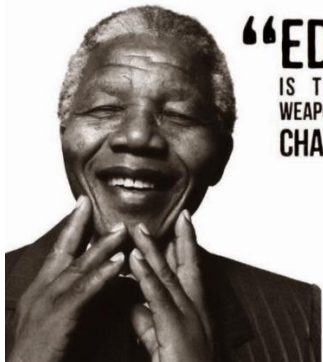# Westhoughton High School
Year 8 – Spring Term - Knowledge Organisers
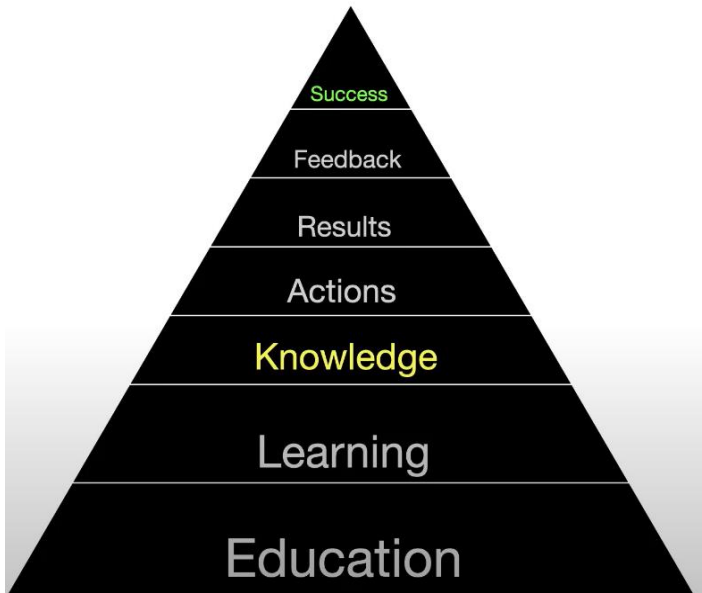
"EDUCATION IS THE MOST POWERFUL WEAPON WHICH YOU CAN USE TO CHANGE THE WORLD."

NELSON MANDELA

Name: ....

Form Group & Room: ....

Form Tutor: ....

Success
Feedback
Results
Actions
Knowledge
Learning
Education

the "Knowledge" pyramid

L E A R N

Look after each other

Enjoy our school

Aim high

Respect one another, ourselves & our school community

Never stop learning

Introduction

The curriculum in each of your subjects at WHS has been carefully planned to help you learn new things, building upon what you know and preparing you for learning in the future. This is mapped out as a learning journey which each teacher will share with you, so you understand how your learning fits together as a whole. Each subject's roadmap is here https://www.westhoughton-high.org/subjects/.
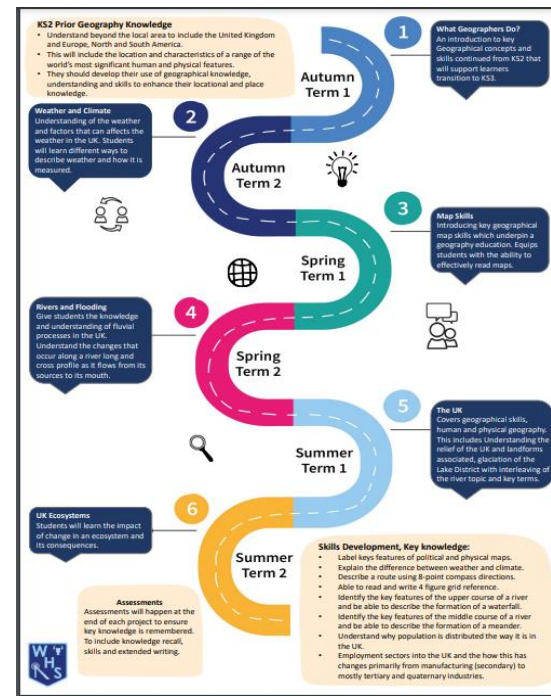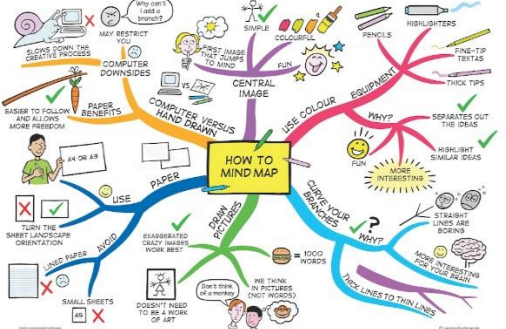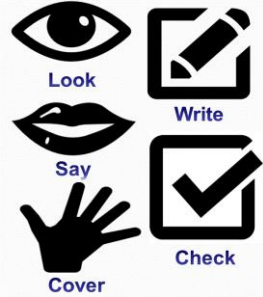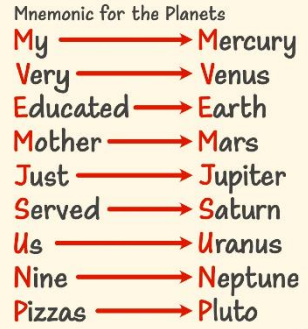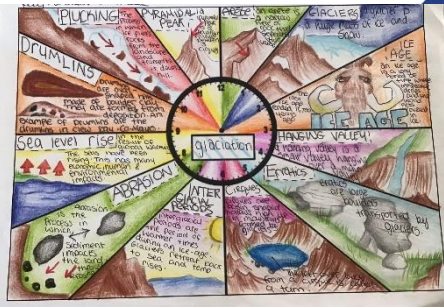
This booklet contains knowledge organisers for the topics you will study in each subject this term. These give an overview of the essential knowledge that you MUST remember to be as successful as possible in Year 8 and as you move through each year of school. Your teachers will expect you to use them during lessons to find out about what you are going to be learning in a new topic, to retrieve information during a connect activity – connecting your brain to what you are going to learn that lesson and to test yourself or others to recall knowledge. You will also use them to complete home learning activities, to regularly revise from so that you begin to remember more knowledge over time, to discuss what you have been learning with family and friends and to catch up on any learning you might have missed due to absence. You must bring your booklet to school every day and keep it safe at the end of each term as you will continue to use it to support ongoing revision.

Learning Techniques to use with KOs – using them regularly is vital to make knowledge stick in your long-term memory (remember you need to revisit information at least 10 times before it is embedded in your memory).

Try using these ideas, choose different techniques to learn small sections of knowledge each day.

	Look, Say, Cover, Write, Check	Key Word Definitions	Flash Cards	Self Quizzing	Mind Maps	Paired Retrieval
STEP 1	Look at and read aloud a specific area of your KO.	Write down the key words and definitions in two columns.	Use your KO to condense and write down key facts or information onto flash cards.	Use your KO to create a mini quiz. Write down your questions relating to the information.	Create a mind map with the information on your KO.	Ask a partner, friend or family to use the KO or your flash cards.
STEP 2	Cover or flip the KO over and write down everything you remember.	Repeat the above but don't look at your KO	Add pictures that might help you remember. Then self-quiz using the flash-cards.	Answer the questions, remember to use full sentences.	Check your KO to make sure there are no mistakes on your mind map.	Make sure they test you on different sections of the KO and also on previous topics.
STEP 3	Check what you have written down. Correct any mistakes and add anything you missed in purple pen.	Use a purple pen to check and correct your work	Ask a friend or family member to quiz you on your knowledge.	Ask a friend or family member to quiz you using the questions.	Try to make more connections, link the information together where you can.	Repeat this regularly so that you are frequently looking at KOs past and present.

How to make learning stick…

Mind Mapping	Flash Cards	Look, Say, Cover, Write, Check	Key Word Mnemonics	Revision Clocks
Mind mapping is a great way of representing key information from a topic in a visual way. Use colour and images to represent the knowledge you need to learn. Keep writing to a minimum; use only keywords/phrases.

Watch the clip for more tips and advice. | Make flash cards using your KO. Write a question on one side and the answer on the other or record key- words and definitions. Test yourself frequently. For more advice, scan the code. | This technique is one that has been well used from primary school upwards. It is useful for rehearsing keywords, definitions and spellings. Look at the information, read it aloud, cover it up, write it down and then check it is correct. | A mnemonic is a sentence you make up where each word begins with the same letter as the word you want to remember. It is a useful technique for remembering a group of facts/words in a certain order. | Draw a basic clock and break your KO down into 12 chunks. Make notes on each chunk in the 12 clock sections, use colour and images to make it memorable. Revise each section for 5 minutes, turn over and test how much you can recall.

Watch the clip for more tips and advice. |

Character development

Proportions of the figure

Character stances
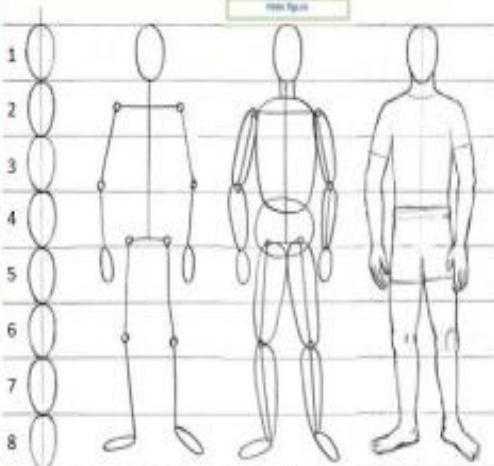
However tall they are, the average adult is between 7 and 8 heads high

The shoulders are roughly two heads wide

The hips and wrists are halfway, at about 4 heads down

The waist and elbows are at the same level, at about three heads down

The knees are at about six heads down

Start your drawing with a lightly drawn well proportioned skeleton, then add ovals and circles before adding detail

Mark making

Facial expressions

Line: Mark Making

Vertical:

Horizontal:

Diagonal:

Thin:

Thick:

Cross hatch:

Scribble:

Dots:

Dashes:

5
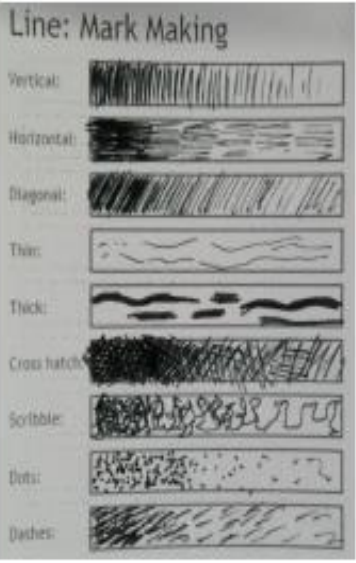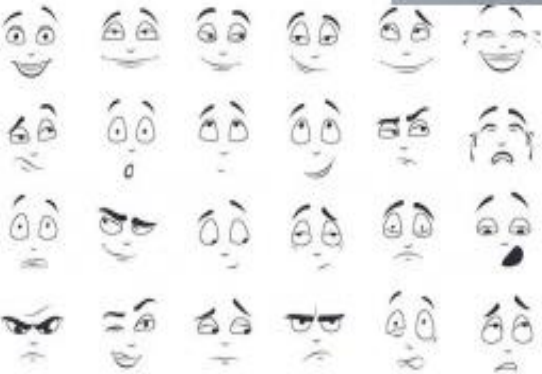
Year 8 Art Knowledge Organiser -Term 2

The Colour Theory

Colour application

Color Wheel

YELLOW
primary

YELLOW GREEN
tertiary

YELLOW ORANGE
tertiary

GREEN
secondary

ORANGE
secondary

BLUE GREEN
tertiary

RED
ORANGE
tertiary

BLUE
primary

RED
primary

BLUE VIOLET
tertiary

RED VIOLET
tertiary

VIOLET
secondary

PRIMARY
YELLOW
RED
BLUE

SECONDARY
ORANGE
VIOLET
GREEN

TERTIARY
YELLOW ORANGE
RED ORANGE
RED VIOLET
BLUE VIOLET
BLUE GREEN
YELLOW GREEN

Highlight

Shadow

Character stances

FORMAL ELEMENTS

LINE
TONE
TEXTURE
SHAPE
PATTERN
COLOUR

Year 8 key words

Observational drawing	Observational drawing is exactly that: drawing what you see.
Imaginative drawing	Imaginative drawing is the act of drawing images that you think of in your head.
Complementary colours	Colours that are opposite on the colour wheel.
Mark making	Mark making describes the different lines, dots, marks, patterns, and textures we create in an artwork.
Expressions	a look on someone's face that conveys a particular emotion. "a sad expression"
Characterisation	the creation or construction of a fictional character.
Stance	the way in which someone stands, especially when deliberately adopted (as in cricket, golf, and other sports); a person's posture.
Personality	Personality refers to the enduring characteristics and behavior that comprise a person's unique adjustment to life, including major traits, interests, drives, values, self-concept, abilities, and emotional patterns.

Year 8 Anthropomorphic Art Timeline

The Cave of the 3 Brothers, France
13000 BCE

Anubis Sculpture Egypt
332-30 BCE

Assyrian bird Headed Deity Iraq
885 BCE

Medieval Killer Bunnies Drolleries/Manuscripts
1250-1400 ADE

JJ Grandville France
1832 ADE

Walt Disney Mickey Mouse
1928 ADE

Beatrix Potter; Peter Rabbit: UK
1902 ADE

EH Shepard Winnie The Pooh
1926 ADE

N Ofuji The Black Cat Japan
1929 ADE

Marc Brown Arthur Read
1990's-present: USA

Jim Medway Teen cats
1990's-present: UK

Lisa Hanawalt Bojack Horseman
2014 : USA

Felicie Hamoz Fantastic Mr fox
1980's-present: Switzerland

Prehistoric - Egyptian - Medieval - Victorian illustration - 20th Century animation - 21st Century illustration - Contemporary Animation

7

Term	Definition
Network	A group of **devices** connected together, either wirelessly or with a network cable.
Protocol	A set of rules
Network cable	Used to connect different devices together. They are often made up of a number of wires.
Hub	Connects a number of computers together. Ports allow cables to be plugged in from each connected computer.
Server	A powerful computer which provides services to a network
Router	Used to connect two separate networks together across the internet
Wired	Wired networks send data along cables.
Wireless	Wireless networks send data through the air using radio waves
3G /4G /5G	Wireless communications standards designed to provide different speeds for mobile devices, such as smartphones, tablets, and wireless hotspots
WiFi	a facility allowing computers, smartphones, or other devices to connect to the Internet or communicate with one another wirelessly within a particular area.
Bandwidth	Bandwidth is the amount of data that can be moved from one point to another in a given time.
Broadband	a high-capacity transmission technique using a wide range of frequencies, which enables a large number of messages to be communicated simultaneously.
Data capacity	How much **data** the storage type can hold, measured in **bits**
Buffering	In streaming audio or video from the **Internet**, **buffering** refers to downloading a certain amount of data before starting to play the music or movie.

Layer	Protocols in this layer cover	Protocol Examples
1	Passing data (as electrical signals) over the physical network	Ethernet
2	Making connections between networks and directing data	IP (Internet protocol)
3	Controlling data flow eg checking data is sent and delivered	TCP (Transmission Control Protocol)
4	Turing data into websites and other applications and vice versa	HTTP / FTP / SMTP

Term	Definition
Internet	The internet in a network of networks.
Internet Protocol	a set of rules governing the format of data sent over the Internet or other network.
IP address	a unique string of numbers separated by full stops that identifies each computer using the Internet Protocol to communicate over a network.
VoIP	Voice Over Internet Protocol - the set of rules that makes it possible to use the Internet for telephone or videophone communication.
IoT	A network of **Internet** connected objects able to collect and exchange data.
Spam	Unsolicited messages sent over the Internet, typically to a large number of users, for the purposes of advertising, phishing, spreading malware, etc.
WWW (World Wide Web)	Part of the internet that contains websites, web pages, and the links between them.
Web browser	A **browser** is a software application used to locate, retrieve and display content on the World Wide **Web**, including webpages, images, video and other files. FOR example Chrome / FireFox
Web server	A *web server* is a computer that runs websites. ... The basic objective of the *web server* is to store, process and deliver *web* pages to the users.
Web page	A hypertext document connected to the World Wide Web.
Search engine	A type of website that allows you to look up information on the World Wide Web.
URL	Uniform Resource Locator (**URL**) is another name for a web address
HTTPS	Stands for Hypertext Transfer Protocol Secure. This encrypts messages between a browser and the website so the messages cannot be understood by other devices.
HTTP	Stands for Hypertext Transfer Protocol. Messages are sent between a browser and a website in plain text and can be read and understood by other devices.
Domain Name	A **domain name** is a unique **name** that identifies a **website**.

URL
http://www.facebook.com
protocol   World Wide Web   domain name

Advantages of wireless network

- No trailing/trips/hazards
- It is quick and cheap to connect to new devices
- Allows portability

Disadvantages of wireless network

- Lower bandwidth
- Wireless connections can be weakened by walls and ceilings
- Less Secure

Advantages of a wired network

- Faster connection (little to no interference)
- Higher bandwidth
- Better security

Disadvantages of a wired network

- Cables can be a trip hazard and look unpleasant
- More expensive and time-consuming to add devices, as each device needs cables
- Devices are in fixed positions (no portability

COMPUTING— Scratch https://scratch.mit.edu

KEY TERMS

Word	Definition	Image
Sprite	The name of a **character** in Scratch.	
Scratch	The name of the **programming lan-**	
Turn # # degrees	How far to the left or right you want to move your sprite. # is replaced with the number.	
Block	A single instruction in our algorithm.	

Scratch blocks and program example

Motion   Looks   Sound   Events   Control   Sensing   Operators   Variables

Algorithms

An **algorithm** is a **sequence** of step-by-step **instructions** to solve a problem.

Algorithms can be written in code, or be a **sequence** of BLOCKS.

We can use **algorithmic** **prediction** to guess what will happen. My **Sprite** is going to get bigger!

The **repeat loop** in this example, will move ten times. This is **more efficient** than writing out ten **commands.**

The **turn # degrees block** will turn my sprite. This **algorithm** will turn my **sprite.**

Instructions	Detailed information about how something
Execute	When you create a program for a computer, you give it a set of commands to execute.
Sequence	The order the instructions need to be in.
Selection	Making choices.
Iteration	Doing the same thing more than once **Iteration** in computing is the process of repeatedly executing instructions.
Repeat	The block that makes and instruction happen more than once.
Variables	A **variable** is a name that refers to data being stored by the computer, which can change.
Subroutines	In computer **programming**, a **subroutine** is a sequence of program instructions that
If block	Allows us to check a **condition** and perform an operation if the condition **evaluates** to 'true'.
Debugging	Finding errors in our code.
Abstraction	Taking away all the information that isn't needed.
Decomposition	Breaking down a problem.
Count-controlled	Count-controlled iteration will execute the commands a set number of times.
Condition-controlled	Condition-controlled will execute the commands until the condition you set is no longer being met.

Computer Science — CyberSecurity

Data Protection Act

ALL ORGANISATIONS USING AND STORING DATA MUST **ABIDE** BY THE FOLLOWING **PRINCIPLES**

- Find out how your data is being used (by an organisation)
- Access the data that an organisation has about you
- Update your data
- Have your data deleted
- Stop an organisation from processing your data
- Transfer your data to a different organisation

- Used fairly, openly, and in accordance with the law
- Used for a specific and stated reason
- Used only in a way that is necessary and sufficient for the purpose for which it was collected
- Accurate and up-to-date
- Only kept for as long as it is needed
- Protected against loss, damage, and unauthorised access

AS A **DATA SUBJECT**, YOU HAVE THE RIGHT TO FIND OUT WHAT INFORMATION THE GOVERNMENT AND OTHER ORGANISATIONS STORE ABOUT YOU.

The Computer Misuse Act (1990) and its amendments were created so that unauthorised access to computers and crimes committed using a computer could be prosecuted. The act is based on three principles and makes the following actions illegal:

PRINCIPLES	LEGAL ACTIONS
Unauthorised access to digital/computer material. This means a person asking a computer to perform any function with the intent of accessing anything on the computer for which they do not have permission, and for which they know they do not have permission.	Punishable by up to two years in prison and a £5,000 fine.
Unauthorised access to digital/computer material with intent to commit or facilitate the commission of further offences. This means a person gaining access to a computer without permission in order to commit another crime or to enable someone else to commit a crime.	Punishable by up to five years in prison and an unlimited fine determined by the damage caused and the severity of the crime.
Unauthorised acts with intent to impair, or with recklessness as to impairing, the operation of a computer. This means a person intentionally impairing the operation of any computer or program, or intentionally preventing access to any data or program on any computer. This includes creating or supplying materials that could be used to carry out this offence.	Punishable by a prison sentence of up to ten years and an unlimited fine, but if the act puts life at risk or endangers national security, the sentence may be extended to life imprisonment.

Social Engineering

Social engineering is a set of methods used by cybercriminals to deceive individuals into handing over information that they can use for fraudulent purposes.

How might a hacker use the data you submitted?

Name of first pet / Favorite colour/ Mother's maiden name / Favorite band or artist / Date of birth / Name / Email address

Shouldering (also known as **shoulder surfing**) is an attack designed to steal a victim's password or other sensitive data. It involves the attacker watching the victim while they provide sensitive information, for example, over their shoulder. This type of attack might be familiar; it is often used to find out someone's PIN at a cash machine.

Phishing Attack

A **phishing attack** is an attack in which the victim receives an email disguised to look as if it has come from a reputable source, in order to trick them into giving up valuable data. The email usually provides a link to another website where the information can be inputted.

Phishing: Key indicators of a phishing email

- Unexpected email with a request for information
- Message content contains spelling errors
- Suspicious hyperlinks in email
- Text that is hyperlinked to a web address that contains spelling errors and/or lots of random numbers and letters
- Text that is hyperlinked to a domain name that you don't recognise and/or isn't connected to the email sender
- Generic emails that don't address you by name or contain any personal information that you would expect the sender to know

DoS / DDoS

Denial of service attack (DoS) This is a cyberattack in which the criminal makes a network resource unavailable to its intended users. This is done by **flooding** the targeted machine or website with lots of **requests** in an attempt to overload the system.

Distributed denial of service attack (DDoS) This uses the same concept as a DoS attack, but this time it is **multiple computers** making the attacks at the same time. It is a lot harder to: Stop the attack by simply blocking a single source or Identify who is responsible, as lots of machines are making requests, many of them because they are infected by malware.

Blagging

Blagging (also known as **pretexting**) is an attack in which the perpetrator invents a scenario in order to convince the victim to give them data or money. Hacking *in the context of cyber security* is: **Gaining unauthorised access to or control of a computer system**

Why might people want to hack? To steal data / To disrupt services / For financial gain / For political reasons (espionage and activism)/ For fun (planting the flag) / For ethical reasons

Brute Force Attack / Bots

Brute force attack This is a form of attack that makes multiple attempts to discover something (such as a password).

Internet bots - Bots are automated programs that perform tasks repeatedly. Bots are a crucial part of the internet's infrastructure and perform useful tasks .

Protection Methods

Firewalls A firewall checks incoming and outgoing network traffic. It scans the data to make sure it doesn't contain anything malicious and that it follows the rules set by the network.

Anti-malware Anti-malware is software that scans any file that is able to execute code. The anti-malware will have a list of definitions of sequences of code that they are aware are malicious. If the code in your files matches the definitions, the files are quarantined.

Auto-updates Auto-updates refers to software that automatically checks for available updates for the software you have on your computer. Once it finds an update, the software can be set either to alert the user or to install it automatically. This software is often included with an operating system.

User permissions Users on a network can be put into groups, with each group having a unique set of privileges, such as: Which network drives they have access to, Their read/write permissions, Which printers they are able to use, What software they can use, Which websites they are allowed to access

Malware

Typical actions of malware include deleting or modifying files.

Spyware—secretly monitors user actions, e.g. key presses, and sends information to the hacker. Some spyware can even use your webcam without your knowledge.

Viruses—spreads through normal programs and might slow down your device or change your   applications and documents.

Worms— spread from device to device and copy themselves hundreds of times. A worm might copy itself onto your email account and then send a copy to all of your email contacts!

Trojan horse— pretends it will be a useful and safe program, when actually it will try to attack your device.

Adware—displays adverts while it is running; some can serve as spyware, gathering information about you from your hard drive, the web sites you visit, or your keystrokes.

COMPUTING — EduBlocks

https://edublocks.org

Coding

A human instructing the computer what to do. – *computers require clear instructions to work correctly.*

Logical Thinking - Comparative Operators

|	
==	Equal to
!=	Not equal to
<	*Left value is less than the right value.*
>	*Left value is greater than the right value.*
>=	*Left value is greater than or equal to right value.*
<=	*Left value is less than or equal to right value.*

Arithmetic Operators

+	Addition
—	Subtraction
*	Multiplication
/	Division
//	Integer division
%	Remainder
**	Exponent

KEY TERMS

EduBlocks	A visual block based programming tool that helps to introduce text based programming languages
Python	A text based programming language
Programming Code	The process of writing computer programs . The instructions that you write to program a computer
Algorithm	A set of rules/instructions
Sequence	Parts of the code that run in order and the instructions for our code
Selection	Using logical tests to change the flow of the sequence
Iteration	Using loops to repeat sequences of code. Code is repeated (looped) while something is true or for a number of times
Variable	A value that can be changed e.g. speed, lives, score.
Data Type: String	A sequence of characters that can include letters, numbers, symbols
Data Type: Integer	Whole numbers with no decimal point.
Data Type: Float	Decimal Numbers
While Loop	A **"While"** Loop is used to repeat a specific block of code an unknown number of times, until a condition is met
For Loop	For **loop** is a programming language conditional iterative statement, which is used to check for certain conditions and then repeatedly execute a block of code as long as those conditions are met
IF, Else, Elif	The **if/else statement** executes a block of code **if** a specified **condition** is true. If the **condition** is false, another block of code can be executed
Functions	A function is a command which contains the steps needed to perform a task
Subroutines	a set of instructions designed to perform a frequently used operation within a program
Pattern	Repeating sequences of code.
RGB	Colours: red, green and blue
Function	Inbuilt code is a command which contains the steps needed that performs a specific task.

Lesson 2 Drawing Patterns
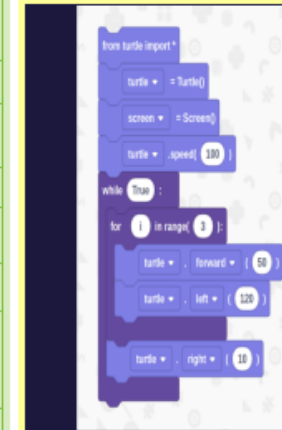
Patterns are repeating sequences of code.

Here we modify the triangle code to draw a repeating, rotating pattern.
The while True loop will run forever, and the for loop will draw the triangle.

Each time the loop iterates we move the Turtle 10 pixels.

Lesson 2 An example Pattern
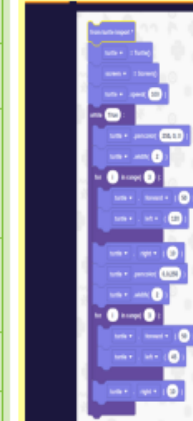
Here two for loops are used. The first draws a red triangle at double thickness.

The second loop draws a blue octagon, an eight sided shape.

Did you spot the block to increase the speed of the Turtle?

COMPUTING — EduBlocks

Lesson 3 User Inputs Data Types

In this sequence of code we use logic to draw one of two shapes on the screen.

If the user input is square, then a for loop is used to draw the shape on the screen.

Else If the user input is circle, then a circle is drawn.

If we type in something else, then the else condition will activate and apologise to the user.

Lesson 4 Variables

We have captured the users colour choice. But how we do we use it?
We need to use conditional tests and logic to make this work.
The green blocks are found in Logic!
We've created the test for red, can you finish the code?
Red: 255,0,0
Green: 0,255,0
Blue 0,0,255

Run the code, what happens?

Lesson 5 Functions

- From the Turtle blocks we need to drag:

- from turtle import *
- turtle = Turtle()
- screen = Screen()

Your code should look like this.
Click Run to test!

Lesson 5 Why are Functions Useful

Why are functions useful?

Functions are powerful tools. They are subroutines, small sequences of code inside the main code.

We can call the function, and come out of the main code, do the function, then come back to the code.

They enable us to reuse sections of code.
They keep our code tidy, and with fewer lines to write.
In our code we can draw any shape using one section of code.

Lesson 6 Project

COMPUTING — EduBlocks

The Edublocks interface is simple.

On the left we have all of the blocks that we can use to write code.

The blocks are placed in the coding area in the centre of the screen.

Blocks can be dropped in the "bin" to delete them.

You can also split the screen to view your code in Python

Computing

Podcast: A digital **audio file** made available on **the Internet** for **downloading** to a computer or mobile device, typically available as a series, new instalments of which can be received by **subscribers** automatically.

Audio: Sound

Voiceover: A piece of narration

Special effects: **A sound that is created to represent something real (such as an explosion) or imaginary (such as a monster)**

Purpose-The reason for which something is done or created or for which something exists.
e.g. "...the purpose of the interview is to appoint a new Manager"

Download: **the transmission of a file or data from one computer to another over a network**

Copyright, Designs and Patents Act

Audience Examples:

Young children (4 - 10)	Retired people
Children (8 - 12)	Old aged people (65+)
Teenagers (13 - 19)	Females
Young adults (15 - 25)	Males
Adults	Non - English speakers
People with additional needs	

The different purposes of podcasts

TPS-Can you name some purposes people listen to podcasts? To.......

Reassure   Entertain   Inspire   Inform

Warn   Persuade   Educate   Instruct

Associate (jingle)

What is the main purpose of a business?

Profit

How would a podcasting business make money?

Followers

Popularity

Sponsorship

Advertising

FOLLOW ME
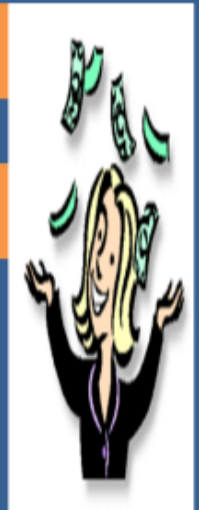
SOME PODCASTS CAN HAVE MORE THAN ONE PURPOSE

MAKE

PRODUCT DESIGN

In Year 8 we will be making a light.

You will use tools to make the parts.

It will be made from acrylic.

Computer Aided Design & Computer Aided Manufacture

Computer Aided Design (CAD) and Computer Aided Manufacture (CAM) are used to design and manufacture products. Both have helped in the transition from product design to product manufacture and have greatly affected workplace efficiency.

CAD = **Designing** using a Computer

CAD allows users to draw, design and model products in both 2D and 3D using specialist software.

* CAD stands for **Computer Aided Design**. It involves designing products on a computer, rather than using a pencil and paper.
* CAD software packages allow you to make 2D and 3D designs. Examples of CAD software include, Fusion360, Solidworks, Illustrator and CorelDraw.
* CAD helps designers model and change their designs quickly. It is easy to experiment with alternative colours and forms and often helps to spot any problems before making anything.

Advantages of CAD

* More accurate than hand drawings.
* Enables designs to be amended and tested before production.
* Allows several designers to work on the same project at the same time.
* Offers views of models from different angles.

Disadvantages of CAD

* Can be difficult to learn.
* Can require large amounts of memory.
* Expensive software.

CAM = **Making** using a Computer

* CAM stands for **Computer Aided Manufacture**. It is the process of manufacturing products with the help of computers.
* Examples of CAM equipment includes laser cutters and 3D printers.

Advantages of CAM

* High level of accuracy.
* Increases the speed and efficiency of the production process.
* Products can be manufactured directly from CAD.
* Can operate 24 hours a day.

Disadvantages of CAM

* Expensive equipment.
* Requires maintenance.
* Replaces human workforce.

Laser Cutter (CAM)

Laser cutters use a laser to cut through materials. The machine makes cuts by following a design that's loaded into it. This then instructs where to cut the material. Laser cutters are called CAM machines and they use 2D designs made by CAD.

Laser cutters can only cut in 2D, so they have to be used on sheets of materials. These can be sheets of plastic, wood, cardboard, fabric and some metals. Laser cutting has high precision and accuracy and it is able to follow complex patterns, even on a small scale. This is helped by the tiny width of the laser beam.

DESIGN

PRODUCT DESIGN

In Year 8 we will be designing a light.

You will use freehand sketches and CAD to design the parts.

It will be designed using CAD.

Sketching and Annotation

To get your design across, you're going to need to draw it on paper. Here are a few techniques to help you communicate your design in the best way possible. **Remember, pactice makes perfect...**

Freehand Sketches

Freehand means drawing without using any equipment (except a pencil).

Is the quickest way of getting your initial designs on paper before an idea is forgotten. Freehand sketches are often done without a ruler or template and instead are produced quickly and freely.

NOTE: Sketches aren't meant to be perfect - they are only needed to get your ideas across!
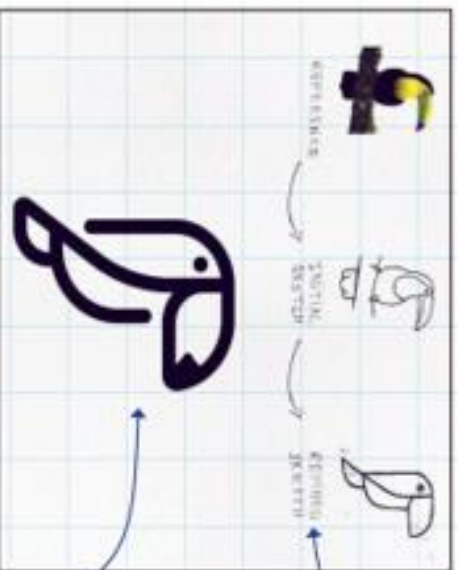
Formal Drawings

Are a more precise style of drawing; they can be done by hand or with Computer Aided Design (CAD) packages in either 2D or 3D.

Formal hand drawings would use tools such as rulers and set squares to ensure accuracy and neatness. Using CAD allows the user to quickly make changes, and the drawings can be digitally shared and copied with ease.

Orthographic Projection is one type of formal drawing which shows 2D views of a 3D object.

An Orthographic drawings show a 3D object as a set of 2D drawings viewed from different angles - a front view, a plan view (as seen from above) and a side view. Each 2D view is drawn accurately to scale and the dimensions are always given in millimetres.

Annotations

Annotations are written explanations or critical comments added to art or design work that record and communicate your thoughts.

There are several reasons annotation may be used, for example to:

* Analyse the work of an inspirational artist or designer
* Record a technique
* Record ideas
* Explain the thinking behind an idea
* Analyse the success of a technique, idea or composition
* Explain how a particular artist or designer's style or technique has influenced your work

Modelling + Prototyping

Modelling - A model tends to lend itself to the aesthetics side of things, used to demonstrate how a design will look and feel.

Making a model allows designers to visualise and test how a product looks and performs in 3D and is a great way of checking a product's viability.

What is a Vector drawing?

Vector graphics are computer designs made up of curved points and lines which create a clean, infinitely scalable picture when combined in vector artwork. This means that they can be scaled up or down without losing any quality.

17

TEXTILES

- To look at
- To examine in detail
- To explain and interpret

1. Psychedelic intense colours
2. wiggling lines
3. blending of objects that appear to be melting and oozing into each other
4.

In Year 8 we will be making a Tote Bag
You will ANALYSE different bag styles
You will ANALYSE the designer Lulu Guinness

EVALUATE

When we ANALYSE Products or a Designer we look at:
Shape, Colour, Line, Pattern Texture
OR
Function, Appearance, Construction, End User

Lulu Guinness Design

Contrasting Colours:
Lulu often uses bright and contrasting colours, such as black and white, red and blue.

Geometric and Organic shapes:
Use of geometric and Organic shapes and patterns, including wavy and curved lines.

Founder's Philosophy:
I like things that give a sense of being vintage without actually being vintage. That's the philosophy behind my own designs.

History
Lulu Guinness founded her eponymous brand in 1989 at the age of 29, inspired by the idea of a fashion briefcase for women. This concept eventually morphed into a new idea for vintage style rose basket bags, reflecting Lulu's instincts for fashion's edgier boundaries.

Inspiration
Driven by her own style - vintage-inspired and ladylike, with a tongue-in-cheek twist - Lulu began creating the hand-held treasures that made her name. Her first design was a basket of red roses. One of her earliest influences was the Surrealist French designer, Elsa Schiaparelli. "She worked with emerging talents, like Picasso and Cocteau.

Impact
Milton Glaser is credited for the creation of the famous Push Pin movement which is characterized by strong outlines, bright colours, and slightly exaggerated forms.

Legacy:
One of Glaser's most recognizable works is his 'I Love New York' logo. It's aim was to increase tourism as New York was seen to be a dangerous place to visit.

Key Products:
A turning point came in 1993 when the Victoria & Albert Museum bought the Florist's Basket Bag. "I felt I could call myself a designer. But in this business, you're only as good as your latest idea."

Global Reach:
Accessories label Lulu Guinness was founded in 1989 with the original concept of a briefcase for women, which then evolved into vintage-style basket bags. Fast-forward almost 30 years and Lulu Guinness has become one of the most recognised labels worldwide thanks to its distinctive red lip design.

Relevance Today:
She has put her name to shoes, jewellery, a Mini. "I've done it all." High-street partnerships brought her wares to a wide audience: "I've never been interested in the top tier of the market. I don't have rules. I can't stand snobbishness," says Guinness, who has a cult following in Asia where "they appreciate things that are a bit different. We've always been the alternative to the It bag."

To judge the quality and performance of a product

1. Assess
2. Judge
3. Gauge
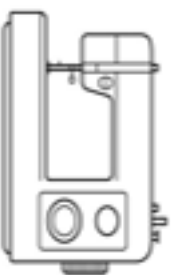
TEXTILES

EVALUATE

Evaluate Step	Definition	Question stems
Function	work or operate in a proper or particular way.	Does it do the job? What is the function and purpose of the product? How well does it work? Could it be improved?
Appearance	the way that someone or something looks	Does it look like your original design? What does the product look like? What is the colour, texture, pattern and decoration of the product? Is the colour/texture of the product effective? Is it what the customer wants? Does the product look good? Is it stylish? Is the style to the customers liking.?
Construction	the action of building or making something	What materials and components have been used to make the product? Why were these materials and components used? How has the product been made? What joining methods/ techniques have been used? Is the product well-constructed or will it fall apart when in use? Will it scratch easily?
End User	a person or other entity that consumes or makes use of the goods or services produced	Did the design link to the user? Who would buy the product and when would they use it? How well does the product do its job when compared to others? How marketable is it to the user?

- Statements made are backed up with evidence
- Statements are written in sentences with comments that are relevant.
- Discussed the positive and negatives
- Clear PEE structured used
- Connectives used
- Purposeful facts - useful information identified

19

TEXTILES

MAKING

In Year 8 we will be making a Tote Bag

You will use APPLIQUE and FRENCH SEAMS to MAKE parts

To put together
Practical activity

1. Assemble
2. Build
3. Construct

Tote Bag

- Applique: When is design is cut out of different coloured fabric shaped and layered on top of a base fabric and sewn in place
- French seam: a seam in which the raw edges of the cloth are completely covered by sewing them together, first on the right side, then on the wrong.

FRENCH SEAM

Anatomy of a French Seam

First seam

Second seam

Right side of fabric
Wrong side of fabric

www.tootanddragonfly.com

Sew wrong sides of fabric together 1.5cm seam allowance

Seam 1.5cm

Step 1

Trim seam to measure 0.5 cm – cut along red seam line

Step 2

Turn fabric so right sides are together and sew 0.5 cm from folded edge

Step 3

APPLIQUE

pieces of fabric are sewn or stuck on to a larger piece to form a picture or pattern.

Tacking

Marked line

1 - Place your 1st shape in the centre of the pocket fabric.

2 - Place the edge of the felt square in the centre of presser foot. Then straight stitch around the edge of the shape. REPEAT with the next layer of the design.
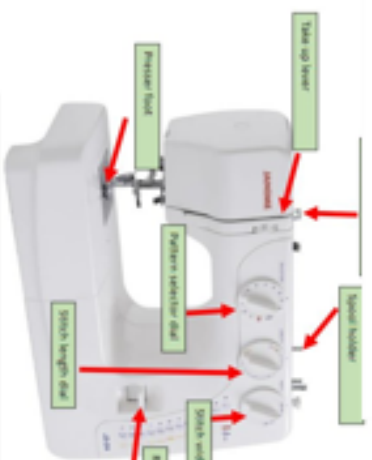
Sewing Machine

1. Sharp needle
2. Take-up lever pulls the thread through the machine
3. Different types of stitch patterns
4. Used to sew lots of different types of fabrics
5. Balance wheel can move the position of the needle

Presser foot

Take up lever

Pattern selector dial

Spool holder

Stitch length dial

Stitch width dial

Reverse stitch dial

Balance wheel

Year 8 Knowledge Organiser – Story Theatre

Story Theatre

You will be creating a piece of drama for an audience that is younger than you, using Roald Dahl's Three Little Pigs. Story Theatre requires two techniques, physical theatre and narration, so you will complete workshops on these two techniques.

Tasks for this topic:

- Use and practice narration to tell a story
- Take part in a workshop to gain knowledge and understanding of physical theatre
- Work as a team to develop a piece of work for a younger audience using the skills you have learnt over KS3 already and applying narration and physical theatre.

PERFORMANCE SKILLS

FACIAL EXPRESSIONS

GESTURES GESTURES

BODY LANGUAGE

MOVEMENT MOVEMENT

Performance Techniques	
Physical Theatre	Physical movement used to tell a story
Narration	Spoken commentary used to convey a story to an audience
Expression	Changing the tone and sound of your voice to communicate emotion
Rehearsal	Practicing work to improve and refine it.

Understanding Poetry

Example poem

Stanza
A group of lines in a poem

How doth the little crocodile
  Improve his shining tail,
And pour the waters of the Nile
  On every golden scale!

How cheerfully he seems to grin,
  How neatly spreads his claws,
And welcomes little fishes in,
  With gently smiling jaws!

Rhyme scheme
The pattern of rhyming words at the end of each line.

In this example it is ABAB.

Rhythm
The amount of syllables (beats) in a line.

In this example there are 8 syllables followed by 6 syllables in two consecutive lines.

Understanding Speeches

Example speech

Greeting to audience
Using direct address.

Dystopian introduction
Using an 'imagine' sentence to convey a hellish world.

Main paragraph
Here you will find the problem, example and solution being offered.

Utopian conclusion
Using the 'now imagine' sentence to convey a heavenly world.

Closing remarks to the audience

Good afternoon, ladies and gentlemen,

Imagine a world where... not only this but... How would this make you feel? Are you happy to sit back and let this happen? Unfortunately, this is the harsh reality for society unless we work together to stop climate change in its tracks.

The environment is the source of all life on Earth. Our lives are dependent on the environment in many different ways. However, since the Industrial Revolution, society has begun to burn more fossil fuels and cut down more trees. Trees and forests are vital to our planet and our atmosphere, but last year, there were approximately ten billion trees cut down to make way for new houses, new roads, and new agricultural land.

Now imagine a world where your family gets to live a little more freely. Not only this but you feel confident that the world will be a better place for the next generation. Together, we can make this happen. Together we can stop climate change. Together, we can protect our planet.

Thank you for listening to my speech.

22

YEAR 8 SPRING TERM KNOWLEDGE ORGANISER:
OURSELVES
POETRY AND NON-FICTION

Universal Themes

Compassion

Suffering

Hope

Context – We must understand the influences of the world we live in when examining texts.

Climate change

Climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, but since the 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels (like coal, oil and gas), which causes world temperatures to rise, more intense heatwaves and rising sea-levels. Things are likely to worsen in the coming decades, but scientists argue urgent action can still limit the worst effects of climate change.

Big Ideas

Alienation
Feeling withdrawn or separated from others or from society as a whole.

Social Responsibility
Working together for the benefit of a community or environment.

Inclusivity
Providing equal access to opportunities and resources for everyone, especially those who might be excluded.

Identity
The fact of being who a person is / what they are made up of (background, culture, family).

Tolerance
Willing to accept other people's behaviour and opinions even if you do not agree with them.

Social Division
Divisions in society associated with social groupings, often causing conflict, inequality and disadvantage.

Jane Yolen

American author and poet. /Created a local newspaper for her neighbourhood after moving into her first apartment in New York which focused on ways to protect their local environment and community.

Marcus Rashford

Famous footballer / brought up in a single-parent household/ relied on food banks and free school meals/ Activist for child poverty and homelessness/ Created 'Marcus Rashford Book Club'. The Book Club has given away over 100,000 free books to young people living in the most underprivileged areas.

Greta Thunberg

Environmental activist/ known for challenging world leaders to take immediate action to ease the effects of human-caused climate change/ has attended many world conferences to speak to world leaders about climate change.

Simon Armitage

English poet, playwright, musician and novelist/ Recognised as Poet Laureate in 2019/ Professor of poetry at the University of Leeds/ used to work with people who struggle to fit into society such as young offenders.

'WORLD' – OUR PERSUASIVE WRITING STRUCTURE

Part	Key Features
INTRODUCTION: A HELLISH WORLD	• Your introduction begins your persuasive piece • Use an 'imagine' sentence to put your reader in a hellish world • Include pathos: emotive language and rhetorical questions • Finish with your opinion on the topic
MAIN BODY: OUR REALITY	• Your main paragraphs should include a problem, example and a solution • You are aiming for three main paragraphs • Begin with a topic sentence to establish the problem • Include ethos, logos and pathos • Use real-world examples • End with a concluding sentence that gives a solution
CONCLUSION: A HEAVENLY WORLD	• Your conclusion ends your persuasive piece • Use a 'now imagine' sentence to put your reader into a heavenly world • Include pathos • Finish with your final opinion on the topic

Device / Feature

Imagery
Metaphors, similes, symbols

Alliteration
Words beginning with the same sound
BUSY BEE

Metaphor
Describing something by stating it is something else
You Are My Sunshine

Personification
Giving living qualities to something non-human

Simile
Comparing something to something else: 'as', 'like'
YOU'RE AS SWEET AS Honey

Rhetorical question
A question that doesn't need an answer

Symbolism
Objects, colours, sounds, places

Direct Address
Speaking directly to the audience / reader 'you'

Sensory language
Five senses

Juxtaposition
Contrasting ideas / images

Aristotle's Rhetoric Triad

Ethos — Trust, credibility, experience

Logos — Logic, proof and reason

Pathos — Empathy and values

Common Homophones

There @ Their They're

Your You're

Its It's

Which Witch

Word Classes

Adjective	Adverb	Preposition	Pronoun	Noun	Verb
Describes a noun or pronoun. Blue / young / powerful	How, when or where something happens. Furiously / yesterday / here	Where something is; the time, direction or cause of something. On / under / above	Words that replace nouns or noun phrases. She / he / they	Person, place, thing, idea or state of being. Manchester / cat / love	An action or state of being. Jump / write / be

To review

To look back at

1. Discuss
2. Compare
3. Judge
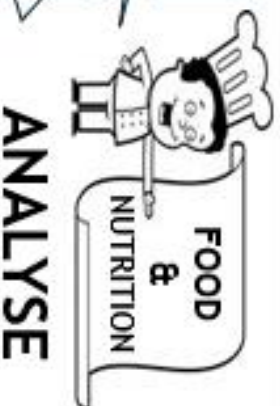
In Year 8 we will be Analysing information on Farm to Fork issues

---

Food miles are the distance, in miles, from the site of production to the site of production for an item of food. The higher the food miles are the more GLOBAL the food is.

Some advantages of buying global food are:

- Access to food that we would not otherwise have available- e.g. chocolate and foods which are not in season.
- Helps economies of poorer nations who get money from selling produce to the UK.
- Food can be cheaper

Disadvantages of buying global food are:

- Food produces more pollution and contributes to climate change as it has had to travel thousands of miles.
- Food needed by local people in poor countries may not be available as it has been sent to other counties.
- Jobs are lost in the UK as more food is bought in from overseas.
- Deforestation occurs in poorer countries to make room for fields to farm.
- You never quite know where your food has come from.

Buying food from **local** sources is seen as a better alternative than buying lobal food, this is because:

- Less fossil fuels are used to transport food meaning less pollution.
- Money is kept in the local community as food is bought from local people.
- You know exactly what you are eating and where it has come from.

Functional characteristics of ingredients
Ingredients provide a variety of functions in recipes, such as:

- browning, e.g. flour in a bread roll (dextrinisation);
- raising, e.g. yeast in bread (aeration);
- setting, e.g. scrambled eggs (coagulation);
- thickening, e.g. flour in a roux sauce (gelatinisation)

Threats to food supply
In the future our global food supply may be threatened by:

- **Climate change**- some places will be too hot whilst others too wet
- **Population growth**- more people will need feeding
- **Urbanisation**- more people in cities need food which is away from the rural areas where it is produced
- **Conflict**- issues to do with land and access lead to conflict
- **Environmental damage of farming**- Some farming practises damage land making it less fertile
- **Increasing fuel prices**- energy needed to produce food is more expensive
- **Water stress**- in some areas there is not enough water to farm.
- **Changing consumption patterns**- some parts of the world are eating more dairy and meat than ever before, putting pressure on the industries.
- **Rising food prices**- difficulties in farming make food prices higher, meaning many people cannot afford food.

Sustainable food supply
Methods of farming which may be more sustainable include:

- Organic farming- no use of chemicals
- Local food- buying food locally
- Permaculture- mirroring natural ecosystems
- Seasonal food- buying what is in season
- Urban farming- growing food in cities

Selecting ingredients
Ingredients are chosen for a number of reasons, such as:

- to add flavour, colour or texture;
- to provide a particular function, e.g. to thicken;
- to provide nutrients or change the nutritional profile of a dish, e.g. to increase fibre;
- to extend the shelf life, e.g. vinegar for pickling or chemical preservatives;
- cost and availability, e.g. fruit in season;
- to satisfy a need to buy food with a certain provenance, e.g. Red Tractor.

FOOD & NUTRITION

MAKE

In Year 8 we will be making a range of baked goods.

You will use equipment to make.

It will be made following a recipe.

To put together

Practical activity

1. Assemble
2. Mix
3. Stir

short—no

Knife Skills and Techniques

Bridge Method: Make a bridge with your fingers and thumb, place the knife underneath and cut downwards, repeat to cut ingredients to size.

Claw Method: Make a claw with your hand by curling your fingers and then place the knife near your claw sliding it away from the knife as you slice each piece.

Hygiene rules in the food room

Wash your hands with anti-bacterial soap

Wear a clean apron

Tie hair up

Make sure your nails are clean and nail varnish

Cover cuts and sores with a blue plaster

Clean work surfaces with sanitiser

Use clean dishcloths and tea towels

Make sure all equipment has been cleaned thoroughly in hot soapy water

Type of pastry	Examples of products	Characteristics of the pastry
Shortcrust pastry	Bakewell tart, Lemon meringue pie, quiche	Crumbly texture, pale in colour. Ratio :fat to flour 1:2
Choux pastry	Profiteroles, eclairs, choux buns	Darker in colour, liquid turns steam when baked, light and airy. Can be filled. Ratio- fat to flour 2:3.
Filo pastry	Spring rolls, apple strudel, . Filo parcels	Very thin, crispy, delicate
Rough puff pastry	Sausage rolls, savoury turn, pies,	Flaky pastry, high quantity of fat ratio fat:flour—3:4.
Hot water crust	Pork pie.	Dark in colour, made using boiled fat and water mixed with flour.

Key Terms	Description	
Aeration	The ability of some fats to trap lots of air bubbles when beaten together with sugar i.e egg white for meringue.	
Coagulation	The joining together of lots of denatured protein molecules, which changes the appearance and texture.	
Starch Based Sauce	During cooking the starch granules absorb the liquid until they reach boiling point, burst and completely thicken the sauce.	
Denaturation	The chemical bonds have broken and the protein molecules has unfolded and changed shape.	
Shortening	The ability of fats to shorten the length of gluten molecules in pastry.	
Cross contamination	When bacteria spreads from raw food onto ready to eat food e.g through hands, utensils or food	
Sensory characteristics	How food tastes, looks and feels in the mouth	

Equipment	Uses	picture
Kitchen scales	Weighing ingredients.	
Measuring jug	Measuring liquids. The size of the jug is usually marked with millilitres (ml)	
Measuring cups	Some American recipes use cups for dried ingredients such as flour and sugar	
Measuring spoons	Measure an accurate teaspoon or tablespoon. One teaspoon is 5 ml, one tablespoon is 15 ml	

Tectonics

Structure of the Earth

- Inner Core
- Outer Core
- Mantle
- Crust

Mantle

How does a volcano work?

- Ash Cloud
- Pyroclastic Flow
- Volcanic Bombs
- Crater
- Main vent
- Secondary Cone
- Lava Flow
- Secondary Vent
- Magma Chamber

Main Features of a Volcano

Types of volcanoes

Composite
volcanoes are **steep sided and cone shaped** made up of **layers of lava and ash**, containing **sticky lava** that doesn't flow very fast.

Stratovolcano

Shield Volcanoes have **gently sloping side**s and **runny lava** that covers a **wide** area.
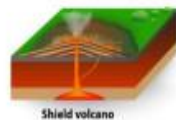
Shield volcano

Plate boundaries or margins

1 Destructive Margins

Destructive margins are where two plates are moving towards each other, e.g. along the west coast of South America.

Where an oceanic plate meets a continental plate, the denser oceanic plate is forced down into the mantle and destroyed. This often creates volcanoes and ocean trenches (very deep sections of the ocean floor where the oceanic plate goes down).

Where two continental plates meet, the plates collide, and the ground is folded and forced upwards to create mountain ranges.

- Continental plate
- Volcano
- Ocean trench
- Oceanic plate
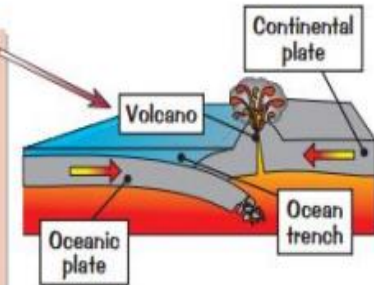
2 Constructive Margins

Constructive margins are where two plates are moving away from each other, e.g. at the mid-Atlantic ridge. Magma (molten rock) rises from the mantle to fill the gap and cools, creating new crust.

- Plate
- Plate
- Magma rises
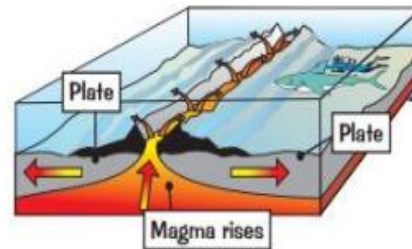
3 Conservative Margins

Conservative margins are where two plates are moving sideways past each other, or are moving in the same direction but at different speeds, e.g. along the west coast of the USA. Crust isn't created or destroyed.

- Plates moving sideways past each other
- SLOW QUICK
- Plates moving in the same direction at different speeds
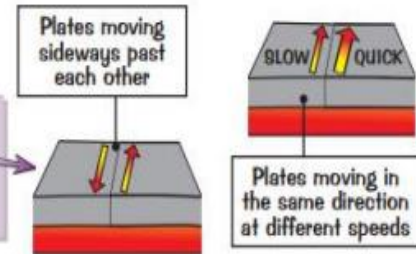
Why live near a volcano?

Fertile soil – because of all the minerals its good for growing crops

Geothermal Energy – cheap and environmentally friendly

Tourism – generates money and jobs for locals

Prediction – scientists monitor and put warning systems in place

Fuego Eruption

Erupted 3/6/2018
Pyroclastic flow covered
10Km buried many villages
under ash

Effects
165 killed
1000s homeless
1400 spent night in
makeshift shelters in
schools
Airport closed meaning aid
could not arrive
Vital crops destroyed –
corn, beans and coffee

Responses
No prior warning given
Monitoring equipment out
of date
Oxfam raised money and
sent aid

Nepal Earthquake

7.8 magnitude struck on
25/4/2015 with
105 aftershocks

Effects
5000 killed
10000 injured
1.6 million homeless
90% of people lost their
homes and livestock and
have no way of getting
food.

Responses
Government declared
state of emergency and
asked for international
help
Oxfam flew in tents,
blankets, medical
supplies and fresh food
and water.

What is an earthquake ?

Sudden release of energy in the
Earth's crust causing the ground
to shake
Focus – the start inside the
earth
Epicentre the point above the
focus on the Earth's surface.

Earthquakes are measured on the

Moment magnitude scale (MMS).

This measures the **magnitude**
(strength) of the shaking
caused by the earthquake

It has 10 different levels.

1 is the lowest and 10 is the
strongest.

Earthquake proof buildings

Computer-controlled weights on roof to reduce movement

'Birdcage' interlocking steel frame

Steel frames which can sway during earth movements

Outer panels flexibly attached to steel structure

Automatic window shutters to prevent falling glass

Roads to provide quick access for emergency services

Open areas where people can assemble if evacuated

Fire-resisitant building materials

Foundations sunk into bedrock avoiding clay

Rubber shock-absorbers to absorb earth tremors

Tsunami
A tsunami is a giant wave caused by an earthquake or other event that displaces a lot of water.

3 Waves gain height as they approach shallow water.

4 Waves reach shore, often with little warning.

2 Waves move outward in all directions at speeds up to 500 mph.

1 An event displaces a large volume of water.

sciencenotes.org

Epicentre
Plate movement
Focus
Seismic waves
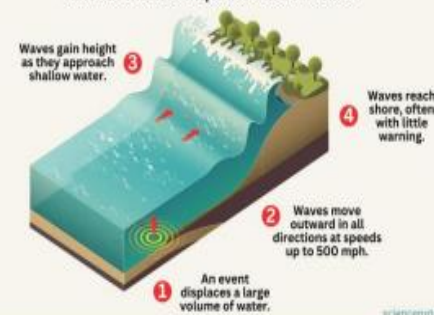
The Three P's
PREDICT: There may be many pre-shocks before an earthquake
that can be measured on a seismograph.
PROTECT: All buildings must comply with strict earthquake
planning regulations
PLAN: Prepare disaster plans. Organise and prepare hospitals and
evacuation centres. Organise emergency supplies
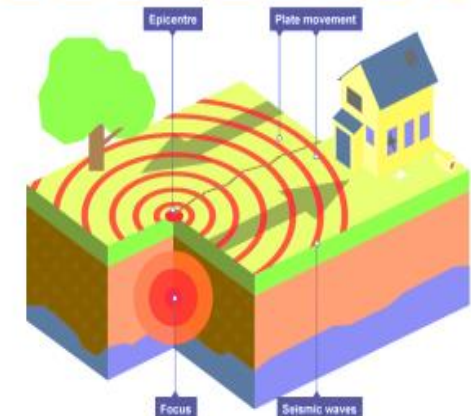
CHINA

China is located in the continent of **Asia**. North east to China is the Pacific Ocean and south east is the South China sea. China has major cities including Beijing in the north and Guangzhou in the south. China is also home to a variety of different physical features including the **Gobi desert and Mt Everest** in the Himalayas mountain range.

Where do 1.4 billion people live?

The population in China is not the same number in every region. Some will have a higher population than others. We refer to **where people live (spread out) in geography as population distribution.**
Densely populated – A lot people living in an area, making it compact and crowded
Sparsely populated – Not as many people living in area, more space and distance.

How is development measured?

Gross Domestic Product (GDP) £.
The value of all the goods and services produced by a nation in any one year.

Human Development Index (HDI) £+☺
Measures development by combining measures of life expectancy, education and income. It is different from GDP as it measures wealth, health and happiness.

So is China actually that rich?

Despite having **a high GDP** mainly due to manufacturing, China has a high population (the world's largest) and a **large proportion do not share the wealth...**

China's One Child Policy

Parents in China receive the cost of child care and medical expenses for their one child.	Both parents are able to work because they do not have to worry about child care and so they will be financially better off	Abortion rate has gone up as women are pressured if pregnant for a 2nd time. There is now 60 million more men than women	There was not enough shelter for all the population and so population needed to decline.
Babies are being abandoned, particularly baby girls as women are less superior in Chinese society	There will be nobody to look after the elderly	Children get more time with their parents	Couples who break the policy are often forced into sterilisation - which is against their human rights

Foxconn Factory TNC in China

Foxconn is a major manufacturer that serves high-profile consumer electronics firms such as Dell, Motorola, Nintendo, Nokia, Apple, and Sony.

FOR	AGAINST
Foxconn employs 1.3 million people in China. Foxconn makes products for Amazon, Apple, Google, and Nintendo	Many employees work up to twelve hours a day for 6 days each week. Between January and May 2018, 18 workers committed suicide. Foxconn assembly-line workers will make as approximately £330 a month. That's for 160 working hours a month, so the hourly pay is about £2. The average monthly salary in China is £970.

China's pollution problem

China has a lot of coal power plants which emit lots of pollutants. These coal mines and car exhausts are responsible for the smog surrounding the major cities.

Scientists estimate that China's pollution problems claim 4,000 lives per day.

China's pollution solutions

Road rationing – different licence plates on different days allowed
Traffic Straddling buses
Kyoto agreement – international agreement which sets targets globally

Great Wall of China

Jobs are often seasonal and poorly paid and tourism pushes up local houses prices and costs of goods and services for the locals.

Money from the tourism can go towards restoring the wall therefore protecting it for future tourism.

© Imaginechina REX

Tourists can be seen as being disrespectful for Chinese culture by breaking the brick out of the Great Wall for a souvenir.

Attracts more tourists each year therefore generating money to the government and the economy and brings new opportunities for people seeking jobs

What is a superpower?

A very powerful and influential nation (e.g. the USA). They are able to project their influence anywhere in the world. They are a dominant global force.

Emerging superpower – a country which may become a dominant global force in the future

China's place in the world is it a superpower?

It's rare to pick up something without seeing the words "Made in China" written on it. That's because China is the world's biggest underlined exporting and trading country, having exported £500 billion worth of goods into Europe in 2018. Also up to 20% of all the products China makes end up in the USA.
BUT...
many people believe China is not yet made of superpower 'stuff'. This is because the government interferes with its economy a lot! Financially many people still live in poverty. The government also favour some companies over others so it is not a fair system! AND to be THE global superpower China needs global support which it currently lacks, many countries as suspicious of China's spying and have claimed that Huawei are trying to steal trade secrets from other companies.

Y8 - Knowledge Organiser -The Historic Environment of Whitechapel

What do I need to know?
- What was it like to live in Whitechapel?
- Why was Whitechapel difficult to police?
- What were the lives of women like in the 1800s?

Why was Whitechapel difficult to police?

- **Witness Statements**

The police got lots of witness statements at the time from people around Whitechapel, however many of these statements were contradictory or untrustworthy and therefore disregarded.

- **Lack of forensic science and evidence**

The absence of scientific forensic techniques hampered investigations. There was no DNA analysis, fingerprinting or advanced forensic analysis. The police needed to rely on eyewitness accounts, which were generally unreliable.

- **Failure of Co-operation**

Multiple police forces would work together on crimes; however, this did not always lead to successful outcomes. It would lead to co-ordination issues and conflicts of jurisdiction. IT would also lead to rivalry between police departments.

- **Public**

Public confidence within the police force was low at the time. People would usually only come forward if a reward was offered. Many saw the police as incompetent and corrupt.

What was it like to live in Whitechapel in the 1800s?

- **Pollution and sewage**

The smoke and stinking gas fumes from the coal created smog, which was so think you could not. In Whitechapel, sanitation was very poor. There was little healthy drinking water and Sewers ran into the streets.

- **Overcrowded housing and lodging housing**

The majority of housing was in overcrowded slum areas known for dirt, disease and crime. There could be up to 30 people in one apartment, sharing beds so tightly it was difficult to move about. Accommodation was also offered in lodging houses that offered little more than a bed in dirty conditions. Some lodging houses had three eight-hour sleeping shifts a day, so beds could be used by the maximum number of people.

- **Jobs**

Sweatshops were small, cramped and dusty, with little natural light. Hours were long (some sweatshop workers worked 20 hours a day and slept onsite) and wages were low.

- **Workhouses**

Workhouses offered food and shelter to those too poor to survive in the general community. 'Inmates' included the old, sick, disabled, orphans and unmarried mothers.

Key vocabulary

Smog	A combination of smoke and fog often known as a 'peasouper' because of its greenish colour
Unemployment	When a person does not have a job
Domestic Service	A person who works in their employer's home. Jobs include cooking, cleaning and/or doing laundry.
Immigrant	A person who comes to live permanently in a foreign country

What were the lives of Women like in the 1800s?

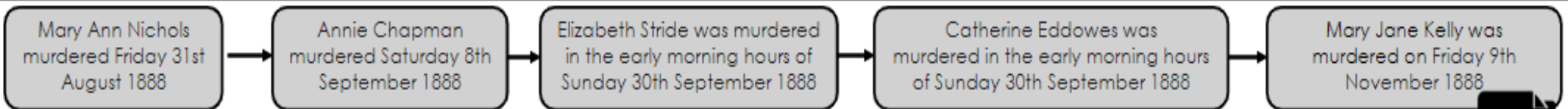| At home	In society
• Victorians believed that a woman's role in life was as a wife and a mother. As a wife, her duty was to obey her husband and do everything she could to make his life as easy as possible. In fact, their children belonged to him. If the parents separated, the children stayed with him. Until 1870, if a woman had a job and earned money, her husband could take her wages.	• Before 1870, most working-class girls did not go to school. In 1880 it was made compulsory for all children between the ages of five and ten to attend. By 1900, 97% of all children could read and write. • All the Members of Parliament were men, only men could vote in elections and men had all the important jobs. • Before 1857 wives could not divorce husbands even if they were violent or committed adultery.

Y8 - Knowledge Organiser - The Historic Environment of Whitechapel

What do I need to know?
- Who were the 5?
- Why did evidence make it difficult to catch a killer?
- What were the problems with the police investigation into the murder?

| Mary Ann Nichols murdered Friday 31st August 1888 | → | Annie Chapman murdered Saturday 8th September 1888 | → | Elizabeth Stride was murdered in the early morning hours of Sunday 30th September 1888 | → | Catherine Eddowes was murdered in the early morning hours of Sunday 30th September 1888 | → | Mary Jane Kelly was murdered on Friday 9th November 1888 |

Why does evidence make it difficult to catch a killer?

Witness statements
- The witness statements were varied between people. Usually, the police would not be able to create an accurate description of murderers as people gave different descriptions. This was due to the conditions around Whitechapel, it was very smoggy and therefore hard to see. Also, as many people were drunk, they also gave incoherent witness statements.

Evidence
- In the late 1880s, the police had no scientific methods of collecting evidence. It was still thought that that you could see the killer in the victims' eyes! Also, sometimes murderers sometimes tried to mess with the police with one murderer sending letters to the police and local papers to tease the police and confuse the investigation.

Key vocabulary

Modus Operandi	A particular way or method of doing something.
Evidence	Clues that can help the police to catch criminals
Witness	A person who sees a crime taking place.

What were the problems with police investigations at the time?

Media involvement
- Murder usually sparked a lot of public interest, and newspapers and magazines published lots of articles and cartoons on the topic. This caused an issue because lots of the information is not true and there is no proof of what they are saying such as the media reporting that many murderers were Jewish.

Co-operation in the police
- Co-operation within different police units was not always smooth. Police units would be very territorial over their areas they were policing. Indeed, the lack of cooperation resulted in evidence being damaged. It is argued after one murder some officers ordered graffiti to be washed off: 'The Jews are the men that will not be blamed for nothing'. Apparently, they feared this would cause a riot against Jewish people, but others think he wanted to stop a different police force from finding the killer as this fell in their boundaries.

Police technique
- The police had almost no scientific methods to help them in their investigations. It would be almost 12 years or so before fingerprinting was used to detect criminals. DNA evidence only began to be used in the later part of the 20th century. There was also no technology to help solve crimes such as CCTV.

The Whitechapel Vigilance Committee
- A group of local people are getting annoyed that the police have not caught the killer they have formed their own group, The Whitechapel Vigilance Committee. They patrolled the streets to look for the killer and protected the community. They also hired two private detectives to investigate the case.

What do I need to know?
- What were the long-term causes of the First World War?
- How did the assassination of Franz Ferdinand lead to the outbreak of the First World War?

What were the long-term causes of the First World War

- **Militarism** - *Building up armed forces (army and navy), getting ready for war.* Many European countries had industrialised during the late 1800s and early 1900s. This allowed many European countries build massive armies with the most up to date technology. Britian led the charge at sea, creating dreadnought battleships.
- **Alliances** - *Agreements or promises to defend and help another country.* Many countries at the time agreed to work together and protect each other in case of war. This made two distinct 'sides' in Europe. The Triple Entente and the Triple Alliance
- **Imperialism** - *Trying to build up an Empire.* Many European countries believed they should have an Empire. This led to the 'scramble for Africa' and many countries trying to take over the same places. This caused a lot of tension between countries.
- **Nationalism** - *Having pride in your country, groups wanting to have a country of their own.* People felt that their country was superior to others. This was fuelled by government propaganda that sought to portray the war as a matter of duty.

How did the events in Sarajevo lead to war?

Archduke Franz Ferdinand of Austria-Hungary was **assassinated** on **June 28, 1914**, in **Sarajevo, Bosnia**, by **Gavrilo Princip**, a member of the Serbian nationalist group the **Black Hand Gang**. The assassination was motivated by **Serbian nationalism** and **resentment toward Austro-Hungarian rule**. This led to many **countries becoming involved because of the growing alliance system** and putting pressure on the **already strained relationships** that ultimately **triggered the start of World War I.**

Key vocabulary

Empire	A collection of areas of land that are ruled over and controlled by one leading country.
Assassination	The murder of a well known person usually for political reasons.
Cause	A reason why something happens. These can be long term (happening for a long time) or short term (happen just before an event).

What was the Alliance system?

Triple Entente	Triple Alliance
Britian, France, Russia	Austria-Hungary, Germany, Italy

How did the Alliance system lead to WWI?

28th June	Archduke Franz Ferdinand is assassinated in Sarajevo, Bosnia
6th July	Germany offers a 'blank cheque' to find the killers and punish them. It says it will support the punishment
23rd July	Austria – Hungary give Serbia an ultimatum – Give them anyone who was involved in the assassination or face war
28th July	Serbia refuses to co-operate with Austria-Hungary. Austria-Hungary declares war on Serbia
31st July	Russia, supporting Serbia starts to move troops and prepare for war.
1st August	Germany asks Russia to hold off its defence of Serbia. Germany also sends troops towards France
2nd August	Germany Demands safe passage through Belgium or threatens invasion – Belgium refuse
3rd August	Britian declare their support for Belgium and promised military support
4th August	Germany invades Belgium and Britian declares war on Germany
6th August	Austria-Hungary declare war on Russia. WW1 had begun.

Co-ordinates

Component Knowledge
- Recognise the different axis on a graph
- To be able to plot a coordinate in positive and negative quadrants

Key Vocabulary

Horizontal	Going side-to-side, like the horizon. This is the x axis
Vertical	In an up-down direction or position. This is the y axis
Co-ordinates	A set of values that show an exact position. On graphs it is usually a pair of numbers

Co-ordinates:

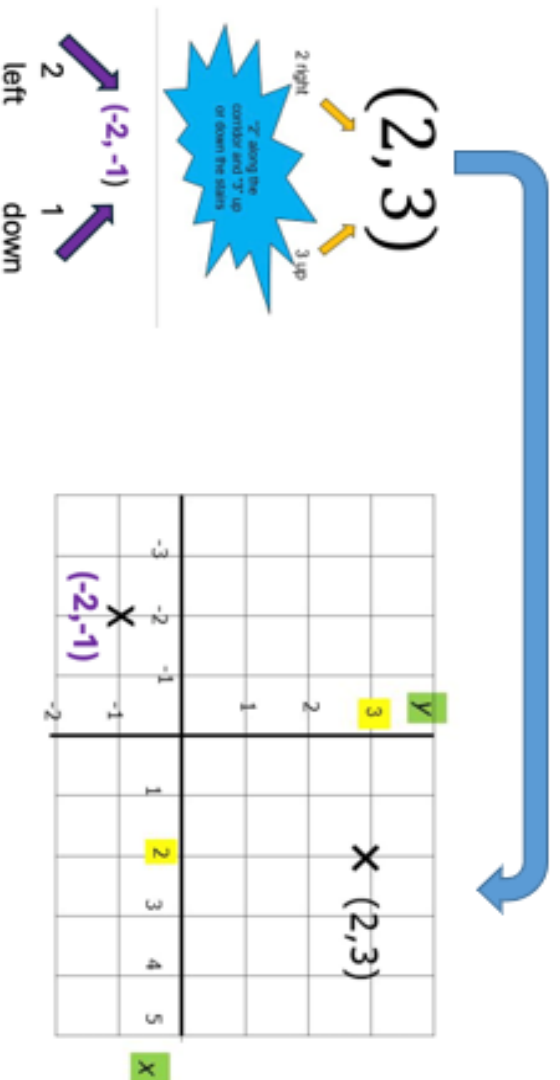Coordinates are a set of instructions to get to a location from the origin (0, 0).

The first number (x) tells us how far we go 'along the corridor' HORIZONTAL

The second number (y) tells us how far we go 'up (or down) the stairs'. VERTICAL

$$(x, y)$$

Co-ordinates example

(2, 3)

'x' along the corridor and 'y' up or down the stairs

2 right
3 up

(-2,-1)

2   1
left   down

(-2,-1)
✕ (2,3)

Straight line graphs

WHS

Component Knowledge

- Recognise and sketch horizontal and vertical graphs
- Complete a table of values
- Plot straight line graphs
- Identify gradients/intercepts from a graph
- Identify gradients/intercepts from an equation

Key Vocabulary

Axis	A fixed reference line a grid to help show the position of coordinates
Gradient	How steep a graph is at any point
Y intercept	Where the graph cuts through the y axis
Coordinate	A set of values that show an exact position
Quadrant	Any of the 4 areas made when we divide up a plane by an x and y axis
Vertical	In an up and down position. The y axis is the vertical axis
Horizontal	Going side to side. The x axis is the horizontal axis
Graph	A diagram showing the relationship between two quantities

Completing a table of values and plotting a graph

To plot a straight line graph, you may be given a table or you may need to draw one.
Example: Plot the graph of $y = 4x - 2$ for the values of x from -3 to 3.

1) Draw a table of values if you have not been given one.

x	-3	-2	-1	0	1	2	3
y							

2) Substitute in your x values to $y = 4x - 2$, this will give the corresponding y values.

x	-3	-2	-1	0	1	2	3
y	-14	-10	-6	-2	2	6	10

3) Plot the points on the graph.
E.g. (-3, -14), (-2, -10), (-1, -6), (0, -2), ... etc
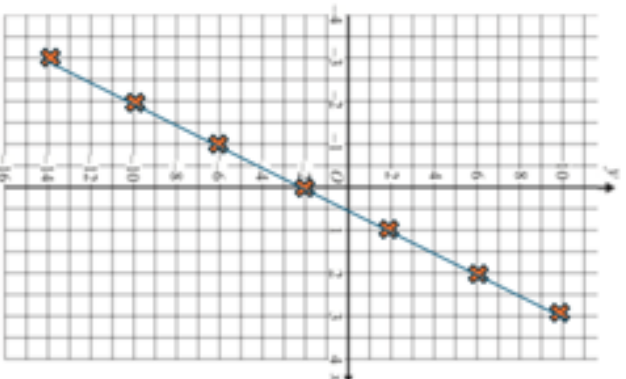
4) Join up with a straight line.

The equations of all straight lines can be written in the form:

$$y = mx + c$$

Gradient – The number in front of the x. This tells us how steep the line is.

Intercept – The number on its own. Shows where the line cuts the y axis.

The gradient of a line tells us how steep the line is, the greater the gradient the steeper the line.

You can find the gradient using the graph by picking 2 points on the line and using
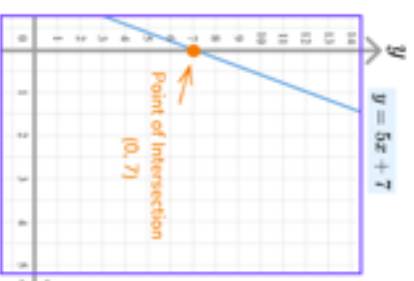
$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

The change in y is equal to $y_2 - y_1 = 7 - 1 = 6$

The change in x is equal to $x_2 - x_1 = 4 - 0 = 4$

$$m = \frac{6}{4}$$

The y intercept is where the line crosses the y axis

You can find the y intercept from the equation by putting x equal to 0

$y = 5x + 7$

Point of Intersection (0, 7)

The gradient and intercept of a straight line can also be identified form the formula.

Example: Find the gradient and intercept of the following lines.

1) $y = 5x - 2$ $y = 5x - 2$ Grad = 5   Intercept = - 2
2) $2y = 4x + 5$ $y = 2x + 2.5$ Grad = 2   Intercept = 2.5
3) $x + y = 10$ $y = -x + 10$ Grad = - 1   Intercept = 10

Rearrange all equations so they are in the form y = mx + c (the y must be isolated)

Lines parallel to the axis (Horizontal and Vetical lines)

Intersection points

Lines parallel to the y axis take the form **x = a** and are **vertical**

Lines parallel to the x axis take the form **y = a** and are **horizontal**
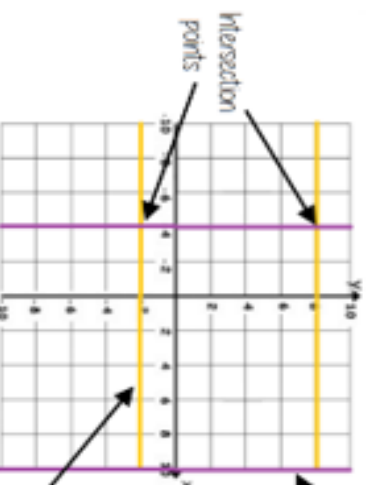
All the points on this line have a x coordinate of 10

All the points on this line have a y coordinate of -2

e.g. (3, -2)(7, -2)(-2, -2) all lay on this line because the y coordinate is -2

'a' can be ONY positive or negative value including 0

Online clips

M797, M932, M544, M888

Angles

Component Knowledge

- To be able to identify the different types of angles
- To be able to use a protractor to measure angles
- To draw angles accurately

Key Vocabulary

Angle	The amount of turn between two lines and their common point.
Vertex	The corner of the angle where the lines meet.
Arms	The lines used to create the angle.
Protractor	Tool used to measure or draw angles in degrees.

Types of angles

Acute angle — **Less than 90°**

Right angle — **90° angle**

Obtuse angle — **greater than 90° and less than 180°**

Reflex angle — **greater than 180° and less than 360°**
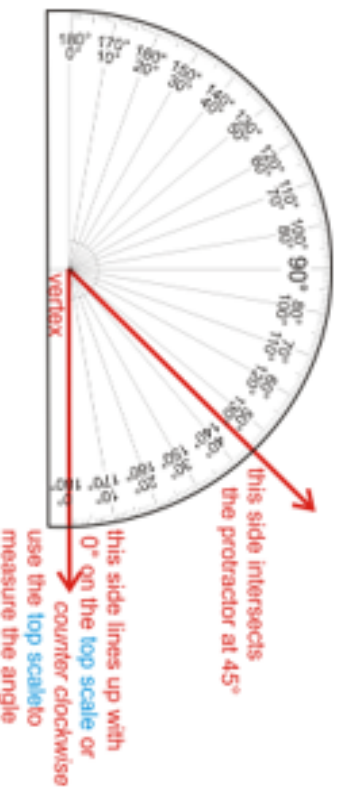
Measuring angles

Before we measure an angle accurately, we can estimate it's size using the types of angle above.

Measure this angle:

We know it is less than a right angle so it must be acute (**Less than 90°**).

We now place the protractor over the angle and measure it, using the scale on the protractor.

The centre of the protractor sits directly over the vertex of the angle.

The protractor is lined up with one arm of the angle at 0°.

We use the scale where the protractor starts at 0°, NOT 180°.

vertex

this side intersects the protractor at 45°

this side lines up with 0° on the top scale or counter clockwise use the top scale to measure the top scale to measure the angle

Drawing angles

Before we draw an angle accurately, we can estimate its size using the types of angles above.

Draw a 50° angle:

1) Draw a line (usually horizontally) of any length.

2) Choose one of the ends to be the vertex of the angle and line up your protractor as you would do to measure an angle and mark a point at 50°. Remember to use the scale that starts at 0°!

3) Now join up the point marked and the end of the line to create the angle. Mark the angle drawn.

50°

Drawing angles- greater than 180°

As most protractors only measure up to 180°, we have to be creative when drawing angles greater than 180°. We can choose to:

Split the angle into 2 parts- 180° and whatever is left over from 180°

e.g. 225° = 180° + 45°. We would draw a 180° and then the 45° after it.

225° 180° 45°

The m
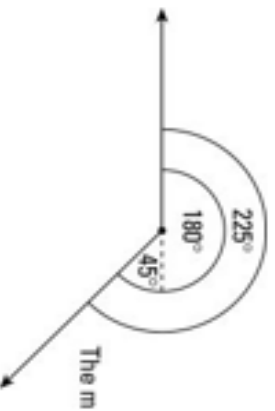
A whole turn = 360°. We can subtract the angle from 360° and draw the related acute/obtuse angle. We can then identify the reflex angle by drawing in its arc.

e.g. Draw 250°. So, 360° – 250° = 110°. We draw 110° and then place the arc around the outside of this angle to create 250°.

250°
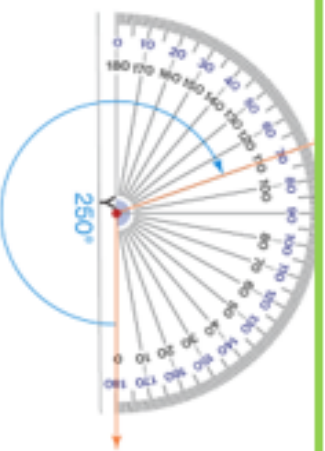
**Online clips:**   M502, M541, M780, M331

Angles

Component Knowledge

- To be able to identify the different types of angles
- To be able to calculate missing angles on a straight line
- To be able to calculate missing angles around a point
- To be able to calculate missing angles in a triangle
- To recognise vertically opposite angles

Key Vocabulary

Angle	The amount of turn between two lines and their common point.
Vertically Opposite	Angles formed when two or more straight lines cross at a point.
Notation	The mathematical way of writing something.

Angle Notation
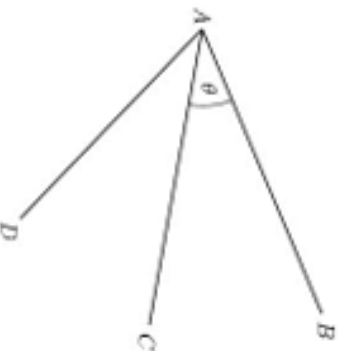
We can show an unknown angle as θ (Greek symbol theta)

The shown angle, θ, can also be described using letters.

$B\hat{A}C$, ∠BAC, angle BAC

The outer letters refer to the arms and the middle letter is the vertex.

Angles on a straight line

Angles on a straight line add up to 180°

$a + b = 180°$

Example:
Find the value of x

This is a right angle worth 90°

$90 + 55 = 145°$

$180 - 145 = 35°$

$x = 35°$

Angles around a point

Angles around a point add up to 360°

$a + b + c + d = 360°$

Example:
Find the value of x

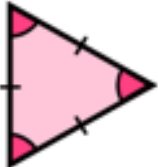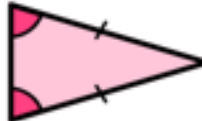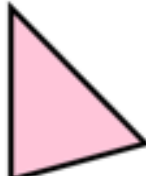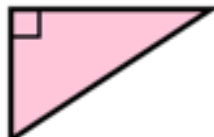$87 + 135 + 115 = 337°$

$360 - 337 = 23°$

$x = 23°$

Types of triangle

Equilateral Triangle

All sides and angles are equal

Isosceles Triangle

Two sides and base angles are equal

Scalene Triangle

No sides or angle are equal

Right Angle Triangle

Has a 90° angle inside

Right Angle Isosceles Triangle

Has a 90° angle inside and 2 equal sides

Angles in a triangle

Angles in a triangle add up to 180°

Examples
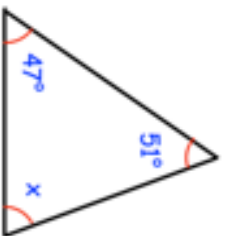
This is a scalene triangle so all the angles are different

$47 + 51 = 98$

$180 - 98 = 82$

$x = 82°$
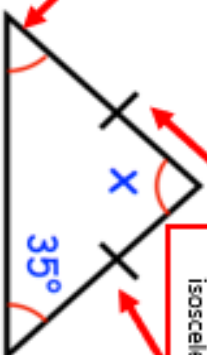
So this base angle must also be 35°

This is an isosceles triangle so the 2 base angles are equal

$35 + 35 = 70$

$180 - 70 = 110$

$x = 110°$

These indicators tell us the sides are equal so it must be an isosceles triangle

---

Vertically opposite angles

Vertically opposite angles are equal
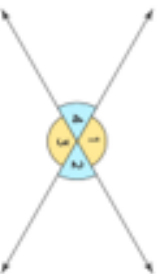
Angle 1 = Angle 3
Angle 2 = Angle 4

Example

x is vertically opposite 156°

So therefore $x = 156°$

Then we can use angles around a point add up to 360°

$360 - 156 - 156 = 48°$

$48° \div 2 = 24°$

$y = 24°$

156°

Online clips

M818, M163, M351, M319

40

Standard

Ruler

Constructions

Key Vocabulary

Accurate	Exact measurement from given information.
Arc	A part of the circumference of a circle.
Construct	Accurately draw a line, angle or shape.
Intersection	The points at which 2 or more lines meet/cross.

Constructing a Triangle- all 3 sides SSS

Construct the triangle ABC where AB = 8cm, BC = 4cm and AC = 5cm.

1. First of all, sketch and label a triangle so you know, roughly, what's needed. It doesn't matter which line you make the base line.

A ── 5cm ── C ── 4cm ── B, 8cm
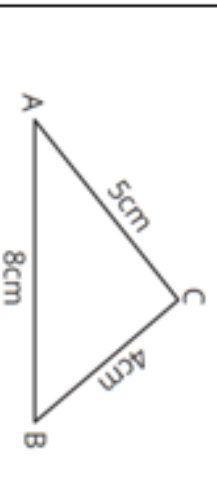
2. Measure out and draw the base line using a ruler and label the end points.

A ── 8cm ── B

3. You are told that the length from A to C is 5cm. Open the pair of compasses and, using your ruler, set them to 5cm.
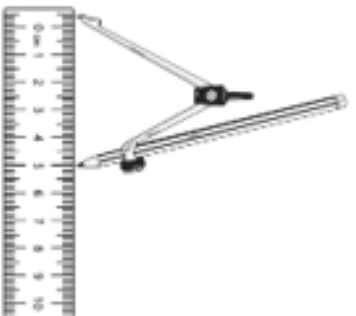
4. Place the point of the compasses on point A and draw an arc.

A, 8cm, B

5. For the line BC, set the compasses to 4cm, place the point on B and draw an arc.

A ── 8cm ── B

6. The point where the arcs cross is point C. Draw in the lines using a ruler. It's important that you leave the arcs on the diagram - do not erase them. These are your construction lines and are something that an examiner must see. Don't forget that to finish the construction, you should label the triangle.

A ── 5cm ── C ── 4cm ── B, 8cm

Constructing a Triangle- 2 sides and the angle between them SAS

Construct the triangle ABC where AB=7cm, AC=8cm and angle BAC=40°

1. Roughly draw the triangle, if a sketch is not already given.

2. Draw a 7cm line using a ruler. Label it AB.

A ——————— B
8cm
7cm

3. You are told that the length from A to C is 8cm. Open the pair of compasses and, using your ruler, set them to 8cm. Place the point of the compasses on point A and draw an arc.

A
7cm
B

4. Measure the angle of 40° using a protractor from point A. Remember to use the scale that starts from 0°.

A
7cm
B

5. Draw a line through the angle to the arc. This will be point C. Join C to B to create the final side. Do not erase your construction lines!

A
40°
7cm
8cm
C
B
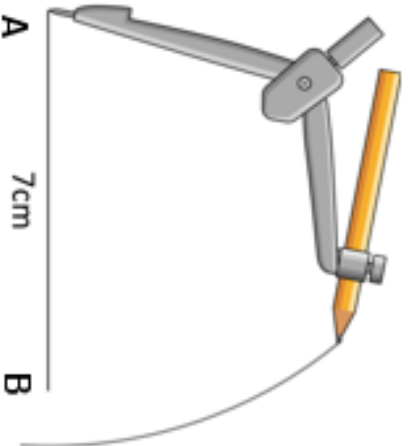
Constructing a Triangle - 2 angles and the side between them ASA

Construct the triangle ABC where AB=7cm, AC=8cm and angle BAC=40°

1. Roughly draw the triangle, if a sketch is not already given.

A — 35° ... 52° — B ... C ... 7.3cm
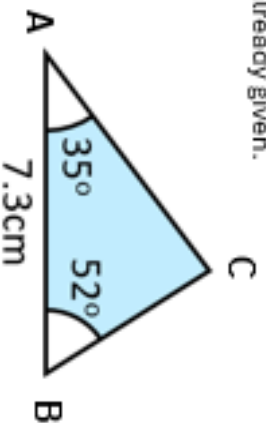
2. Draw a 7.3cm line using a ruler. Label it AB.

A ———— 8cm ———— B

3. Measure the angle of 35° using a protractor from point A. Remember to use the scale that starts from 0°.

A ... 7.3cm ... B

4. Measure the angle of 52° using a protractor from point B. Remember to use the scale that starts from 0°.

A ... 7.3cm ... B

5. Draw a feint line through the angles drawn in 3) and 4).

A — 35° ... 52° — B ... 7.3cm
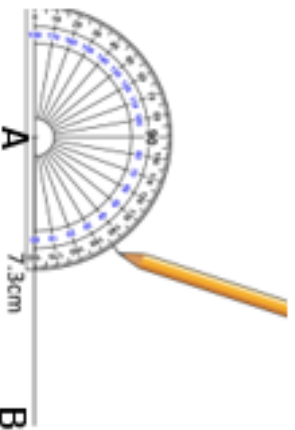
6. Draw a solid line over each feint line up to the intersection. Label the triangle to complete it.

A — 35° ... 52° — B ... C ... 7.3cm
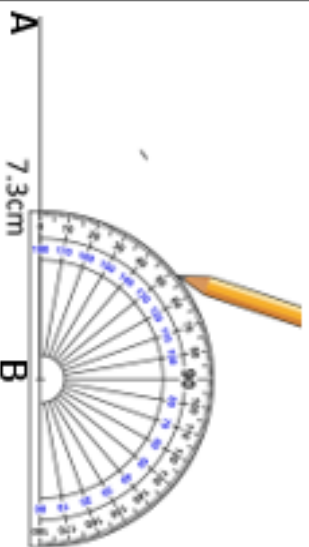
Bisections

Component Knowledge

- To be able to construct the perpendicular bisector of a straight line.
- To be able to construct an angle bisector.

Key Vocabulary

Compass	An instrument for drawing circles and arcs.
Arc	A part of a curve, (part of the circumference of a circle) can be drawn using a compass.
Bisector	A line which divides something into two parts.
Perpendicular	Two lines that intersect at right angles.
Equidistant	Equal distances from two points or lines.
Vertex	A point where two straight lines meet.

Perpendicular Bisector

This cuts a line in half at right angles.

1. Put a sharp point of a pair of compasses on one of the end points.
2. Open the compass over half-way on the line.
3. Draw an arc above and below the line.
4. Without changing the compass, repeat from the second end point.
5. Draw a straight line through the two intersecting arcs.

Angle Bisector

This cuts an angle exactly in half.

1. Place the sharp end of a compass on the vertex.
2. Draw an arc, marking a point on each line.
3. Without changing the compass put the compass on each point and mark a centre point where two arcs cross over.
4. Use a ruler to draw a line through the vertex and centre point.

Online clips

M239, M232

Frequency Tables

Component Knowledge

- Read and interpret frequency tables.
- Construct frequency tables for discrete and continuous data.

Key Vocabulary

Frequency	The rate at which something occurs
Table	A logical way of displaying facts and figures
Tally	A way of displaying values using lines and dashes
Data	A collection of facts and figures
Inequality	An expression where the sides are not equal.
Discrete	Data that can only be set values e.g. you cannot have half of a person so counting people would be discrete data
Continuous	Data that can be any value e.g. height and time.
Mode	The value that occurs most frequently in a set of data
Modal Class	A set of values that occur most frequently in a set of data.

When we are dealing with a large amount of data, it is sometime impractical to display the data as a simple list. Frequency tables are a logical way of displaying large amounts of data which makes the data easier to analyse.

Frequency Tables

Below some data on eye colour for a class of students is shown:

Brown, Blue, Blue, Grey, Green, Hazel, Hazel, Brown, Brown, Blue, Green, Green, Grey, Grey , Hazel, Blue, Blue, Grey, Hazel, Brown, Brown, Hazel, Blue, Brown, Blue, Blue.

Having a large list of data like this can be hard to read. For situations like this it is better to display the data in a frequency table as shown below.

Tally marks are used to help count things. Each vertical line represents one unit. The fifth tally mark goes down across the first four to make it easier to count. The frequency column is completed after all the data has been collected.

You must represent 5 like this.

Eye Colour	Tally	Frequency
brown	卌	6
blue	卌 |||	8
green	|||	3
grey	||||	4
hazel	卌	5

Grouped Frequency Tables

20 students took a science test.

Place the data shown below in the grouped frequency table.

What is the modal class for the data?

25	32	31	52	45
27	55	28	42	44
46	23	51	48	26
20	51	49	33	41

Marks, m	Tally	Total
20-29	ЖЖ I	6
30-39	III	3
40-49	ЖЖ II	7
50-59	IIII	4

Frequency Tables with Inequalities

The data below shows the average time taken, in seconds, to run the 100m at last years sports day:

11.2, 12.6, 13.1, 12.9, 13.2, 12.2, 11.8, 12.9, 13.7, 14.2, 15.1, 11.1, 12.5, 13.5, 14.5

Display this in the frequency table below:

Time (seconds)	Tally	Total
$11 < t \leq 12$	III	3
$12 < t \leq 13$	ЖЖ	5
$13 < t \leq 14$	IIII	4
$13 < t \leq 15$	II	2
$15 < t \leq 16$	I	1

Frequency Polygons

WHS

Component Knowledge

- To be able to construct a frequency polygon.
- To be able to read and interpret frequency polygons.

Key Vocabulary

Frequency	The number of times something occurs over a particular period of time or in a given sample.
Frequency polygon	A frequency polygon is a type of line graph that displays grouped data.
Midpoint	The middle point in a group of data or a line.

A Frequency Polygon allows us to represent the shape of a data set's distribution.

Frequency Polygons – constructing

- Frequency is plotted on the vertical axis
- The data is grouped so plot the midpoint on the horizontal axis.
- The horizontal axis should be a linear scale, and the vertical axis should start from 0.

We need a frequency table to help us to construct the frequency polygons.

E.g. This table gives information about the speeds of 70 cars.

Speed (s mph)	Frequency (f)	Midpoint
0 < L ≤ 10	14	5
10 < L ≤ 20	18	15
20 < L ≤ 30	26	25
30 < L ≤ 40	12	35

a) Draw a frequency polygon for this information.
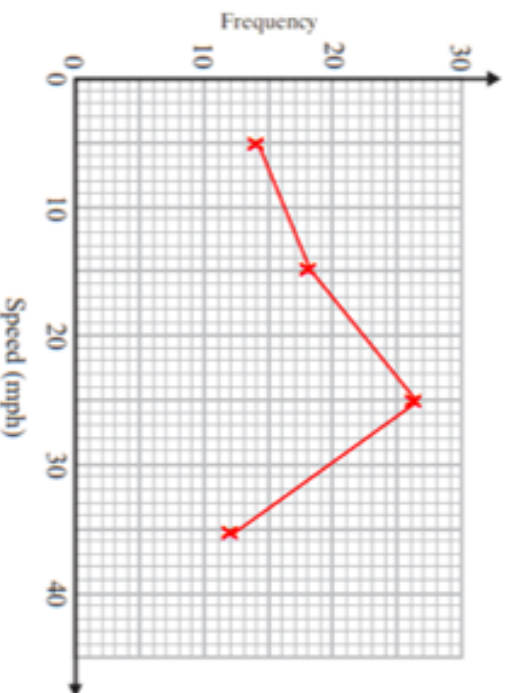
Step 1 – Find the midpoint of each class interval
Step 2 – Label your axes and choose an appropriate scale
Step 3 – Plot each point at the midpoint for that interval
Step 4 – Connect each point with a straight line

Do not extend the line beyond the points you have

Frequency Polygons – interpreting

To interpret frequency polygons, we look at the graph to identify the overall pattern shown by the graph.

In the question above, we can see that the most common speed is between 20 and 30 mph and no cars travelled above 40mph. We can infer the cars are travelling on a suburban road rather than a motorway, for example.

Online clip

U840

At the weekend

Tu vas où le week-end?
- Where do you go on the weekend?
Je vais… - I go…
…au café - …to the café
…au centre commercial - … to the shopping centre
…au centre de loisirs - …to the leisure centre
…au château - …to the castle
…au cinéma - …to the cinema
…au marché - …to the market
…au parc - …to the park
…au restaurant - …to the restaurant
…au stade - …to the stadium
…à l'hôtel - …to the hotel
…à la piscine - …to the swimming pool
…aux magasins - …to the shops
…aux musées - …to the museums
pour voir un match – see a match
pour regarder un film – to watch a film
pour faire du patin à glace – to do ice-skating
pour nager – to swim
pour voir les choses historique
– to see historic things
Avant d'aller (au cinéma), je vais…
– Before going to the cinema, I go…

Key ideas
In my town
At the weekend
Making plans

Where we live

J'habite à… – I live in…
C'est un grand / petit village
– It's a big / small village
C'est une grande / petite ville
– It's a big / small town
J'y habite depuis (deux) ans
– I've lived there for (two) years
J'y habite depuis toujours
- I've always lived there
J'aime habiter ici – I like to live here
J'aime y habiter – I like living there
J'aime habiter là-bas – I like living there
Je suis très content(e) d'habiter ici
- I am very happy to live here
Je voudrais habiter à… I would like to live in…

Making plans

Tu veux…(aller au stade)?
Do you want… (to go to the stadium)?
…aller au concert - …to go to the concert
…aller au cinéma – to go to the cinema
…aller au parc – to go to the park
…aller au centre de loisirs – to go to the leisure centre
…aller à la piscine – to go to the pool
…aller à la plage – to go to the beach
…aller aux magasins – to go to the shops
…faire du vélo - …do cycling
…manger au restaurant / café - …eat at a restaurant / cafe
…visiter les jardins/les musées - …visit gardens/museums

In town

Qu'est-ce qu'il y a dans ta ville?
- What is there in your town/city?
Dans ma ville… - In my town…
Ici… - Here…
Là-bas… - Over there…
il y a… - there is…
…un café -…a café
…un centre commercial - …a shopping centre
…un centre de loisirs - …a leisure centre
…un château - …a castle
…un cinéma - …a cinema
…un hôtel - …a hotel
…un marché - …a market
…un parc - …a park
…un restaurant - …a restaurant
…un stade - …a stadium
…une piscine - …a swimming pool
…des magasins - …some shops
…des musées - … museums
Il n'y pas de (café) - There isn't a café
Il n'y a pas d' (hôtel) - There isn't a hotel

D'accord - OK
Oui, je veux (bien) - Yes, I (really) want to
Oui, bonne idée – Yes, good idea
Non, je n'ai pas envie - No, I don't want to
Si tu veux - If you want
Non merci - No thank you

Habiter – to live
J'habite – I live
Tu habites – You live (singular / informal)
Il habite – he lives
Elle habite – she lives
On habite – we live
Nous habitons – we live
Vous habitez – you live (plural / polite)
Ils habitent – they live (m / m+f)
Elles habitent – they live (f)

Aller – to go
Je vais – I go
Tu vas – you go (singular / informal)
Il va – he goes
Elle va – she goes
On va – we go
Nous allons – we go
Vous allez – you go (plural / polite)
Ils vont – they go (m / m+f)
Elles vont – they go (f)

Vouloir – to want
Je veux – I want
Tu veux – you want (singular / informal)
Il veut – he wants
Elle veut – she wants
On veut – we want
Nous voulons – we want
Vous voulez – you want (plural / polite)
Ils veulent – they want (m / m+f)
Elles veulent – they want (f)

To The

à = to

au   – to the (masc. = à + le = au)
à la – to the (fem. = à + la = à la)
à l'   – to the (vowel sound = à + l' = à l')
aux – to the (plural = à + les = aux)

Key verbs in the present tense

Time expressions
Quelquefois – Sometimes
Normalement – Normally
D'habitude – Usually
Tous les week-ends – Every weekend
En ce moment – At the moment
Souvent – Often
Tous les jours – Every day
Tous le soirs – Every evening
Tout le temps – All the time
De temps en temps – From time to time
Une fois par mois – Once a month
Deux fois par semaine – Twice a week
Ce matin / Cet après-midi / Ce soir
This morning / afternoon / evening
Ce week-end – This weekend
Aujourd'hui - Today

Definite Article – The
Le – masculine
La – feminine
Les – plural
L' – starts with a vowel sound

Indefinite Article – A / An / Some
Un – a / an (masculine)
Une – a / an (feminine)
Des – some (plural)

Intensifiers
très – very
assez – quite
vraiment – truly
réellement – really
un peu – a bit
peu – little
trop – too
extrêmement – extremely
tellement – so

Connectives
et – and
mais – but
aussi – also
parce que – because
car – because
puisque – since
cependant – however
malheureusement - unfortunately

Je pense que – I think that
Je crois que – I believe that
Je dirais que – I would say that
À mon avis – In my opinion
c'est – it is
ce n'est pas – it isn't
Je trouve ça – I find that

important(e) - important
génial(e) – great
agréable – pleasant
joli(e) – pretty
moche – ugly

Using a range of language improves the quality of our speaking and writing and allows us to access more challenging texts!

Physical descriptions

De qué color tienes el pelo?
– What colour is your hair?
Tengo el pelo rubio – I have blonde hair
Tengo el pelo castaño – I have brown hair
Tengo el pelo negro – I have black hair
Soy pelirrojo – I have ginger hair
Tengo el pelo largo – I have long hair
Tengo el pelo corto – I have short hair
¿De qué color tienes los ojos? – What colour are your eyes?
Tengo los ojos verdes – I have green eyes
Tengo los ojos azules – I have blue eyes
¿Cómo eres ? – What are you like?
Soy alto / alta – I am tall
Soy bajo / baja – I am short
Soy de talla mediana – I am of average height

Pets

¿Tienes animales/mascotas?
– Do you have pets?
Tengo...   – I have...
un pájaro   – a bird
un conejo   – a rabbit
un pez   – a fish
un perro   – a dog
un gato   – a cat
un caballo   – a horse
No tengo animales – I don't have pets
Antes tenía
– before I used to have/had
En el futuro me gustaría tener
– in the future I would like to have...

Key ideas

Personality
Age and birthday
Family
Physical descriptions
Pets

Age

¿Cuántos años tienes?
– How old are you?
Tengo doce años
– I am twelve years old

Family

¿Tienes hermanos? – Do you have siblings?
Tengo un hermano – I have a brother
Tengo dos hermanos – I have two brothers
Tengo una hermana – I have a sister
Tengo tres hermanos – I have three sisters
Tengo un hermanastro – I have a stepbrother
Tengo una hermanastra – I have a stepsister
No tengo hermanos
– I don't have any brothers / siblings
No tengo hermanas – I don't have any sisters
Soy hijo único / Soy hija única
– I am an only child
En mi familia hay ... personas
– In my family there are ... people

Birthdays

¿Cuándo es tu cumpleaños?
– When is your birthday?
Mi cumpleaños es el... de...
– My birthday is on the...of...
El cumpleaños de... es el... de...
– ...'s birthday is on the...of...
Su cumpleaños es el... de...
– his/her birthday is on the...of...

Personality

¿Cómo es tu personalidad?
– What is your personality like?
Pienso que   – I think that
En mi opinión   – in my opinion
Mis amigos dicen que – my friends say that
soy responsable   – I am responsible
soy paciente   – I am patient
soy inteligente   – I am intelligent
soy listo / lista   – I am clever
soy divertido / divertida   – I am fun
soy tímido / tímida   – I am shy
soy estricto / estricta – I am strict
soy serio / seria   – I am serious
soy tranquilo / tranquila   – I am calm
soy simpático / simpática – I am nice
soy hablador / habladora – I am chatty
soy trabajador / trabajadora – I am hard-working
soy un poco...   – I am a little bit
soy muy...   – I am very
soy bastante...   – I am quite
soy demasiado... – I am too
no soy (tranquilo) – I am not (calm)
Antes era   – Before I was
En el pasado era   – In the past I was
Ahora soy   – Now I am

Numbers

uno (primero) – 1 (1st)	once – 11	veintiuno – 21	
dos – 2	doce – 12	veintidós – 22	
tres – 3	trece – 13	veintitrés – 23	
cuatro – 4	catorce – 14	veinticuatro – 24	
cinco – 5	quince – 15	veinticinco – 25	
seis – 6	dieciséis – 16	veintiséis – 26	
siete – 7	diecisiete – 17	veintisiete – 27	
ocho – 8	dieciocho – 18	veintiocho – 28	
nueve – 9	diecinueve – 19	veintinueve – 29	
diez – 10	veinte – 20	treinta – 30	
		Treinta y uno – 31	

Months

enero - January	julio - July
febrero - February	agosto - August
marzo - March	septiembre - September
abril - April	octubre - October
mayo - May	noviembre - November
junio - June	diciembre - December

Connectives

y	- and
o	- or
también	- also
pero	- but
porque	- because
ya que	- since
dado que	- given that
sin embargo	- however
no obstante	- however

Possessive Adjectives

Mi – my singular
Mis – my plural
Tu – your singular
Tus – your plural

A / an / some – Indefinite Article

un – masculine singular
una – feminine singular
unos – masculine plural
unas – feminine plural

Tener – to have

Tengo	- I have
Tienes	- You have (singular / informal)
Tiene	- He has/ She has
Tenemos	- We have
Tenéis	- You have (plural / polite)
Tienen	- They have

Colours

azul	- blue
verde	- green
rojo	- red
marrón	- brown
naranja	- orange
amarillo	- yellow
rosa	- pink
gris	- grey
blanco	- white

Adjectives

In Spanish, adjectives usually go after the noun they are describing and agree with the noun (masculine, feminine, singular, plural).
For example:
Un gato *blanco* – a *white* cat
Una serpiente *blanca* – a *white* snake
Dos gatos *blancos* – two *white* cats
Do serpientes *blancas* – two *white* snakes
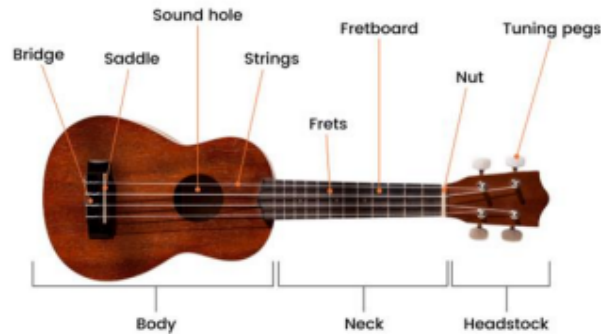
Key verbs in the present tense

Ser – to be

Soy	- I am
Eres	- You are (singular / informal)
Es	- He is/ She is
Somos	- We are
Sois	- You are (plural / polite)
Son	- They are

Year 8 Ukulele Knowledge Organiser.

The ukulele is useful instrument to learn as it introduces us to some of the techniques used to play the guitar such as using frets to place notes, playing chords and using different strumming patterns. Having only 4 strings makes it easier to learn new chords quickly and enables us to learn a number of songs in a short amount of time.

HARMONY - How notes of different pitch blend together.

PITCH	How high or low the notes are.
FRETS	A bar on the fingerboard to show the pitch of different notes.
STAVE	Five lines that we write notes on - the higher up we write them, the higher pitched they are.
TREBLE CLEF	Sign at the start of the music indicating a high range of notes.
CHORD	Two or more notes played at the same time.
MAJOR CHORD	A bright/happy sounding chord 😊
MINOR CHORD	A chord with a darker/sad sound 🙁
CHORD SEQUENCE	A pattern of chords, often repeated in the same order.

RHYTHM – How notes (and rests) of different length are arranged.

BEAT	A steady pulse that continues throughout the music,
TIME SIGNATURE	The amount, and type, of beats in each bar.
DURATION	How long a note or chord is held for.
STRUM	Playing a number of strings at once in a sweeping motion.
STRUMMING PATTERN	Strumming the strings down or up in a particular order and rhythm.

TECHNIQUE – The correct way to play notes to achieve fluency

FLUENCY	Performing music without gaps
PRACTICE	Repetition of a piece of music to build confidence and fluency.
SELF-APPRAISAL	Listening to your own performance and setting targets for improvement.

STRUCTURE – How the different sections of a piece are arranged.

INTRODUCTION	A short piece of music to set the pace for a song.
VERSE	Usually the first section of a song (tells the story) then returns with the same tune but different words.
CHORUS	A recognisable section of a song that keeps on returning in between verses.

Skills and Techniques:

→ **Clear:** Shot played high to the back of the opponent's court, a defensive shot.

→ **Drop shot:** Delicate shot played just over the net into the space. Gets your opposition out of position to attempts a smash or clear.

→ **Grip**: V shape down the handle. (Shake its hand)

→ **Smash:** Most attacking shot. Hitting the shuttle cock at its highest point with power, trying to get the shuttlecock to hit the floor on the opponent's side as quickly as possible

→ **Flick Serve:** Short serve which is played typically in doubles. Aim is to get the shuttlecock to stay low over the net and land just over the service line.

→ **Underarm serve:** Serve typically played in singles. Aim is to get the shuttles as high as you can towards the backline. Gets you opposition to the back of the court
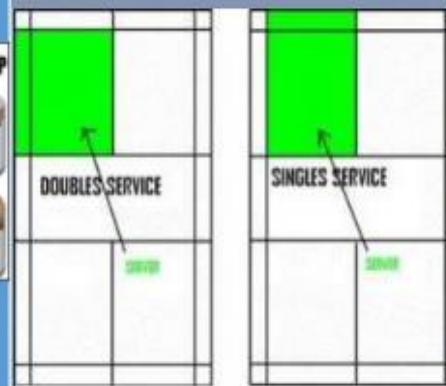
Scoring:

→ Serve Diagonal and land across the service line.

→ Play to 21 points (2 clear points to win).

→ Whoever wins the point, their team serve.

→ Serve on the right when the score is even, on the left when it is odd.

→ Long and thin for doubles, short and fat for singles.

→ You cannot touch the net Serve must be at waist height or below.

Rules:

→ The aim of badminton is to hit the shuttle with your racket so that it passes over the net and lands inside your opponent's half of the court.

→ Whenever you do this, you have won a rally; win enough rallies, and you win the match. Your opponent has the same goal.

→ They will try to reach the shuttle and send it back into your half of the court. You can also win rallies from your opponent's mistakes: if they hit the shuttle into or under the net, or out of court, then you win the rally.

→ If you think your opponent's shot is going to land out, then you should let it fall to the floor. If you hit the shuttle instead, then the rally continues. Once the shuttle touches the ground, the rally is over.

Key Words:

Ready position
Forehand and backhand serve.
Defensive clears Forehand drop shot
Basic backhand Outwitting opponents Leadership skills
Scoring system
Rules and regulation
Court lines dimensions
Equipment familiarisation
Movement

Tactics:

→ Doubles – front/back or side to side.

→ Hitting into space.

→ Targeting opponents' weakness-Shot selection.

FOREHAND GRIP · BACKHAND GRIP

DOUBLES SERVICE · SINGLES SERVICE

WESTHOGHTON HIGH SCHOOL -ORIENTEERING

Skills and Techniques:

➔ **Directions:** 4 key compass directions: North, South, East, West
More complex compass directions: North East, North West, South East and South West

➔ **Map Reading:** Recognise symbols on a map. Understand that maps and aerial view pictures are not the same. Recognise these features on aerial photographs

➔ **Human features:** Know that a human feature, is influenced by man (Road, cities, churches). Recognise these on a map

➔ **Physical Features:** Know that a physical feature, is natural (Forest, rivers, beaches, hills) Recognise these on a map

➔ **Directional language:** To describe the physical and human features in a location or a route.

Diagrams and Symbols:

Map Symbols:

- Open Grass
- Rough Open
- Grass Garden
- Undergrowth
- Sandpit
- Tarmac
- Buildin
- g
- All weather pitch
- Canopy
- Steep Bank
- Lamp
- Post Flag
- Pole Tree
- Goal Post
- Netball Post
- Orienteering
- Point Outer
- Fence

Positions:

➔ The main aim of orienteering is to complete the set course by finding control markers in the correct order in the shortest time.

➔ Although it Is based on accurate map reading it is also a test of physical fitness.

➔ You must find all the controls you are told to visit and record them on your score sheet.

➔ You have to consider the terrain you are moving over ensuring your safety and the safety of any team members at all times, taking into account the varying fitness level of all your team members.

➔ In order to be given a finish time for finding controls the whole team has to finish together

Key Features:

➔ Orienteering control

➔ Orienteering Map

Key Words:
Location, Speed
Cardiovascular Fitness
Setting a Map
Navigation
Adventurous
Diverse Direction
Key
Catchment features
Terrain
Map
Compass
Control point
Thumbing
Attack points
Pacing

Key components:

➔ **Map**
A diagrammatic representation of an area showing physical features

➔ **Key**
Explains the meanings of symbols

➔ **Route**
A way from getting from a starting point to a destination

➔ **Location**
The place where something is

➔ **Orienteer**
To find your way across areas using a map.

➔ **Grid reference**
map reference indicating a location in terms of a series of vertical and horizontal grid lines

➔ **Latitude**
Imaginary lines north and south of the equator

➔ **Longitude**
Imaginary lines from East to West around the globe

Westhoughton High School – ACTIVITY: RUGBY

Passing:

- Hold the ball in two hands with your fingers spread across the seam, with your chest facing forward.
- Draw the ball back across one hip, keeping your elbows slightly bent, as you turn your chest away from the target.
- Sweep the ball off your hip as you swing your hands through an arc, keeping your elbows close to your body.
- Release the ball with a flick of the wrists and fingers.
- Follow through with your fingers pointing to the target - chest high in front of the receiver.

Catching

- Call for the ball
- Keep eyes on the ball
- Hands up and make W shape
- Reach over the side of the body
- Catch with ten points of contact (both hands)
- Continue running with ball in both hands

Tackling

- Position your body to the opponent's right-hand side (safe side).
- Position your left foot forward into a slight opposition.
- Make contact by putting your right shoulder into the opponent's mid-right thigh.
- Make sure your head is on the other side of the ball carrier so their body is between your shoulder and head.
- Bring your arms up and wrap them around the ball carrier, just above their knees (
- Squeeze your arms and pull the ball carrier into your body.
- Push your shoulder into the ball carrier, as though you are trying to push him away with your head.
- Continue pushing until both you and the ball carrier fall to the ground.

Playing the Ball (Rugby League)

- After the tackle, lift the ball clear of the ground, face their opponent's goal line and roll it under their foot to the player behind them, the acting half back.
- The ball has to always travel backwards.
- A player can play the ball to themselves by heeling it backwards, stepping over the ball and then picking it up to run with it or to pass to another player.

Presenting the ball (Rugby Union)

- 'Eyes up' to keep head and neck inline
- Enter the ruck from behind the player (through the gate)
- Keep head and shoulders above hips at all times
- Make contact by binding on a player using the whole arm

Westhoughton High School– ACTIVITY: RUGBY

Rugby League

Rules
→ Game starts and restarts with a kick off.
→ Three officials- Referee and two touch judges.
→ Passing from the hand must travel level or backwards to the receiver.
→ Tackling must be below shoulder
→ If a player knocks on (drops the ball forward) the opposing side will gain possession via a scrum.
→ When referee calls that the tackle is complete you must stand up and play ball between your legs to a player behind
→ You must be behind the kicker when the ball is kicked to be onside

Positions
- 1 Full back
- 2 Right wing
- 3 Right centre
- 4 Left centre
- 5 Left wing
- 6 Stand-off half
- 7 Half-back
- 8 Prop
- 9 Hooker
- 10 Prop
- 11 Second Row
- 12 Second Row
- 13 Loose Forward

Points System:

4 points = TRY
2 Points = Penalty/Conversion
1 Point = Drop goal

Tactics in possession:
- 6 tackles (or chances to score), kick on 5th.
- If the ball goes out of play after such a kick, play restarts with a six-player scrum.

Rugby Union

Positions
- 1 Loosehead Prop
- 2 Hooker
- 3 Tighthead Prop
- 4 Second Row
- 5 Second Row
- 6 Blindside Flanker
- 7 Openside Flanker
- 8 Number 8
- 9 Scrum Half
- 10 Fly Half
- 11 Left Wing
- 12 Inside Centre
- 13 Outside Centre
- 14 Right Wing
- 15 Fullback

Rules
→ Game starts and restarts with a kick off.
→ Three officials- Referee and two touch judges.
→ Passing from the hand must travel level or backwards to the receiver.
→ Tackling must be below waist (sternum)
→ If a player knocks on (drops the ball forward) the opposing side will gain possession via a scrum.
→ You may not tackle a player in the air. You must enter a ruck from the back foot of your side of the ruck.
→ Any player in front of a player kicking must wait for the kicker to pass or they will be offside.

Points System:

5 points = TRY
3 Points = Penalty and Drop goal
2 Point = Conversion

Tactics in possession:
- Unlimited tackles
- Attacking side continue until they lose ball or concede penalty
- If the ball is kicked out of play restarted with a lineout Scrum used for knock-ons, forward pass restarts

Key Words:
Pass Run
Tackle Ruck
Maul Scrum
Penalty
Free-kick
Knock-on
Forward pass
High tackle
Defensive line
Scissor
Loop

Skills and Techniques: Back Crawl

→ **Body position**
Horizontal
Streamlined
Head still
Eyes looking upward
Hips close to surface

→ **Leg Action**
Continuous up and down motion
Legs close together
Relaxed ankles

→ **Arm Action**
Thumbs leave the water first
Little finger entry

Skills and Techniques: Front Crawl

→ **Body position**
Flat and streamlined
Eyes looking forwards and downwards

→ **Leg Action**
Continuous and alternating
Starts from the hip
Ankles relaxed

→ **Arm Action**
Thumb enter the water first
Enter between the head line and shoulder line
Elbow exits first

→ **Breathing**
Head rolls to the side to breath
Bilateral breathing

Skills and Techniques: Breaststroke

→ **Body position**
As horizontal as possible Shoulders horizontal

→ **Leg Action**
Starts in glide position
Heels drawn towards the seat
Feet turned out Kick backwards with a circular whipping action

→ **Arm Action**
From glide position, hands turn outwards
Pull downwards and outwards to inline with shoulders
Arms meet in the centre of the body and drive out to glide position

Skills and Techniques: Butterfly

→ **Body position**
Horizontal, with a wave like movement from head to toe Shoulders kept level

→ **Leg Action**
Legs close together
Ankles relaxed toes pointed
Action starts from the hips
Kick up and down with a bend at the knee

→ **Arm Action**
Thumb first entry
Entry shoulder width apart
Pull downwards, with bent elbows
Hands leave the water little finger first
Arms clear the water just above the surface

→ **Breathing**
Lift head and push chin forwards
Head lowered quickly but smoothly

WESTHOUGHTON HIGH SCHOOL KS3 PE KNOWLEDGE ORGANISER –SWIMMING ACTIVITY:

Back Crawl

→ **Start -Back crawl start**

→ **Turn –Tumble**
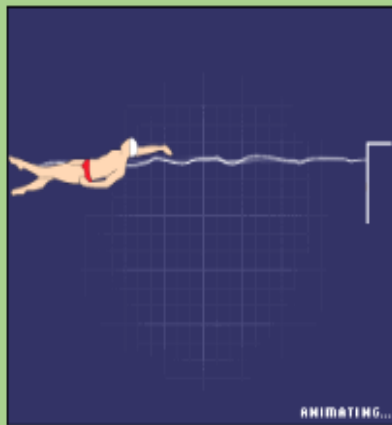
Front Crawl

→ **Start -Racing Dive**
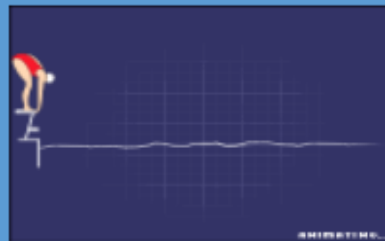
→ **Turn-Tumble**
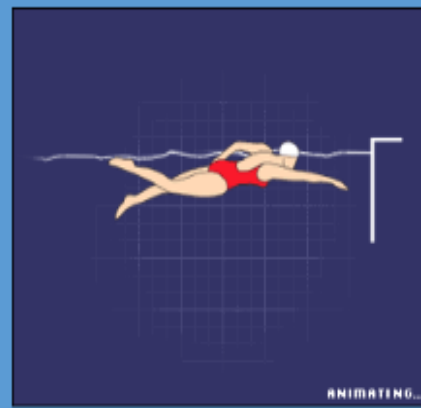
Breaststroke and Butterfly

Start -Racing Dive
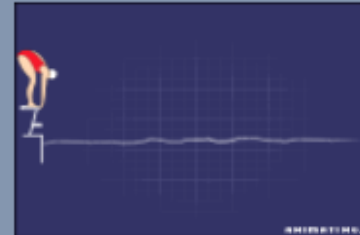
Turns-Two handed turn
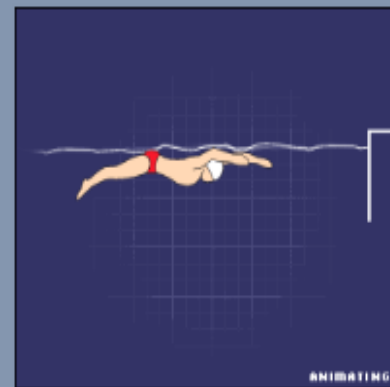
Tumble turns
Stage one
- Swim toward the turning wall.
- Ensure you breathe on the last stroke before turning.
- On the last stroke, bring both arms down and next to the hips.
- Keeping the body straight, hold feet approximately 20 cm under the water surface.

Stage two
- Bring the arms up and swing over the head whilst brushing the upper arms against the ears.
- Tuck chin into chest and begin rotating body forward.
- On complete rotation, push against the wall with the balls of the feet and kick a minimum of four times to generate pace.
- Complete one full stroke before returning to breathing pattern.

Racing start-Front crawl, breaststroke and butterfly
1: Chin and chest
2: Arm above head, squeeze ears
3: Tip forward
4: Hips high
5: Stretch out

Key words
Splits, Pacing, Negative spilt, positive split, Even split, False start, Technical official,

Scoring

Success in swimming is judged on times and places.

Start of the race

Races are started with electronic pistols and are only sounded again if an athlete makes a false start.

Finish the race

In all races swimmers must strike a pressure pad at the end of their lane to stop the clock.

Officials

Starter
Clerk of course - these people line up competitors in correct order, ready for starting.
Timekeepers, Inspectors of turns ,Judges of stroke ,Finish judges

Disqualifications are also a result of technical rules violations. These include:

- **freestyle** - stepping or walking on the bottom of the pool, pulling on the lane rope, not touching the wall on a turn, or not completing the distance
- **backstroke** - not remaining on the back throughout the swim except when turning, pulling or kicking into the wall once turning past the vertical onto the breast, turning onto the breast before touching the wall with the hand at the finish of the race
- **breaststroke** - not swimming on the breast, an illegal kick such as flutter, dolphin, or scissors, non-simultaneous movements of the arms, taking two arm strokes or two leg kicks while the head is underwater, or touching with only one hand at the turns or finish instead of two
- **butterfly** - non-simultaneous movements of the arms or legs, pushing the arms forward under the water instead of over the water surface, using a breaststroke-style kick, or touching with only one hand at the turns or at the finish instead of two

USER GROUPS in Sport/Fitness

- Young children
- Teenagers
- People with disabilities
- Parents (singles or couples)
- People who work
- Unemployed/economically disadvantaged people

- Gender
- People from different ethnic groups
- Retired people/people over 60
- Families with children
- Carers
- People with family commitments

Barriers faced by user groups

☐ Employment and unemployment
☐ Family commitments
☐ Lack of disposable income
☐ Lack of transport
☐ Lack of positive sporting role models
☐ Lack of positive family role models or family support
☐ Lack of appropriate activity provision
☐ Lack of awareness of appropriate activity provision
☐ The lack of equal coverage in media in terms of gender and ethnicity by the medi

WATER SAFETY

1.Floating: The ability to float on your back helps conserve energy and breathe more easily while waiting for rescue.
2.Treading Water: This skill involves moving your arms and legs to keep your head above water, allowing you to stay in one place without sinking.
3.Swimming for Distance: Knowing how to swim at least 25 meters can help you reach safety or a shore if needed.
4.Controlled Breathing: Practicing proper breath control allows you to stay calm, conserve energy, and avoid panic in emergency situations.

**Year 8
Term 2: Health
Knowledge Organiser**

Swimming rules
- No running:
- Supervise children:
- No diving in shallow water:
- Shower before entering:

Hydration

Hydration is essential in a balanced diet because water supports nearly every bodily function, including digestion, nutrient absorption, temperature regulation, and waste elimination. Staying properly hydrated helps maintain energy levels, promotes healthy skin, lubricates joints, and ensures that cells function optimally.

Key Vocabulary: Veins Arteries   Circuit   Plyometric Interval Continuous   Weight   Fartlek   Water Safety   User Groups

Year 8
Term 2: Health
Knowledge Organiser

TRAINING METHODS:

1.Circuit Training: A form of exercise where participants cycle through a series of exercises, targeting different muscle groups, with minimal rest between each station.

2.Continuous Training: Involves sustained, steady-state activity, like running or cycling, for an extended period without rest, designed to build cardiovascular endurance.

3.Weight Training: A form of strength training using weights (dumbbells, barbells, or machines) to build muscle strength and endurance.

4.Fartlek Training: A type of running workout that blends continuous and interval training by varying pace and intensity over different terrains or set times.

5.Interval Training: Alternates between periods of high-intensity effort and low-intensity recovery, improving speed and cardiovascular fitness.

6.Plyometric Training: Focuses on explosive movements, like jumps or bounds, to increase power and strength in muscles, particularly useful for athletes.

HEART RATES:

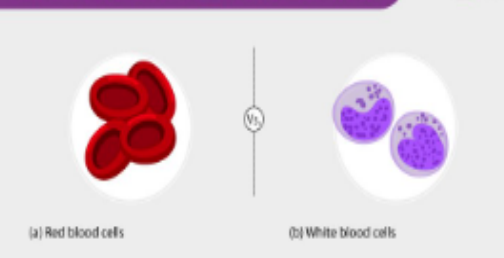### Self check: take your own pulse

Find your pulse

30 SECONDS — Count your heartbeat for 30 seconds

x2 — Double it

DIFFERENCE BETWEEN RBC AND WBC — BYJU'S

(a) Red blood cells   Vs   (b) White blood cells

Blood Cells- What do they do?

Red blood cells (RBCs)
- Carry oxygen from the lungs to the rest of the body and return carbon dioxide back to the lungs for exhalation. They contain hemoglobin, a protein that binds to oxygen, enabling this vital gas exchange.

White blood cells (WBCs)
- Are part of the immune system and help the body fight infections and other diseases. They identify and attack pathogens like bacteria, viruses, and harmful invaders to protect the body from illness.

CARDIOVASCULAR SYSTEM

Veins
- Veins are blood vessels that return deoxygenated blood from various parts of the body back to the heart, where it can be reoxygenated.

Arteries
- Arteries are blood vessels that carry oxygen-rich blood away from the heart to tissues and organs throughout the body, ensuring they receive the oxygen and nutrients needed for proper function.

Circulation
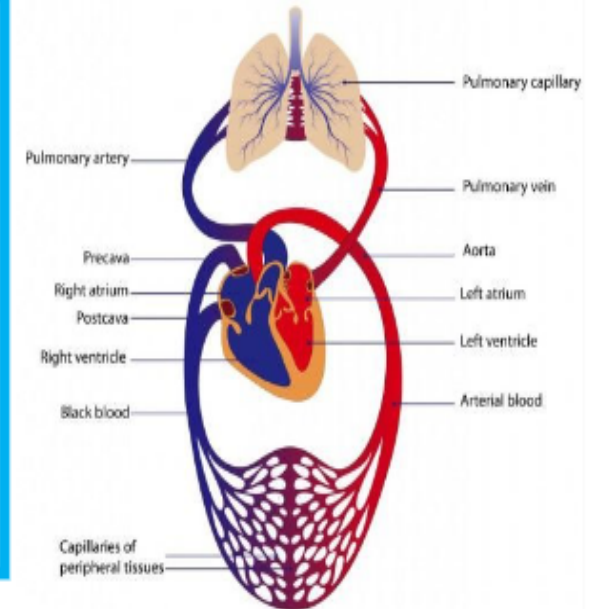
Pulmonary capillary
Pulmonary artery
Pulmonary vein
Precava
Aorta
Right atrium
Left atrium
Postcava
Right ventricle
Left ventricle
Black blood
Arterial blood
Capillaries of peripheral tissues

Key Vocabulary: Veins Arteries Circuit Plyometric Interval Continuous Weight Fartlek Water Safety User Groups

KS3 Knowledge Organiser – Relationships and Sex Education

Healthy Relationships

Key words:

1. **Platonic relationship** - A friendship or relationship where there is no romantic, intimate or sexual feelings. E.g. friends and colleagues.
2. **Intimate relationship** – A relationship which can include a sexual attraction and sexual activity. E.g. boyfriend, girlfriend, married couples.
3. **Familial relationship** - A relationships with someone who has a blood or legal tie to you. E.g. parents, siblings, cousins, grandparents, uncles, aunts, etc.
4. **Toxic relationship** - A relationship that has a negative impact on your mental health and self-esteem.

Good Relationship	Toxic Relationship
• They make you feel good. • They listen. • They support you. • They are trustworthy. • They handle conflict respectfully and respect boundaries. • Friends not followers.	• Might say "brutally honest" things to you which are hurtful. • Put pressure on you to do things you don't want to do. • Be manipulative. • Put your down. • Laugh at you or encourage others to laugh at you. • Talk about you behind your back. • Deliberately exclude you. • Take the 'banter' too far. • Share things about you online.

Types of Abuse

Physical Abuse: Hitting slapping, shoving, grabbing, pinching, biting, hair pulling, etc. are types of physical abuse. This type of abuse also includes denying a partner medical care or forcing alcohol and/or drugs upon them.

Sexual Abuse: Coercing or attempting to coerce any sexual contact or behaviour without consent. Sexual abuse includes, but is certainly not limited to rape, rape, non-consensual touching of sexual parts of the body, treating one in a sexually demeaning manner.

Emotional Abuse: Undermining an individual's sense of self-worth and/or self-esteem is abusive. This may include, but is not limited to constant criticism, diminishing one's abilities, name-calling, or damaging one's relationships with others (e.g. friends, family)

Psychological Abuse: Elements of psychological abuse include - but are not limited to - causing fear by intimidation; threatening physical harm to self, partner, children, or partner's family or friends; destruction of pets and property; and forcing isolation from family, friends, or school and/or work.

Economic Abuse: is defined as making or attempting to make an individual financially dependent by maintaining total control over financial resources, withholding one's access to money, or forbidding one's attendance at school or employment.

Where to get more help and support:
* Parents and trusted family School Staff and Wellbeing Team
* NSPCC - Helpline: 0808 800 5000 (24 hours, every day), www.nspcc.org.uk
* Childline - Helpline: 0800 1111(24 hours, every day) www.childline.org.uk
* Women's Aid - Helpline: 0808 2000 247 24hr www.womensaid.org.uk
* Men's Advice Line - Helpline: 0808 801 0327 Mon- Fri 9-5 www.mensadviceline.org.uk
* National Bullying - Helpline www.nationalbullyinghelpline.co.uk

Consent

Key words:

1. **Sexual consent:** the giving of permission by a person to engage in any form of sexual activity including penetrative and oral sex.
2. **Affirmative consent:** Consent is only given when a person agrees verbally to engage in
3. sexual activities including penetrative and oral sex.
4. **Coercion:** The action or practice of persuading someone to do something they wouldn't normally do or something they don't want to do by using force or threats.
5. **Minor:** A person who is under the age of 18 and legally considered a child.

Consent is...	Consent cannot be given if...
• **Freely given.** It's not okay to pressure, trick, or threaten someone into saying yes. • **Reversible.** It's okay to say yes and then change your mind — at any time! • **Informed.** You can only consent to something if you have all the facts. • **Enthusiastic.** You should do stuff you WANT to do, not things people expect you to do. If someone doesn't seem enthusiastic stop and check in. • **Specific.** Saying yes to one thing (going to the bedroom to make out) doesn't mean you're saying yes to other things (having sex).	• **When a person is drunk or high,** to the point that they are unable to speak or look after themselves. • **Asleep or Passed Out** – if they are not conscious, they are unable to agree to any sexual activity. If someone passes out whilst engaging in sexual activity –STOP! • **They are Underage** – Legally a person under the age of 16 cannot give consent to any sexual activity. • **Mental disability or learning difficulties** which mean they are unable to fully understand what they are consenting to.

Act	Definition	Legal Consequences
Rape	A rape is when a person uses their penis without consent to penetrate the vagina, mouth, or anus of another person.	Maximum of fifteen years in prison. Aggravated Rape is punished by a maximum of twenty years in prison. Both offences would result in placement on the sex offenders register.
Sexual assault	When a person is coerced or forced to engage against their will, or when a person, touches another person sexually without their consent. Touching can be done with any part of the body or with an object.	Up to 10 years in prison and placement on the sex offenders register.
Sex between minors	When both parties involved the sexual activity are under 16 but have consented to the activity.	If two 13 – 15 year olds engage in consensual sexual activity and both know that the other is under 16, they could both be found guilty of an offence with a penalty of up to 5 year's imprisonment. If one party is under 13 and the other under 18 it is statutory rape punishable by up to life imprisonment.

* Rape Crisis Helpline: 0808 802 9999 (12-2:30 and 7-9:30) www.rapecrisis.org.uk
* Survivors UK – Male Rape and Sexual Abuse Support www.survivorsuk.org
* RASAC (Rape and Sexual Abuse Support Centre) National Helpline: 0808 802 9999 (12-2.30 & 7-9.30) www.rasasc.org.uk

KS3 Knowledge Organiser – Relationships and Sex Education

Online Safety

Strategies for staying safe online:

1. **Don't post any personal information online** e.g. address, phone number, email address.
2. **Think carefully before you post** – once you post it you lose control of it.
3. **Keep your privacy settings as high as possible.**
4. **Never give out passwords.**
5. **Not everyone is who they say they are online.** Don't befriend people you don't know in real life. Don't meet up with people you've met online. Tell a parent/carer if someone you've met online is pressuring you to meet.
6. **Respect** other people's views, even if you don't agree with it. There is never a reason to be rude.
7. **If you see something that makes you uncomfortable or unsafe** tell a trusted adult immediately.

Appropriate online behaviour:

A person's digital footprint cannot be deleted and can be accessed at any time by others. To promote a positive digital footprint there are **5 simple rules:**

1. **Would you want your grandmother to see it?** Is that photo/video/comment appropriate for the wider public audience? Would you want a future partner or employer to see it? Once something is online it stays forever.
2. **Do you really think that is private?** Just because your privacy settings are high doesn't mean that someone else can't repost or screenshot what you have posted.
3. **Would you say it to someone's face?** If you wouldn't say it to someone face, don't say it online. Portray yourself in a positive way as this may be seen by future friends, partners or employers.
4. **Is this your work to publish/use?** Reposting or using someone else's work if fine if you credit the original owner creator. If you don't it is plagiarism.
5. **Would you want someone to do it to you?** How would you feel if someone posted a picture of you or made a comments about you that you didn't like or want online?

Taking, sending, and receiving sexual images...

- **It is a criminal offence to create or share explicit images of a child**, even if the person doing it is a child. The law applies to anyone under the age of 18.
- **'Cyberflashing' is where someone sends sexual image or pornography to an unsuspecting person.** It became a criminal offence in 2022. People convicted of 'cyberflashing' could face up to two years in prison.
- **Sextortion:** when a victim is blackmailed after sending explicit images of themselves. 2 in 3 sextortion victims are girls below the age of 16.

Ways in which pornography can distort views of relationships and sex

- Sex ends when a man ejaculates
- Women orgasm every time they have sex
- Everyone wants to have sex all the time
- Sex is an aggressive act of dominance
- People want to have sex with more than one person at a time.
- Sex is loud.

- External ejaculation is expected and common.
- Anal sex is common amongst heterosexual couples.
- Sex is good every time.
- Penises are large (over 6inches)
- Women are expected to dress up and wear make up for sex.

Where to get more help and support:
- Parents and trusted family member, school staff and wellbeing team
- Childline - Helpline: 0800 1111(24 hours) www.childline.org.uk
- CEOPS - www.ceop.police.uk/safety-centre

Contraception

Things to remember

- Contraception refers to the methods that are used to prevent pregnancy from occurring during sexual activity.
- Contraception is a personal choice.
- You may need to try more than one to find out what works best for you.
- You will need to consult your Doctor for most contraceptive methods.
- Contraception is the responsibility of both parties!

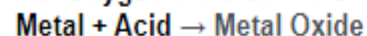|	METHOD	What is the risk for pregnancy?*	How do you use this method?	How often is this used?	What are menstrual side effects?	Other possible side effects?	Other things to consider?
MOST EFFECTIVE	FEMALE STERILIZATION	.5 out of 100	Surgical procedure	Once	No menstrual side effects	Pain, bleeding, risk of infection	Permanent
	MALE STERILIZATION	.15 out of 100					
	LNG IUD	.2 out of 100	Placed inside uterus	Up to 8 years	Spotting, lighter or no periods	Some discomfort with placement	No estrogen May reduce cramps
	COPPER IUD	.8 out of 100		Up to 10 years	May cause heavier, longer periods		No hormones May cause cramps
	IMPLANT	.05 out of 100	Placed in upper arm	Up to 3 years	Spotting, lighter or no periods		No estrogen May reduce cramps
MODERATELY EFFECTIVE	INJECTABLES	4 out of 100	Shot in arm, hip, or under the skin	Every 3 months	Spotting, lighter or no periods	May cause weight gain	No estrogen May reduce cramps
	PILL	8 out of 100	Take by mouth	Every day at the same time	Can cause spotting for the first few months Periods may become lighter	Nausea, breast tenderness Risk for blood clots	May improve acne May reduce menstrual cramps Lowers ovarian and uterine cancer risk
	PATCH	9 out of 100	Put on skin	Weekly			
	RING	9 out of 100	Put in vagina	Monthly			
	DIAPHRAGM	12 out of 100	Put in vagina with spermicide	Every time you have sex	No menstrual side effects	Allergic reaction, irritation	No hormones
LEAST EFFECTIVE	EXTERNAL CONDOM	13 out of 100	Put over penis			Allergic reaction, irritation	No hormones No prescription
	VAGINAL GEL	14 out of 100	Put in vagina			Allergic reaction, irritation	No hormones
	WITHDRAWAL	20 out of 100	Pull penis out of vagina before ejaculation	Every time you have sex	No side effects		No hormones Nothing to buy
	INTERNAL CONDOM	21 out of 100	Put in vagina		No menstrual side effects	Allergic reaction, irritation	No hormones No prescription
	SPONGE	24 out of 100	Put in vagina				
	FERTILITY AWARENESS-BASED METHODS	24 out of 100	Monitor fertility signs and abstain or use condoms on fertile days	Every day		No side effects	No hormones Increased awareness of fertility signs
	SPERMICIDES	28 out of 100	Put in vagina	Every time you have sex		Allergic reaction, irritation	No hormones No prescription

Where to get more help and support:
- Your Doctor, community nurse, or school nurse,
- NHS Online
- www.helathforteensco.uk
- www.brook.co.uk
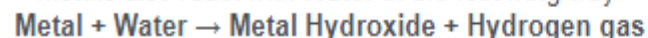
KS3 Metal reactions

- Rocks which contain a significant amount of metal atoms are called ores.
- The metal atoms in ores are usually found attached to oxygen atoms or carbonate compounds.
- We can use chemical reactions to extract and purify these metal atoms for use later..
- Very low-reactivity metals can be found native in the crust of the Earth so may not need extracting.
- Metals below Hydrogen can be displaced by Hydrogen
- Metals below Carbon can be displaced by Carbon
- Metals above Carbon can be extracted by Electrolysis

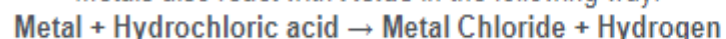Metals react with **Oxygen** in the air in the following way:
Metal + Acid → Metal Oxide
E.g. Calcium + Oxygen → Calcium Oxide

Metals also react with **Water** in the following way:
Metal + Water → Metal Hydroxide + Hydrogen gas
E.g. Sodium + Water → Sodium Hydroxide + Hydrogen
Metals will react as above, but more quickly with **steam**

Metals also react with **Acids** in the following way:
Metal + Hydrochloric acid → Metal Chloride + Hydrogen
E.g. Magnesium + Hydrochloric acid → Magnesium Chloride + Hydrogen

Keywords

- Acid
- Corrosion
- Displace
- Effervesce
- Electrolysis
- Extract
- Hydrogen
- Metal
- Native
- Neutralise
- Ore
- Oxidation
- pH
- Reactivity series
- Reduction
- Salt

The reactivity series shows which metal is more reactive than another metal by its position in the series.
The <u>higher</u> a metal in the series, the <u>more</u> reactive it is, and the <u>bigger</u> its reaction will be with oxygen or acid.
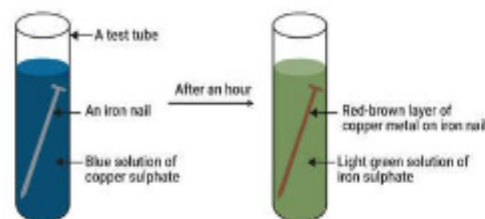A more reactive metal can 'push' a less reactive metal from its compound by a process called **displacement**.

Displacement Reaction

Example: Zn + CuSO₄ → Cu + ZnSO₄
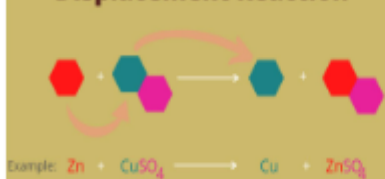
Reactivity series
REACTIVE
Potassium
Sodium
Lithium
Calcium
Magnesium
Aluminium
Carbon
Zinc
Iron
Lead
Hydrogen
Copper
Silver
Gold
UNREACTIVE

A test tube
An iron nail
Blue solution of copper sulphate
After an hour
Red-brown layer of copper metal on iron nail
Light green solution of iron sulphate

In a displacement reaction, if there <u>is</u> a colour change, the more reactive metal <u>has</u> taken the place of the less reactive metal in its compound.

There are a few different signs that a chemical reaction has taken place. One or more will be obvious in a reaction:
1. The reaction effervesces (bubbles)
2. The reaction changes colour (from its starting colour)
3. The reaction changes temperature (gives out heat <u>or</u> takes heat in)
During electrolysis, large amounts of energy are used to melt a metal compound. Electric current is then used to separate the useful metal from other substances in the mixture.

KS3 Forces

Balanced vs. Unbalanced Forces

Force – a vector quantity, any action that will maintain or alter the motion of a body or to deform it.

Balanced force – when two forces are the same size

Unbalanced force – when two forces are different sizes.
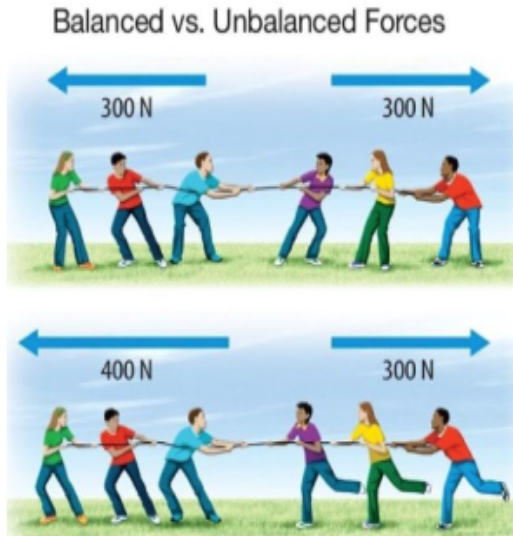
Examples of Forces

Gravity - the force by which a planet or other body draws objects toward its centre.

Weight - the measure of the force of gravity acting on a body.

Air resistance - the force acting on an object that is moving through air flowing in the opposite direction

Water resistance - - the force acting on an object that is moving through water flowing in the opposite direction

Upthrust - a force that pushes things upwards, which happens when a gas or liquid has an object floating in it.

Tension - the pulling or stretching force transmitted axially along an object such as a string or rope,

Friction – the force that resists the sliding or rolling of one solid object over another.

Free body diagrams

Forces can be represented by arrows in diagrams where the size of the arrow is directly proportional to the size of the force and the direction of the arrow from the centre of mass shows the direction the force is working.
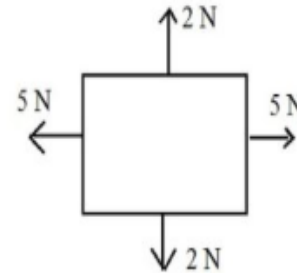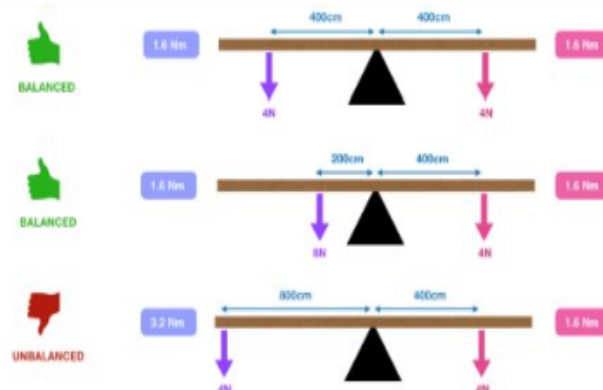

Resultant force = the single force that results from combining multiple forces acting on an object. Therefore the resultant fore on the above object is 0N.

Turning Forces

A moment is the turning effect of a force

Levers are used to apply force to an object, by using a smaller force applied at one end of the lever to generate a larger force at the other end.


Keywords

- o Force
- o Balanced
- o Unbalanced
- o Gravity
- o Weight
- o Air resistance
- o Water resistance
- o Upthrust
- o Tension
- o Friction
- o Resultant force
- o Moment
- o Lever
- o Pivot
- o Elasticity
- o Mass
- o Weight
- o Pressure
- o Speed
- o Velocity
- o Accelerating
- o Decelerating

KS3 Forces

Elasticity

Forces can be used to stretch or squash objects.

There is a linear relationship between force and extension and this can be proven by adding different amounts of force to a spring and measuring the extension.
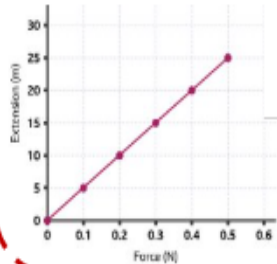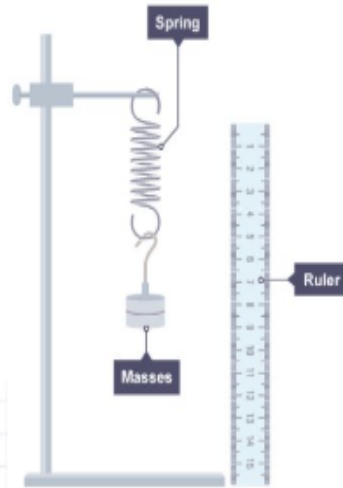
This relationship is called Hooke's Law.

Weight and Mass

Mass – a measure of how much matter there is in an object, and is measured in kg.
Weight – a measure of the size of the pull of gravity on the object, and is measured in N.

Weight = mass x gravity

Weight depends upon the gravitational pull of an object so it varies on different planets/moons.
The larger the object the stronger the gravitational pull, therefore the greater the weight of an object on that planet/moon.

Pressure

Pressure is a measure of the force applied over a specific area and is measured in N/m².

Pressure can be calculated by using the equation:

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

Atmospheric pressure decreases with increase of height as the weight of air above decreases the higher you go.

Pressure in liquids increases with depth as the weight of water above increases the deeper you go.
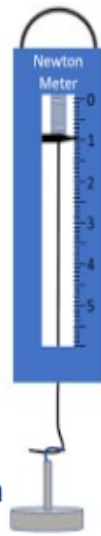
Friction

Friction is the force that resists the sliding or rolling of one solid object over another.

Friction is increased by making surfaces rougher/more uneven and decreased by making surfaces smoother or adding a lubricant.

Friction generates thermal energy as the surfaces rub against each other (use rubbing hands together to demonstrate).

The size of a force acting on an object can be measured with a Newtonmeter.

Speed

Speed is the distance travelled over a period of time.

Speed can be calculated using the following equation:

$$Speed = \frac{Distance}{Time}$$

Relative Motion

Relative motion is defined as the motion of one object relative to another object.

Relative motion of two objects can be calculated

As two objects move towards each other the forces they extert are higher than their individual forces

As two objects move in parallel to one another the forces they extert are lower than their individual forces.

Distance-Time Graphs

KS3 Nutrition and Digestion

Digestion: the breaking down of the large food we eat into other substances (smaller molecules) that our bodies can absorb and use.
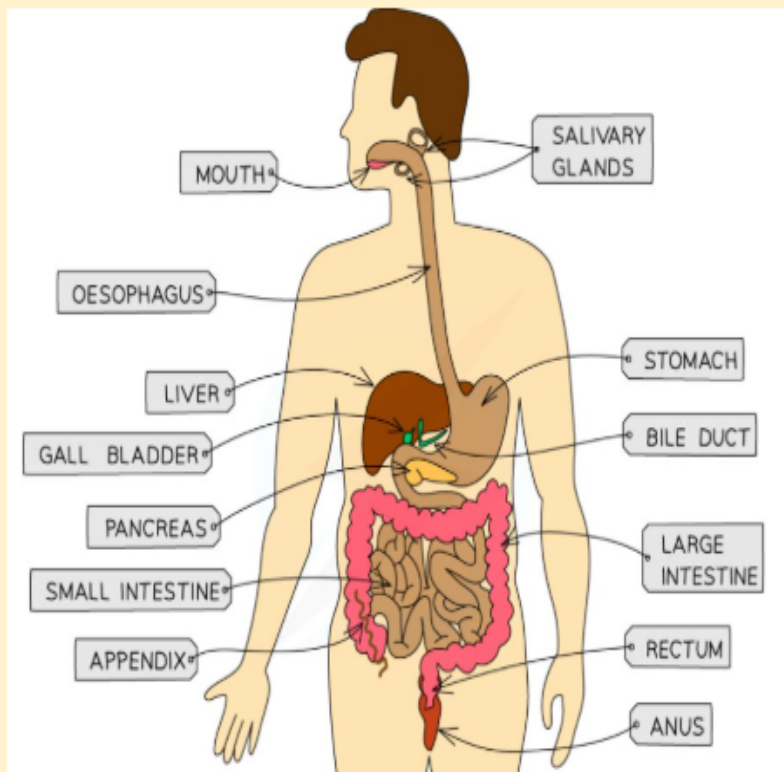
Digestion starts in the mouth (where mechanical digestion happens and some enzymes begin chemical digestion).

- Food then travels through the oesophagus, a thin tube that connects the mouth to the stomach.
- The stomach is a sac where food is mixed with acidic juices to start the digestion of protein and kill microorganisms. **The stomach does not break food down!**
- The food then enters the small intestine, which is the upper part of the intestine where digestion is completed and nutrients are absorbed by the blood.
- Anything leftover moves to the large intestine, the lower part of the intestine from which water is absorbed and where faeces are formed.
- Faeces are stored in the rectum and leave the body via the anus.

Gut bacteria: Microorganisms that naturally live in the intestine and help food break down. The digestive system contains many bacteria and about half of the dry weight of faeces consists of bacteria. Bacteria in the digestive system are important. For example, they can digest some substances that humans cannot digest, such as certain carbohydrates, reduce the chance of harmful bacteria multiplying and causing disease, produce some vitamins that humans need, such as vitamins B and K.

Keywords
- Respiration
- Energy
- Molecules
- Diffusion
- Bacteria
- Digestion
- Oesophagus
- Stomach
- Small intestine
- Large intestine
- Liver
- Rectum
- Anus
- Faeces
- Gut
- Dietary fibre
- Carbohydrates
- Lipids
- Calcium
- Iron
- Protein
- Vitamins
- Minerals

KS3 Nutrition and Digestion

Deficiency diseases are the result of not consuming enough of a particular nutrient.

Iron: a mineral important for red blood cells.

Calcium: a mineral needed for strong teeth and bones.

Vitamins and minerals: needed in small amounts to keep the body healthy.

Dietary fibre: Parts of plants that cannot be digested, which helps the body eliminate waste.

Carbohydrates: The body's main source of energy. There are two types: simple (sugars) and complex (starch).

Lipids (fats and oils): A source of energy. Found in butter, milk, eggs, nuts.

Protein: Nutrient your body uses to build new tissue for growth and repair. Sources are meat, fish, eggs, dairy products, beans, nuts and seeds.

- The **glucose** that is absorbed through the small intestine into the blood stream is transported around the body to be used in **respiration**.
- The **energy** released by respiration is used for all living processes, such as movement, respiration, sensitivity, growth, reproduction, excretion and nutrition.
- Plants **produce** their own **glucose** from **photosynthesis** that they then use for respiration. Plants are called 'producers' for this reason. The transfer of energy from sunlight that ultimately allows living things to survive on Earth. All food chains start with producers.

Keywords

- Enzymes
- Lipase
- Protease
- Carbohydrase
- Amino acids
- Fatty acids and glycerol
- Glucose
- Starch

- Food is an example of a chemical energy store.
- Energy is measured in Joules (J)/kilojoules (kJ).
- Body mass index (BMI) is calculated from a person's height and body mass.
- Not consuming enough food can cause BMI to become too low, and eventually lead to starvation.
- Consuming too much food can cause BMI to become too high, and lead to obesity. Obesity can increase the risk of developing other health issues, including heart disease.

Organs of the **digestive system** are **adapted** to break **large** food molecules into **small** ones which can travel in the blood to cells and are used for life processes. It can do this mechanically or chemically (using enzymes).

Enzymes: Substances that speed up the chemical reactions of digestion. **Lipase** break down lipids into fatty acids and glycerol. **Amylase** (a form of carbohydrase) breaks down starch into glucose. **Protease** breaks down proteins into amino acids.

Protease: Protein molecule → Digestion → Amino acid molecules

Carbohydrase: Starch molecule → Digestion → Sugar molecules

Lipase: Fat molecules → Digestion → Fatty acid and glycerol molecules