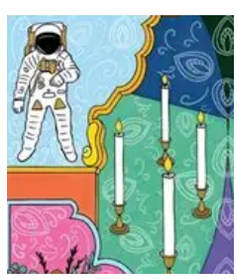
We will look at the work of **artists who use text** and then create work **inspired by a cause or issue we feel strongly about**.



UNIT 3
artists develop ideas

We will learn how to explore **creating our own personal projects** inspired by the work of **Sophia Barton** and our own **research into 'trailblazers'...**





READING LIST
Providing opportunities for you to read, both in and out of the classroom, is vital to **develop your literacy skills.**

We will do lots of work in class **developing your literacy through reading a range of texts** and have included these here, as well as **some extra books we think you may find interesting**.

INDEPENDENT LEARNING - YOU ARE A GRAPHIC DESIGNER
Scan the QR code for access to our **Independent Learning Tasks**; quick weekly things for you to do to develop as an artist.

Each half term we will s**elect the pupil with the most points for completing tasks** and **issue them with a prize.**

NO PHONE? NO PROBLEM...
The quickest and easiest way to access the information you need is by **scanning the QR codes.** If you don't have a phone then you can access the Art Department website **via the link sent to you on Teams** or by **typing the address below into your web browser.**

Talk to your teacher or tutor if you need to use the school computers to access the website after school.

thisisfsdartanddesign.weebly.com/year-eight

EVALUATING YOUR WORK

WHAT?	**WHAT IS IT?** Explain your work. **Example:** This is a drawing I made of a... This is a series of photos I took of... This an experiment using... This is a section of a piece of work by... Here I have used... On this page I have tried.... This is a collection of....
WHY?	**WHY DID YOU MAKE IT?** How does it help? **Example:** ...to get ideas about... to show what I have learned about... to explore the idea of... to examine the shape/form/texture/colour/pattern of... to analyse the style of... to try out the technique of... to practice... to develop my skills...
HOW?	**HOW DID YOU MAKE IT?** Explain the process. **Example:** I drew it using... I painted it with...I constructed it from...I built it up by collaging...I photographed/drew it from life...I worked from a photograph...I experimented with... I photocopied... I cut up and rearranged...
QUALITY?	**HOW GOOD IS IT?** What works/what doesn't? **Example:** I am pleased with...one good thing is...the best part of this piece is...I'm not happy with...one part I could improve is...the least successful part is. I wish I could... If I had chance I would... I could improve this by...
LEARNING?	**WHAT DID YOU LEARN?** What's next? **Example:** I improved my skills in...I got better working in the style of...I have a better understanding of... I feel more confident about...Next I will try...To follow this up I will...To move my ideas on I could... Next I should... To make progress I must...

USE THE HEADINGS TO EXPLAIN EACH PIECE OF WORK YOU HAVE COMPLETED IN YOUR SKETCHBOOK

@thisisfsdartanddesign & @thisisfsdphotography

YEAR 8

COMPUTER SCIENCE

Computer Science – Part 1 – Inside Your Computer

Binary

Computers use electrical signals that are on or off, so they have to see everything as a series of binary numbers. This data is represented as a sequence of 1s and 0s (on and off).

All data that we want a computer to process needs to be converted into this binary format.

To convert to binary:

- put your binary digit in the place holders.
- Any placeholder with a 1 in add it up (shown below)

	128	64	32	16	8	4	2	1
8 bit binary digit	1	0	1	1	0	0	0	1
	128 + 32 + 16 + 1 = 177							

Hardware and Software

Hardware are the physical parts of your computer (the pieces you can touch)

Software are the virtual parts of your computer that you use, such as applications.

The **CPU** is the central processing Unit. It is like the brain of the computer and controls all of the actions that you do on your computer.



The **motherboard** holds, and allows, communication between many of the crucial electronic components of a system, such as the central processing unit (CPU) and memory (RAM).



Storage

A **hard disk drive** (HDD) is a storage device that uses magnetic material to store and retrieve digital information.



ROM stand for Read Only Memory and is a type of memory that cannot be changed. ROM is only used to boot or start-up a computer.

RAM stands for Random Access Memory and allows information to be stored and retrieved on a computer.



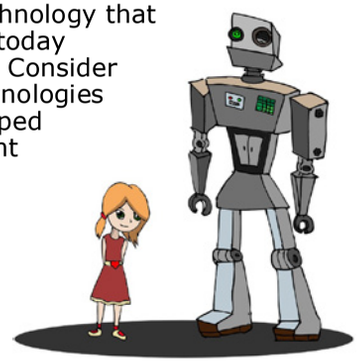
If the computer is turned off, all data contained in RAM is lost.

UI versus UX

UI stands for User interface - this includes how something looks such as the fonts and colours that it uses to make it look attractive.

UX stands for User Experience - how easy is it to use something and well does it meet a need.

Think about the technology that we have available today and Its limitations. Consider possible future technologies that may be developed and how these might improve the user experience.

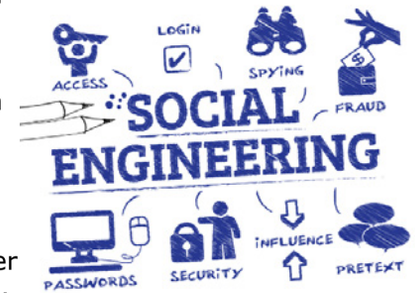


Cyber Security and Social Engineering

Blagging is trying to invent a scenario to convince someone that you are a person you are not.

Shoulder Surfing is when a crook is looking over your shoulder looking at passwords or sensitive personal information.

A **Phishing** email is one that tricks you into handing over sensitive Information, such as bank details.



Pharming is a cyber-attack to redirect you to a fake site in order to steal user data, like passwords.

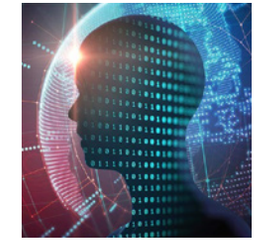
Careers in IT and Computer Science

There are so many job that you can do once you have studied IT or computer science. Spend some time looking at some of the jobs and seeing if any are things you might like to do in the future

But remember that many Computer Science jobs of the future haven't even been invented yet! Could you be the next technology inventor?

A small sample of possible careers include:

- Data Analyst
- Project Manager
- Agile Programmer
- Web Developer
- Games Designer
- Database Manager
- Systems Architect
- Ethical Hacker



Computer Science – Part 2 – Data Analysis and Programming

Data and Information

Information combines 4 elements:

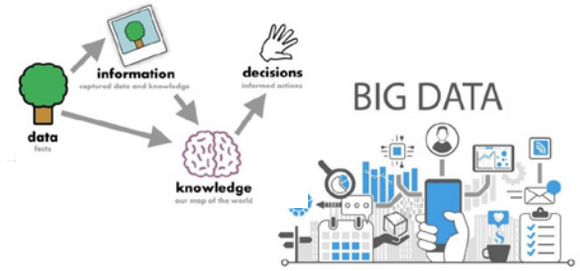
Data	Raw facts or figures without meaning.
Structure	How the data is organised or encoded.
Context	Prior understanding and the structure are used to make sense of the data.
Meaning	Data, structure and context are put together to provide meaning.

Example - turning data into information:

Data	122520
Structure	12/25/20
Context	US date format - month/day/year
Meaning	Christmas Day 2020

Knowledge and Big Data

When information is used to answer a particular question or to solve a problem then that is applying knowledge.



Big Data systems use extremely large data sets to reveal patterns, trends and associations; especially relating to human behaviour and interactions. Social media, online shopping, music streaming, navigation systems and personal assistants such as Alexa and Siri all increasingly make use of Big Data.

Algorithms and Boolean Logic

Algorithm	A step-by-step process to solve a problem or complete a task.
Sequence	One step after another (think of a sequence like 1, 2, 3 or a, b, c)
Selection	Make a choice or select a path (IF True then do something) - aka branching
Iteration	Repeat something a fixed number of times (FOR) or WHILE True - aka loop

Boolean Logic with AND, OR and NOT in conditions is used to control selection and iteration in programs based upon data values in variables and is also used in database queries.

AND - all parts of a condition must be true.

OR - only one part of a condition needs to be true.

NOT - a condition needs to be not right to be true!

```
File  Edit  Format  Run  Options  Window  Help
import time
for x in range(10)
    print(10-x)
time.sleep(1)
print("Blast Off!"
```

```
10
9
8
7
6
5
4
3
2
1
Blast Off!
```

A for loop is a type of iteration and will run for a set amount of times. It is also know as a count controlled loop

```
guess=""
password="Fram1234567"
while guess !=password:
    guess=input("Enter password")
print("Welcome to your account")
```

```
Enter passwordFram1
Enter passwordFram12
Enter passwordFram123
Enter passwordFram1234
Enter passwordFram12345
Enter passwordFram123456
Enter passwordFram1234567
Welcome to your account
```

A while loop is a type of iteration that is condition controlled. In this example it will keep asking for a password until it matches the stored password.

Data Types

Variables in computer programs and fields in database tables store different types of data. The type chosen affects how the data can be processed - for example, whether a calculation can be performed on it or how database records are sorted.

Common data types include the following:

Data Type	Description and Usage
String or Char	Text such as "Hello World!"
Integer	Whole numbers like -3 or 42
Real or Float	Decimal numbers like 3.142
Date	Date values such as 25/12/2020
Boolean	Can only be True or False

YEAR 8

ENGLISH

Year 8 Term 1.1: Gothic Extracts (Reading)

CONVENTIONS OF GOTHIC WRITING		
Key concepts	Gothic stories explore fear, mystery, death and the supernatural. They often reflect people's worries and fears.	Ghosts, curses, monsters, unexplained events
Settings	Settings are usually dark, lonely and frightening. They create an ominous, sinister feeling.	Haunted castles, old houses, graveyards, dark forests
Characters	Protagonists are often lonely, troubled or hiding secrets. Villains may seem charming at first but are not what they appear.	A mysterious stranger, a ghost, a trapped hero
Plot	Gothic stories often include mysteries, secrets, revenge and supernatural events.	Family curses, hidden rooms, strange disappearances
Objects	Objects often have a deeper symbolic meaning and help create suspense.	Candles Locks mirrors

Vocabulary	
Eerie	Strange in a frightening and mysterious way
Foreshadowing	To warn or indicate a future event in a story
Secluded	Sheltered, not visited by many people
Sinister	Giving the impression that something harmful will happen
Encroached upon	Advance gradually beyond usual limits
Malevolent	Evil, wanting to cause pain to others
Shrouded	Covers or envelops to conceal from view
Vengeance	The act of seeking revenge
Ominous	A worrying impression that something bad is going to happen
Unreliable narrator	A narrator that cannot be trusted or relied upon
Melancholy	A prolonged, gloomy state of mind
Supernatural	Something that cannot be explained by science.

WRITING A PEA PARAGRAPH

Point: In this text, the writer presents… in order to…

Evidence: The writer describes how … "…"

Analysis: At first glance, perhaps the writer uses [method] to suggest that… Upon closer inspection, the [method] also suggests that…

TEXT	SUMMARY	SYMBOLS
Uncle Montague – Through the Woods	Edgar visits his uncle, Montague, during the holidays. The path to Uncle Montague's house is eerie.	**Cold** – death, fear, loneliness **Fire** – danger, destruction
Uncle Montague – Winter Pruning	A young boy decides to steal money from an older woman in the village.	**Trees –** mystery, isolation **Pruning** – control, destruction
The Monkey's Paw	A family receives a magical monkey's paw that can grant wishes. However, their wishes lead to terrible consequences.	**Monkey's paw** – temptation, fate, consequences of interfering with destiny. **Door** – barrier between safety and horror; fear of the unknown.
The Red Room	A young man spends the night in a room that is said to be haunted. As he becomes more frightened, he learns that fear can be more powerful than any ghost.	**Candles** – light, reason, and safety being overwhelmed by fear. **Red (colour)** – danger, blood, fear, and intense emotion
Miller's End	A family thinks a mysterious woman dressed in black is a ghost.	**Shadows** – hidden danger, the supernatural, and the unknown.

LANGUAGE METHODS	
Adjective	Describes a noun
Verb	Doing word
Adverb	Describes a verb
Personification	Giving human characteristics to an object
Metaphor	Saying something is something else
Simile	Comparing two things using "like" or "as"
Pathetic fallacy	Giving human characteristics to the natural world
Foreshadowing	Giving the reader a hint of something yet to happen
Symbol	An object that represents an idea

STRUCTURAL METHODS	
Dark opening	Begins with mystery or an unsettling atmosphere to create suspense.
Establish setting	Introduces an eerie setting such as a haunted house, dark woods or isolated location to build tension.
Pivotal moment	A shocking discovery, supernatural event or revelation changes the direction of the story and increases fear.
Cyclical	The ending links back to the beginning, suggesting the horror may continue or repeat itself.
Unresolved ending	Questions are left unanswered, making the reader wonder what really happened and leaving a lasting sense of unease.

Year 8 Term 1.2: Gothic Descriptive Writing

Task: Using a picture as a starting point, write a description of approaching a house



CONVENTIONS OF GOTHIC WRITING	
Key concepts	Gothic stories explore fear, mystery, death and the **supernatural** (things that cannot be explained). They often reflect people's worries and fears.
Settings	Settings are usually dark, lonely and frightening. They create a feeling that something bad might happen.
Characters	Main characters are often lonely, troubled or hiding secrets. Villains may seem charming at first but are not what they appear.
Plot	Gothic stories often include mysteries, secrets, revenge and supernatural events.
Objects	Objects often have a deeper meaning and help create suspense.

PUNCTUATION		
Semi-colon ;	Replaces a connective in a sentence. Both sides of the semi-colon must make sense on their own.	The cobwebbed clock struck midnight; its mournful chimes echoed through the labyrinthine corridors.
Colon :	Emphasises a key piece of information. Can be used to introduce a list.	Creaking ominously, the door opened: a dark, suffocating silence spilled out.
Comma ,	Adds extra information into a sentence.	The spires of the castle, ancient and decaying, loomed over the village.

SENTENCE STRUCTURES	
Adjective start	**Bleak and barren**, the moor shuddered in the wind.
Verb start	**Twisting and turning**, the vines encroached upon the castle.
-ly Adverb start	**Silently**, the shadow crept along the crumbling walls.
Preposition start	**Beneath the watchful moon**, her timid footsteps echoed as she
More, more, more	**The more** she wandered through the endless maze of corridors, **the more** the walls seemed to close in, **the more** she realised she was not alone.

LANGUGE METHODS	
Adjectives; Describes a noun	pallid, gaunt, ominous, desolate, helpless, malevolent, melancholy
Verbs: Doing words	crept, evaded, gripped, howled, whispered, shuddered, pursued, encroached upon
Adverbs: Describes a verb	cautiously, furtively, eerily, ominously, tentatively, silently, morosely, violently
Repetition: Using the same word or phrase more than once	Ominously, ravens hovered overhead: never satisfied, never still.
Personification; Giving human characteristics to an object	Silence reigned there. The moon peered behind obsidian clouds.
Metaphor: Saying something is something else	Dense and suffocating, the fog was a blanket of dread; it threatened to smother all.
Simile: Comparing two things using 'like' or 'as'	The candle flickered like a dying breath, casting trembling shadows across the stone walls.
Pathetic fallacy: Giving human emotions to something in the natural world.	The storm raged, as if the sky itself were mourning. Melancholy and desolate, the rain wept against the windows.
Foreshadowing: Giving the reader a hint of something yet to happen.	The piercing cry of a raven shattered the silence that entombed the land.

STRUCTURAL METHODS	
Focus on: - Weather - Setting - Surroundings	**Beneath…** Beneath the ominous clouds, thunder sounded like a distant drum, rumbling through the night sky.
Approach the house	**In the distance…** **Moving closer…** In the distance I could just make out the faint outline of a grey structure.
Zoom in on a light flickering in the house	**A bright light flickered…** A bright light flickered from a tower, like an eye staring into the night.
Enter the house: what do you find?	**Just as…** Just as I reached for the rusted handle, the door creaked open of its own accord. A pale figure stood within, unmoving, as though it had been waiting.
Cliffhanger ending	**And still…** And still thunder rumbled in the distance.

Year 8 Term 2.1:I Am Malalaby Malala Yousafzai

KEY CONCEPTS	
Malala supports education for girls.	Malala opposes oppression and tyranny.

MALALA YOUSAFZAI

- Malala grew up in Pakistan in the 2000s.
- In 2009, the Taliban banned education for girls.
- Malala spoke out in favour of girls' education, and became a well-known activist.
- On 9 October 2012, Malala was shot on a school bus. The shooter was a member of the Taliban who wanted to silence her. Malala was aged 15.
- She survived the shooting, and was flown to Birmingham for medical treatment.
- Malala won the Nobel Peace Prize in 2014 and continues to campaign for girls' education.



VOCABULARY FOR REFERENCE: PAKISTANI CULTURE	
Allah	The Arabic word for God
Burqa	Clothing worn by some Muslim women to cover their bodies in public
Chapati	Flat bread
Eid	Celebration to mark the end of fasting during Ramadan
Holy Quran	The Muslim holy book
Iman	A local preacher; a religious teacher
Jihad	Holy war or internal struggle
Mullah	A religious leader
Niqab	A shawl worn by some Muslim women to cover their face in public
Pashto	The language of the Pashtun people
Purdah	Women wearing the burqa and living in seclusion
Ramadan	A time of reflection and fasting during the 9th month of the Islamic calendar
Shalwar kamiz	A tradition tunic and trousers
Sharia	Islamic religious law
Taliban	An Islamic fundamentalist movement

VOCABULARY	
Activist	A person who works to change something they think is unfair
Advocate	Speaking up for an idea
Courage	Bravery
Determination	Not giving up
Discrimination	Treating people unfairly because of who they are
Equality	When everyone is treated fairly
Extremism	Very strong beliefs that lead to harmful actions
Oppression	Treating people unfairly or taking away their freedom
Rights	Freedoms and protections that all people should have
Taliban	An oppressive group that controls part of Afghanistan
Tyrant	A leader who is cruel and unfair to others

LANGUAGE METHODS	
Adjective	Describes a noun
Foreshadowing	Hinting at something that will take place in the future
Imagery	A picture or visual that connotes an idea
Imperative verb	A command
Juxtaposition	Putting two different things side by side
Personification	Giving an object human characteristics
Pronoun	A word that stands in for a name e.g. I, you
Repetition	Repeating a word or phrase
Rhetorical question	A question that does not require an answer
Symbolism	An object represents an idea e.g. the crown
Triple	A list of three
Verb	An action word

PEA SENTENCE STARTERS

Point: discourse marker, writer's name, question, in order to…

Evidence: Malala describes how "…"

Analyse: identify method + explain why it is used/the effect. E.g. At first glance, Malala uses METHOD to WHY. This sense of WHY is amplified by ANOTHER METHOD, which implies WHY. On closer inspection, Malala also uses the METHOD to represent WHY.

Year 8 Term 2.2: Persuasive Writing –Social Media

Task: write a persuasive speech or article in response to a statement about social media.

KEY CONCEPTS	
Problems with Social Media	**Alternatives to Social Media**
Young people spend excessive amounts online, negatively impacting physical and mental health.	In response to these concerns, Australia has taken action by banning social media use for under-16s.
Social media promotes unrealistic expectations, particularly surrounding body image, fashion, and appearance.	Alternatives to social media actively support social, physical and mental heath. (E.g. time outdoors, clubs, sport).
Social media has become a breeding ground for cyberbullying.	Alternatives to social media encourage people to build real-life relationships.

GAP	
Genre	The type of text e.g. speech, article, letter
Audience	Who you are writing for
Purpose	The reason why you are writing
Features of a speech	Engage your listeners: direct address; rhetorical questions; inclusive pronouns; inclusive verbs
Features of an article	Headline; subheading; paragraphs; discourse markers

STEPS TO SUCCESS	
Brain dump ideas	Mindmap or list
Organise your ideas	Number your ideas
Article only	Headline
Write your introduction	Imagine this: …
Write your 1st paragraph	Most importantly,...
Write your 2nd paragraph	Secondly,…
Write your 3rd paragraph	The simple fact is…
Write your conclusion	Ultimately, it is irrefutable that… Remember to join with me in…
Check your work	Check capital letters, punctuation, and spelling

VOCABULARY

Problems with Social Media:
Addiction and overuse
Cyberbullying
Malicious comments
Unrealistic body image
Curated images

Describing emotions:
Addictive Overwhelming
Distracting Anxiety-provoking
Reduces self-esteem
Causes isolation

Alternatives to Social Media (E.g. sport, art, clubs)

Describing emotions:
Healthy Enjoyable
Rewarding Meaningful
Fulfilling Promotes wellbeing

Developing skills and personal qualities:
Confidence Teamwork
Independence Responsibility
Resilience Belonging

LANGUAGE METHODS	
Emotive language	Words which make the reader feel an emotion
Rhetorical question	A question that doesn't require a response
Triple	A list of three
Verb	An action
Imperative verb	A command
Plural first person pronoun	e.g. we, us, our
Personification	Giving an object human characteristics

SENTENCE STRUCTURES AND PUNCTUATION	
One word sentence	E.g. Cyberbullying. Help us make it better.
Compound sentence using because/but/so	E.g. Social media can waste time, but it can also allow young people to build relationships.
Apostrophe	**Possession** e.g. Joe's book **Omission** e.g. can't
Question mark	Use at the end of a question sentence
Colon	Introduce a surprising idea. E.g. Social media: the biggest problem of our generation.
Semi-colon	Write a sentence with BBS ; cross out BBS; replace with semi-colon.

Year 8 Term 3.1: Much Ado About Nothing by Shakespeare

KEY CONCEPTS	
Shakespeare teaches the audience about how love transcends challenges.	Shakespeare warns against being shackled to gender stereotypes.

PLOT
Act 1: Don Pedro and his soldiers arrive in Messina after war. Claudio falls in love with Hero. Beatrice and Benedick are in a "merry war", arguing playfully and insulting each other. Don John, the "plain-dealing villain", decides to cause trouble. Don Pedro plans to help Claudio marry Hero.
Act 2: A masked ball takes place. Don John tricks Claudio into thinking Don Pedro wants Hero for himself, but this misunderstanding is quickly fixed. Don Pedro, Hero and Claudio plan to trick Beatrice and Benedick into falling in love. Don John secretly plots to ruin Hero's reputation.
Act 3: Benedick overhears people praising Beatrice and begins to love her, whilst Beatrice overhears people praising Benedick and vows to "bind [their] loves up in a holy band". Don John arranges for Claudio and Don Pedro to see a staged moment that makes Hero look unfaithful.
Act 4: At the wedding, Claudio publicly shames Hero and says she has been unfaithful to him. Hero faints and her family pretend she is dead. Beatrice and Benedick confess their love. Beatrice asks Benedick to "kill Claudio", challenging him to a duel for Hero's honour.
Act 5: Don John's plot is revealed. Claudio learns that Hero was innocent, before she is revealed to be alive. Claudio marries Hero. Beatrice and Benedick agree to marry too. Don John is captured and "brave punishments" await him.

VOCABULARY	
Autonomy	Freedom to make choices
Duplicitous	Two-faced
Façade	Pretending, like wearing a mask
Gender stereotype	Expectation of someone based on gender
Machiavellian	Sly, sneaky, cunning
Manipulative	Controlling others
Patriarchy	A society in which men are superior to women
Redemption	Being saved or rescued
Shackled	Trapped, with no escape
Transcend	To go beyond
Unconventional	Unusual, unexpected
Wit	The ability to use words in a clever and amusing way

CHARACTERS		
Beatrice: a witty, independent woman who falls in love with Benedick	Don John: the manipulative Machiavellian villain	Hero: a young, gentle woman who loves Claudio
Benedick: a bachelor who falls in love with Beatrice	Don Pedro: a noble man who enjoys matchmaking, Don John's half-brother	Claudio: a young, gullible soldier who loves Hero

LANGUAGE METHODS	
Adjective	Describes a noun
Extended metaphor	A metaphor throughout a full text
Imagery	A picture or visual that connotes an idea
Imperative verb	A command
Juxtaposition	Putting two opposites side by side
Metaphor	Saying something is something else
Repetition	Repeating a word or phrase
Triple	A list of three
Verb	An action word

DRAMATIC METHODS	
Aside	A character speaking onstage, but unheard by others
Dramatic irony	Audience knows more than the characters onstage
Entrance	A character entering the scene
Exit	A character leaving the scene
Prose	Ordinary form of language, natural speech
Soliloquy	One character speaking alone onstage
Verse	Poetic form of language, with rhyme

PEA SENTENCE STARTERS
Point: discourse marker, writer's name, question, in order to… **Evidence**: Shakespeare describes how "…" **Analyse**: identify method + explain why it is used/the effect. E.g. At first glance, Shakespeare uses METHOD to WHY. This sense of WHY is amplified by ANOTHER METHOD, which implies WHY. On closer inspection, Shakespeare also uses the METHOD to represent WHY.

Year 8 Term 3.2: Performing Poetry about Love

KEY CONCEPTS			
Love can **transcend challenges**.	Losing love can be **painful and upsetting.**	**Unrequited love** can cause people to be unhappy.	People can feel **apprehensive** when they are asking someone out.

ORACY SKILLS	
Voice	- Speak at an appropriate speed - Vary your tone to communicate the poem's emotions - Pronounce words clearly - Project your voice so you can be heard
Body Language	- Posture: position your body towards your audience
Confidence in speaking	- Be self-assured when you stand up in front of the audience
Working with others	- Listen actively to others - As the audience, respond by clapping and giving positive, supportive feedback
Vocabulary	- Use high level vocabulary to explain your ideas clearly.

VOCABULARY: What words would you use to describe a new relationships?	
Transcends challenges	To go beyond difficulties
Unified	Brought together; connected
Empowering	Making an individual feel more confident
Exciting	Being filled with enthusiasm
Enchanted	Being filled with delight
Joyful	Being filled with happiness
Euphoric	Feeling full of happiness
Radiant	Full of happiness and energy
Apprehensive	Nervous

LANGUAGE METHODS	
Speaker	The narrator of the poem
Tone	The emotion you communicate using your voice
Imagery	Visually descriptive language
Symbol	An object that represents something else
Verb	Doing word
Adjective	Describes a noun
Adverb	Describes a verb
Direct address	Speaking directly to the reader e.g. "you"
Repetition	Using a word or phrase more than once
Personification	Giving an object human characteristics

STRUCTURAL METHODS	
Haiku	A Japanese poem with 3 lines of 5/7/5 syllables
Ballad	A poem telling a story
Sonnet	A love poem of 14 lines
Villanelle	A poem of 19 lines. 2 of these lines are repeated.
Stanza	A verse or paragraph in a poem
Rhythm	The beat of the poem
Refrain	The chorus of the poem

VOCABULARY: What words would you use to describe challenges in a relationship?	
Tormented	To experience mental suffering and unhappiness
Patriarchal	A relationship where the man dominates
Restricted	Being held back in a relationship
Vengeful	Seeking revenge
Melancholy	Feeling sadness and gloom
Infidelity	Being unfaithful
Unrequited love	One-sided love

YEAR 8

FOOD & NUTRITION

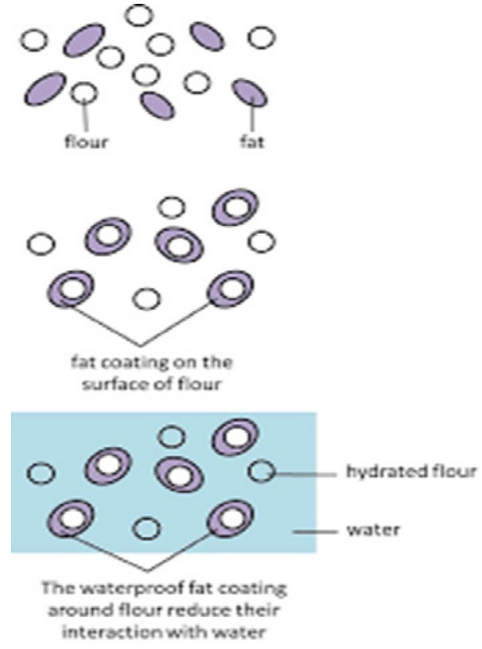
Knowledge Organiser 1

Protein
Function:- Growth repair, maintenance and secondary source of energy.
Types:-High biological value (HBV) has all the essential amino acids found in animal products e.g. meat, fish and eggs.
Low biological value (LBV) is missing one or more of the essential amino acids found in plants e.g. lentils, beans and cereals such as wheat.

Fat
Function:- energy, insulation (keeps you warm), protection of vital organs and stores fat soluble vitamins A,D, E and K.
Animal sources of fat:- butter, lard, suet, cream and cheese.
Vegetable sources of fat:- vegetable oil, sunflower oil and olive oil.

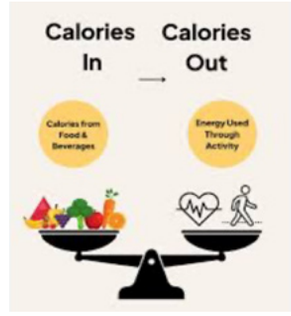
Carbohydrates
Function:- main source of energy for the body.
Complex carbohydrates:- slow release of energy. Food sources include; pasta, rice, potatoes and cereals.
Simple carbohydrates:- instant release of energy. Food sources include; sugar, sweets, honey and syrup.

Shortening
- When fat and flour are rubbed together.
- The fat coats the flour and creates a waterproof coat around the flour.
- When water is added gluten cannot form.
- As the gluten cannot form the product will be crumbly.
- Examples of foods made using this method is scones and biscuits.



Life stages and nutritional needs
- Babies – milk for first 6 months then weaned onto solid food. All nutrients are important but especially foods in iron and vitamin C.
- Children – protein, complex carbohydrates, calcium, vitamin C and iron.
- Teenagers – protein, calcium, vitamin C and iron.
- Adults – protein, calcium, vitamin D, iron and vitamin C.
- Elderly – protein, calcium, vitamin D and fibre.
- Pregnant women – folic acid (at start of pregnancy), calcium and iron.
- Lactating women – calcium, vitamin D, protein and plenty of water.

Energy balance
- If you take in the same number of calories as you burn off, then your weight stays the same.
- If you take in less calories than you burn off, then you lose weight.
- If you take in more calories than you burn off, you put on weight.



Knowledge Organiser 2

Vitamin/minerals	Sources (food it is found in)	Function (its job)	Deficiency (too little)
Vitamin A	Liver, eggs, carrots	Helps eyes (see in the dark) and helps skin.	Dry eyes and skin
Vitamin B	Meat, cereals and milk	Helps release energy Reduce risk of birth defects	Birth defects
Vitamin C	Citrus fruits such as oranges	Helps to fight infection	Slow healing of wounds can lead to scurvy.
Vitamin D	Sunlight, fatty fish and eggs	Helps absorption of calcium	Rickets in children, osteoporosis in adults
Calcium (mineral)	Yoghurt, milk, cheese and tofu	Strongs bones and teeth	Weak bones and teeth
Iron	Dark green leafy vegetables, red meat	Transport oxygen around the body	Anemia tiredness
Sodium (salt)	Cheese, ready meals, crisps	Keeps correct balance of water in body	Muscle cramps, nausea and vomiting

Allergies
An allergen may cause and allergic reaction.
An allergic reaction may be mild or serious.
Anaphylactic shock is a severe allergic reaction which can cause death.

Common allergens are peanuts, nuts, soya and eggs.
An EpiPen can help reverse the effects of anaphylactic shock.

Intolerances
More common than food allergies.
Lactose intolerance – unable to digest the sugar lactose.
Coeliac disease – reaction to gluten which is found in wheat, barley and rye.
Symptoms include bloating, constipation and diarrhoea.

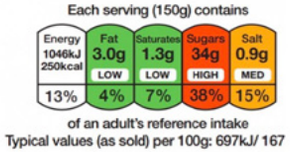
Labelling
The following pieces of information are required by law on a food label:-
- Name of food
- Ingredients list
- Allergens
- Weight
- Use by/best before date
- Storage conditions
- Name and address of manufacturer
- Country of origin
- Cooking instructions
- Nutritional information

Sensory analysis

Judge food on food properties: appearance, taste, smell and texture.
It is important that the food is acceptable to a wide range of people so that it sells.
Sensory descriptors – words you use to describe food for example crunchy, soft and crispy.

Aeration
When air is added to a mixture to make it light and fluffy. Air can be added by sieving and folding. Aeration used in cake making.

Nutritional analysis
Finds out the nutrients in a recipe.
Can be carried out using computer software or by using food tables.
To complete a nutritional analysis, you need a list and amounts of ingredients.



Food safety
Ensure that food is handled safely so that it cannot cause food poisoning.
4 Cs of food safety:– cleaning, chilling, cooking and cross contamination.

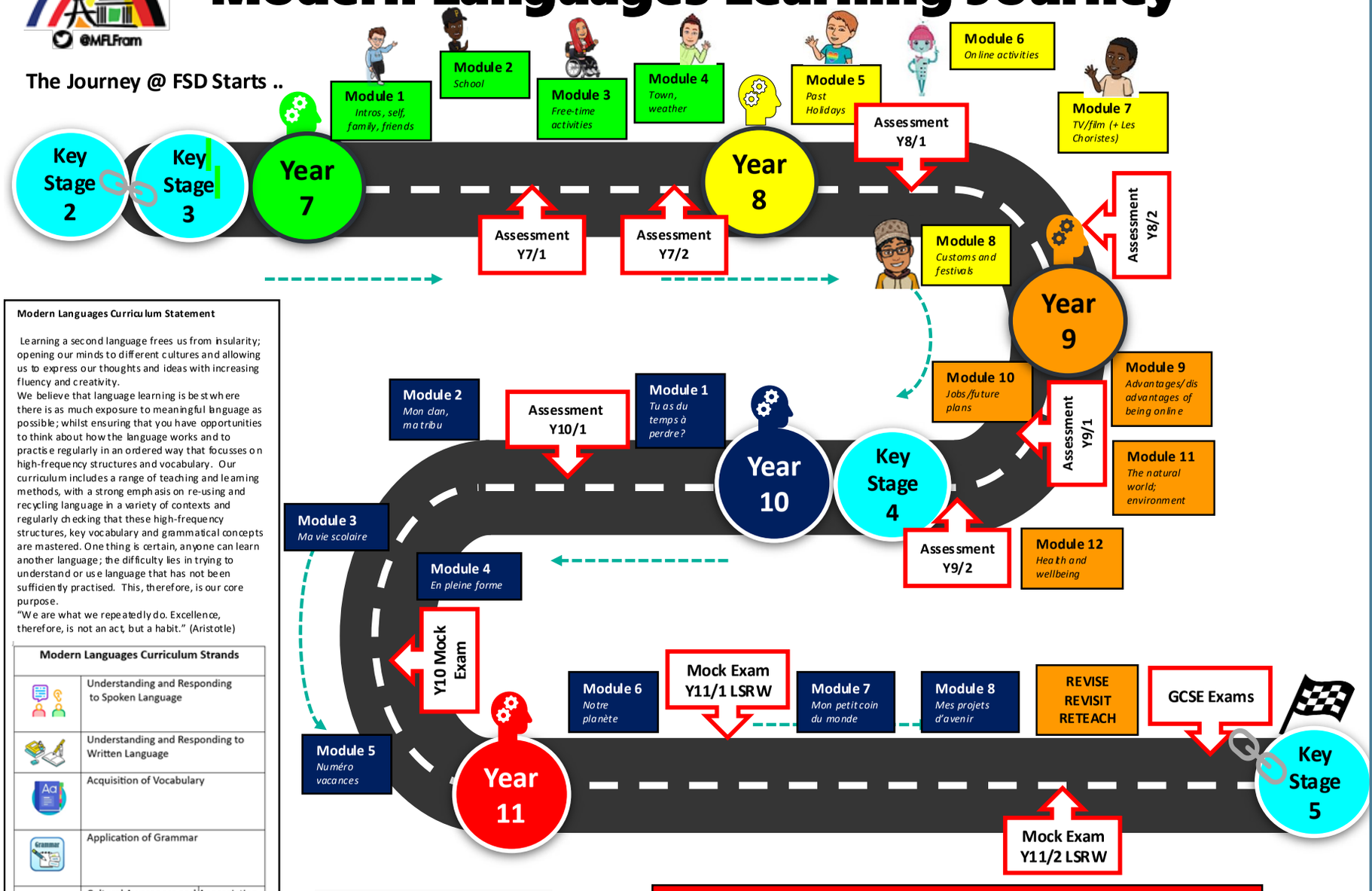
Taste testing
Tasting foods and judging them against criteria. Names of taste testing tests include hedonic scale, difference test and star profile.

YEAR 8

FRENCH

Modern Languages Learning Journey

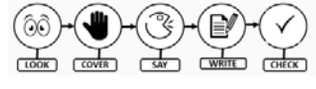
The Journey @ FSD Starts ..



Modern Languages Curriculum Statement

Learning a second language frees us from insularity; opening our minds to different cultures and allowing us to express our thoughts and ideas with increasing fluency and creativity.
We believe that language learning is best where there is as much exposure to meaningful language as possible; whilst ensuring that you have opportunities to think about how the language works and to practise regularly in an ordered way that focusses on high-frequency structures and vocabulary. Our curriculum includes a range of teaching and learning methods, with a strong emphasis on re-using and recycling language in a variety of contexts and regularly checking that these high-frequency structures, key vocabulary and grammatical concepts are mastered. One thing is certain, anyone can learn another language; the difficulty lies in trying to understand or use language that has not been sufficiently practised. This, therefore, is our core purpose.
"We are what we repeatedly do. Excellence, therefore, is not an act, but a habit." (Aristotle)

Modern Languages Curriculum Strands	
	Understanding and Responding to Spoken Language
	Understanding and Responding to Written Language
	Acquisition of Vocabulary
	Application of Grammar
	Cultural Awareness and Appreciation



Cross- Theme – Exam Preparation (Skills and Techniques)
Intervention and Revision Programmes

KS3 French Core Classroom Language

Ça va? *(how are you ?)*	**Asseyez-vous** *(sit down)*
Merci *(thank you)*	**Silence, s'il vous plaît** *(silence please)*
Pardon, Madame / Monsieur *(excuse me, Miss/Sir)*	**Ecoutez** *(listen)*
J'ai fini *(I've finished)*	**Regardez** *(look)*
Je ne sais pas *(I don't know)*	**Ecrivez** *(write)*
J'ai besoin d'aide *(I need some help)*	**Levez-vous (***stand up***)**
Je ne comprends pas *(I don't understand)*	**Travaillez en équipe** *(work in a team)*
Répétez, s'il vous plaît *(repeat, please)*	**Travaillez avec un partenaire** *(work with a partner)*
Comment dit-on _____ en français? *(How do you say _____ in French?)*	**C'est quoi en anglais?** *(what is it in English?)*
Je peux… ? *(can I… ?)*	**Qui peut expliquer en anglais?** *(who can explain in English ?)*
Pouvez-vous… ? *(Can you… ?)*	**J'ai besoin d'un volontaire** *(I need a volunteer)*

Days, months and birthdays

*No capital letters for days of the week or months in French (unless it's the start of a sentence)

Days

Monday	lundi
Tuesday	mardi
Wednesday	mercredi
Thursday	jeudi
Friday	vendredi
Saturday	samedi
Sunday	dimanche

Seasons

Spring	le printemps
Summer	l'été
Autumn	l'automne
Winter	l'hiver

Months

janvier
février
mars
avril
mai
juin
juillet
août
septembre
octobre
novembre
décembre

Saying the date in French

Le + number+ month

e.g. le deux avril = the 2nd April
le vingt juin = the 20th June

EXCEPTION
the 1st = le premier
e.g. le premier mai = the 1st May

Numbers

1	un	16	seize
2	deux	17	dix-sept
3	trois	18	dix-huit
4	quatre	19	dix-neuf
5	cinq	20	vingt
6	six	21	vingt-et-un
7	sept	22	vingt-deux
8	huit	23	vingt-trois
9	neuf	24	vingt-quatre
10	dix	25	vingt-cinq
11	onze	26	vingt-six
12	douze	27	vingt-sept
13	treize	28	vingt-huit
14	quatorze	29	vingt-neuf
15	quinze	30	trente

40	quarante	80	quatre-vingts
50	cinquante	90	quatre-vingts-dix
60	soixante	100	cent
70	soixante-dix	1000	mille

Colours

blanc	white	noir	black
rouge	red	bleu	blue
vert	green	jaune	yellow
rose	pink	violet	purple
gris	grey	brun	brown

KS3 French Core Vocabulary – High Frequency Words and Phrases

Connectives & other little words

et	and
mais	but
pourtant	however
cependant	however
si	if
avec	with
sans	without
sauf	except
aussi	also
parce que	because
car	because
à cause **de**	because **of**
grace à	thanks to
pour *(+ infinitive)*	in order to
afin de *(+ inf.)*	in order to
avant de *(+ inf.)*	before ___ing
bien que ce soit	although it is
comme	as/such as
puisque	since/seeing as
par exemple	for example
y compris	including
en plus	in addition
donc / alors	so/therefore
par consequent	as a result
quand	when
pendant que	while/whilst
en bref	in short
peut-être	perhaps/maybe
malgré	in spite of
heureusement	fortunately
malheureusement	unfortunately
sauf	except
même si	even if
c'est-à-dire	that is to say
d'un côté	on the one hand
de l'autre côté	on the other hand
par contre	on the other hand

Time markers

pour commencer	to start with
tout d'abord	first of all
au début	at the start
puis	then
ensuite	next
après (ça)	after (that)
plus tard	later
mais maintenant	but now
tout de suite	immediately
inmédiatement	immediately
soudainement	suddenly
enfin / finalement	finally
aujourd'hui	today
bientôt	soon
un jour	one day
vers ___ heures	at about ___ o'clock
au bout de 5 minutes/ après 5 minutes	after 5 minutes

Intensifiers and Adverbs

assez	quite
très	very
un peu (de)	a bit (of)
peu de	few/not many
trop	too *(+ adj)*
trop de	too many/much
assez **de**	enough
beaucoup (de)	a lot (of)
bien de	a lot of
plein de	loads of
pas mal de	quite a lot of
pas grand chose	not a lot
plusieurs	several
quelques	some/a few
vraiment	really
complètement	completely
extrêmement	extremely
absolument	absolutely
tout à fait	totally
surtout	especially
actuellement	currently (**not** 'actually'!!)

Comparisons

que	than
plus *(+ adj)*	more *(+ adj)*
moins *(+ adj)*	less *(+ adj)*
plus de *(+ noun)*	more *(+ noun)*
moins de *(+ noun)*	less/fewer *(+ noun)*
le plus*(+ adj)*	the most *(+ adj)*
le moins *(+ adj)*	the least *(+ adj)*
meilleur	better *(adjective)*
mieux	better *(adverb)*
pire	worse

Negatives

To use these in a sentence, the *verb* goes between **ne** and the **second word**

ne___pas	not/don't
ne___jamais	never/not ever
ne___plus	not any more
ne___que	only
ne___rien	nothing/not anything
ne__ni__ni	neither ___ nor ___
ne___personne	nobody / no-one / not anybody

Opinion phrases

j'aime/je n'aime pas	I like/I don't like
j'adore	I love
je déteste	I hate
selon moi	according to me
personnellement	personally
à mon avis	in my opinion
je pense que	I think that
je crois que	I believe that
il me semble que	it seems to me that
je suis d'accord	I agree
je pense le contraire	I think the opposite
ça peut être	it can be
certains disent que	some people say that

Possessives, a & the

	Masc	Fem	Vowel	Plural
a/some	un	une	un/une	des
the	le	la	l'	les
my	mon	ma	mon	mes
your (friendly/singular)	ton	ta	ton	tes
his/her	son	sa	son	ses
your (polite/plural)	votre	votre	votre	vos
our	notre	notre	notre	nos
their	leur	leur	leur	leurs

KS3 French Core Vocabulary - Narrating Events

Referring to the Past

récemment	recently
ce jour-là	(on) that day
hier	yesterday
hier matin	yesterday morning
hier après-midi	yesterday afternoon
hier soir	yesterday evening
samedi dernier	last Saturday
le weekend dernier	last weekend
la semaine dernière	last week
le mois dernier	last month
octobre dernier	last October
l'été dernier	last summer
l'année dernière	last year
il y a deux ans	two years ago
avant	before
dans le passé	in the past
quand j'avais huit ans	when I was 8 years old

Useful Verbs

c'était = it was
j'étais = I was
ils/elles étaient = they were

il y avait = there was/were

je suis allé(e) = I went
j'**y** suis allé(e) = I went **there**
j'ai fait = I did
je **l'**ai fait = I did **it**
je **l'**ai aimé = I liked/enjoyed **it**

Talking about regular or current activity

aujourd'hui	today
le matin	in the morning
l'après-midi	in the afternoon
le soir	in the evening
le weekend	at weekends
le vendredi	on Fridays
en hiver	in winter
à Noël	at Christmas
Pendant la semaine	during the week
pendant la journée	during the day
pendant les vacances	in the holidays
après le college	after school
avant le college	before school
tous les soirs	every evening
tous les jours	every day
rarement	rarely
quelquefois	sometimes
parfois	sometimes
normalement	normally
d'habitude	usually
régulièrement	regularly
souvent	often
fréquemment	frequently
toujours	always

Useful Verbs

c'est = it is
je suis = I am
il y a = there is/are
je **le** fais = I do **it**
je **le** faisais = I used to do **it**
j'**y** vais = I go **there**
j'**y** allais = I used to go **there**

Expressing Future plans

demain	tomorrow
demain matin	tomorrow morning
demain après-midi	tomorrow afternoon
demain soir	tomorrow evening
après-demain	the day after tomorrow
le lendemain	the next day
plus tard	later
à l'avenir	in the future
la semaine prochaine	next week
le mois prochain	next month
l'année prochaine	next year
le weekend prochain	next weekend
en octobre prochain	next October
dans quelques jours	in a few days
dans ___ heure(s)	in ___ hour(s)
dans ___ jour(s)	in ___ day(s)
dans ___ semaine(s)	in ___ week(s)
dans ___ mois	in ___ month(s)
dans ___ an(s)	in ___ year(s)

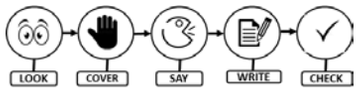
Useful Verbs

ce sera = it will be
je serai = I will be
ils seront = they will be

il y aura = there will be

j'irai = I will go
j'**y** irai = I will go **there**
je vais **y** aller = I'm going to go **there**
je ferai = I will do
je **le** ferai = I will do **it**
je **l'**aimerai = I will enjoy **it**

Y8 French Knowledge Organiser : Module 5: C'est L'Europe



A	Français	Anglais
1	je suis allée	i went
2	j'ai visité	i visited
3	en Espagne	to Spain
4	en France	to France
5	en Italie	to Italy
6	en Allemagne	to Germany
7	en Écosse	to Scotland
8	en Suisse	to Switzerland
9	au Portugal	to Portugal
10	aux Etats-unis	to the United States
11	l'année dernière	last year
12	pendant les vacances	during the holidays
13	en juillet	in July
14	en août	in August
15	en avion	by plane
16	en car	by coach
17	en train	by train
18	avec ma famille	with my family
19	pour deux semaines	for two weeks
20	dans un hôtel	in a hotel

B	Français	Anglais
1	J'ai fait	I did
2	J'ai visité	I visited
3	Je me suis relaxé	I relaxed
4	J'ai mangé	I ate
5	J'ai nagé	I swam
6	des promenades	walks
7	du canoë	canoeing
8	de la planche à voile	wind-surfing
9	du tourisme	tourism
10	des monuments	monuments
11	sur la plage	on the beach
12	dans la piscine	in the swimming pool
13	avec mes amis	with my friends
14	dans la mer	in the sea
15	c'était fabuleux	it was fabulous
16	c'était barbant	it was boring
17	c'était amusant	it was fun
18	il faisait chaud	it was hot
19	il faisait beau	it was fine
20	il faisait mauvais	it was bad weather



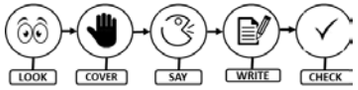
Je m'appelle Lou et je viens de Luxembourg. J'adore voyager et je pars souvent en vacances avec ma famille. Normalenent on passe des vacances en Europe et j'ai visité beaucoup de pays différents, par exemple, L'Espagne, La Suisse et L'Allemagne. L'année dernière, je suis allé.e au Portugal et c'était incroyable, mais il faisait tellement chaud. J'ai fait du tourisme et je me suis relaxé.e sur la plage. Cette année, je vais partir avec ma classe et on va découvrir un nouveau pays. On va en Italie, à la montagne et on va faire du ski. Ce sera la première fois pour moi et on va aussi visiter Pise pour voir des monuments

er | é | au | S muet

C	Français	Anglais
1	Je vais	I am going
2	On va	we are going
3	aller	to go
4	visiter	to visit
5	voir	to see
6	passer	to spend (time)
7	rester	to stay
8	faire	to do
9	dans un hôtel	in a hotel
10	dans un camping	on a campsite
11	dans un gîte	in a cottage
12	dans un appartement	in an apartment
13	avec ma famille	with my family
14	avec mes amis	with my friends
15	les musées	museums
16	des randonnées	walks
17	des monuments	monuments
18	la plage	the beach
19	de la voile	sailing
20	en vacances	on holiday

D	Français	Anglais
1	L'année prochaine	Next year
2	Cette année	This year
3	En été	In summer
4	Je veux	I want
5	Je voudrais	I would like
6	Je vais	I am going
7	Me relaxer	To Relax
8	Me baginer	To swim/bathe
9	nager	To swim
10	acheter	To buy
11	voir	To see
12	découvrir	To discover
13	voyager	To travel
14	La campagne	The countryside
15	La ville	The town
16	Ce sera	It will be
17	top	Great
18	génial	Great
19	Il y aura	There will be
20	Une salle de jeux	A games room

Y8 French Sentence Builders: Module 5: C'est L'Europe



Use Sentence Builders to help you answer the question. Use this method to help learn the phrases https://youtu.be/cMKo65jKVhU

SB1 : Où es-tu allé en vacances? – Where did you go on holiday?

Subject	Auxiliary	Past Participle	Place
Je/J' (I) **Tu (You)** **Il/Elle/Iel** **(He/She/They)**	ai as a	visité	Edimbourg Londres l'Espagne l'Italie la France
Je **Tu** **Il/Elle/iel**	suis es est	allé (e)	À Edimbourg À Londes En France En Espagne Au Portugal Aux Etats-Unis

SB2 : Qu'est-ce que tu as fait pendant les vacances? – What did you do on holiday?

Subject	Auxiliary	Past participle	object	Opinion (Past Tense)
Je/J' (I)	ai	visité (visited)	des monuments	C'était chouette!
Tu (You)	as	vu (saw)	la plage (the beach)	(It was great)
Il (He)		mangé (ate)	de beaux paysages	C'était ennuyeux
Iel (They)		fait (did)	(beautiful landscapes)	(It was boring)
Elle (She)	a	acheté	dans les restaurants	Je l'aimais bien
			de la voile (sailing)	(I liked it
			des souvenirs	

SB3 : Où vas-tu en vacances l'année prochaine? Where are you going on holiday next year?

Subject	Present Tense of aller	Infinitive	Place
Je	vais	visiter	Edimbourg
Tu	vas		Londres
Il	va		L'Espagne
Elle	va	aller	En Italie
Iel	va	passer deux semaines	Au Canada
On	va	rester dans un hôtel/sur un camping	Aux Pays de Galle (Wales)

SB4 : Qu'est ce que tu vas faire en vacances? What are you going to do on holiday?

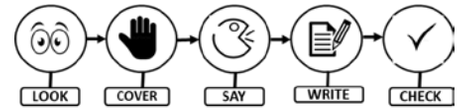
Subject	Present Tense of aller	Infinitive	Detail
Je	vais	faire	du tourisme
Tu	vas	visiter	des musées (museums)
Il	va	me relaxer	sur la plage (on the beach)
Elle	va	me bronzer	avec mes amis (with my friends)
Iel	va	manger	dans les restaurants (in restaurants)
On	va	acheter	des souvenirs (souvenirs)
On peut (We can)		nager avec les dauphins (swim with dolphins)	
		rencontrer de nouveaux amis (meet new friends)	
Je veux (I want)		découvrir des cultures différentes (discover different cultures)	

Y8 French Knowledge Organiser : Module 6: L'Ère Numérique

A	Français	Anglais
1	les émissions de sport	sports programmes
2	les émissions musicales	music programmes
3	les films	films
4	les infos	news
5	la météo	weather forecast
6	les documentaires	documentaries
7	les jeux télévisés	tv game shows
8	les feuilletons	soap operas
9	les variétés	variety shows
10	les émissions de sport	sports programmes
11	ce sont	they are
12	effrayant	frightening
13	passionnant	exciting
14	formidable	fabulous
15	incroyable	incredible
16	ludique	funny
17	fascinant	fascinating
18	intéressant	interesting
19	je les trouve	i find them ...
20	je les regarde	i watch them

B	Français	Anglais
1	j'ai vu	i saw
2	un film d'action	an action film
3	un film d'horreur	a horror film
4	un film fantastique	a fantasy film
5	un film d'aventure	an adventure film
6	un film d'amour	a love film
7	un film historique	a historical film
8	un film de science-fiction	a science fiction film
9	un dessin animé	an animated flm
10	un film de guerre	a war film
11	c'était	it was
12	impressionant	impressive
13	j'ai téléchargé	i downloaded
14	j'ai regardé	i watched
15	nul	rubbish
16	à ne pas manquer	unmissable
17	à recommender	highly recommended
18	on a vu	we saw
19	je suis allé (e)	i went
20	au cinéma	to the cinema





Je suis Véronique et je suis assistante virtuelle. Je tchatte en ligne et je surfe sur Internet pour trouver des renseignments. Je passe beaucoup de temps en ligne, c'est très utile.
Je regarde des infos et la météo et je peux recommender des émissions de télévision ou de bons films. Par exemple, hier j'ai regardé un film d'action et c'était génial avec des effets spéciaux formidables. À Noel je vais regarder des films comiques et je vais t'envoyer un liste de mes films préférés. Je peux trouver des chansons aussi si tu aimes la musique!



gn ais ou ion

C	Français	Anglais
1	je poste	i post
2	je télécharge	i download
3	je passe	i spend (time)
4	je joue	i play
5	je fais	i do
6	je tchatte	i chat
7	j'envoie	i send
8	je partage	i share
9	des textos	texts
10	de la musique	music
11	des photos	photos
12	des histoires	stories
13	des jeux	games
14	souvent	often
15	rarement	rarely
16	de temps en temps	from time to time
17	tous les jours	every day
18	une fois par semaine	once a week
19	tous les jeudis	every thursday
20	tous les soirs	every evening

D	Français	Anglais
1	fêter	To celebrate
2	décorer	To decorate
3	offrir	To give
4	acheter	To buy
5	recevoir	To get/receive
6	manger	To eat
7	boire	To drink
8	Des cadeaux	Presents
9	Un repas	A meal
10	De la dinde	Turkey
11	Une bûche de Noel	A Christmas log
12	Un sapin	A chrismas tree
13	Une renne	A reindeer
14	Un ange	An angel
15	Des bougies	Candles
16	La messe	Mass
17	Le houx	Holly
18	Le Père Noel	Father Christmas
19	Les lutins	Elves
20	Joyeux Noel	Merry Christmas!

Y8 French Sentence Builders: Module 6: L'Ère Numérique



Use Sentence Builders to help you answer the question. Use this method to help learn the phrases https://youtu.be/cMKo65jKVhU

SB1 : Qu'est ce que tu aimes regarder? - What do you like to watch?

First Verb	Infinitive	Object	Reason
J'aime (I like) Je n'aime pas (I don't like) J'adore (I love) Je préfère (I prefer)	regarder (to watch /watching)	les émissons de télé-réalité (reality tv shows) les films d'horreur (horror films) les bandes-desinées (cartoons)	parce qu'ils me font rire (because they make me laugh parce qu'ils sont divertissants (because they are entertaining) Car je les trouves amusant(es) (because I find them fun) Car je m'y intéresse (because I am interested in them)

SB2 : Qu'est-ce que tu as vu récemment? - What have you seen recently?

Subject	Auxiliary	Past participle	Object	Opinion (Past Tense)
Je/J' Tu Il/elle/iel On	ai as a a	regardé (watched) vu (seen) téléchargé (downloaded)	un film d'amour un film d'action un film de guerre un film fantastique une comédie un film d'horreur "Batman"	c'était genial (it was great) c'était nul (it was rubbish) cela m'a plu (i liked it) cela m'a fait rire (it made me laugh)

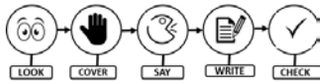
SB3 : Qu'Est-ce que tu fais en ligne? What do you do online?

Subject	Verb	Object	Adverb of Frequency
Je (I) Il/elle/iel He/she/they On (we)	poste (poste) télécharge (download) passe (spend) surfe (browse) tchatte (chat) fais/fait(do) joue (play)	du temps avec mes amis(*time with my friends*) des heures (hours) des films (films) des clips vidéo (video clips) de la musique des jeux (games) avec mes amis (with my friends) des photos des textos (texts) sur mon xbox/ps	Souvent (*often)* Tous les jours (*every day)* De temps en temps *(from time to time)* Rarement (*rarely)* Le weekend (at the weekend) Le soir (on an evening) Tous les soirs (every evening) Tous les jeudis (every Thursday)

SB4 : Qu'Est-ce que tu vas faire à Noel? What are you going to do at Christmas?

Subject +Verb	Infinitive	Object
Je vais (I am going) On va (we are going)	décorer (decorate) Choisir (to choose) manger (eat) offrir (give) aller (go)	la maison (the house le sapin (the christmas tree) un repas special (a special meal) des cadeaux (presents) chez mes grands-parents (to my grandparents) à l'église (to church)
Vas-tu (Are you going)	fêter noel (to celebrate christmas)? avoir un repas special (to have a special meal?) acheter des cadeaux (to buy presents)?	

Y8 French Knowledge Organiser: Module 7: C'est le monde francophone!

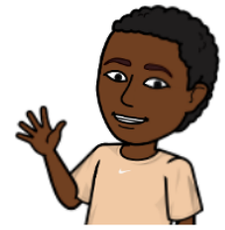


A	Français	Anglais
1	La France	France
2	La Suisse	Switzerland
3	La Belgique	Belgium
4	La Martinique	Martinique
5	La Côte d'Ivoire	Ivory Coast
6	Le Canada	Canada
7	Le Maroc	Morocco
8	Le Sénégal	Senegal
9	Le Mali	Mali
10	Le Guadeloupe	Guadeloupe
11	Paris	Paris
12	Bruxelles	Brussels
13	Genève	Geneva
14	Québec	Quebec
15	l'Europe	Europe
16	l'Afrique	Africa
17	l'Asie	Asia
18	l'Amérique du Nord	North America
19	l'Océanie	Oceania
20	Les Caraïbes	The Caribbean

B	Français	Anglais
1	Le rock	Rock
2	Le jazz	Jazz
3	Le punk	Punk
4	La musique pop	Pop music
5	La musique classique	Classical music
6	La musique traditionnelle	Traditional music
7	La musique rap	Rap music
8	La techno	Techno
9	Écouter de la musique	To listen to music
10	Je (ne) suis (pas) fan de...	I am (not) a fan of...
11	Je m'intéresse à	I am interested in...
12	Je le/la trouve...	I find it...
13	Passionnant(e)	Exciting
14	Varié(e)	Varied
15	Expressif/expressive	Expressive
16	Talentueux/talentueuse	Talented
17	Cool	Cool
18	Attrayant(e)	Attractive
19	Barbant(e)	Boring
20	Démodé(e)	Old-fashioned



Le Sénégal



Salut!

Je m'appelle Seydou et je viens du Sénégal. Il y a beaucoup de pays dans le monde qui parlent français. Cet ensemble de pays s'appelle la Francophonie et on les trouve en Europe, en Afrique, en Amérique du Nord, dans les Caraïbes, en Asie et même en Océanie. La Francophonie est célèbre pour sa gastronomie, comme les moules-frites, les croissants, le fromage, et le vin. C'est la meilleure ! En plus, la musique francophone est aussi fantastique que partout ailleurs dans le monde entier. C'est très variée et vraiment expressive. L'année dernière, j'ai visité le festival du film de Cannes et c'était génial. Il y avait beaucoup d'acteurs et d'actrices et c'était plus passionnant qu'un tapis rouge à Hollywood !



-ent **-ait** **-eill** **-ou**

C	Français	Anglais
1	Manger	To eat
2	Boire	To drink
3	Des fruits	Fruit
4	Des légumes	Vegetables
5	Les entrées	Starters
6	Les plats principaux	Main courses/dishes
7	Les desserts	Desserts
8	Les frites	Chips/fries
9	Le fromage	Cheese
10	Le poisson	Fish
11	La viande	Meat
12	Le chocolat	Chocolate
13	Le vin	Wine
14	Le coca	Coca-Cola
15	Le limonade	Lemonade
16	Plus... que	More... than
17	Moins... que	Less... than
18	Aussi... que	As... as
19	Meilleur(e)	Better/the best
20	Pire	Worse/the worst

D	Français	Anglais
1	Les comédies	Comedies
2	Les films d'action	Action films
3	Les films d'aventure	Adventure films
4	Les films fantastiques	Fantasy films
5	Les films d'horreur	Horror films
6	Les films d'amour	Romantic films
7	Les films de science fiction	Sci-fi films
8	Au grand écran	On the big screen
9	Amusant(e) / drôle / marrant	Funny
10	Effrayant(e)	Scary
11	Émouvant(e)	Moving
12	Triste	Sad
13	Captivant(e)	Captivating/gripping
14	Violent(e)	Violent
15	Je pense que	I think that
16	À mon avis	In my opinion
17	C'était	It was
18	Il y avait	There was/were
19	J'ai regardé	I watched
20	J'ai vu	I saw

Y8 French Sentence Builders: Module 7: C'est le monde francophone!



Use Sentence Builders to help you answer the question. Use this method to help learn the phrases https://youtu.be/cMKo65jKVhU

SB1 : C'est quoi la Francophonie ? – What is la Francophonie?

Place	Verb phrase	Object
En France *(in France)*	ils/elles parlent *(they speak)*	français *(French)*
En Suisse *(In Switzerland)*	ils/elles ont *(they have)*	quatres langues officielles *(four official languages)*
Au Canada *(in Canada)*	ils/elles fêtent *(they celebrate)*	le Carnaval de Québec *(the Quebec Carnival)*
Au Sénégal *(In Senegal)*	ils/elles vont *(they go)*	à la mosquée *(to mosque)*
En Europe *(in Europe)*	il y a *(there is/are)*	beaucoup de francophones *(lots of French speakers)*
En Afrique *(in Africa)*		

SB2 : La culture francophone - la musique – Francophone culture - music

Subject and verb	Comparative	Adjective	Than	Object
Le rock est *(rock is)*	plus *(more)*	expressif(-ve) *(expressive)*	que *(than)*	le jazz *(jazz)*
Le punk est *(punk is)*	moins *(less)*	varié(e) *(varied)*		la musique classique *(classical music)*
La musique pop est *(pop music is)*	aussi *(as)*	passionnant(e) *(exciting)*		la musique traditionnelle *(traditional music)*
La musique rap est *(rap music is)*		cool *(cool)*		
		barbant(e) *(boring)*		

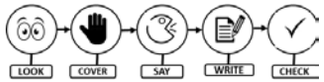
SB3 : La culture francophone - la gastronomie – Francophone culture - food

Opinion	Subject and verb	Verb phrase
Je pense que *(I think that)*	la gastronomie française est *(French food is)*	la meilleure *(the best)*
Je trouve que *(I find that)*	la cuisine française est *(French cuisine is)*	la pire *(the worst)*
À mon avis *(In my opinion)*	la cuisine française est meilleure que *(French cuisine is better than)*	la cuisine anglaise *(English cuisine)*
Je dirais que *(I would say that)*	en France on mange *(in France they eat)*	du fromage *(cheese)*
Il me semble *(It seems to me that)*	en France on boit *(in France they drink)*	du vin *(wine)*

SB4 : La culture francophone - le cinéma – Francophone culture – cinema

Opinion verb	Film genres	Connective	Reason
J'aime (I like)	les comédies (comedies)		elles sont amusantes (they are funny)
J'adore (I love)	les films d'action (action films)	parce que (because)	ils sont passionnants (they are exciting)
Je suis fan de (I am a fan of)	les films d'horreur (horror films)	car (because)	je les trouve effrayants (I find them scary)
Je n'aime pas (I don't like)	les films d'amour (romantic films)	et (and)	ils me donnent envie de pleurer (they make me want to cry)
Je déteste (I hate)	les films d'aventure (adventure films)		ils sont vraiment cools (they are really cool)
Je ne suis pas fan de (I am not a fan of)	les films de science fiction (sci-fi films)		ils sont intéressants (they are interesting)

Y8 Sentence Builder: Module 8: C'est le futur!



A	Français	Anglais
1	Normalement	Normally
2	De temps en temps	From time to time
3	Généralement	Generally
4	D'habitude	usually
5	Je peux	I can
6	Barbant/e	Boring
7	Énervant/e	Annoying
8	Désagréable	Unpleasant
9	Grincheux/se	Grumpy
10	Méchant/e	Mean
11	Sournois/e	Sneaky
12	Sympa	Nice
13	Sportif/ve	Sporty
14	Aimable	Nice
15	Gentil/le	Kind
16	Sociable	Sociable
17	Souriant/e	Smiley
18	Poli/e	Polite
19	Marrant/e	Funny
20	timide	shy

B	Français	Anglais
1	L'année prochaine	Next year
2	À l'avenir	In the future
3	Dans le futur	In the future
4	Plus tard	Later
5	Je voudrais	I would like
6	J'aimerais	I would like
7	Étudier	To study
8	Apprendre	To learn
9	L'anglais	English
10	Le français	French
11	L'espagnol	Spanish
12	L' allemand	German
13	L' E.P.S	PE
14	La chimie	Chemistry
15	Les sciences	Science
16	La biologie	Biology
17	La géographie	Geography
18	L'histoire	History
19	La technologie	D.T.
20	Le dessin	Art





Assalamu alaikum!

Je m'appelle Mohammed et j'habite à Marrakech au Maroc, en Afrique du nord. J'adore mon pays! Je suis très sociable et marrant. Ma soeur pense que je suis énervant mais c'est elle qui m'embète!
Aussi, je ne suis pas vraiment sportif mais j'adore aller à l'école. J'étudie le français, l'anglais, la chimie, l'histoire et la géographie, c'est ma matière préférée.
Dans le futur, je voudrais aller à l'université pour être avocat, ça me fascine! Mon meilleur ami voudrait devenir médecin et c'est génial.
J'aimerais aussi acheter une belle voiture, voyager autour du monde et avoir beaucoup d'argent, ce serait idéal.



j | a | ç soft c | e muet

C	Français	Anglais
1	J'aimerais	I would like
2	Je voudrais	I would like
3	Être	To be
4	Devenir	To become
5	Danseur/se	Dancer
6	Chanteur/se	Singer
7	Footballeur professionnel	Professional football player
8	Web designer	Web designer
9	Responsable de magasin	Store manager
10	Mécanicien/ne	Mecanic
11	Comptable	Accountant
12	Avocat/e	Lawyer
13	Coiffeur/se	Hairdresser
14	Professeur	Secondary school teacher
15	Maître/ maîtresse	Primary school teacher
16	Fleuriste	Florist
17	Policier/ère	Police officer
18	Pompier	Fire officer
19	Maçon	Bericklayer
20	Cammionneur/se	Truck driver

D	Français	Anglais
1	Quand je serais plus âgé(e)	When I will be older
2	Je devrais	I should
3	Je pourrais	I could
4	Avoir	to have
5	Être	to be
6	Faire	to do
7	Voyager	To travel
8	Rencontrer	To meet
9	Habiter	To live
10	Aller	To go
11	Manger	To eat
12	Connu	Well-known
13	Le monde entier	The entire world
14	Beaucoup d'argent	Lot of money
15	Un travail bien payé	A well-paid job
16	Une voiture très cool	A very cool car
17	Un apprentissage	An apprenticeship
18	Dans une grande maison	In a big house
19	Dans un château	In a castle
20	À l'étranger	Abroad

Y8 French Knowledge Organiser : Module 8: C'est le futur!



Use Sentence Builders to help you answer the question. Use this method to help learn the phrases https://youtu.be/cMKo65jKVhU

Frequency expressions	subject+ verb	adjective
Normalement *(normally)*	je peux être *(I can be)*	barbant/e *(boring)* énervant/e *(annoying)* désagréable *(unpleasant)*
De temps en temps *(from time to time)*	je suis *(I am)*	grincheux/se *(grumpy)* méchant/e *(mean)* sournoi/se *(sneaky)*
Généralement *(generally)*		sympa *(nice)* sportif/ve *(sporty)* aimable *(nice)*
D'habitude *(usually)*	je ne suis pas *(I am not)* je ne veux pas être *(I do not want to be)*	gentil/le *(kind)* sociable *(sociable)* souriant/e *(smiley)* poli/e *(polite)* marrant/e *(funny)* timide *(shy)*

Time expression	subject+ verb	infinitive	school subjects
L'année prochaine *(next year)*	j'aimerais *(I would like)* je voudrais *(I would like)*	étudier (to study) apprendre (to learn)	l'anglais *(English)* le français *(French)* l'espagnol *(Spanigh)* l'allemand *(German)* l'E.P.S *(PE)* la chimie *(Chemistry)* les sciences *(Sciences)* la biologie *(Biology)* la géographie *(Geography)* l'histoire *(History)* la technologie *(D.T.)* le dessin *(Art)* la musique *(Music)* les mathématiques *(Maths)*
A l'avenir *(in the future)*			
Dans le futur *(in the future)*			
Plus tard *(later)*			

J'aimerais *(I would like)* Je voudrais *(I would like)*	être (to be)	danseur/se *(dancer)* chanteur/se *(singer)* footballeur/se professionnel/le *(professional football player)* web designer *(webdesigner)* responsable de magasin *(store manager)* mécanicien/ne *(mecanic)* comptable *(accountant)* avocat/e *(lawyer)* coiffeur/se *(hairdresser)* professeur *(secondary school teacher)*
	devenir (to become)	maître/ maîtresse d'école *(primary school teacher)* fleuriste *(florist)* policier/ière *(police officer)* pompier *(fire officer)* maçon *(bricklayer)* camionneur/se *(truck driver)*

A l'avenir *(in the futur)*	je voudrais *(I would like)* je devrais *(I should)* je pourrais *(I could)*	être *(to be)*	connu dans le monde entier *(well-known around the world)* un artiste talentueux *(a talented artist)*
		manger *(to eat)*	dans un restaurant 3 étoiles *(in a 3-star restaurant)*
Dans le futur *(in the futur)*		avoir *(to have)*	beaucoup d'argent *(a lot of money)* un travail bien payé *(a well-paid job)* une voiture très cool *(a very cool car)*
Plus tard *(later)*		voyager *(to travel)*	le monde *(the world)*
Quand je serais plus âgé(e) *(when I will be older)*		faire *(to do)*	un apprentissage *(an apprenticeship)*
Quand j'aurais vingt ans *(when I will be twenty years old)*		rencontrer *(to meet)*	mon acteur/rice préféré/e *(my favourite actor/ actress)* mon idole *(my idol)*
		habiter *(to live)*	dans une grande maison *(in a big house)* dans un château *(in a castle)* à l'étranger *(abroad)*
		aller *(to go)*	en Australie *(in Australia)* aux Etats-Unis *(in the States)*

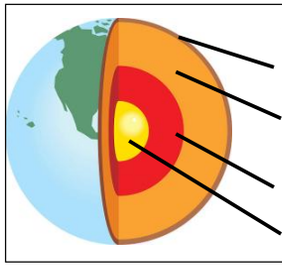
YEAR 8

GEOGRAPHY

Geography TB4: North America

EQ1: Why are some earthquakes deadlier than others?

Earthquake	The sudden violent shaking of the ground
Magnitude	The strength of the earthquake
Focus	The point where the earthquake starts
Epicentre	The point directly above the focus
Seismic Waves	The waves that carry the energy released from an earthquake



Layers of the Earth

Crust – Made from solid rock and divided into tectonic plates

Mantle – Thickest layer made from magma

Outer Core – Made from liquid iron and nickel

Inner Core – Hottest layer from solid iron and nickel

Theory of Continental Drift

The idea that the continents were once joined together in a **super continent** known as **Pangea** and overtime have drifted apart to where they are today. The **jigsaw fit** shows Evidence that South America and Africa could fit together.

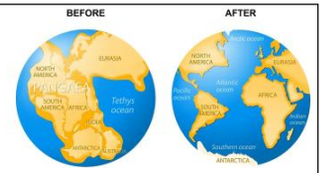
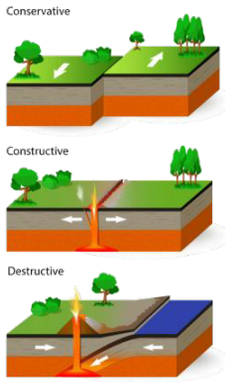


Plate Boundaries



Earthquake Case Studies

	California, 2019 (HIC)	Haiti, 2010 (LIC)
Magnitude	6.4	7.0
Boundary	Conservative *North American + Pacific Plate*	Conservative *North America + Caribbean Plate*
Impacts	20 people injured Loss of trade Gas and power lines fell Cost of $5.4 billion	316,000 people died 70% of buildings collapsed 9000 killed by Cholera Cost of $7-14 billion

The Haiti earthquake was more deadly as it hit a **LIC**, and the epicentre was in a **densely populated area**. This meant there were more people at risk, and many people were living in shelters that were not built to withstand an earthquake.

EQ2: Is globalisation a positive process?

Globalisation	The increasing connections of people and places across the planet
Shrinking World	The world feels smaller as we feel more connected to people/places
Global Shift	The movement of economic activity from developed to emerging and developing countries
TNC	Transnational Corporation (e.g. Apple)
Glocalisation	Adapting global products to fit local culture and preferences

Drivers of Globalisation

Transport – Improvements in transport such as containerisation has made it easier to transport goods.

Technology - Improvements in technology has increased communication.

Trade Groups - .Trade groups such as the EU have removed trade barriers.

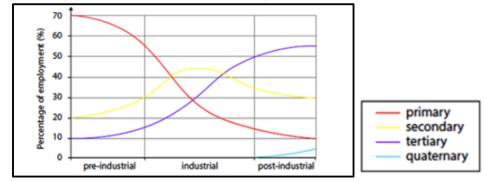
TNCs – Increased investment from companies in other countries has increased connections

The Clark Fisher Model (USA)

The **primary sector** (extract raw materials) has declined due to increased mechanisation.

The **secondary sector** (manufacturing) has declined since the industrial period due to globalisation.

The **tertiary** (services) and **quaternary sector** (research + design) has increased due to improvements in technology and wealth.



TNCs

Apple have **outsourced** their manufacturing to China to increase their profits. The Foxconn factory employees work long hours for little pay in poor working conditions compared to those who work in Apple HQ.

To boost sales, McDonalds have adapted their menu to reflect local taste and culture. This is known as **glocalisation** E.g. The McAloo Tikki Burger in India.

The rise in **fast fashion** has led to a throw away society. This causes environmental damage as more Co2 is being emitted, more water is being used and more microfibres end up in the ocean.

Positives of Globalisation

- TNCs create new jobs & skills promoting the economy
- Increase in cultural diversity
- People have a greater choice of goods at cheaper costs
- People become more aware of global issues

Negatives of Globalisation

- Mainly benefits HICs
- TNCs can drive local businesses out
- Spread of western cultures (Cultural homogenisation)
- More environmental damage

Geography TB5: South America

Explain how vegetation and people have adapted to the Tropical Rainforest climate.

Rainforest Structure

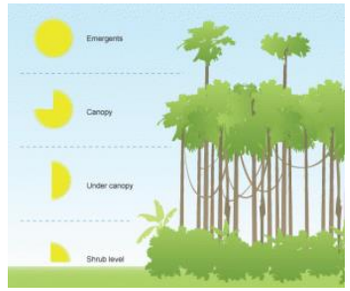
Emergents Layer- or forest giants, 50 metres or taller. These trees are ususlly supported by buttress roots.

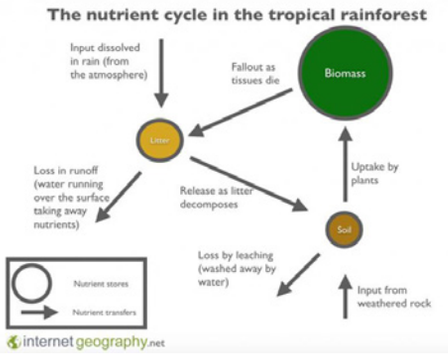
Canopy Layer - This is adense layer forming almost complete cover. Trees 20 - 30 metres tall include many hardwoods such as mahogony.

Understory Layer - This dark and humid area contains saplings between the trunks of larger trees.

Shrub Layer - This contains small trees and shrubs especially near rivers.

Forest Floor - This is covered with ferns and a deep litter of fallen leaves & branches.





The tropical rainforest is a very **humid climate,** with **heavy rainfall** and **high temperatures** everyday. As the world's oldest ecosystem, the tropical rainforest has adapted to this extreme environment:
Evergreen trees, they grow all year round & come into bud & shed their leaves at any time.
Thick leathery leaves which protect trees from sunlight & rain.
Drip-tips on leaves funnel rain away.
Tall trees with few branches as they grow towards sunlight.
Buttress roots grow along the ground to support thin, infertile soils.
Lianas climb up trees and gain nutrients from trees.

How does the climate affect the people:
Yanomani tribespeople: Indigenous people to Amazon rainforest and have lived in the rainforests for centuries.
Yanos: large communal style homes, which are shared by 20 other families and divided into small huts per family. Simple life with few possessions with ***subsistence farming:*** food is hunted & gathered or grown by themselves. Nomadic lifestyle, they move every 5-10 years when the soil becomes infertile.
Nomadic lilfestyle: every 5-10 years they move onto a new area in the rainforest, clear the land and build a new yano. This is done when their land loses fertility and when their yanos become infested with cockroaches and insects.



Evaluate which process is the most important in the formation of a meander.

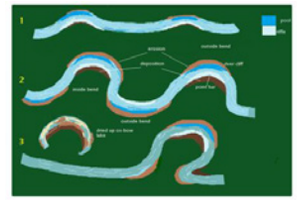
Why is the Amazon important?
The Amazon River is used directly or indirectly for daily needs; including the protein from the 1500 species of fishes.
As a source of hydro-energy.
Provision of minerals such as bauxite & iron; creating jobs and income.
The river provides silt for local farmers together with irrigation for the soya beans crops.
The rain forest and some of the plants that grow along the Amazon River for medicine. This is a practice that is still observed by the natives who live along the river banks.

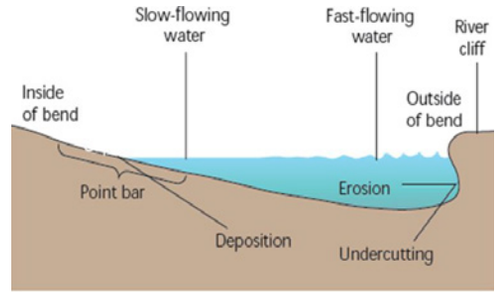


Fluvial processes:
Erosion: Wearing away of material by the river.
Abrasion: River's load erodes to bed and banks of the river.
Corrosion: Chemical wearing away of material carried by the river, the bed & river banks.
Hydraulic action: Sheer force of the river water pushing into cracks and enlarging them over time.
Attrition: rocks carried by the river colliding with each other and becoming smaller & smoother.

Deposition: Dropping of a rivers load.

Transportation: Movement of material from different parts of a river.
Saltation: Small particles bouncing along the river bed.
Traction: Large boulders rolling along the river bed.
Suspension: Small particles floating along in the river.
Solution: Materials dissolved int the river.





Meanders: River landforms from middle and lower course of the river which create an ***asymmetrical cross section*** of the river.
Formation of meanders: Meanders form when there is a weakness in the outside bend of a river, such as an animal burrow. On the outside of the river, the river is at its deepest, meaning velocity of the river is high, so **lateral erosion** occurs; creating a river cliff and pushing the meander sideways. On the inside of the bend, the river is shallow with lots of friction. Therefore the river flows slowly, with little energy, so **deposition** occurs. **Transportation** occurs throughout the meander bend as the deeper, energy rich water picks up material from nearer the source and transports it before depositing on the inside of the meander bend.

Geography TB6

Explain how the geology of Durham affects the landscape.

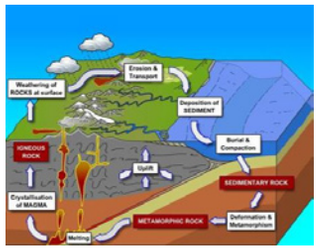
Types of rocks

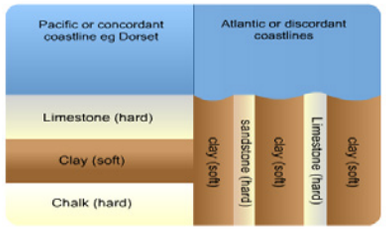
Igneous: Igneousrocks are formed from molten rock that has cooled and solidified.
Metamorphic: Metamorphicare formed from other rocks that are changed because of heat or pressure.
Sedimentary: Formed from the broken remains rocks that become joined together.

Rocks are continually changing due to processes such as weathering, erosion and large earth movements. The rocks are gradually recycled over millions of years, changing between the different rock types. This recycling of rocks is a process called the rock cycle.

Forms of coastal erosion

Marine erosion: Wearing away of the sea bed, cliffs and particles carried by the sea due to the **action of the sea.**
Aerial weathering: The wearing away of material due to the atmosphere.
Attrition: Two or more particles colliding into each other, causing erosion. The particles get smaller & smoother over time. No changes to the coastal landscape.
Corrasion: The rocks / particles carried by the sea erode the cliffs and sea bed.
Corrosion: Chemical wearing away of the rocks at the coast.
Hydraulic action: The sheer force of the water erodes the seabed and cliffs.



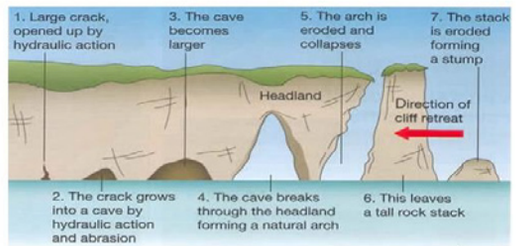


Concordant coastlines have parallel bands of the same rock type. Discordant coastlines have perpendicular bands of hard and soft rock. This creates headlands and bays.

Caves, arches, stacks and stumps are erosional features that are commonly found on a headland.

1.Cracks are formed in the headland through the erosional processes of hydraulic action and abrasion.
2.As the waves continue to grind away at the crack, it begins to open up to form a **cave**.
3.The cave becomes larger and eventually breaks through the headland to form an **arch**.
4.The base of the arch continually becomes wider through further erosion, until its roof becomes too heavy and collapses into the sea. This leaves a **stack** (an isolated column of rock).
5.The stack is undercut at the base until it collapses to form a **stump**.

Bands of soft rock such as clay and sand are weaker therefore can be eroded quickly. This process forms bays. A bay is an inlet of the sea where the land curves inwards, usually with a beach. Hard rock such as chalk is more resistant to the processes of erosion. When the softer rock is eroded inwards, the hard rock sticks out into the sea, forming a headland



Evaluate the positives and negatives of the impact of coal mining on Durham's development.

Fossil fuels:
Crude oil, coal and gas arefuels. They were formed over millions of years, from the remains of dead organisms:
- coal was formed from dead trees and other plant material
- crude oil and gas were formed from dead marine organisms
Millions of years ago, huge numbers of microscopic animals and plants - plankton - died and fell to the bottom of the sea. Their remains were covered by mud.
As the mud sediment was buried by more sediment, it started to change into rock as the temperature and pressure increased. The plant and animal remains were altered chemically by this process, and slowly changed into crude oil and natural gas.
Durham established itself as a settlement as a result of its huge accessibility of coal.

Advantages of renewable energy resources	Disadvantages of renewable energy resources
Cheaper to capture the source of energy. Do not produce CO^2. Can be sustainably used. Can provide a profit for the household e.g. solar energy can be sold back to the energy grid.	Technology is often expensive to develop. People are reluctant to change energy supply from tradition fossil fuels. Not all areas are suited to certain types of energy e.g. solar energy would not work as well in Durham as it would in Kenya.

Renewable energy resources: These are sources of energy which can be used over and over again, e.g. solar, wind.
Non-renewable energy resources: These sources of energy can only be used once before they run out, e.g. coal, oil, natural gas.

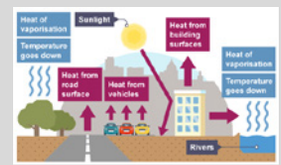


Explain how microclimates vary around the school site.

Microclimates: small areas of environment which has its own localised climate and vegetation.
Ecosystem: Anecosystema community of living organisms in conjunction with the non-living components of their environment, interacting as a system.
Abiotic: Non living things in an ecosystem e.g. soil.
Biotic: Living organisms within an ecosystem e.g. trees.

Physical features such as water areas can have a cooling effect on the land. Trees can shade the land, also making it cooler. Human features such as walls and buildings will shelter against the wind, making it warmer. Buildings which are heated may also give out heat (radiate), which again makes it warmer than the surrounding landscape. Due to human activity, the temperature in an urban microclimate is higher than that of the surrounding areas. Urban areas are said to be urban heat islands as under calm conditions, temperatures are highest in the built-up city centre and decrease towards the suburbs and countryside.

Temperature s measured in Celsius (°C) using a.
Precipitation is measured using a gauge. This is a funnel inside a container, with scale on side.
Wind direction is reported by the direction it is blowing, according to the compass. Wind blowing from the west is travelling eastwards so is called a westerly wind, not an easterly wind.
Wind speed can be measured using an, with the scale.



YEAR 8

HISTORY & POLITICS

Year 8, Unit 1: The Industrial Revolution c1760 - 1901; Knowledge Organiser



1760 - 1900	1900 - 1918	1918 - 1939	1939 - 1945	1933 - 1945



Key Topic 1: Industrialisation		
1.	**Thomas Newcomen**	Inventor of the first steam engine (1712).
2.	**Richard Arkwright**	English inventor who developed the spinning frame (1771) making the production of textiles faster.
3.	**George Stephenson**	An engineer credited with building the first railway line. Known as the "Father of the Railways".
4.	**Industrial revolution**	A change in manufacturing that led to goods made using machines in large scale factories.
5.	**Spinning Frame**	A machine for spinning with more than one spindle at a time.
6.	**Locomotive**	A powered vehicle for pulling trains.
7.	**Canal** 	A man-made waterway used for travel and transportation
8.	**Stockton /Darlington Railway**	The first passenger steam engine railway line in England opened in 1825

Key Topic 2: Working Conditions		
1.	**Domestic system**	Producing items using machines in the home.
2.	**Mass production**	The efficient production of a large number of products.
3.	**Robert Owen**	Owner of the New Lanark mills. He ***improved*** working conditions.
4.	**Colliery**	A coal mine and the buildings and equipment associated with it.
5.	**Factory**	A building where machinery was placed to speed up the manufacture of goods.
6.	**The Davy Lamp** 	A safety lamp invented for use by miners in 1815.
7.	**The Factory Act of 1833**	Children under 9 could not now work in factories. However, children aged 9 – 13 could still work a maximum of 48 hours a week.
8.	**12 – 14 hours per day**	Working class adults typically worked these long hours – 6 days a week - with extra time required during busy periods.

Key Topic 3: Living Conditions		
1.	**Urbanisation** 	The increase in the proportion of people living in towns and cities. 75% of British people lived in towns and cities by 1900. The population of London was 7 million!
2.	**Overcrowding**	A feature of life in towns during the 1800's. Often families of up to 10 would live in one single room.
3.	**Sanitation**	Conditions relating to public health, especially the provision of drinking water and sewage disposal.
4.	**Cholera** 	An infectious and often fatal bacterial disease, typically from infected water supplies.
5.	**1831**	First outbreak of cholera in Britain kills 55,000 people.
6.	**Dr. John Snow**	Proved that cholera is a waterborne disease in 1854.
7.	**Public Health Act**	This act in 1875, made it compulsory for all local councils to provide sanitation in all towns and cities.
8.	**Queen Victoria**	Reigned from 1837 – 1901.

Year 8, Unit 1: The Industrial Revolution c1760 – 1901; Retrieval Questions

Knowledge Check 1
1. What did Thomas Newcomen invent in 1712?
2. Who invented a spinning frame in 1771 which led to the faster production of textiles?
3. Who is known as 'the Father of the Railways'?
4. What is the two-word term used to describe the "change in manufacturing that led to goods made using machines in large scale factories"?
5. What name is given to the man-made waterway used for travel and transportation during the Industrial Revolution?
6. What was the route of the first ever passenger steam engine?
7. In what year did this railway line open?

Knowledge Check 2
1. What term is given to describe the process of "producing items using machines in the home"?
2. Who improved working conditions in his mills at New Lanark?
3.What is the name given to a coal mine and the buildings and equipment associated with it?
4. What name is given to a building where machinery was placed to speed up the manufacture of goods?
5. In what year was the Davy Lamp invented, that improved safety for coal miners?
6. What year was the Factory Act, that banned under-9s working, passed?
7. How long was a typical working day for working class adults during the Industrial Revolution?

Knowledge Check 3
1. What % of the British population lived in towns by 1900?
2. What was the population of London in 1900?
3. What is the term used to describe "conditions relating to public health, especially the provision of drinking water and sewage disposal"?
5. In what year did the first cholera epidemic hit Britain?
6. How many people died in that cholera epidemic?
6. Who proved the link between dirty water and cholera in 1854?
7. In what year was the Public Health Act which improved sanitation?
8. What were the years of Queen Victoria's reign?

Year 8 Unit 2, The era of the First World War c1900 – 1918; Knowledge Organiser

1760 - 1900	**1900 - 1918**	1918 - 1939	1939 - 1945	1933 - 1945

Key Topic 4: Causes of War		
1.	**Imperialism**	When one country seeks to conquer and / or control others.
2.	**Alliance**	An agreement between countries to protect each other in the event war.
3.	**Triple Entente**	This alliance included Britain, Russia and France. It was agreed in 1907.
4.	**Triple Alliance**	This alliance included Germany, Austria-Hungary and Italy. It was agreed in 1882.
5.	**Arms Race**	When two or more nations compete in building up their armed forces.
6.	**Gavrilo Princip**	Bosnian Serb who assassinated Archduke Franz Ferdinand.
7.	**Nationalism**	A strong attachment to a particular country or nation.
8.	**Franz Ferdinand**	Heir to the Austro-Hungarian throne, assassinated in Sarajevo, Bosnia in June 1914.

Key Topic 5. The Outbreak of War		
1.	**August 1914**	Britain declares war on Germany.
2.	**Conscription**	From 1916 it was compulsory for all men between 18 – 40 to fight.
3.	**Trenches**	Long, deep ditches dug as protective defences. They stretched for about 475 miles.
4.	**David Lloyd George**	Prime Minister of Britain, 1916 - 1922.
5.	**Kaiser Wilhelm II**	Emperor of Germany, 1888 – 1918.
6.	**Western Front**	The area of fighting in western Europe – mainly France and Belgium.
7.	**Stalemate**	A deadlock in war, where no side is able to make progress to win.
8.	**No man's land**	Area separating opposing armies in trench warfare.

Key Topic 6. Fighting on the Western Front		
1.	**The Somme**	One of the largest and bloodiest battles of WWI fought in 1916. There were 57,000 British casualties in the first day alone.
2.	**General Haig**	Commander of the British Army on the Western Front.
3.	**Artillery**	Large guns that fire explosive shells over long distances.
4.	**Attrition**	Reducing an enemy's ability to fight (usually by causing as many casualties as possible)
5.	**Shellshock**	Symptoms included fatigue, terror, nightmares and impaired sight and hearing.
6.	**Trench Foot**	Caused by exposure to cold and damp conditions. Could lead to amputations.
7.	**11 November 1918**	An armistice (ceasefire) is signed, Germany surrenders, and WWI ends on the Western Front.



Year 8 Unit 2, The era of the First World War c1900 – 1918; Retrieval Questions

Knowledge Check 4
1. What term describes "when one country seeks to conquer and / or control others"?
2. What term is given to an agreement between countries to "protect each other in the event of war"?
3. Which three countries were part of the Triple Entente?
4.Which three countries were part of the Triple Alliance?
5. What term describes "when two or more nations compete in building up their armed forces"?
8. Who was the heir to the Austro-Hungarian throne assassinated in Sarajevo?
9. Who was the Bosnian Serb who carried out the assassination?
10. In what month and year did this event happen?

Knowledge Check 5
1. In which month and year did Britain declare war on Germany?
2.Who was forced to join the war from 1916 onwards?
3. Who took over as Prime Minister of Britain in 1916?
4. Who was the Emperor of Germany during the First World War?
5. How long did the trenches stretch for on the Western Front?
6. What were the two main countries where fighting took place on the Western Front?
7. What term do we use the describe "deadlock in war"?
8. What name was given to the area separating opposing armies in trench warfare?

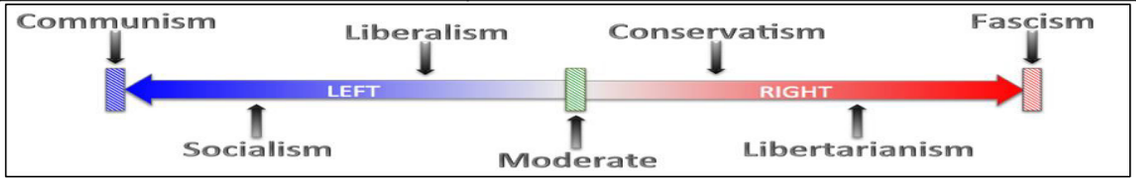
Knowledge Check 6
1. Give two facts about the Somme.
2. Who was the Commander of the British Army on the Western Front?
3. What name is given to the large guns that fired explosive shells over long distances?
4. Give two symptoms of shellshock?
5. What could trench foot sometimes lead to?
6. What is meant by the term attrition?
7. On which precise date did the First World War end on the Western Front?

Year 8 Unit 3, The Consequences of the First World War; Knowledge Organiser

1760 - 1900	**1900 - 1919**	1919 - 1939	1939 - 1945	1933 - 1945

Key Topic 7: The Russian Revolution	
1. Romanovs	The name of the royal family who ruled Russia until February 1917.
2. St Petersburg	Major Russian city and centre of the Russian Revolutions of 1917.
 **3. Lenin**	A Russian Communist who led the Bolshevik Party in the October Revolution.
4. Provisional Government	The name given to the government that ruled Russia between the two revolutions of 1917.
5. Bolsheviks	The official name of Lenin's communist party.
6. Communism 	A type of government in which the state owns the property and wealth is meant to be shared equally. Russia became communist in October 1917 and stayed this way until 1990.
7. Feb Revolution 1917	First revolution in Russia. It overthrew the Romanov royal family, replacing it with a "Provisional Government"
8. October Revolution 1917	Second revolution in Russia. Led by Lenin and the Bolsheviks, it overthrew the Provisional Government, replacing it with Communist rule.

Key Topic 8: Post-war Germany	
1. Kaiser	The German Emperor, the Emperor of Austria, or the head of the Holy Roman Empire
2. Democracy 	A system of rule by the people. In democracy, people have rights e.g., the right to vote & freedom of speech.
 **3. Dictatorship**	A system of rule where one leader or one party has complete power.
4. Spartacists	a revolutionary communist political group who organised an uprising in Germany in January 1919.
5. Weimar Republic	The democratic government of Germany that governed Germany from 1918 – 1933.
6. Socialism	The goal of socialism is to spread wealth more evenly and to treat all people fairly. Less extreme than communism.
7. Abdication	To give up a responsibility or position of power (for example – Kaiser Wilhelm II gave up his throne).
8. Uprising	An act of resistance or rebellion; a revolt.



Year 8 Unit 3, The Consequences of the First World War; Retrieval Questions

Knowledge Check 7
1. What was the name of the royal family who ruled Russia until February 1917?
2. Which major Russian city was the centre of the Russian Revolutions in 1917?
3. Which revolution (February or October) led to the overthrow of the royal family?
4. Who or what ruled Russia in 1917 ***between*** the two revolutions?
5. Who was the leader of the Bolsheviks in the October Revolution?
6. What is the term for a type of government in which the state owns the property and wealth is meant to be shared equally?

Knowledge Check 8
1. Who was the German Emperor during the First World War?
2. In which type of political system will people have rights e.g. to vote?
3. What do we call "a system of rule where one leader or one party has complete power"?
4. What was the name of the revolutionary communist political group who organised an uprising in Germany in January 1919?
5. The goal of which political system is "to spread wealth more evenly and to treat all people fairly"?
6. What word means to "give up a responsibility or position of power"?
7. What was the name of the democratic government of Germany that governed Germany from 1918 – 1933?

Year 8 Unit 4, The Inter-war Years; Knowledge Organiser

1760 - 1900	1900 - 1919		**1919 - 1939**		1939 - 1945	1933 - 1945

Key Topic 9: The Treaty of Versailles	
1. Treaty of Versailles	A treaty (agreement) signed at the Palace of Versailles that decided on the terms of peace after World War I.
2. "The Big Three"	The victors of World War I: Clemenceau (the French President), Lloyd George (the British Prime Minister) and Wilson (the US President).
3. Territory	Germany lost some of its land under the terms of the treaty including Alsace and Lorraine and some of its colonies in Africa.
4. Reparations	Germany was forced to pay for the damage suffered during the war. This figure was fixed at £6.6 billion.
5. Armaments	Germany was stripped of its military under the treaty. It was not allowed to have an army of more than 100,000 men, it was not allowed any aircraft or submarines.
6. Rhineland	An area of Germany close to the French border. Under the terms of the treaty, Germany were not allowed to put any troops in this area.
7. War guilt	This clause of the treaty stated that Germany had to accept that they were solely responsible for WWI.
8. League of Nations	An organisation set up where countries could work together to ensure peace lasted. Germany were not allowed to join.

Key Topic 10: The Rise of the Nazis	
1. Fascist	An extreme right-wing politician who believes in strong government and is very nationalistic.
2. Wall Street Crash, Oct. 1929	The greatest stock market crash in US history. It led to the worldwide Great Depression of the 1930's.
3. Great Depression	The period of worldwide economic decline that followed the Wall Street Crash. It lasted from 1929 – 1939.
4. Nazi	The German fascists who were also extremely racist.
5. Mein Kampf	Hitler's autobiography written during his months in prison. In it he expressed his hatred of Jews, other races and communists. He also expressed his plans for Germany expansion.
6. Adolf Hitler	The Fascist Dictator of Germany from 1933 – 1945.
7. The Munich Putsch, 1923	The Nazis launch their first attempt at taking power in Germany using force. It fails and Adolf Hitler is jailed.
8. 'November Criminals'	The insult Hitler and the Nazis used towards the Weimar Republic after they signed the armistice.

Key Topic 11: Appeasement	
1. Appeasement	Negotiating and offering deals to avoid conflict.
2. Chamberlain	The British Prime Minister at the outbreak of WWII.
3. Rearmament (1935 onwards)	Building up the armed forces / military strength of a country.
4. 1936: The Rhineland	Nazi soldiers were moved into this area of Germany despite this being outlawed by the Treaty of Versailles.
5. 1938: The Anschluss	The joining together of Germany and Austria.
6. 1939: Nazi-Soviet Pact	An agreement between Hitler and Stalin. They promised not to attack and made a secret plan to divide Eastern Europe between them.
7. 1939 Munich Conference	Britain and France agreed that Hitler could take the Sudetenland in Czechoslovakia, if he promised not to invade the rest of the country.
8. September, 1939 Invasion of Poland	This action forced Britain to declare war on Germany and sparked WWII.

Year 8 Unit 4, The Inter-war Years; Knowledge Retrieval

Knowledge Check 9
1. Which Treaty decided the terms of peace after the First World War?
2. Who were the 'big three'?
3. Give an example of the territory lost by Germany after WWI?
4. What was the total reparations damage Germany had to pay?
5. What was the limit placed on the size of the German army?
6. What were Germany not allowed to have in the Rhineland?
7. What organisation was established after the war to try and ensure a lasting peace?

Knowledge Check 10
1. What do we call "an extreme right-wing politician who believes in strong government and is very nationalistic"?
2. In what month and year was the Wall Street Crash?
3. What period of economic decline followed the Wall Street Crash?
4. What was the title of Hitler's autobiography?
5. Who tried to take power in the Munich Putsch?
6. Who was sent to prison for their role in the Munich Putsch?

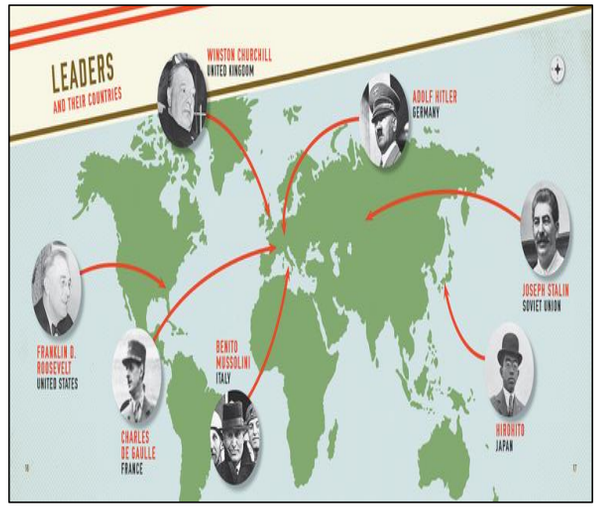
Knowledge Check 11
1. What is the term we use " to negotiate and offer deals to avoid conflict"?
2. Who was the British Prime Minister at the **outbreak** of WWII?
3. What area did Hitler order Germany troops into in 1936?
4. Which two countries joined together in the Anschluss?
5. What two things were agreed in the Nazi Soviet Pact of 1939?
What was the name of the conference where it was agreed that Germany could take a part of Czechoslovakia?
6. Which country was invaded in September 1939 that sparked the outbreak of war between Germany and Britain?

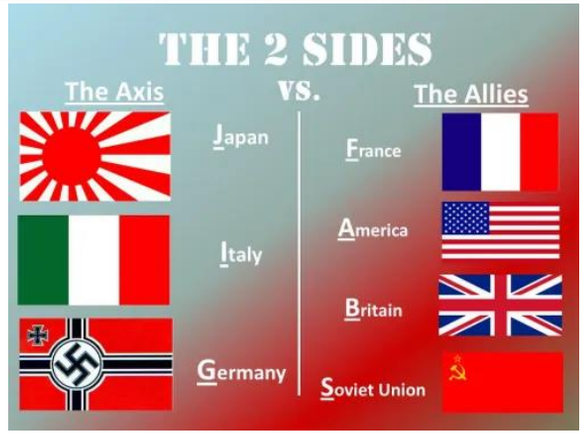
Year 8 Unit 5, The Second World War; Knowledge Organiser

1760 - 1840	1837 - 1901	1900 - 1918	1918 - 1939	**1939 - 1945**	1933 - 1945

Key Topic 12: World Leaders of WWII		
1.	**Winston Churchill**	British Prime Minister from 1940-1945.
2.	**Adolf Hitler**	Nazi dictator of Germany from 1921 to 1945.
3.	**Joseph Stalin**	Communist dictator of the Soviet Union from 1924 to 1953.
4.	**Benito Mussolini**	Fascist dictator of Italy from 1922 to 1945.
5.	**Franklin Roosevelt**	President of the USA from 1933 to April 1945
6.	**Harry Truman**	President of the USA from April 1945 to 1953
7.	**Hirohito**	Emperor of Japan (1901 – 1989)

	Key Topic 13: Major Turning Points WWII
1. Dunkirk	Mass evacuation of allied forces from France (May – June 1940).
2. Battle of Britain	Germany's attempts to gain air supremacy in preparation for an invasion of Britain (July – October 1940).
3. Operation Barbarossa	Germany's surprise invasion of the Soviet Union (July 1941).
4. Pearl Harbour	The Japanese attack of this US Naval Base prompted the USA to join the war (December 1941).
5. Stalingrad, Soviet Union	One of the most decisive battles on the Eastern Front in the Second World War. It was the start of a campaign to push back German forces in Eastern Europe (1942).
6. El Alamein, Egypt	The Axis army of Italy and Germany suffered a decisive defeat by the British forces (1942).
7. D- Day Landings	Also called Operation Overlord, this was the **Allied invasion of western Europe** with US and British troops landing in Normandy (1944).
8. Dropping of the Atomic Bomb	In August 1945, war in the Pacific ended after the dropping of atomic bombs on the Japanese cities of Hiroshima and Nagasaki.





Year 8 Unit 5, The Second World War; Retrieval Questions

Knowledge Check 12
1. Who took over as the British Prime Minster in 1940?
2. When did Hitler become dictator of Germany?
3. Who took over from Lenin and became the dictator of the Soviet Union until his death in 1953?
4. Who was the fascist dictator of Italy until 1945?
5. Who was Hirohito?
6. Which US President led the USA during the majority of the Second World War?
7. Who took over from Roosevelt as president of the USA in 1945?
8. Which three countries made up the Axis Powers?

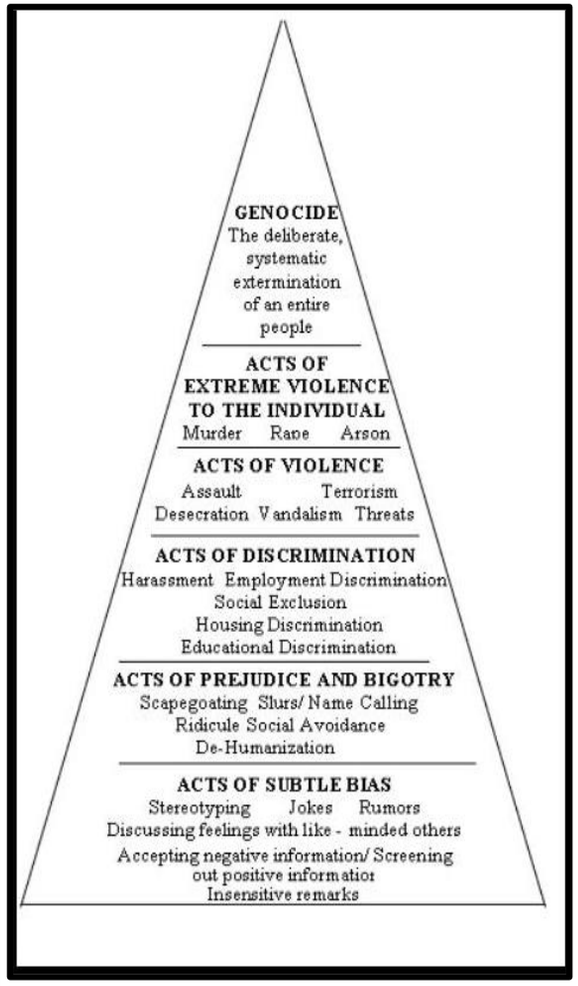
Knowledge Check 13
1. What name is given to the mass evacuation of allied troops from France in 1940?
2. When was the Battle of Britain?
3. What name was given to the surprise German attack on the Soviet Union in 1941?
4. Which country attacked the US naval base at Pearl Harbour?
5. Who won the battle of Stalingrad in 1942?
6. At which battle in Africa did the axis army of Italy and Germany suffer a huge defeat in 1942?
7. What was the code name given to the D-Day Landings in 1944?
8. What were the names of the two Japanese cities where atomic bombs were dropped in 1945?

Year 8 Unit 6 The Jewish Experience and the Holocaust; Knowledge Organiser

1760 - 1840	1837 - 1901	1900 - 1918	1918 - 1939	**1939 - 1945**	**1933 - 1945**

Key Topic 14: The Persecution of the Jews	
1. Anti-Semitism	Prejudice or discrimination against Jewish people.
2. Boycott	When people are encouraged not to buy goods or use services from certain businesses. In 1933, the Nazis tried to organise a boycott of Jewish businesses.
3. Nuremberg Laws	Passed in 1935, these were a wide range of anti-Semitic laws that discriminated against Jews.
4. Prejudice	A preconceived opinion that is not based on reason or actual experience.
5. Discrimination	The unfair treatment of different categories of people, especially on the grounds of ethnicity, age, sex, or disability.
6. Persecution	Poor treatment of a particular group, especially due to racial or political beliefs.
7. Scapegoating	When a particular person or group is blamed unfairly for an event, for example when Hitler blamed Jews for the German loss of World War I.
8. Aryan	Term used in Nazi Germany to refer to the "master-race".

Key Topic 15: The Persecution of the Jews	
1. Kristallnacht	An organised violent attack on Jews across Germany in Nov. 1938. Also known as "The Night of the Broken Glass". This marked an escalation in the persecution of the Jews.
2. Holocaust	The term given to the systematic murder of 6 million Jews by the Nazis.
3. Ghetto	a part of a city, especially a slum area, occupied by a minority group or groups. The Nazis forced Jews into ghettos in the areas of Europe they controlled during the Second World War.
4. Warsaw Ghetto Uprising	An act of Jewish resistance in German-occupied Poland in 1943.
5. Auschwitz	Nazi Germany's largest concentration and extermination camp.
6. Final Solution	The Nazi plan to destroy all the European Jews.
7. Genocide	The deliberate and systematic destruction of a racial, political, cultural, or religious group.
8. 27 January 1945	Auschwitz liberated by the Allies. This date is now remembered as ***International Holocaust Day.***



Year 8 Unit 6 The Jewish Experience and the Holocaust; Retrieval Questions

Knowledge Check 14
1. What term do we use to describe "prejudice or discrimination against Jewish people"?
2. What term do we use to describe "when people are encouraged not buy goods or use services from certain businesses"?
3. In what year did the Nazis organise a boycott of Jewish businesses?
4. What term is given to "a preconceived opinion that is not based on reason or actual experience"?
5. What is the term for when "a particular person or group is blamed unfairly for an event"?
6. What term was used in Nazi Germany to refer to the "master-race"?
7. In what year were the Nuremberg laws?

Knowledge Check 15
1. In what month and year was Kristallnacht?
2. What is Kristallnacht also known as?
3. What term was given to the systematic murder of 6 million Jews by the Nazis?
4. When was the Warsaw Ghetto Uprising?
5. What was the name of Nazi Germany's largest concentration and extermination camp?
6. What term was used for the Nazi plan to destroy all the European Jews?
7. On what date is International Holocaust Day?
8. Why is it held on this specific date?

YEAR 8

MATHS

Year 8 Maths Course Content

Term 1

Units	Sparx topic codes
Percentages of amounts	M437 M905
Percentage change	M476 M533
Calculating with money	M681
Index laws	M608 M150 M120 M568
Solving equations	M509 M554 M957 M387
Term-to-term rules	M381 M241
Position-to-term rules	M166 M991 M866
Ratio	M885 M543 M267 M801 M525
Scale diagrams	M112

Term 2

Units	Sparx topic codes
Significant figures	M994 M131 M878
Coordinates and midpoints	M622 M230
Area and units	M291 M705 M728
Area and circumference	M595 M169 M231
Standard form and ordinary numbers	M719 M678
Venn diagrams	M829 M419
Factors, multiples and primes	M365
Nets	M767 M518
Surface area	M884 M534 M661
Volume	M765 M722 M465

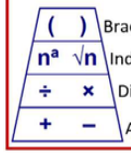
Term 3

Units	Sparx topic codes
Plotting graphs and finding equations	M797 M932 M544
Transforming shapes	M139 M290
Finding unknown angles	M679 M319 M606 M393 M653
Drawing and interpreting statistical diagrams	M574 M165 M140 M183 M210 U854
Linear inequalities	M384 M118
Double brackets	M960
Fractions review	M645
Algebraic fractions	M754 M336
Fractions and recurring decimals	M701 M922

Year 8 – Maths



Order of Operations



Converting Units of Time

60 seconds = 1 minute
60 minutes = 1 hour
24 hours = 1 day
7 days = 1 week

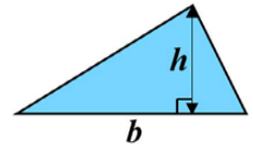
12 months = 1 year
52 weeks = 1 year
365 days = 1 year

10 years = 1 decade
100 years = 1 century
1000 years = 1 millennium

Area

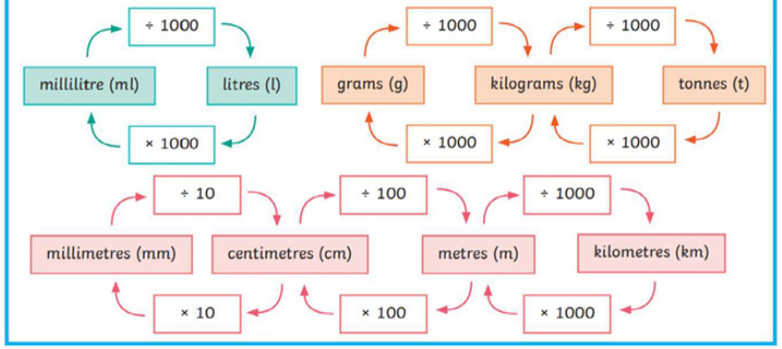


Area of a rectangle = $l \times w$



Area of a triangle = $\frac{1}{2} b \times h$

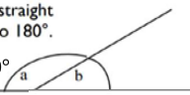
Metric Conversions



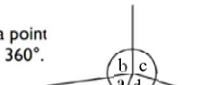
Angle Facts

Angles on a straight line add up to 180°.

a + b = 180°

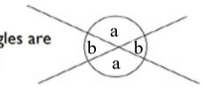


Angles at a point up to 360°.



a + b + c + d = 360°

Opposite angles are equal.



×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Types of Number

odd	end in 1, 3, 5, 7, 9
even	end in 0, 2, 4, 6, 8
prime	has exactly two factors, 1 and itself. E.g. 2, 3, 5, 7, 11...
factor	a number that divides exactly into another number, e.g. 3 is a factor of 9
highest common factor	the largest factor common to two or more numbers.
multiple	a number in the times table of another, e.g. 10 is a multiple of 5
lowest common multiple	the smallest number in two different times tables.

Averages

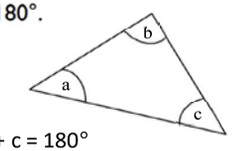
mode/modal	most common value or values (modal class).
median	the middle number when they are in ascending order.
mean	add the numbers up and divide by how many there are.
range	the difference between the largest and smallest value.

Mathematical Symbols

≠ is not equal to
< is less than
≤ is less than or equal to
> Is greater than
≥ is greater than or equal to

Angles in Triangles

Angles in a triangle add up to 180°.

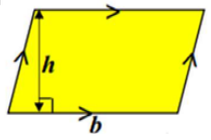


a + b + c = 180°

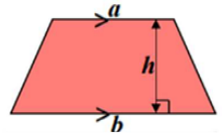
Name	Sides	Vertices
triangle	3	3
quadrilateral	4	4
pentagon	5	5
hexagon	6	6
heptagon	7	7
octagon	8	8
nonagon	9	9
decagon	10	10

Year 8 - Maths

Area

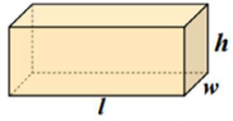


Area of a parallelogram = b x h

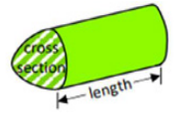


Area of a trapezium = $\frac{1}{2}(a + b)h$

Volume



Volume of a cuboid = l x w x h



Volume of any prism = area of cross section x length

Standard Form

Standard form is a way of writing very large or very small numbers by using powers of ten. It is also known as scientific notation.

Numbers in standard form are written in this format:

$$a \times 10^n$$

Where **a** is a number **1 ≤ a < 10** and **n** is an **integer**.

Percentages of amounts

A **percentage of an amount** allows us to calculate a percentage of a given number by either calculating simple percentages such as 10% and 1% and building the percentage up from there, or by using a percentage multiplier.

E.g. Find **21%** of **£500.**

Using simple percentages

100% is the original amount.
10% = £50
1% = £5
21% of £500 = 2 x £50 + £5
= £105

Using percentages multipliers

21% = $\frac{21}{100}$ = 0.21

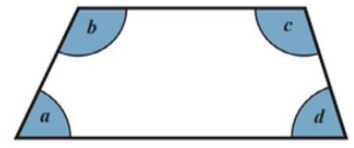
21% of £500 = 0.21 x 500
= £105

Money

£1 is made of 100 pence (or 100p).
Pounds can be written as pence, for example £3.15 can be written as 315p.
Pence can be written as pounds, for example 27p can be written as £0.27.

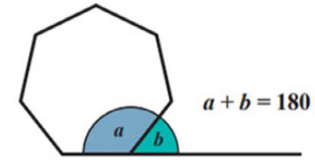
Angles in Polygons

Interior angle sum of any polygon = $(n - 2) \times 180$
where n is the number of sides.



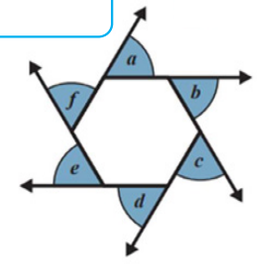
$a + b + c + d = 360$

Angles in a quadrilateral add up to 360



$a + b = 180$

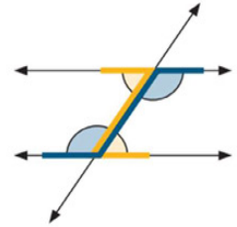
Exterior angles of a polygon add up to 360



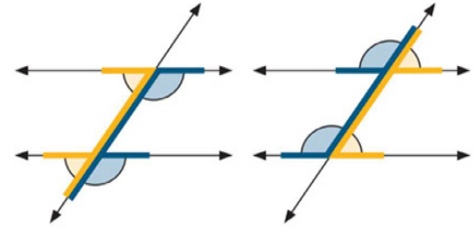
$a + b + c + d + e + f = 360$

The interior and exterior angle of any polygon add up to 180

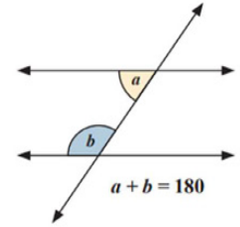
Angles in Parallel Lines



Alternate angles are equal



Corresponding angles are equal



$a + b = 180$

Allied (or co-interior) angles add up to 180

Laws of Indices

$$a^m \times a^n = a^{m+n}$$

$$a^m \div a^n = a^{m-n}$$

$$a^0 = 1$$

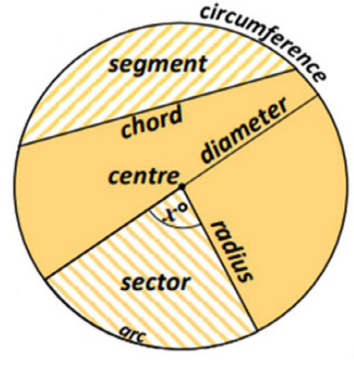
$$a^{-m} = \frac{1}{a^m}$$

$$(a^m)^n = a^{m \times n} = a^{mn}$$

Circles

Circumference of a circle = πd = 2πr

Area of a circle = πr²



Maths Command Words



Useful websites:

For homework and revision: sparxmaths.uk

For revision: corbettmaths.com

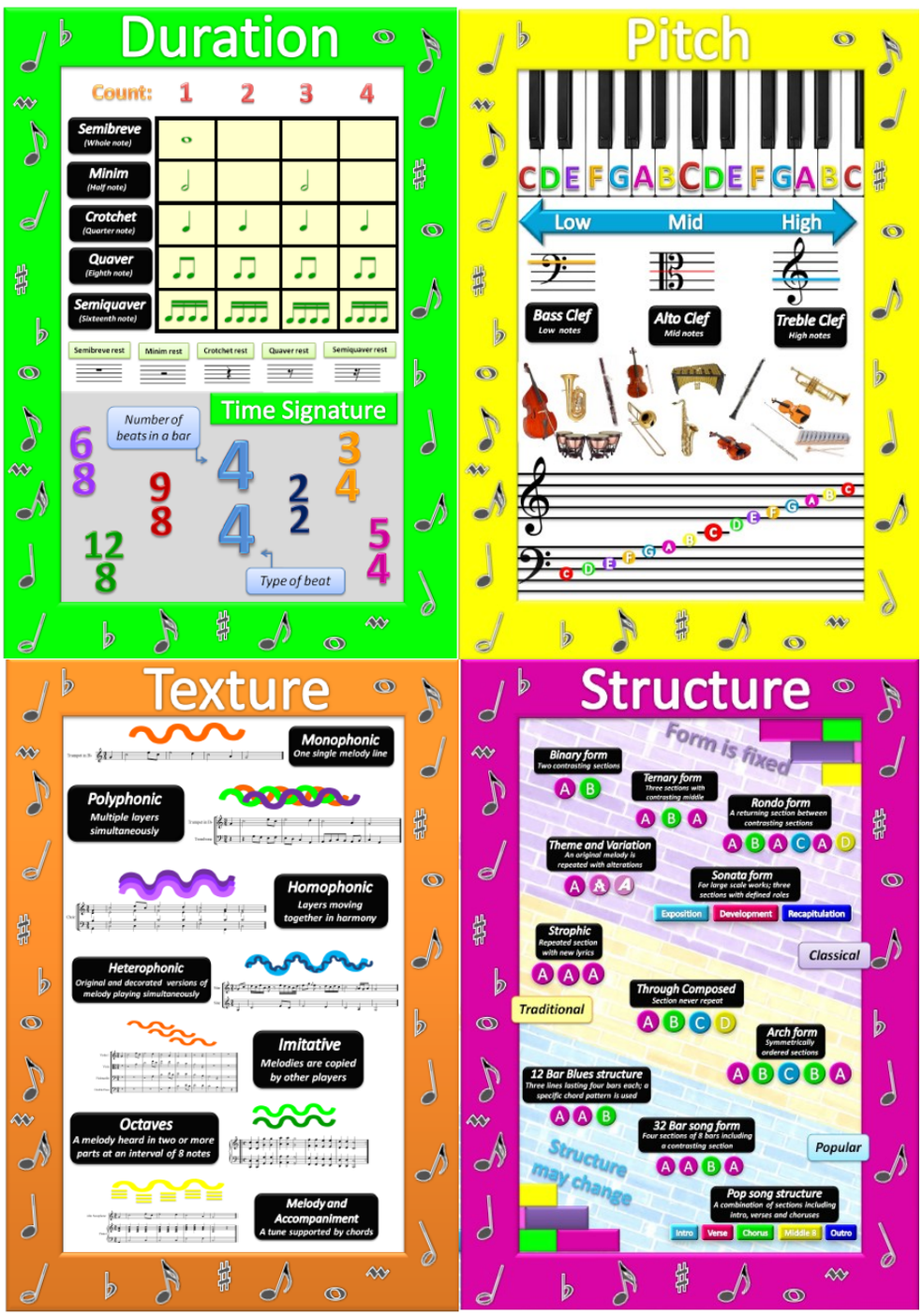
BBC Bitesize Revision

YEAR 8

MUSIC

KS3 KNOWLEDGE ORGANISER

Both sides of the back cover of your folder are one big knowledge organiser for years 7 and 8.
Check the information next to each poster for the focus of each class project.
All music K.O.s plus extra resources are also online at: **https://framwellgatemusic.wordpress.com/**

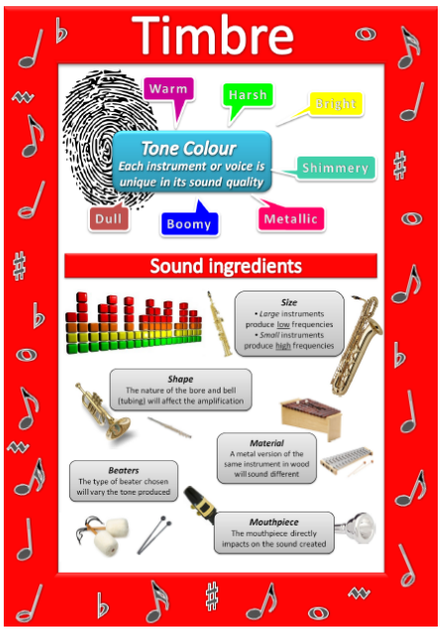


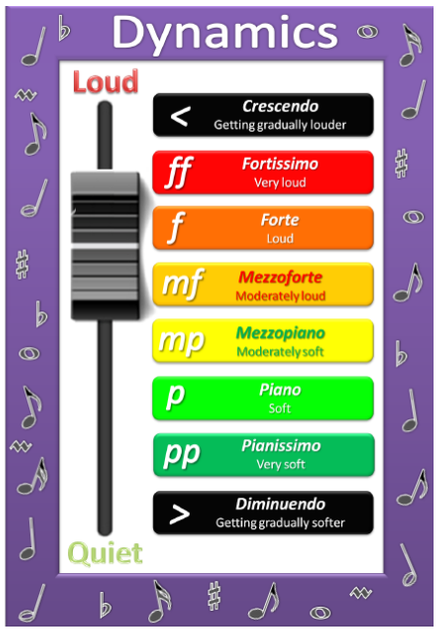
Music is an integral part of the human condition, and is essential to a well-rounded education. Not only is it intellectually satisfying, but as an art form it engenders concentration, teamwork, individual confidence, self-discipline and creativity.

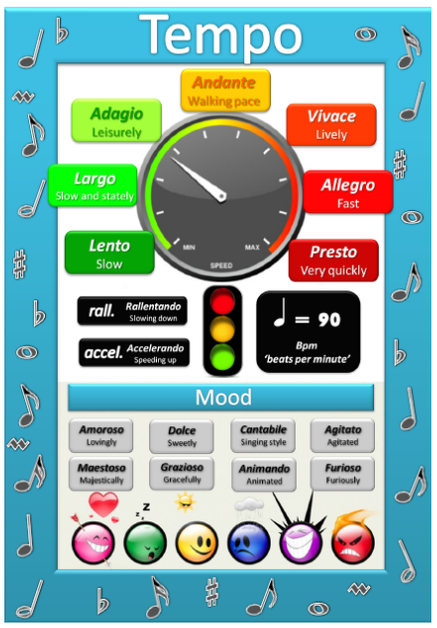
The **aim of the music department is to provide all students with a wide range of music making experiences** in both curricular and extra-curricular activities. **Everything in our curriculum is geared towards taking pupils as far towards becoming a practicing musician as possible**.

Musically, you should be able to confidently read treble clef notation by the time they leave, have experience of singing and playing instruments, be able to aurally recognise musical styles and their features, be able to compose coherently. All students are encouraged regardless of their ability and there are many opportunities available for involvement both in and out of the classroom.

The department is a positive, inclusive environment where students can develop their imagination, self-esteem and teamwork skills.

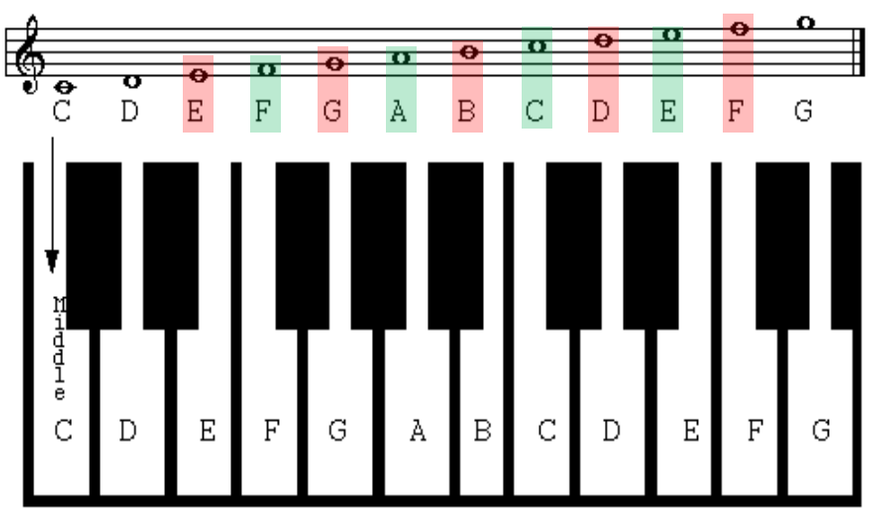




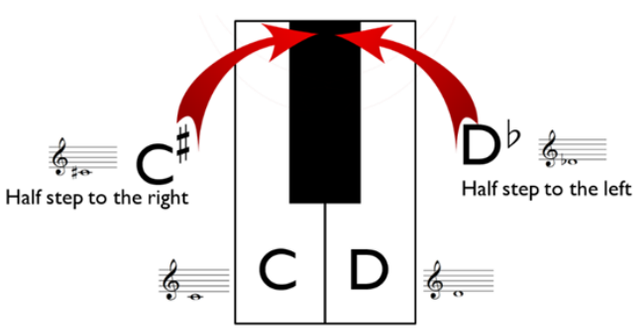


Every Good Boy Deserves Football

F A C E



Sign	Name	Value	Rest
𝅝	Semibreve	4 beats	𝄻
𝅗𝅥	Minim	2 beats	𝄼
♩	Crotchet	1 beat	𝄽
♪	Quaver	½ beat	𝄾
𝅘𝅥𝅯	Semiquaver	¼ beat	𝄿



YEAR 8

PE

Basketball Overview









Core Skills to learn in this unit

1. Dribbling – using both hands, change of pace and direction.
2. Passing – chest, javelin, bounce, overhead, use of the fake.
3. Receiving/intercepting – making a target (signaling), one/two handed catch, stationary and on the move, differing speeds and heights, rebounding, stealing.
4. Shooting – lay-up, set shot, jump shot, free shot, use of the fake.
5. Footwork and marking – stopping (jump stop, stride stop), pivoting, getting free, tracking (drop step).

Local Clubs

Club	Distance	Venue	Postcode
Durham Palatinates Basketball Club	2.33 Miles	Durham University Sports and Wellbeing Park, Maiden Castle	DH1 3SE
Durham University	2.33 Miles		DH1 3SE
Durham Wildcats Basketball Club	2.33 Miles	Durham University Sports and Wellbeing Park, Maiden Castle	DH13SE
Oxclose Basketball Club	7.06 Miles	Oxclose Community School	NE38 0LN
Biddick School Community	7.07 Miles	Biddick School Sports College	NE38 8AL
Norpol	7.07 Miles	Biddick School Sports College	NE38 8AL
Cardinal Vipers	8.61 Miles		NE9 7NP
East Durham Lions Basketball Club	9.73 Miles	East Durham College	SR8 2RN

Competitive Opportunities

- School team to practice on a Friday night after school. Bring your PE kit and a bottle of water to rehydrate

Lesson highlights

- Opportunities for self and peer assessment.
- Feedback opportunities to support team mates and build leadership and communication skills

Cricket Overview









Core Skills to learn in this unit

1. Batting (defensive)
2. Batting (attacking)- drive, pull, sweep shot
3. Bowling – bowling for line and length, fast or slow bowling
4. Catching in the field (from close, from distance) or catching as wicket keeper (standing up, standing back).
5. Throwing and ground fielding in the field (from close, from distance) or stumping and recovery work as a wicket keeper, long barrier technique.

Local Clubs

ANNFIELD PLAIN CRICKET CLUB
BARNARD CASTLE CRICKET CLUB
BEAMISH AND EAST STANLEY CRICKET CLUB
BILL QUAY ALBION CRICKET CLUB
BLAYDON CRICKET CLUB
BOLDON CRICKET CLUB
BOLDON CA CRICKET CLUB
BRANDON CRICKET CLUB
BURNMOOR CRICKET CLUB
BURNHOPE CRICKET CLUB
BURNOPFIELD CRICKET CLUB
CASTLE EDEN CRICKET CLUB
CHESTER-LE-STREET CRICKET CLUB
CONSETT CRICKET CLUB
CROOK TOWN CRICKET CLUB
DAWDON CW CRICKET CLUB
DURHAM CITY CRICKET CLUB
EASINGTON CW CRICKET CLUI
EAST RAINTON CRICKET CLUB
EPPLETON CRICKET CLUB
ESH WINNING CRICKET CLUB
EVENWOOD CRICKET CLUB
FELLING CRICKET CLUB
GATESHEAD FELL CRICKET CLUB
GREENSIDE CRICKET CLUB
HARTLEPOOL CRICKET CLUB
HETTON LYONS CRICKET CLUB
HORDEN CRICKET CLUB
HUNWICK CRICKET CLUB
HYLTON CRICKET CLUB
LANCHESTER CRICKET CLUB
LANGLEY PARK AND BEARPARK CRICKET CLUB
LEADGATE CRICKET CLUB
LINTZ CRICKET CLUB
LITTLETOWN CRICKET CLUB
MARSDEN CRICKET CLUB
MIDDLETON-IN-TEESDALE CC & RABY CASTLE CC
MURTON CRICKET CLUB
PETERLEE CRICKET CLUB
PHILADELPHIA CRICKET CLUB
RYHOPE CRICKET CLUB
RYTON CRICKET CLUB
SACRISTON CRICKET CLUB
SEAHAM HARBOUR CRICKET CLUB
SEAHAM PARK CRICKET CLUB
SHOTLEY BRIDGE CRICKET CLUB
SILKSWORTH CRICKET CLUB
SOUTH NORTH CRICKET CLUB
SOUTH SHIELDS CRICKET CLUB
STOCKSFIELD CRICKET CLUB
SUNDERLAND CRICKET CLUB
SWALWELL CRICKET CLUB
TANTOBIE CRICKET CLUB
TUDHOE CRICKET CLUB
USHAW MOOR CRICKET CLUB
WASHINGTON CRICKET CLUB
WEARMOUTH YAV CRICKET CLUB
WHICKHAM CRICKET CLUB
WHITBURN CRICKET CLUB
WILLINGTON CRICKET CLUB
LEAGUE CONTACTS

Follow this link to find all junior cricket clubs in the North East and their contact details:

https://www.durhamcricket.co.uk/wp-content/uploads/2023/04/DCB-Junior-League-Contacts-V3.pdf

Competitive Opportunities

- School teams run throughout the year but particularly in the summer term. There are a lot of opportunities to represent the school at several competitions. Bring your PE kit and a bottle of water to rehydrate

Lesson highlights

- Opportunities for self and peer assessment.
- Feedback opportunities to support team mates and build leadership and communication skills

Netball Overview








Core Skills to learn in this unit

1. Passing and receiving (chest pass, shoulder pass, one/two handed passing).
2. Dodging – single/double/sprint.
3. Marking a player.
4. Shooting (close/distance) or rebounding (attacking or defending) or marking a pass/intercepting (Centre court players).
5. Footwork and movement – landing on one/two feet, pivoting.

Local Clubs

U14

Team Name
Grangetown
Oaksway
Riverside
Headlanders
DPNC
Great Park
Cleveland Classics
Novos

U16

Team Name
Grangetown
Oaksway
Riverside
DPNC
Headlanders
Vixens
Wildcats
Seatonians

Competitive Opportunities

- School teams begin from the start of the year and there are plenty of opportunities to represent the school. Make sure you are attending after-school practices and bring your PE kit and a bottle of water to rehydrate.

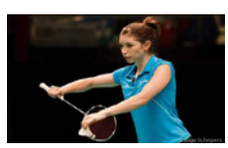
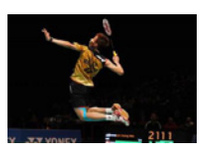
Lesson highlights

- Opportunities for self and peer assessment.
- Feedback opportunities to support team mates and build leadership and communication skills

Badminton Overview





Core Skills to learn in this unit

1. Service – high, low, flick (forehand or backhand).
2. Overhead – clear, drop (forehand and backhand where appropriate).
3. Underarm – clear, drive, drop (forehand and backhand where appropriate).
4. Net play.
5. Smash.

Local Clubs

The Phoenix Junior Badminton Club
Badminton

Junior Sessions run on a Friday night 5.45 – 8.45pm
Senior Sessions Mondays 6 – 8pm
contact Steve Dunnett 07500527212
steved50_6@live.com

Address: The Phoenix Junior Badminton Club, Freemans Place, Durham City, DH1 1SW
Contact Details:

Glaxo Badminton Club
Badminton

We are a small and friendly club who welcome players of all ages and standards. We hold club nights on Wednesdays 7-9pm, between September and April, and prospective new members are welcome to come and join a session for free. Just turn up to have a chat. We run teams in the Darlington League for those who wish to compete, but club nights are just for fun!

Address: Glaxo Badminton Club, Strathmore road, Barnard Castle, DL12 8DS
Contact Details:

Aycliffe Badminton Club
Badminton

Address: Aycliffe Badminton Club, Beveridge Way, Newton Aycliffe, DL5 4EH
Contact Details: https://aycliffebc.wixsite.com/aycliffebc, @AycliffeBC

Durham Swifts Badminron Club
Badminton

Address: Durham Swifts Badminron Club, Buckinghamshire Road, Belmont, Durham, DH1 2QP
Contact Details: Https://sites.google, Durham Swifts

Durham County Badminton Association
Badminton

Durham County Badminton Association provides coaching and local tournament opportunities for junior players of all abilities with the aim of developing these players to progress on to represent the junior county teams in regional and national competitions as well as, hopefully, going on to represent the Durham County senior teams in national leagues.

Durham County Badminton Association are also a Deaf Aware Organisation and are keen to welcome members of the deaf community as volunteers, players or coaches.

Address: Durham County Badminton Association, Buckinghamshire Road, Belmont, DH1 2QP
Contact Details: @DCBA0001

Competitive Opportunities

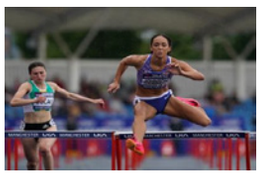
- Make sure you are attending after-school practices and bring your PE kit and a bottle of water to rehydrate.

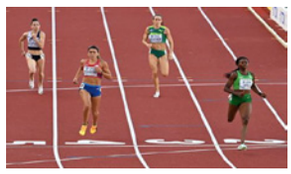
Lesson highlights

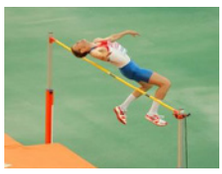
- Opportunities for self and peer assessment.
- Feedback opportunities to support team mates and build leadership and communication skills

Athletics Overview









Core Skills to learn in this unit

Track
1.Starts/finishes.
2. Arm action – effectiveness and consistency.
3. Leg action to create appropriate pace – consistency

Jumps
1.Run-up/speed.
2. Take-off.
3. Flight and landing.

Throws
1. Grip, stance and preparation to throw.
2. Movement into throwing action.
3. Release, follow-through and recovery.

Local Clubs

CLS DAC

JARROW & HEBBURN Athletic Club

HEATON Harriers

BIRTLEY ATHLETICS CLUB

OXFORD ATHLETIC FC

Stockton Striders AC

ONWARD FOR HONOUR SUNDERLAND HARRIERS

SOUTH SHIELDS HARRIERS

NORTH SHIELDS POLYTECHNIC
Athletics Club based in Whitley Bay

Competitive Opportunities
- Make sure you are attending after-school practices and bring your PE kit and a bottle of water to rehydrate. There are a lot of opportunities to compete in competitions against other schools.

Lesson highlights
- Opportunities for self and peer assessment.
- Feedback opportunities to support team mates and build leadership and communication skills

Hockey Overview









Core Skills to learn in this unit

1. Dribbling/moving with the ball – open and reverse stick, change of pace, dodging.
2. Passing – push, hit, slap.
3. Shooting – placement and power.
4. Receiving – stationary, on the move, open and reverse stick.
5. Marking/intercepting/tackling/jockeying – open and reverse stick tackles, jab tackle

Local Clubs

Durham City HC
3.1 MILES FROM DH15YN
The Graham Sports Centre
University of Durham
Durham,County Durham
DH1 3SE

Durham University HC
3.1 MILES FROM DH15YN
Graham Sports Centre Maiden Castle
Sports Ground, Maiden Castle Sports
DURHAM,Durham
DH1 3SE

Sunderland Broom HC
15.5 MILES FROM DH15YN
14 Dilston Gardens
Sunderland,Tyne and Wear
SR4 7TD

Gateshead HC
17.9 MILES FROM DH15YN
Market Lane
Gateshead,Tyne and Wear
NE11 9NX

Newcastle Medics HC
21.1 MILES FROM DH15YN
12 Warton Terrace
Heaton
Newcastle Upon Tyne,Tyne and Wear
NE6 5LR

Durham Dales HC
21.9 MILES FROM DH15YN
Lifestyle Fitness
Leazes Ln
Wolsingham,Bishop Auckland
DL13 3DN

Jesmond Parish Church HC
22.2 MILES FROM DH15YN
14, Adeline Gardens
Gosforth
Newcastle upon Tyne,Tyne and Wear
NE3 4JQ

Newcastle HC
23.0 MILES FROM DH15YN
Newcastle,Tyne and Wear
undefined

Newcastle University HC
23.9 MILES FROM DH15YN
Stan Calvert Memorial Pitch
Longbenton Sports Ground
NEWCASTLE UPON TYNE,Tyne and Wear
NE12 8AD

Whitley Bay and Tynemouth HC
24.1 MILES FROM DH15YN
NE29 6TL

Competitive Opportunities
- Make sure you are attending after-school practices and bring your PE kit and a bottle of water to rehydrate. There are a lot of opportunities to compete in competitions against other schools.

Lesson highlights
- Opportunities for self and peer assessment.
- Feedback opportunities to support team mates and build leadership and communication skills

Table Tennis Overview









Core Skills to learn in this unit

1. Service – forehand and backhand (with and without spin as appropriate).
2. Drives – forehand and backhand (with and without topspin as appropriate).
3. Push – forehand and backhand (with and without backspin as appropriate).
4. Smash – forehand and backhand (with and without spin as appropriate).
5. Lob – forehand and backhand (with and without spin as appropriate).

Local Clubs

Durham City Table Tennis Club

Premier Club

Premier Club

Address: Freemans Quay Leisure Centre, Durham, County Durham DH1 1SW

More Info: https://www.tabletennis365.com/DurhamTTC

Coxhoe table Tennis Club

Associate Club Affiliation

4.96 Miles

ACTIVE LIFE @ COCHOE Linden Grove DURHAM DH6 4DW

+44 7929716379

Brandon Table Tennis Club

Club Membership £10 adults and £5 juniors
£4 per session adult
£2 per session junior

Details of regular meet-ups/sessions:

Monday 6:30 pm to 8:30 pm
Wednesday 10:00 am until noon
Thursday 6:30 pm to 8:30 pm
Saturday 10:00 am until noon
Sunday 10:00 am until noon

Address: Brandon Community Hall, Brandon Lane, Brandon, Durham DH7 8PS

Competitive Opportunities

- Make sure you are attending after-school practices and bring your PE kit and a bottle of water to rehydrate. There are a lot of opportunities to compete in competitions against other schools.

Lesson highlights

- Opportunities for self and peer assessment.
- Feedback opportunities to support team mates and build leadership and communication skills

Volleyball Overview









Core Skills to learn in this unit

1. Service – underarm and overarm
2. Dig –two arm (receiving serve and from team mates)
3. Volley – set, straight, sideways, overhead
4. Smash/spike
5. Block – single and double

Local Clubs

Haughton Darlington

location:
→ Darlington

matches:
Darlington Education Village
DL1 2AN

Longbenton

location:
→ Newcastle upon Tyne

teams:
→ Longbenton Black Sheep (Div 1)
→ Longbenton Bitter & Twisted (Div 2)
→ Longbenton Speckled Hens (Women's Div)

matches:
Friday
7-9pm
Longbenton High School
Hailsham Ave
Longbenton
NE12 8ER

Newcastle Panthers

location:
→ Newcastle upon Tyne

teams:
→ Newcastle White Panthers (Div 1)
→ Newcastle Black Panthers (Div 1)
→ Newcastle Panther Cubs (Div 2)
→ Newcastle Pink Panthers (Women's Div)
→ Newcastle Scarlet Panthers (Women's Div)

matches:
Tuesday
6-8pm (Cubs)
8-10pm (White, Black, Scarlet, Pink)
Vertu Motors Arena
Scotswood Road
NE4 7AF

Competitive Opportunities

- Make sure you are attending after-school practices and bring your PE kit and a bottle of water to rehydrate. There are a lot of opportunities to compete in competitions against other schools.

Lesson highlights

- Opportunities for self and peer assessment.
- Feedback opportunities to support team mates and build leadership and communication skills

Fitness Overview









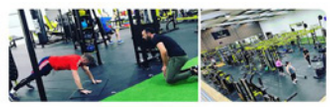
Core Skills to learn in this unit

1. Year 7 – Components of Fitness – able to define and demonstrate each component
2. Year 8 – Fitness Testing – able to link tests to relevant component and discuss both benefits and limitations
3. Year 9 – Methods of Training – able to describe the methods before evaluating each one using sporting examples

Local Clubs



PureGym Durham Arnison



Unique Health Clubs



Result Fitness

4.4 ★★★★★ (72)
10+ years in business · Open



CrossFit DHM Durham

5.0 ★★★★★ (19)

Competitive Opportunities

- Make sure you are attending after-school clubs and bring your PE kit and a bottle of water to rehydrate.

Lesson highlights

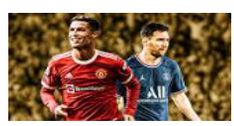
- Opportunities for self and peer assessment.
- Feedback opportunities to support team mates and build leadership and communication skills

Football Overview









Core Skills to learn in this unit

1. **First Touch** – Consistency in ability to control/trap a football regardless of quality of pass from teammate.
2. **Passing** – Consistently chooses the correct option when passing the ball. Uses a variety of passes with different parts of the foot and consistently finds intended target.
3. **Defending/Tackling** - Can read opponent when they have the ball and can either perform a tackle or stop their opponent from going in the direction or space they want to.
4. **On the ball** – When in possession of the football is the learners head up looking around them? Can they move comfortably with the ball at their feet? Can they dribble and go past opponents when doing so?
5. **Shooting** – Learner should aim for corners of the net and consistently make clean contact on the ball.

Local Clubs



Competitive Opportunities

- School teams run throughout the year – See the PE department for more information on how to join a school team. Practice also occurs throughout the week, with futsal practice on a lunch time.

Lesson highlights

- Opportunities for self and peer assessment.
- Feedback opportunities to support team mates and build leadership and communication skills

YEAR 8

R.E

Year 8 – RE - Problem of Evil

Key vocabulary

The problem of evil	The idea that if God was all loving and all powerful then he should want to stop evil
Inconsistent Triad	It doesn't add up how God can be all powerful, all loving and the idea that evil exists
Christian Responses	They say suffering exists because they need to understand good and evil, and see how they respond to suffering to be rewarded or punished
Cosmological Argument (first cause argument)	Thomas Aquinas idea: everything has a cause for the effect to happen. This means the world must have a cause (God) and this causes the affect which is the creation of the world
Mover and the motion	Aristotle's idea that the unmoved (or prime) mover sets in motion the world being created
Nietzsche	God is dead and society have killed him as they do not believe
Design Argument	William Paley's idea that everything has a designer, something complex like a watch has to be designed and planned. Something even more complex such as the world must have a designer, very powerful, this is God
Augustine	Humans have free will and they are the ones that cause suffering. God is innocent!
Irenaeus	God does cause suffering but he does this for a reason, he believes it makes them stronger and develops their soul. This is called soul making
The fall	The story of Adam and Eve when they have gone against god and caused humanity to FALL into suffering

God does exist

<u>Cosmological argument- Aquinas</u>

Everything in the world has a cause, and goes back to the original cause of everything which is God. The first cause

Cause- parents effect- humans

Cause- ancestors

Cause- created by God

<u>Design Argument- William Paley</u>

Teleological argument

World is so perfect that it must have been created by someone that is omniscient (all knowing).





Question who designed a watch, as it is complex. World is even more complex so needs to have been designed

<u>Aristotle- Cause and Effect</u>

<u>Mover-</u> the cause <u>Motion-</u> the effect

e.g. pushing a door (mover)

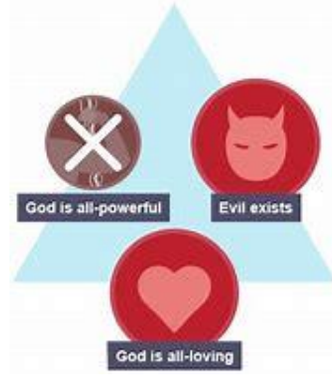
Door opens (motion)

<u>Prime Mover-</u>

Unchanging, cause of everything in the world. Infinite and powerful

<u>God does not exist</u>

<u>Inconsistent triad</u>



If God is all powerful and all loving, then he should be able to stop evil. However, this is inconsistent as evil still occurs

This raises a problem, as atheists say why doesn't he stop these things from occurring

Moral evil- evil caused by humans

e.g. murder, theft, lying

Natural evil- evil caused by 'nature'

e.g. earthquakes, death

<u>God does exist</u>

<u>Irenaeus theodicy(supporting God)</u>

Soul making

God made humans imperfect. To make them perfect would take away their free will.

Suffering helps them to develop and get stronger- their soul is made stronger

Story of Job- God made him suffer as a test, God took everything away from him and Job stayed loyal. God explained that suffering is complex and humans can't understand. He gave everything and more back



<u>God does exist</u>

<u>Augustinian Theodicy (supporting God)</u>

- Humans were created perfect as they have free will
- Free will, humans have chosen to sin
- God is still loving as he sent Jesus to restore the broken relationships

Humans are responsible for causing suffering as they chose to.

Story of Adam and Eve- they had free will and chose to eat the forbidden fruit. This led to evil in the world.

Year 8 – RE - Jesus

Key Vocabulary

Key words	Definition
Sermon on the Mount	Speech Jesus did to state the guidance of what he expects from people
Beatitudes	Supreme blessing
Miracles	God-like characteristics to help people/society
Controversial	An issue that may cause dispute
Parable	A story with a meaning
Lost sheep	Story about Jesus looking after one 'troubled' person
Good Samaritan	Story about looking after those who are enemies
Temple	Jesus showed anger in a temple
"take this cup from me"	Jesus worried because of his crucifixion
Modern	Fitting to today's society
Last supper	Last meal with disciples
Crucifixion	Died on cross
Resurrection	Back to life 3 days later- God- like
influence	Effects a person's life



Sermon on the Mount

Speech that Jesus did on Mount Sinai, talking about how he believes people should behave. This was different to the laws at the time and harder to achieve as their were emotions

Beatitudes- blessings by God for following these expectations

"blessed are the peacemakers"

- -Set new rules
- -Focused on trying to make society better
- - Talks about the rewards

- -Made it harder
- - Not a popular leader
- - Changed the norms of society

Miracles

Performed miracles to help some people and show his God-like characteristics

e.g. feeding the 5000, healing the blind

- -shows God-like powers omnipotent
- - Uses powers to help
- - Bible stories
- - wouldn't have had technology

- -coincidence
- -tricked people to believe
- - Not much evidence
- - Not many people have seen

Human
Divine (God like)

Controversial
Made friends with sinners
Parable of the lost sheep- explains he helped one person that was 'troubled' as he knew the others would be ok

- - Tries to improve people
- - equality

- - Might not change him
- - Ignores the good

Emotions
Anger- Jesus showed anger in the temple "overturned tables"
Overwhelmed- felt worried about the crucifixion "take this cup from me"

- - Showing anger, human
- - More relatable

- Wasn't explicitly anger, stand up for religion
- - Mission to be fulfilled



Modern
Women were treated as unequal and not allowed to speak to men
Jesus spoke to women directly

- - Shows he is ok to go against society
- - Equality
- - All human

Last supper

Last meal that Jesus had with his disciples, bread and win

•invitation to God's kingdom Jesus, the host, welcomes the betrayer, that even those who fall are given a seat.

Not parable? Showing the sacrifice, he is about to make

Crucifixion

Jesus dying to save people from sins

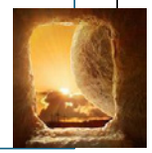
Influences them to-
Forgive people
Trust in Jesus
Follow God



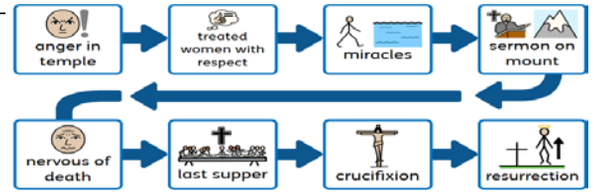
Resurrection

Just brought back from the dead.

Influences them to-
Trust in Jesus being the son of God
Follow God
Follow teachings to be rewarded with heaven



Mary Magdalene first one that saw Jesus alive and spread the word- shows respect to women



YEAR 8

SCIENCE

Y8: Ecology - Respiration

Box 1

Respiration is the release of energy from glucose.
We get the glucose needed for this process from our food.
This is why we say food gives us energy.

Aerobic respiration:
Aerobic means "with oxygen" – we get this oxygen from the air when we breathe.

Oxygen + Glucose → Carbon dioxide + water (+ energy)

Anaerobic respiration:
Anaerobic means "without oxygen" – we carry out this type of respiration when oxygen is in short supply, like during exercise.

Glucose → lactic acid (+ some energy)

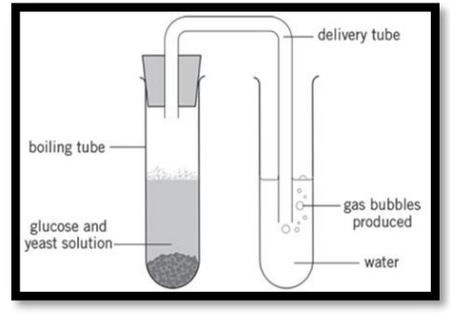
There is nothing for the glucose to react with so it is partially broken down.
Lactic acid builds up in our muscles until we can get enough oxygen to break it down, this is what makes our muscles ache after exercise.

Box 2

When microorganisms such as bacteria or fungi use anaerobic respiration, they produce ethanol instead of lactic acid. This process is called fermentation.

Glucose → Ethanol + Carbon dioxide (+ some energy)
Yeast is a fungus used to make bread and beer.

You can investigate the rate of fermentation by reacting glucose and yeast and counting the number of bubbles produced in a given time. These bubbles contain carbon dioxide (right).



Y8: Ecology – Photosynthesis

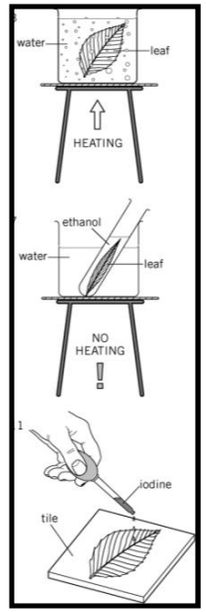
Box 1
Plants make glucose through the process of **photosynthesis**.
Photo – light
synthesis – making something

Carbon dioxide + water → glucose + oxygen

Photosynthesis needs:
- Energy from the sun
- Chlorophyll (a pigment found in the chloroplasts in the leaves)

Photosynthesis takes place in the **chloroplasts** and the glucose is stored in the plant as **starch**.

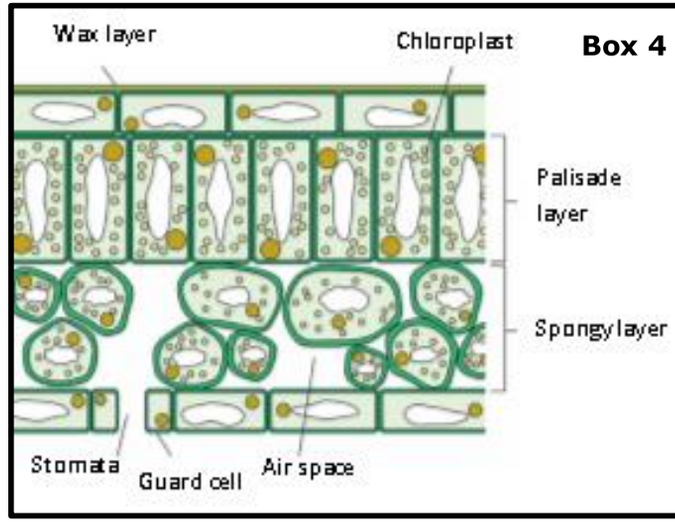
Box 2
Testing leaves for starch:
1. Place leaf in boiling water for 2 minutes.
2. Remove leaf from water and add to a boiling tube of ethanol.
3. Place boiling tube in a beaker of hot water.
4. Remove leaf from ethanol after 20 minutes and dip into water for 30 seconds.
5. Spread leaf on a white tile and add a few drops of iodine.
6. The iodine will turn blue/black if starch is present.



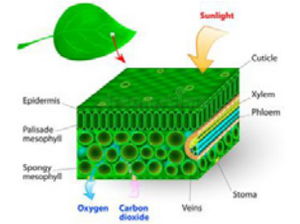
Box 6

Plant mineral	Role of mir	
Nitrates	Healthy growth	Poor growth
Phosphates	Healthy roots	Poor root growth, purple leaves
Potassium	Healthy leaves and flowers	Yellow leaves with dead patches
Magnesium	Making chlorophyll	Yellow leaves

Box 4



Box 3
Features of a leaf:
Green – contain chlorophyll.
Thin – short diffusion pathway to allow gases to diffuse easily.
Large surface area – to absorb as much light as possible.
Veins – contain tubes called xylem (to carry water) and phloem (to carry glucose).



Box 5
Wax layer – prevents water loss.
Chloroplast – site of photosynthesis.
Palisade layer – contains the most chloroplasts as this is where most photosynthesis happens.
Spongey layer – contains air spaces to allow carbon dioxide to pass through the leaf to the palisade layer.
Stomata – holes in the lower surface of the leaf to let gases such as carbon dioxide, oxygen and water vapour in and out.
Guard cells – control the opening and closing of the stomata.

Y8: Matter

BOX 1 ATOMS AND ELEMENTS

Every element is made up of one type of atom.
The atoms of one element are different to the atoms of all other elements.

One atom does not have the properties of an element (e.g. gold atoms are NOT shiny or yellow). The properties of an element are the properties of many atoms joined together (together the atoms make gold yellow and shiny).

B0X2 COMPOUNDS

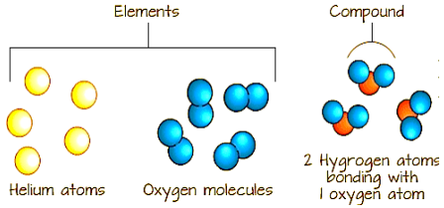
A compound has different properties to the elements in it.

All compounds are molecules, but not all molecules are compounds. Hydrogen(H_2) is a molecule, but not a compound because it is made of only one element. Water (H_2O) can be called a molecule or a compound because it is made of hydrogen (H) and oxygen (O) atoms.
Compounds made up of oxygen and another element have two-word names. The second word is oxide.

(e.g. aluminium + oxygen aluminium oxide)

In any compound of a metal with a non-metal, the end of the name of the non-metal becomes –ide.
(e.g. sodium + chlorine à sodium chloride)

BOX 3 DIAGRAMS OF ELEMENTS AND COMPOUNDS





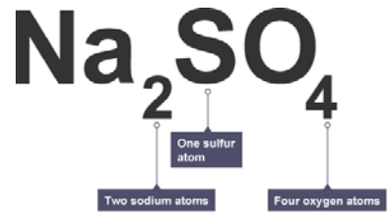
Number of Atoms	Prefix
1	mono-
2	di-
3	tri-

BOX 4 CHEMICAL FORMULAE

Every chemical symbol starts with a capital letter, with the second letter written in lower case.

Mg	mg	mG	MG
✓	✗	✗	✗

Shows the elements present in a compound.
Shows the number of atoms of each element.
Numbers are written to the right of their chemical symbol
Numbers are smaller than the chemical symbol.

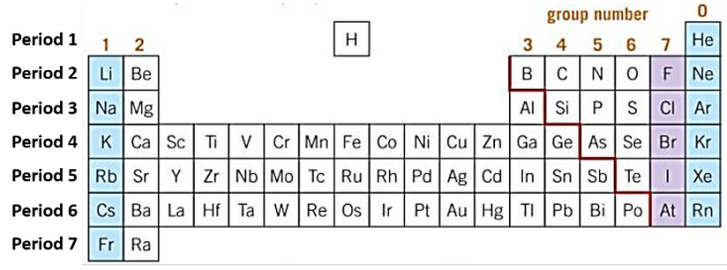


Number of elements: 3
Elements: Na (sodium), S (sulfur), O (oxygen)
Number of atoms: 7

KEYWORD	DEFINITION
Atom	The smallest part of an element that can exist.
Carbonate	A compound that includes carbon and oxygen atoms, as well as a metal element. There are three atoms of oxygen for every one atom of carbon.
Chemical formula	A formula that shows the elements present in a compound and their relative proportions.
Chemical symbol	A one- or two-letter code for an element that is used by scientists in all countries.
Compound	Pure substances made up of atoms of two or more elements, strongly (chemically) joined together.
Elements	Substances that all other materials are made up of, and which contain only one type of atom. An element cannot be broken down into other substances.
Hydroxide	A compound that includes hydrogen and oxygen atoms, as well as a metal element. There is one atom of oxygen for every one atom of hydrogen.
Molecules	A group of two or more (up to 1000s) atoms strongly joined together. Most non-metal elements exist either as small or giant molecules.
Nitrate	A compound that includes nitrogen and oxygen atoms, as well as a metal element. There are three atoms of oxygen for every one atom of nitrogen.
Sulfate	A compound that includes sulfur and oxygen atoms. There are four atoms of oxygen for every one atom of sulfur.

Y8: Matter

BOX 1 THE PERIODIC TABLE



Vertical columns = groups
Horizontal rows = periods
Metals = left side of the stepped line
Non-metals = right side of the stepped line

BOX 2 GROUP 1 (ALKALI METALS)

Li Na K Rb Cs Fr

Properties of group 1 elements
Good conductors of electricity and heat
Shiny when freshly cut
Soft (can be cut with a knife)
Very reactive
Relatively low boiling/ melting points
Low densities
Stored under oil (away from air and water)

Trends
Melting point decreases as you go down the group.
Reactivity increases (gets more vigorous) as you go down the group.

Reactions with water
Produce hydrogen gas and a metal hydroxide.
Make alkaline solutions (universal indicator turns purple)
Sodium + water → sodium hydroxide + hydrogen

General equations

Alkali metal + water → alkali metal hydroxide + hydrogen

BOX 3 GROUP 7 (HALOGENS)

F Cl Br I At

Properties of group 7 elements

Non-metals
Low melting points
Exist as simple diatomic molecules (Cl_2, Br_2...)
Do not conduct electricity

Trends

As you go down the groups:
Melting and boiling point increases.
Colours of the elements get darker.
Reactivity decreases.
State changes from gas to liquid to solid.

BOX 4 GROUP 0 (NOBLE GASES)

Properties of group 0 elements

He Ne Ar Kr Xe Rn

Very low melting and boiling poin
Colourless gases at room temperature
Odourless (no smell)
Glow brightly when high-voltage electricity passes through them (used in advertising signs)
Unreactive (inert)
Not flammable

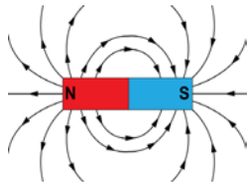
Trends

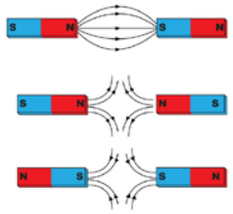
Get *slightly* more reactive as you go down the group.
Boiling point increases going down the group.
Density increases going down the group.

KEYWORD	DEFINITION
Alkali metals	The elements in the left column of the Periodic Table, called Group 1.
Chemical properties	Features of the way a substance reacts with other substances.
Group	A column of the Periodic Table. The elements in a group have similar properties.
Halogens	The name for elements in the group that is second from the right of the Periodic Table. Also known as the Group 7 elements.
Noble gases	The name for elements in the group on the right of the Periodic Table. Also known as the Group 0 elements.
Periodic Table	A table which shows all the elements arranged in columns and rows. Elements with similar properties are grouped together.
Period	A row of the Periodic Table. There are trends in the properties of the elements across a period.
Physical properties	Features of a substance that can be observed without changing the substance itself.
Trends	A pattern in properties, such as an increase or decrease.
Unreactive	Elements that take part in few chemical reactions are unreactive.

Y8: Electromagnets

- Magnets have a north and a south pole.
- **Like** poles repel; north and north pole.
- **Unlike** poles attract; north and south.
- Magnetic field lines are drawn from north to south.





- Field lines – Remember:
  - **They never cross**
  - **The arrows point from the north pole to the south pole**
  - **The points where they touch the magnet are the poles**
  - **Where they are closer together the magnetic field is stronger**

Box 2 – Permanent and temporary magnets

Permanent and temporary magnets:
- You can turn an electromagnet on and off = temporary magnet.
- A permanent magnet is an object made from a material that is magnetized and creates its own persistent magnetic field.

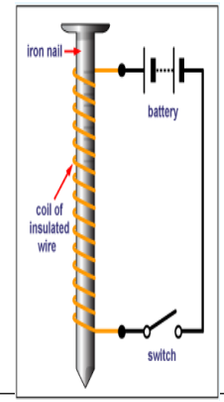
Box 3 – Magnetic materials

Magnetic materials : Iron; Steel; Cobalt; Nickel

I, Can, see, Nick

Box 4: Electromagnets

How to make an electromagnet stronger:
- Increase the number of turns, or loops, on the coil. (this increases the current.)
- Increase the current.
- Use a magnetic material as the core of the electromagnet.



KEYWORD	DEFINITION
magnet	an object that creates a magnetic field around itself
ferromagnetic material	a material that experiences a magnetic force when placed in a magnetic field.
magnetic force	a non-contact force that acts of a magnetic material or a magnet placed in a magnetic field
magnetic field	the space around a magnet or a current-carrying wire
magnetic field line	line in a magnetic field along which a magnetic compass points - also called a line of force
solenoid	a long coil of wire that produces a magnetic field in and around the coil when there is a current in the coil
electromagnet	an insulated wire wrapped round an iron bar that becomes magnetic when there is a current in the wire
pole	position on a magnet where the magnetic field is strongest

Parts of an electromagnet	
Solenoid	Carries the current
Core	Focuses the magnetic field
Current	Creates the magnetic field

Y8: Energy

Box 1: Mechanical work

Energy can be transferred from store to store by forces moving.
When this happens we say that mechanical work is done.

We can work out how much work has been done by using this formula:

W = Fs

W = Work done (J) - This is also the amount of energy transferred.
F = Forces applied (N)
S = Displacement of force (m) - This is the distance the force has moved.

Remember: Weight (N) = mass (kg) x gravitational field strength.

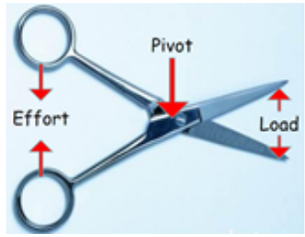
Box 2 – Levers

Levers are simple machines that allow us to multiply the force applied.

The longer the lever, the greater the moment created for the same amount of force applied.

A lever can be used to lift heavy objects.

The weight of the object is called the load.
The force the person applies is called the effort.
The point about which the lever turn is called the pivot or the fulcrum.

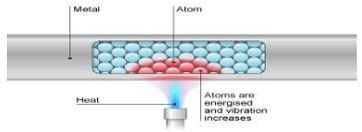


Box 3 –Heat Transfer

Thermal energy will always be transferred from hotter objects to cooler objects. You can reduce the amount of thermal energy transferred by insulating the hot object.

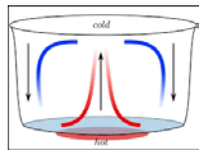
Conduction

Heat transfer in solid materials due to the touching of particles.



Convection

Convection is a heat transfer that happens in fluids (gas and liquids). Particles with a lot of thermal energy move and take the place of particles with less thermal energy.



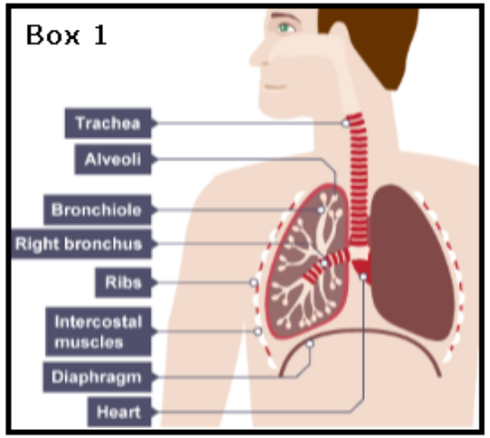
Radiation

All objects give out some infrared radiation. The hotter they are the more radiation they give out. Objects that absorb infrared radiation heat up. Radiation can travel through empty space. Objects don't have to be touching and no particles are involved.

KEYWORD	DEFINITION
Work	The transfer of energy when a force moves an object, in joules.
Lever	A type of machine which is a rigid bar that pivots about a point.
Input force	The force you apply to a machine.
Output force	The force that is applied to the object moved by the machine.
Displacement	The distance an object moves from its original position.
Deformation	When an elastic object is stretched or squashed, which requires work.
Thermal conductor	Material that allows heat to move quickly through it.
Thermal insulator	Material that only allows heat to travel slowly through it.
Temperature	A measure of the motion and energy of the particles.
Thermal energy	The quantity of energy stored in a substance due to the vibration of its particles.
Conduction	Transfer of thermal energy by the vibration of particles.
Convection	Transfer of thermal energy when particles in a heated fluid rise.
Radiation	Transfer of thermal energy as a wave.

Y8: Organisation – Respiratory System

Box 1



Box 2

1. Air enters through either the nose or mouth.
2. It moves down through the trachea.
3. It then moves into either the left or right lung through the bronchi.
4. These bronchi split into smaller tubes called bronchioles.
5. At the ends of the bronchioles there are tiny air sacs called alveoli.
6. The alveoli are surrounded by tiny blood vessels called capillaries.

Box 3

The lungs are adapted for efficient gas exchange.

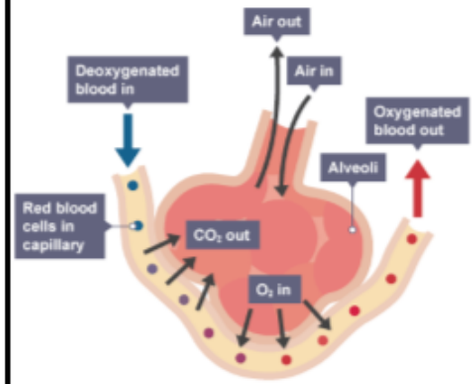
The alveoli have:

- A large surface area
- A moist surface for gases to dissolve
- A large network of capillaries to provide a good blood supply.

Box 4

Oxygen **diffuses** out of the **alveoli** and into the **blood** (capillaries). It is used all over the body **to release energy. Carbon dioxide** is a **waste product** and **diffuses** from our **blood** into our **alveoli** to be breathed out.

Box 5

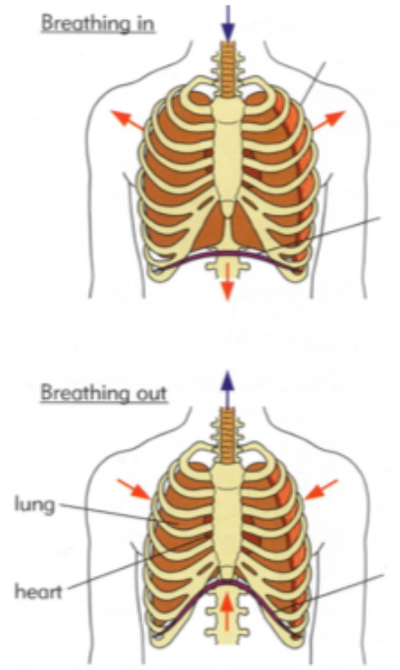


Box 6

When you breath in, the **diaphragm contracts** and moves **down** and the **ribs** move **up and out**. This **increases** the **volume** of the chest cavity, which **decreases** the **air pressure**. So air **rushes in** to fill the lungs and increase the pressure.

When you breathe out the opposite happens. The diaphragm **relaxes** and **moves up** and the **ribs** move **down and in**. This **decreases** the **volume** of the chest cavity and **increases** the **air pressure.** Air is forced out of the lungs to decrease the pressure.

Box 7



Box 8

	Diaphragm	Ribs	Volume of chest cavity	Air pressure in chest cavity	Result
Breathing in (Inhaling)	Contracts and moves down	Move up and out	Increases	Decreases	Air rushes in
Breathing out (Exhaling)	Relaxes and moves up	Move down and in	Decreases	Increases	Air is pushed out

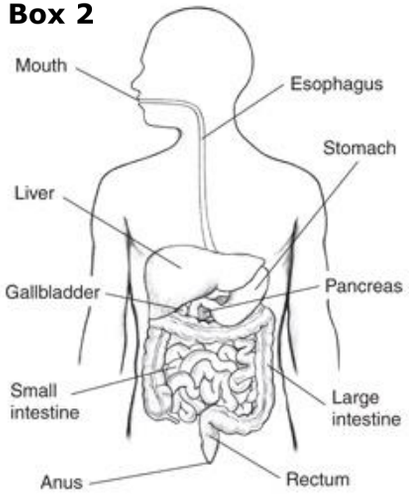
Y8: Organisation – Digestion and Nutrition

Box 1

There are 7 essential nutrients in the diet that everybody needs in the **right amount:**

- Carbohydrates - provide energy
- Protein - growth and repair
- Fats/Lipids - provide energy
- Fibre - provide bulk to food (technically not a nutrient but still important)
- Vitamins - keep you healthy in many ways
- Minerals – keep you healthy in many ways
- Water - replace the water your body loses in sweat, tears, urine, faeces and exhaling

Box 2

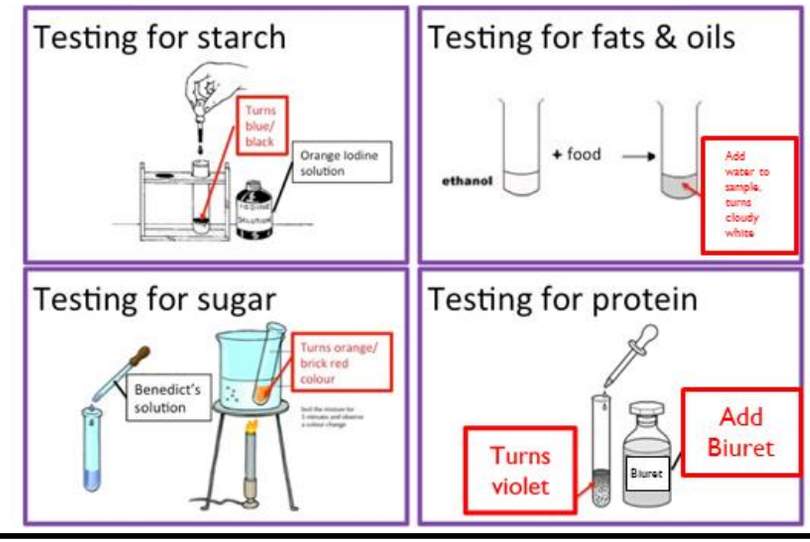


*Oesophagus

Box 3

Malnutrition is when a person does not get the 7 main nutrients in the correct amount. If a person eats too much e.g. fat, carbohydrates, they store the excess and can become overweight, leading to type 2 diabetes, heart disease and other problems. A **deficiency** is when someone does not have enough of these nutrients.

Box 4



Box 5

Enzymes are <u>biological catalysts</u>. They speed up reactions by breaking down <u>large molecules</u> into <u>smaller ones</u> so they can be **absorbed** more easily. Enzymes usually end in the suffix <u>–ase</u>**.**

Carbohydr<u>ase</u> – breaks down carbohydrates into simple sugars such as glucose.

Prote<u>ase</u> – breaks down protein into amino acids.

Lip<u>ase</u> – breaks down lipids into fatty acids and glycerol.

The first part of the enzyme name gives you a clue as to what kind of molecule is broken down.

Box 6

Nutrient	Role of nutrient	Deficiency disorder
Vitamin A	Good eyesight	Night blindness
Vitamin C	Growth, development and repair	Scurvy
Vitamin D	Used to absorb calcium	Rickets
Calcium	Strong bones and teeth	Osteoporosis
Iron	Needed to make haemoglobin	Anaemia
Protein	Growth and repair	Kwashiorkor

Y8: Forces

Box 1: Surface Pressure

To calculate pressure, you need to know two things:
•the force or weight exerted
•the **surface area** over which the force or weight is spread
Pressure is calculated using this equation:

$$pressure\ (N/m^2) = \frac{force\ (N)}{area\ (m^2)}$$

Examples of high pressure:
- Nails,
- Studs on football boots
- A sharp knife

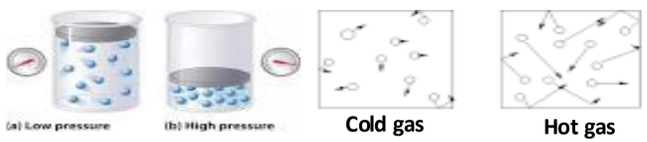
Examples of low pressure:
- Snow shoes
- Caterpillar tracks (on tanks)

Box 2: Fluid Pressure.

- Gases and liquids contain atoms or molecules that collide with the surface to produce fluid pressure.
- Pressure can be calculated using the formula:

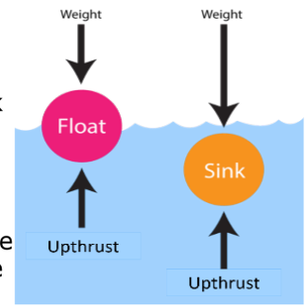
$$fluid\ pressure\ (N/m^2) = \frac{force\ (N)}{area\ (m^2)}$$

- You increase gas pressure if you squash or heat a gas.
- The same amount of gas in a smaller volume results in more collisions between air molecules and container walls, so the pressure is higher.
- The higher the temperature of the gas, the more kinetic energy of the particles and the more collisions with the side of the container, so pressure is also higher.



Box 3: Liquid Pressure

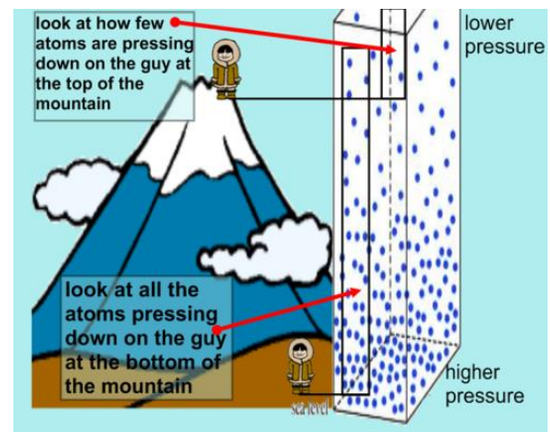
- Liquids are incompressible; particles are very close and there is very little space between them.
- The pressure in liquids acts in all directions.
- The pressure increases as you go deeper because the weight of the water above you gets bigger.
- Upthrust acts on any object that is floating or submerged in a liquid.
- Two factors that affect the upthrust on a floating object; area and pressure.
- Objects float if the water pressure is higher than the air pressure. This produces upthrust that keeps the duck afloat if the area is big enough. For example, a rubber duck floats when upthrust is the same as the weight of the duck.



KEYWORD	DEFINITION
Atmospheric pressure	The pressure felt by an object on a planet due to collisions with the atmospheric partides
Centre of mass	Where an objects weight seems to act from
Fluid	A liquid or a gas
Pressure	Force exerted on an object due to collisions of particles
Upthrust	The upward force that a liquid or gas exerts on a body floating in it produced by the collisions of particles in the liquid or gas.
Volume	The amount of space a 3D object takes up.
Weight	The force caused by the pull of gravity

Box 4: Atmospheric Pressure

- You do not feel the pressure on your body exerted by air as it is cancelled out by the pressure of gases and liquids in your body pushing out.
- Atmospheric pressure near the ground is higher than pressure higher up. This is why mountaineers often take oxygen tanks when they climb.



Y8: Genetics

Box 1
<u>Animals compete for:</u>
Food
Water
Space
Mates
<u>Plants compete for:</u>
Light
Water
Space
Minerals

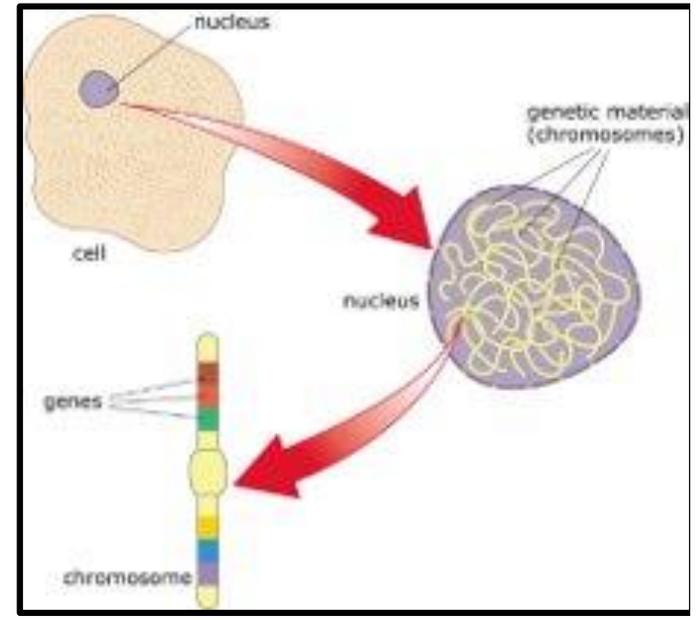
Box 2
Adaptations are characteristics that help an organism survive in a particular environment.
These adaptations can be:
Physical e.g. claws, thick fur, big ears etc.
Behavioural e.g. hibernation, nocturnal/diurnal etc.
These characteristics come about through random variation and if the trait is beneficial the organism will survive and pass on these traits to their offspring.

Box 3
Variation means the differences between organisms. This variation can stem from two things:
Genetic variation – characteristics that an organism inherits from its parents.
Environmental variation – characteristics that are affected by the environment.
This variation leads to many different traits and characteristics within a population.
The most beneficial traits are selected for as they allow for the survival of the organism.

Box 4
<u>Discontinuous variation</u>
Characteristics that only have **discrete** values show **<u>discontinuous variation</u>**.
Examples include **shoe size** and **eye colour**.
You should display discontinuous data on a **bar graph.**
<u>Continuous variation</u>
<u>Continuous variation</u> has data with a range of values.
Examples include **height** and **mass**.
You should display continuous data on a **line graph.**

Box 5
The characteristics you inherit from your parents are coded for in your DNA. You inherit this DNA from your parents, half from each.
DNA is stored in the nucleus of all of your cells as structures called chromosomes.
Sperm and egg cells have half the number of chromosomes as your normal body cells.
This is because when the sperm fertilises the egg they mix their DNA and you get half of your chromosomes from the female parent and half of your chromosomes from the male parent.

Box 6
A small section of a chromosome is called a gene. Genes code for certain characteristics such as eye colour, hair colour etc. There are some characteristics that may be caused by both genetic and environmental variation, but it is important to remember that you cannot change your genes. You can only change the external characteristic e.g. dying your hair.



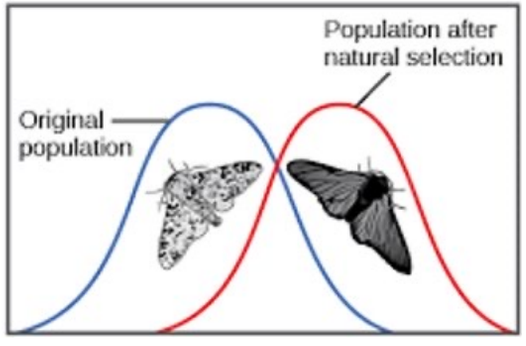
Y8: Genetics

Box 1
Evolution is the gradual change of species over time.
All organisms on Earth today evolved from a single-celled organism, meaning that we all share a common ancestor.
Organisms evolve due to the process of natural selection.

Box 2
Natural selection is the process by which variation comes about due to random mutations in the DNA of offspring, and the most beneficial traits are selected for by nature as that organism is more likely to survive and reproduce. This means the same beneficial traits are passed onto future offspring.
The four stages of natural selection are:
1. Variation between individual members of a species e.g. different sizes, colours, ability to do certain things.
2. A change in the environment happens.
3. The individuals that have the best adaptations to the change survive and reproduce
4. More of the individuals have the adaptations that are suited to the environment.

E.g The peppered moth – there were two varieties of peppered moth, one white and speckled and the other totally black. To start with the white speckled moths were more able to camouflage against trees and concrete, however during the industrial revolution factories began to release large clouds of black smoke. This turned the buildings black. Suddenly the black moths were better camouflaged and more likely to survive. This led to a decline in the white speckled moth population and an increase in the number of black moths.

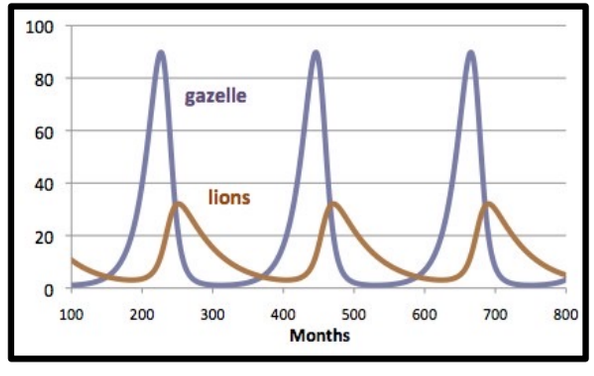




Box 3
Variation within a population is a good thing. If all organisms were the same, they would all be susceptible to the same dangers and threats and run the risk of becoming extinct.
Extinction – when all of the organisms within the same species die and therefore have no way of producing more. Extinct organisms are gone forever e.g. the dinosaurs (left), the dodo bird, woolly mammoth etc.
Organisms can become extinct for several reasons:
1. Loss of their natural habitat or food source;
2. Animals eat plants until they are gone, or predators eat them all
3. New diseases that the animal or plant is not resistant to wipes out the population
4. New competition from other living things for the things that they need.

Animals in danger of becoming extinct are said to be **endangered**.

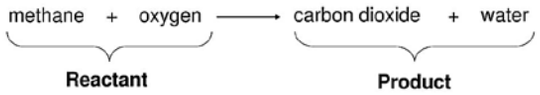
Box 4
Predator – an animal that hunts and eats other animals.
Prey – an animal that is hunted by a predator.
Predator-prey cycle – shows the affect that predator and prey have on one another (see graph to the right).



Y8: Reactions

BOX 1 CHEMICAL REACTIONS

A word equation shows the names of each substance involved in a reaction, and must not include any chemical symbols or formulae.



The arrow means 'react to make'.
In a chemical reaction, the atoms are rearranged to make new substances. The total number of atoms does NOT change. The number of atoms is conserved, no atoms are created or destroyed.

LAW OF CONSERVATION OF MASS

Mass is conserved in chemical reactions and in physical changes.
Mass of reactants = mass of products

BOX 2 CHEMICAL EQUATIONS

Word and symbol equations are the formulae of reactants and products; how atoms are arranged and the amounts of reactants & products.

Balancing symbol equations
Do not add or change any little numbers.
Write the word equation and add formulae.

magnesium + oxygen ⟶ magnesium oxide
Mg **+** ***O_2*** ⟶ ***MgO***

Left = 1 Mg and 2 O *Right = 1 Mg and 1 O*
Balance the amount of oxygen.

Mg + O_2 ⟶ ***2****MgO*

Left = 1 Mg and 2 O *Right = 2 Mg and 2 O*
Now balance the magnesium.
2*Mg + O_2* ⟶ *2MgO*

Left = 2 Mg and 2 O *Right = 2 Mg and 2 O*

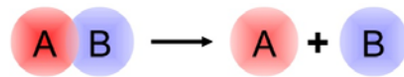
BOX 3 BURNING FUELS

COMBUSTION; exothermic reaction.
The substance reacts with oxygen (from the air) to produce oxides.
Methane + oxygen ⟶ carbon dioxide + water
Fossil fuels are non-renewable and will run out one day.

Future fuels?
Scientists are finding ways to use cooking oil, chicken faeces and ethanol to fuel homes and vehicles. New cars are being developed to burn hydrogen in their engines, producing only water as the product (as this does not produce carbon dioxide, it will not contribute to global warming).

BOX 4 THERMAL DECOMPOSITION

Each product of decomposition reactions is simpler than the starting substances.



When you heat copper carbonate (green), the reaction makes copper oxide (black) and carbon dioxide (gas – turns limewater cloudy).

BOX 5 ENDO AND EXOTHERMIC

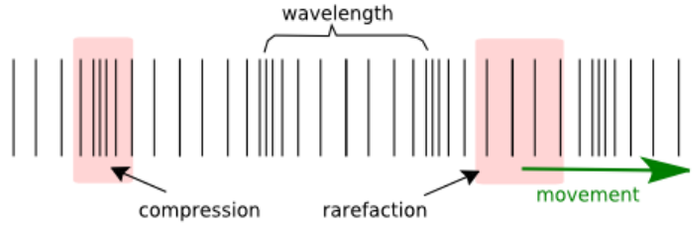
Exothermic (EXit)	Endothermic (ENtrance)
Energy is *transferred to the surroundings* from substances that are reacting.	Energy is *transferred from surroundings* to substances that are reacting.
Melting and boiling, combustion,	Freezing and condensing, decomposition
Temperature of surroundings increase	Temperature of surroundings decrease
hand-warmers	Sports ice pack

KEYWORD	DEFINITION
Catalyst	Substances that speed up chemical reactions but are unchanged at the end.
Chemical bonds	Force that holds atoms together in molecules.
Chemical reactions	A change in which a new substance is formed. Atoms are rearranged and joined together differently.
Combustion (burning)	A chemical reaction in which a substance reacts quickly with oxygen and gives out light and heat.
Conservation of mass	In a chemical reaction, the total mass of reactants is equal to the total mass of products. Mass is conserved in chemical reactions and physical changes.
Conserved	When the quantity of something does not change after a process takes place.
Decomposition	A chemical reaction in which a compound breaks down to form more than one product.
Endothermic reaction	Takes in energy (usually as heat) / transfers energy from surroundings.
Exothermic reaction	Gives out energy (usually as heat or light) / transfers energy to the surroundings.
Fossil fuels	A fuel made from the remains of plants and animals that died millions of years ago. Include coal, oil and natural gas.
Fuel	A substance that stores energy in a chemical store which it can release as heat (e.g. petrol, diesel, coal…)
Physical change	One that changes the physical properties of a substance, but no new substance is formed. It is reversible.
Products	Substances that are formed in a chemical reaction, shown on the right of the arrow in a chemical equation.
Reactants	Substances that react together, shown on the left of the arrow in a chemical equation.
Thermal decomposition	A chemical reaction in which a compound breaks down on heating to form more than one product.

Y8: Waves

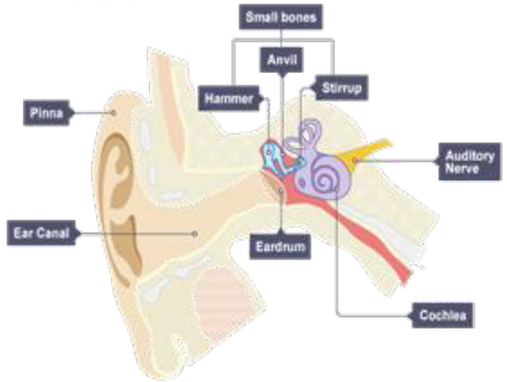
Box 1: Sound Waves

- Waves transfer energy from one place to another.
- Waves are made by forcing something to vibrate or oscillate.
- There are two types of waves; transverse and longitudinal.
- Sound waves are longitudinal waves. Light and waves on water are transverse waves.



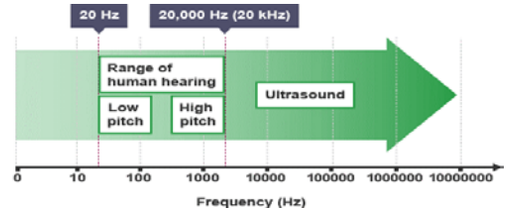
Box 2: The Ear

1. The vibrations in the air enter the pinna, travel down the ear canal and make the eardrum vibrate.
2. These vibrations are passed through the three small bones (called ossicles) to a spiral structure called the cochlea.
3. Signals are passed from the cochlea to the brain through the auditory nerve.
4. Our brain interprets these signals as sound.



Box 3: Frequency and Hearing Range

- The frequency of sound waves is measured in hertz, Hz.
- The bigger the number, the greater the frequency and the higher the pitch of the sound.
- Human beings can generally hear sounds as low as 20 Hz and as high as 20,000 Hz (20 kHz).

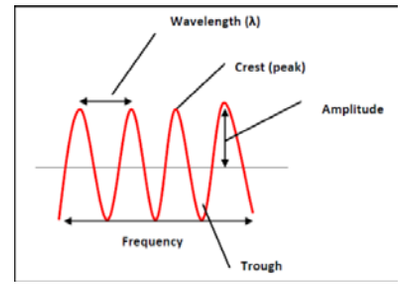


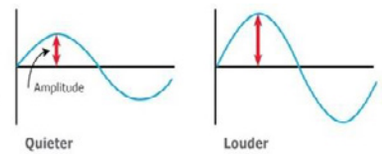
Box 4: Properties of Sound Waves.

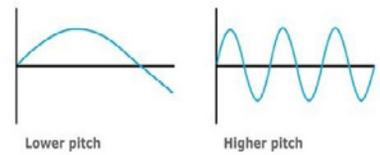
Sound waves can only travel through a solid, liquid or gas. They cannot travel through empty space.

Sound travels faster through liquids and solids than it does through air and other gases. This is because the particles of gases are further apart than liquids and finally solids. Sound waves move more slowly when particles are further apart.

All waves have three important features; an **amplitude**, a **frequency** and a **wavelength**. The top of the wave is called a **peak/crest** and the bottom is called a **trough**.







KEYWORD	DEFINITION
Absorption	When energy is transferred from sound (or other waves) to a material.
Amplitude	Maximum amount of vibrations, measured from the middle of the wave, in metres.
Auditory range	The lowest – highest frequencies that an animal can hear.
Decibel	Unit of sound intensity or loudness (dB)
Echo	Reflection of sound waves from a surface back to the listener. Hard, smooth surfaces are particularly good at reflecting sound.
Frequency	Number of waves produced in one second, in hertz (unit of frequency).
Infrared	Sound below a frequency of 20Hz
Longitudinal wave	Where the direction of vibrations is the same as the wave; sound waves are longitudinal.
Medium	Material that affects light or sound by slowing it down or transferring the wave.
Oscilloscope	Device able to view patterns of sound waves that have been turned to an electrical signal.
Ultrasound	Sound at a frequency greater than 20 000Hz, beyond the range of human hearing.
Vacuum	A space with no particles of matter in it.
Vibration	A back and forth motion that repeats.
Volume	How loud or quiet a sound is, in decibels.
Wavelength	Distance between two corresponding points on a wave, in metres.

Box 5: Speed of Sound

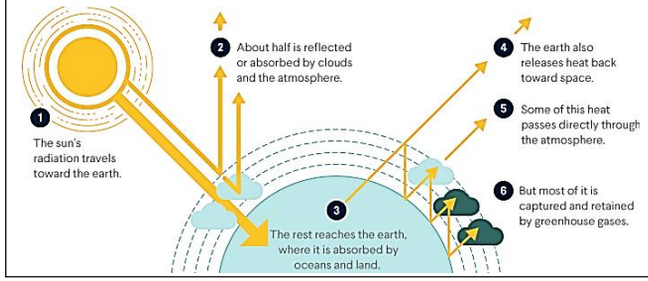
The speed of sound is calculated using:

speed (m/s) = distance (m) / time (s)

The speed of sound in air is around 340 m/s. This means that sound will travel a distance of 340 metres in 1 second.

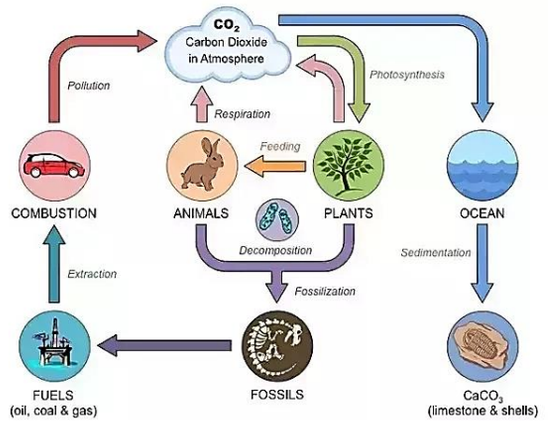
Y8: Earth

BOX 1 THE GREENHOUSE EFFECT



The Sun heats the Earth's surface. The warm surface emits radiation. Some of this radiation goes into space, some absorbed by gases. This keeps the Earth warm (greenhouse effect).
The eventually increase in the Earth's temperature is called global warming.
GLOBAL WARMING AND THE GREENHOUSE EFFECT ARE **NOT** THE SAME THING.

BOX 3 THE CARBON CYCLE

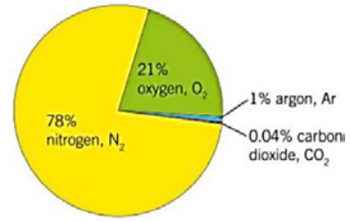


Carbon is constantly recycled through natural processes in the atmosphere, ecosystems and Earth's crust. Human activities also contribute to carbon recycling.
Respiration and combustion ADD carbon dioxide to the atmosphere.
Photosynthesis and carbon dioxide dissolving in the oceans REMOVE carbon dioxide from the atmosphere.

BOX 5 RECYCLING

Resources will last longer.
Uses less energy than using new materials.
Reduces waste and pollution.
Some people think separating rubbish is a nuisance.
Lorries that collect recycling create pollution.
Recycled plastic waste needs to be separated.

BOX 2 EARTH'S ATMOSPHERE



BOX 4 CLIMATE CHANGE

Human activities that add extra CO_2 to the atmosphere include:
Burning fossil fuels and burning or cutting down
forests
Farming animals (cows)
Extra carbon dioxide causes global warming. This can change weather patterns (increase rainfall and flooding, droughts and heatwaves therefore crop failures.

Long term changes are called climate change, this leads to glaciers and polar ice melting making sea
levels rise (flooding). Or lead to extinction of plants and animal species.

How can we prevent climate change?
Using solar panels and other renewable resources to generate electricity.
Using cars less.
Buying and wasting less.

KEYWORD	DEFINITION
Atmosphere	The mixture of gases surrounding the Earth.
Carbon cycle	Summarises how carbon and its compounds enter and leave the atmosphere and the carbon sinks.
Carbon sinks	Areas of vegetation, the ocean or soil, which absorb and store carbon. Carbon and its compounds may remain in carbon sinks for many years.
Climate change	A long- term change in weather patterns.
Combustion	A chemical reaction in which a substance reacts quickly with oxygen and gives out light and heat. Also known as burning.
Extraction	Separation of a metal from a metal compound.
Fossil fuels	A fuel made from the remains of animals and plants that died millions of years ago. Fossil fuels include coal, oil and natural gas.
Global warming	The gradual increase in the average surface temperature of the Earth.
Greenhouse effect	When energy from the Sun is transferred to the thermal energy stores of gases in the atmosphere.
Greenhouses gas	A gas that contributes to the greenhouse effect, such as carbon dioxide and methane.
Minerals	Naturally occurring metals and their compounds.
Natural resources	Materials from the Earth, its atmosphere and the oceans, which act as raw materials for making a variety of products.
Ore	A naturally occurring rock that contains enough of the mineral to make it worth getting the mineral – and the metal it includes- out of the rock.
Recycling	Collecting and processing a material so that it can be used again.

Y8: Ecology - Retrieval Questions

Part A

Box 1

1. What is respiration?
2. What does aerobic mean?
3. What does anaerobic mean?
4. What is the waste product in aerobic respiration?
5. What is the waste product in anaerobic resporation?

Box 2

1. What do microorganisms produce when they respire anaerobically?
2. What kind of fungus is used to make bread and beer?
3. What is this process called?
4. What can be reacted together to investigate the rate of fermentation?

Part B

Box 1 & 2

1. What 4 things are required for photosynthesis?
2. What are the products of photosynthesis?
3. Where does photosynthesis take place in the leaf?
4. How is glucose stored in the leaf?
5. Which chemical is used to test for starch in the leaf?

Box 3, 4 & 5

1. What are the 4 ways leaves are adapted?
2. What is the job of the wax layer?
3. In which layer does the majority of photosynthesis take place?
4. What are the holes in the lower surface of the leaf called?
5. Which cells open and close these holes?

Box 6 & 7

1. What are the 4 minerals a plant needs?
2. What is the role of magnesium?
3. Which mineral deficiency causes poor growth?

Y8: Matter - Retrieval Questions

<u>Box 1: Mixtures and pure substances</u>

1. What is an atom?
2. What is an element?
3. How are atoms and elements different?
4. What are the properties of gold?

<u>Box 2: Compounds</u>

1. What is a compound?
2. What elements are found in water?
3. What element is always found in an oxide compound?
4. What compound is formed when aluminium and oxygen react?

<u>Box 3: Elements and compounds</u>

1. How many atoms do the following have?
   a. Mono
   b. Di
   c. Tri
2. How many hydrogen atoms are in a water molecule?
3. What elements are found in carbon monoxide?
4. How many atoms in carbon monoxide?

<u>Box 4: Chemical formulae</u>

1. How do you write magnesium using the correct chemical symbols?
2. How many elements are in sodium sulphate?
3. What are the names of the elements in sodium sulphate?
4. How many atoms are there in a molecule of sodium sulphate?

Y8: Matter - Retrieval Questions

Box 1: The Periodic Table

1. What are the vertical columns called?
2. What are the horizontal rows called?
3. What increases as your move along the rows?
4. Where do you find metals and non-metals?

Box 2: Group 1 elements

1. What is the other name for the Group 1 elements?
2. Give three properties of Group 1 elements.
3. List the Group 1 elements in increasing order of reactivity.
4. What is the general equation for reacting a Group 1 element with water?

Box 3: Group 7 elements

1. What is the other name for the Group 7 elements?
2. Give three properties of Group 7 elements.
3. List the Group 7 elements in increasing order of reactivity.
4. Describe how the melting and boiling points change as you do down the group.

Box 4: Group 0 elements

1. What is the other name for the Group 0 elements?
2. Give three properties of Group 0 elements.
3. List the Group 0 elements in increasing order of reactivity.
4. Describe how the density and boiling points change as you do down the group.

Y8: Electromagnets - Retrieval Questions

Box 2

1. Sketch a diagram showing a simple bar magnet, its poles and magnetic field lines.
2. Which way do magnetic field lines run?
3. What happens if two like poles of a magnet are brought together?
4. What happens if two opposite poles of a magnet are brought together?
5. What is the difference between a temporary magnet and a permanent magnet?

Box 3

Name the 4 magnetic materials

Box 4

1. Draw a circuit diagram showing an electromagnet connected to a battery
2. What factors affect the strength of an electromagnet?
3. What are the 3 parts of an electromagnet?

Keyword Box

1. What is an electromagnet?
2. What is a solenoid?
3. What is a pole?

Y8: Energy - Retrieval Questions

Box 1

What is the definition of work?

What are the units for work?

What is the equation used to calculate work done?

Box 2

Why might a lever be described as a force multiplier?

Box 3

1. What 3 ways can heat be transferred?
2. What can you do to an object to reduce the thermal energy transfer it may experience?
3. Which state of matter does conduction occur in?
4. Which thermal energy transfer does our sun use in order to provide the Earth with heat?
5. What is conduction?

Keyword Box

1. What is the difference between a thermal insulator and a thermal conductor?
2. What is a lever?
3. What is the definition for temperature?

Y8: Organisation - Retrieval Questions

Box 1 & 2

1. What is the name of the tube that carries air into the lungs?
2. What is the name of the smaller tubes that branch off the main tube?
3. What is the name of the tiny tubes that branch off the small tubes.
4. What is the name of the tiny air sacs at the end of these tiny tubes?

Box 3, 4 & 5

1. How are the alveoli adapted for efficient gas exchange?
2. How does oxygen move out of the alveoli?
3. Where does the oxygen move into?
4. Which gas is released as a waste product?
5. Which kind of blood vessel surrounds the alveoli?

Box 6, 7 & 8

1. What is another word for breathing in?
2. What is another word for breathing out?
3. What happens to the diaphragm when you breathe in?
4. What happens to the ribs when you breathe out?
5. What happens to air pressure as volume increases?

Y8: B5 Infection and Disease- Retrieval Questions

Box 1

1. What are the 7 essential nutrients the body needs?
2. Which nutrient helps with growth and repair?
3. Which 2 nutrients provide you with energy?
4. What is another name for fat?

Box 2

1. Write the order of organs that food passes through from the mouth to the anus.
2. Which 3 organs in the diagram does food not pass through?
3. What is the name of the tube that carries food from the mouth to the stomach?
4. Which organ does food pass through first: the large intestine or the small intestine?

Box 3 & 6

1. What is malnutrition?
2. What is a deficiency?
3. Which deficiency disorder is caused by a lack of vitamin C?
4. Why is calcium important?
5. What is kwashiokor a deficiency in?

Box 4

1. Which chemical is used to test for starch?
2. What colour change would you epxect to see if starch is present?
3. What do you have to do to a solution you are testing for sugar?
4. What colour change would you expect to see?
5. What do you have to add other than ethanol to test for lipids?

Box 5

1. What is an enzyme?
2. What does an enzyme do?
3. What kind of enzyme breaks down carbohydrates?
4. What kind of enzyme breaks down proteins?
5. What kind of enzyme breaks down lipids?

Y8: Forces - Retrieval Questions

Box 1

1. What are the units of pressure?
2. What equation links pressure (P) with force (F) and area (A)?
3. What happens to the pressure if the area is increased? What if the force is increased?
4. Which shoes would be best to walk in snow: snowshoes or stilettos? Why?

Box 2

1. What causes fluid pressure?
2. What must happen to the volume of a fluid in order to increase pressure?
3. What must happen to the temperature of a fluid in order to increase pressure?
4. What happens to the kinetic energy of a fluid if the temperature is increased?

Box 3

1. Why does pressure increase the further under water you are?
2. What is upthrust?
3. What factors affect upthrust?
4. How do objects float?
5. In which direction does liquid pressure act?

Keyword Box

1. What is an objects weight?
2. What collective term is given to describe a liquid or a gas?
3. What is meant by the volume of an object?

Box 4

1. Why do we not feel a pressure acting on us from the air that surrounds us?
2. What is atmospheric pressure?
3. Where is atmospheric pressure at its greatest?
4. Why do mountaineers need oxygen masks at the top of a mountain?

Y8: Genetics – Retrieval Questions

Part A

Box 1 & 2

1. What are the 4 things animals compete for?
2. What are the 4 things plants compete for?
3. What is an adaptation?
4. What are the 2 types of adaptation?
5. How do these adaptations come about?

Box 3 & 4

1. What is variation?
2. What are the 2 types of variation?
3. What is continuous variation?
4. What is discontinuous variation?

Box 5 & 6

1. Where is DNA stored in the cell?
2. What is a chromosome?
3. What is a gene?

Part B

Box 1 & 2

1. What is evolution?
2. What do all organisms share?
3. How do organisms evolve?
4. Why are certain traits selected for by natural selection?
5. What are the 4 stages of natural selection?

Box 3 & 4

1. Why is variation within a population a good thing?
2. What is extinction?
3. Give an example of an extinct species.
4. What does endangered mean?
5. What is a predator?

Y8: Reactions – Retrieval Questions

Box 1: Chemical reactions

What can be found on the left of a word equation?
What can be found on the right of a word equation?
What does the arrow mean?
State the "law of conservation of mass".

Box 2: Chemical equations

What compound is formed when magnesium and oxygen react?
How many atoms are there in an oxygen molecule?
What must the be same on both sides of a balanced chemical equation?
Using the MgO example, balance the following equation:
calcium + oxygen calcium oxide

Box 3: Burning fuels

What is combustion?
What gas does a substance react with during combustion?
Give the word equation for the combustion of methane.
What is a fossil fuel? Give two examples.

Box 4: Thermal Decomposition

What is thermal decomposition?
What colour is copper carbonate?
Describe what happens to the appearance of copper carbonate when it burns.
What other product is formed during this reaction?

Box 5: Endothermic and exothermic

What does exothermic mean and what happens to the surrounding temperature?
Give two examples of an exothermic reaction.
What does endothermic mean and what happens to the surrounding temperature?
Give two examples of an endothermic reaction.

Y8: Waves - Retrieval Questions

Box 1

1. What do waves transfer as they move?
2. What are the two different types of wave?
3. How are waves made?
4. Sketch a longitudinal wave. Label it with the following key terms: rarefaction, compression, wavelength.

Box 2 & 3

1. Where do sound waves enter the ear?
2. What name is given to the three small bones that vibrate after sound passes through the ear drum?
3. What is the name of the spiral structure inside the ear?
4. What unit is the frequency of sound measured in?
5. What range of frequency does the typical human have their auditory range?

Box 4

1. What media can sound waves travel through?
2. Why do sound waves travel faster through solids and liquids compared to gases?
3. If a sound waves has a large amplitude, what can you say about the sound that will be produced?
4. Sketch a sound wave that has a high pitch and high amplitude.
5. What is the top of a wave called?

Box 5

1. What equation links speed (v) with distance (d) and time (t)?
2. What is the speed of sound in air?
3. What is the unit for speed?
4. What unit should time be measured in for use our formula?

Keyword Box

1. What is an echo?
2. What does it mean if a sound wave is absorbed?
3. What device can be used to 'see' a sound wave?
4. What is a vacuum?
5. What range of frequency does ultrasound operate in?

Y8: Earth - Retrieval Questions

Box 1: The Greenhouse Effect

1. What is the Greenhouse Effect?
2. Name two Greenhouse gases.
3. What is global warming?
4. Describe how the Greenhouse Effect keeps the Earth warm.

Box 2: Earth's Atmosphere

1. What % of Nitrogen is in the Earth's atmosphere?
2. What % of oxygen is in the Earth's atmosphere?
3. How much carbon dioxide is there?
4. In which group in the Periodic table is Argon?

Box 3: The Carbon cycle

1. What is the Carbon cycle?
2. Name three processes that put carbon dioxide into the atmosphere.
3. Name two processes that remove carbon dioxide from the atmosphere.
4. Describe what a carbon sink is, giving two examples.

Box 4: Climate change

1. Give three activities that increase carbon dioxi atmosphere.
2. What is climate change?
3. Extra carbon dioxide causes global warming. V effects does this have?
4. Long-term changes are called climate change. three examples of long-term changes due to cl change.

Box 5: Recycling

1. What is recycling?
2. What are natural resources?
3. Give three good reasons to recycle.
4. Give three reasons why people don't want to r

YEAR 8

TECH

Y8: Knowledge Organiser 1
Timber And Drawing

Categories of wood

Manufactured

Made under controlled conditions so no defects e.g. MDF, chipboard, plywood

Natural

Softwood- comes from evergreen trees eg pine, fir, larch, spruce

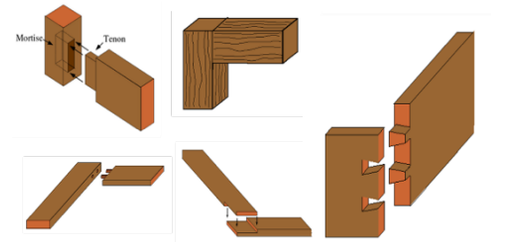
Hardwood- comes from deciduous trees eg oak, walnut, mahogany, beech, ash

Safety in the workshop

1. Wear safety goggles
2. Wear apron
2. Don't cross the yellow line
3. Bags and coats away
4. Don't run
5. Tie back long hair

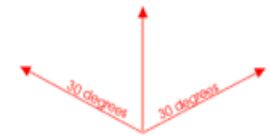
Wood joints

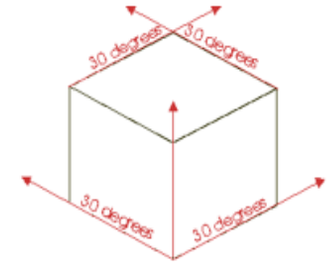
Mortise and tenon Butt



Dowel Halving joint Dovetail

Isometric drawing is another way of presenting designs/drawings in three dimensions. The example below has been drawn with a 30 degree set square. Designs are always drawn at 30 degrees in isometric projection.



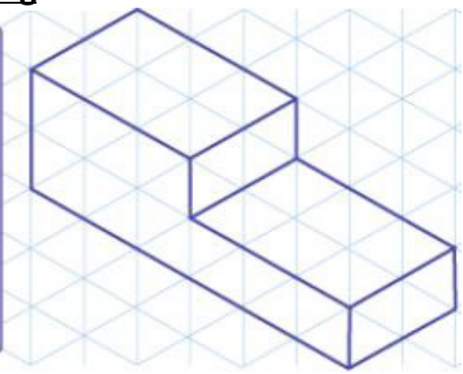


Isometric Drawing

Isometric grid paper is made up of many small cube shapes.

When creating the 3D drawing, it can be a good idea to first produce the outline of a single side.

It is then a matter of extending lines from each corner to create the full representation.







Pillar Drill



Rasp



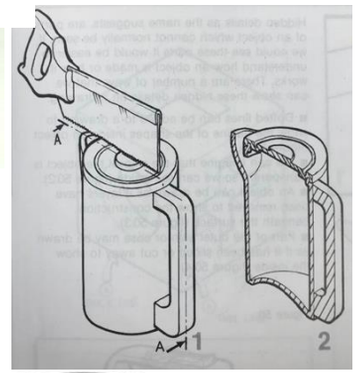
Bradawl

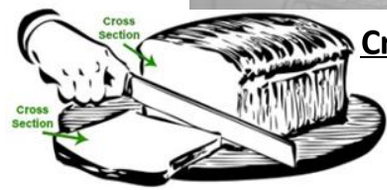


Band Facer



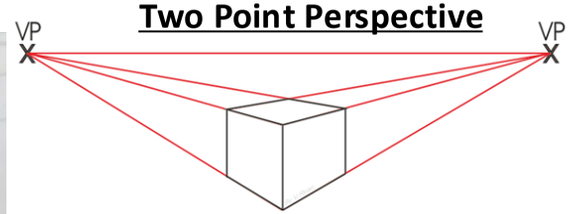
Tenon Saw



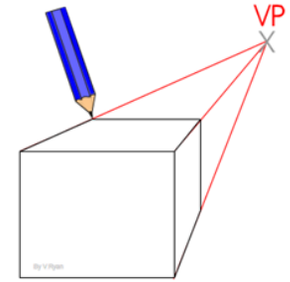


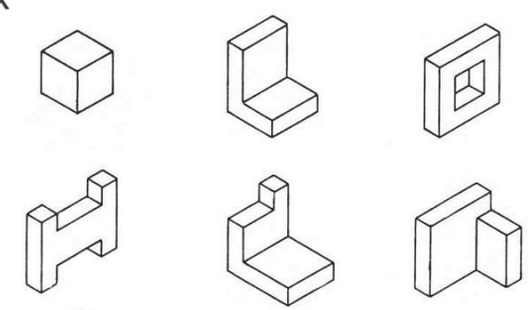
Cross Sections

Two Point Perspective



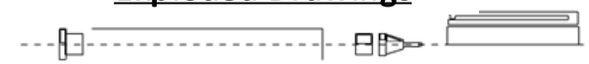
Single Point Perspective







Exploded Drawings



New and Smart Materials

Smart materials react to their environment:
Colour changing
Light-emitting
Moving materials
Temperature changing

Photochromic materials
Thermochromic materials
Shape memory alloys

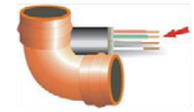
New materials are new developments in technolog
Starch based polymers
Carbon fibre





Metals

Non-ferrous – contain no iron (do not rust)








Copper Aluminium Tin Zinc

Alloys – a mixture of two or more metals

Ferrous metals – contain iron (will rust)





Cast Iron High Speed Steel Stainless Steel Mild Steel




Pewter Brass

Y8: Knowledge Organiser 2

Alessi, New And Smart Materials, Metal, Scales of Production, 3d Printing, Vacuum Forming

Packaging

Some possible packaging functions are:

P- Preserve, I- Inform, C- Contain, T- Transport, P- Protect, D- Display **PICT PD**

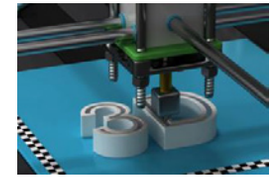
Common types of packaging—cartons, bubble wrap, bottles, jars, cardboard boxes, cans

Scales of Production

Continuous Production—shampoos, cars or soft drinks
Mass Production—CD covers or fancy chocolate boxes
Batch Production—furniture manufacturers such as Ikea often make their furniture in batches
One Off Production— just one of a product is made



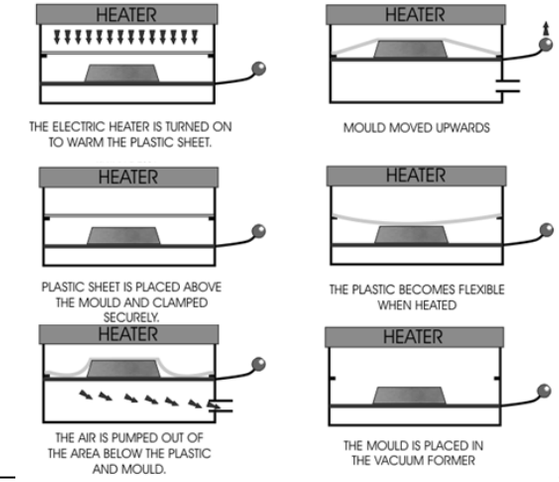
3D Printing

A 3D printer is a computer-aided manufacturing (CAM) device that creates three-dimensional objects. Like a traditional printer, a 3D printer receives digital data from a computer as input. However, instead of printing the output on paper, a 3D printer builds a three-dimensional model out of a custom material (often plastic)

Vacuum Forming

Normally uses polystyrene



Notes

Notes

FRAMWELLGATE SCHOOL DURHAM

Excellence, compassion & respect for all

Framwellgate School Durham,
Newton Dr, Durham
DH1 5BQ

Email: enquiries@framdurham.com
Tel: 0191 386 6628

www.framdurham.com