Year 10 Learning Journal

Learning Cycle 1

Student Name:_____

NEWQUAY TRETHERRAS

4 simple steps

Summarise

Summarise your class notes, handouts and wider reading to **condense and transform** them **as you go along** (saves time and stress closer to exams).

40%

Organise

Organise your notes and revision using PLCs (or Exam Specifications) and create **Revision Timetables**, to **focus** time and effort **on weaknesses**.

10%

Recall

Use **active recall** and **spaced repetition** to **memorise** the information.

30%

Test Yourself

Test Yourself using **low stakes and high stakes** questions to check you can **apply knowledge and understanding**.

20%

NEWQUAY TRETHERRAS

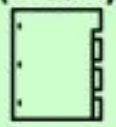
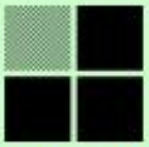
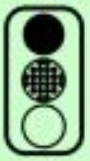
SORT

4 Steps to Success with your Studies

Summarise

- Condense 
- Flash Cards 
- Revision Clocks 
- Cornell Notes 
- Transform 
- Mind Maps or Organisers 
- Sketchnotes 
- Dual Code 

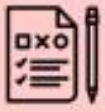
Organise

- PLCs or Exam Specs 
- Organise Folders (Weekly) 
- Chunk 
- Traffic Light (RAG) 
- Revision Timetable (Weekly Review) 
- Interleave 

Recall

- Active Recall (Testing Effect) 
- Look Say Cover Write Check 
- Leitner System (Flash Cards) 
- Memory Journey 
- Blurt - Blank Page Retrieval 
- Mnemonics 
- Group Games 
- Spaced Repetition 

Test Yourself

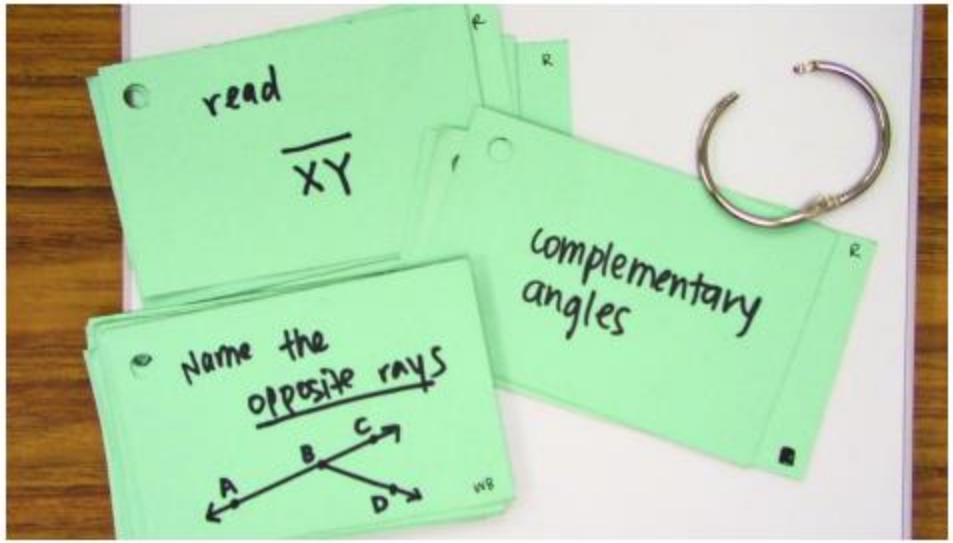
- Low Stakes
- High Stakes 
- Write Plans & Mark Schemes 
- Multiple Choice 
- Past Paper Questions 
- BUGS the Question 
- Online Quiz or App 
- Write Qs using PLC 
- Traffic Light (RAG) Qs 

Find out more at: tretherras.net/nt-revision-resources/

How to Summarise using …

NEWQUAY TRETHERRAS

Flash Cards



What is the idea?

A card with a key word or question on the front, and the definition or answer on the reverse.

What is it useful for?

- Learning definitions/meanings
- Learning a language/translations
- Learning short case study/topic facts

Pros	Cons
Useful for revising on the go (easy to carry). You can test yourself using the front or the back of the card. You can buy Ready made flashcards or use online flashcards e.g. Quizlet.	Simply copying questions and answers/definitions out of textbooks to make the cards, or just reading them over and over, doesn't improve your recall. You can make them too simple (long question, one word answer.) Doesn't help your visual memory (unless they have images). Does not help you make links/ apply facts and detail to high tariff questions.

How do I make one/use one?

1. Break down topics/subject into different units (you can use different colour cards)
2. Use bullet points (to help readability)
3. Doesn't always have to be question and answer – use variety
4. Don't cram too much on one flash card (or just use one word answers!)
5. Don't keep going over flash cards you know well. The 'Leitner System' is a good way to RECALL flashcards. You can also Quiz-Quiz Trade with others.

SORT

How to Summarise using …

NEWQUAY TRETHERRAS

Intelligent Graffiti (Sketchnotes)

What is the idea?

Filling a page with notes and diagrams about a topic. Making connections between ideas and emphasising important information.

What is it useful for?

- Case studies/topic overview
- Making links between different parts of a topic and emphasising the importance of information.

How do I make one/use one?

1. The first rule of intelligent graffiti is THERE ARE NO RULES! (The following are just suggestions)
2. Don't write down everything and use abbreviations.
3. Your notes do not need to be linear – it's up to you how they flow (they only need to make sense to you).
4. Vary handwriting & add emphasise to draw eye to key points.
5. Use connectors and containers to link and organise ideas.
6. Include diagrams and images to represent ideas.

Pros	Cons
There are no rules (flexible depending on you and the topic you are studying) Your notes will be compact, colourful and visual so this makes them easier to review. You can make connections between ideas within the topic. Converting notes into images and words helps your brain learn as it combines visual and verbal memory (dual coding).	They can be time consuming to create. Students do not always include enough detail (not helpful if you need to remember a lot of detail!) The notes may be so 'free' they are hard for you to follow again/ make sense of.

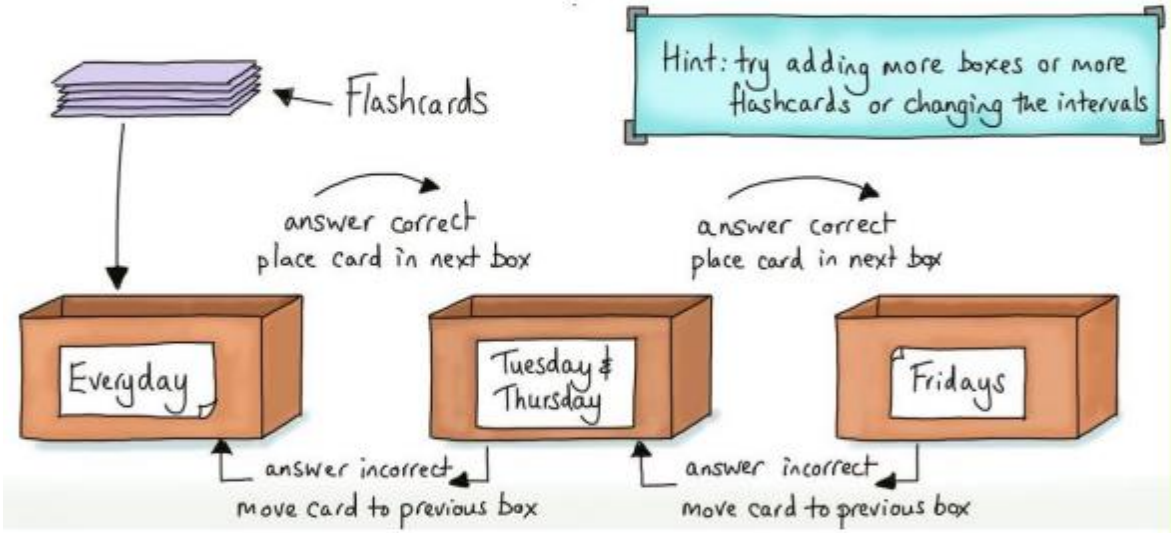
How to Recall using ...

NEWQUAY TRETHERRAS

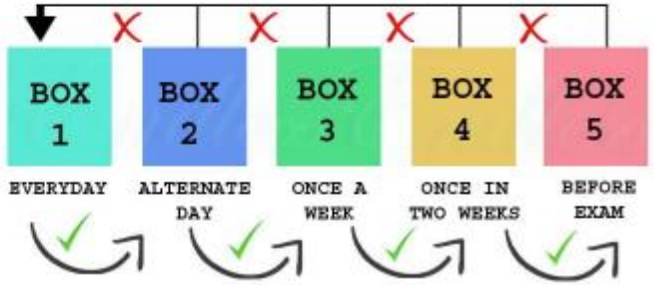
Leitner System (For Flash Cards)

What is the idea?

To revisit flash cards you don't know more frequently and the ones you do know less frequently. Making your revision more efficient.



YouTube Tutorial Video Link



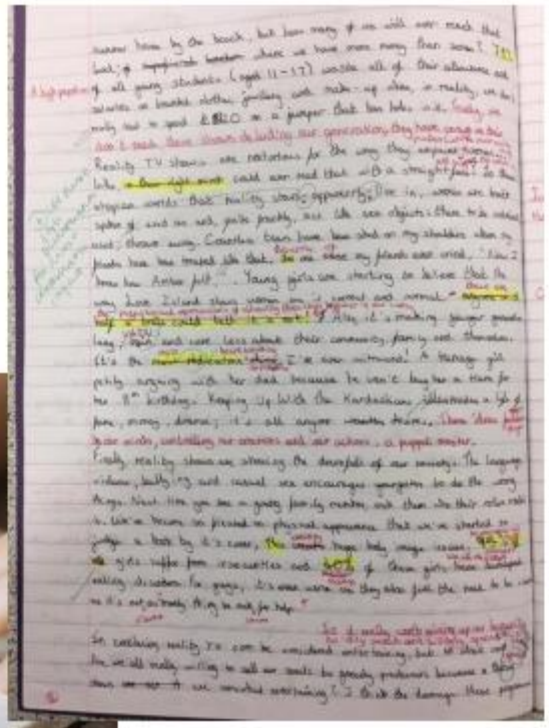
How do I use this method?

1. Create 3 to 5 boxes, folders or piles.
2. Label them as shown in the diagram below.
3. Put all your flashcards (or a set number) in Box 1
4. On day 1 try to recall the information on the flashcards in Box 1
5. If you get a flashcard correct move it into Box 2
6. If you get a flashcard wrong it stays in Box 1
7. On day 2 go through Box 1 and Box 2.
8. Every time you get a card correct it moves forward one box, every time you get it incorrect it goes all the way back to Box 1!
9. Keep visiting the boxes at the time indicated on the label.
10. You can add more cards to Box 1 at any time.

How to Recall using …

NEWQUAY TRETHERRAS

Blurting



What is the idea?

To write everything you remember on the topic you have been revising. It doesn't matter what form this takes (e.g. notes/mind map etc). Check against your revision notes to see what you got right/wrong and make corrections in a different colour. Repeat.

YouTube Tutorial Video Link

How do I use this method?

1. Revise a topic/sub-topic
2. When you think you know it, put your revision notes away.
3. 'Blurt' what you remember onto a piece of blank/scrap paper or a mini whiteboard.
4. Use any method of organizing your ideas on the paper.
5. Once you have got down everything you remember, get out your notes and see what you missed/got wrong.
6. Make corrections in red pen.
7. Focus on learning the bits you missed/got wrong next time you revise.
8. Repeat! *Always start again from scratch and try to recall everything (don't just try and recall the bits you missed/got wrong), this will strengthen your knowledge of the whole topic.*

SORT

3D Art Personal Learning Checklists

3D Art	Evidenced	Refined
Environments: AO1- Develop ideas through investigations, demonstrating critical understanding of sources.		
Be able to research and annotate artists appropriate to the theme "Environments", demonstrating my knowledge, opinions and understanding of the work.		
Show the planning of my ideas through either design sketches, digital drawing and collage.		
Be able to reflect on the techniques explored, what worked well, areas for improvements and how those techniques link with the artists I am looking at.		
Environments: AO2- Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.		
Experiment with various drawing techniques to help with designing, though a range of materials.		
Experiment with clay slab construction techniques- cutting, layering and joining.		
Be able to explore the use of cardboard to create responses to environments- manipulating, layering and cutting effectively.		
Be able to use Photoshop or digital software to effectively edit and develop your photography.		
Explore combinations of mixed media to create surface texture.		
Environments - AO3- Record ideas, observations and insights relevant to intentions as work progresses.		
Use tracing as a process to record imagery and ideas.		
Use line, tone and pattern to record texture and surface.		
Understand how to develop photography skills, experimenting with angles, composition, lighting and how to use the camera.		
Evidence through writing; how I intend to manipulate materials, develop ideas within the theme of 'Environments' and evaluate work and ideas as they progress		
Art - Environments: AO4- Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.		
Present a clay slab outcome.		
Be able present a card construction outcome linking with appropriate artists and demonstrating your control of the material.		
Present a series of well edited Photographs that link with the project of Environments.		

3D Art Knowledge Organiser: Portraits.

1 TIER THREE VOCABULARY

Composition	Composition is the arrangement of elements within a work of art.
Analyse	Examine (something) methodically and in detail, typically in order to explain and interpret it.
Architecture	The art or practice of designing and constructing buildings.
Ceramics	Pots and other articles made from clay hardened by heat.
Maquette	A sculptor's small preliminary model or 3D sketch.
Mood	The emotions that are elicited in the viewer of a piece of artwork, intentionally or unintentionally
Subject Matter	What the artwork is trying to portray. If, for example, you are looking at a painting of birds, then the subject matter is the birds.
Annotation	Written explanations or critical comments added to art or design work that record and communicate your thoughts Conceptual - an art form in which the underlying idea or concept and the process by which it is achieved are more important than any tangible product.
Influence	Be inspired by the style of art styles and movements.
Proportion	Proportion is the relationship of one part of a whole to other parts.
Photomontage	A montage constructed from photographic images.
Collage	a piece of art made by sticking various different materials such as photographs and pieces of paper or fabric on to a backing.

2 Concepts

What is architecture?

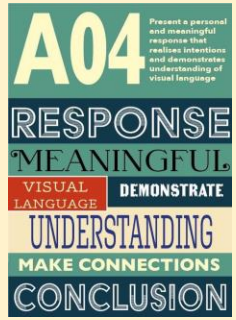
The science and art of designing buildings is known as architecture. People who practice architecture are called architects. Architects express an artistic vision through the size, shape, colour, materials, and style of a building's elements. But unlike painters or sculptors, who can create a work of art for its own sake, architects must design a building for a specific purpose. The architect can produce a work of art, but it must also be functional.

What is Abstraction?

Abstract art is **art** that **does** not attempt to **represent** an accurate depiction of a visual reality but instead use shapes, colours, forms and gestural marks to achieve its effect. Abstract means to remove from reality.

3 How you are assessed at GCSE.

The assessment objectives are equally weighted so each is worth 25% of your coursework grade. Evidence can be found throughout your project so for example a set of photos can gain you marks across several of the objectives.



4 Architecture, abstraction and photomontage.

John Andrew Stewart- Young British artist working in London.
You can see the influence of Soviet design and composition ideas in this work.

David Umemoto- Concrete casting and paper sculptures.

Architects Zaha Hadid and Santiago Calatrava

LINKS & FURTHER READING

Zaha Hadid- Website.

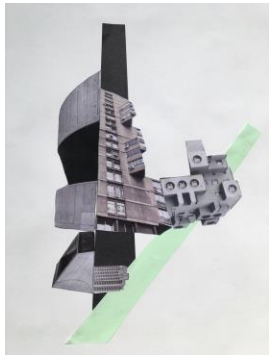
Britannica Kids- A history of architecture.

BBC Bitesize videos on annotating work.

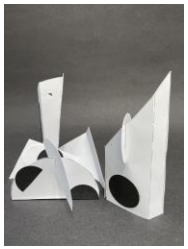
3D Art Knowledge Organiser: Environments

6 Developing ideas and techniques.

Photography, collage and Photomontage. This can be used for exploring ideas, experimenting with compositions and creating possible creative directions to develop further.



Marquette's- A sculptor's small preliminary model or 3D sketch. These here are made from paper and card and help a sculptor or architect realise how an object fill space as opposed to a 2D sketch.



The slab building technique starts with smooth slabs of clay that are formed around moulds or shaped and cut by hand. The slabs are then layered. This technique is used to make more angular shapes that can't be created on a wheel.

7 Artists Studies- using their influence in your work.

Analyzing and investigating how other artists work and then using this to inspire your work is an important part of a GCSE, here are some sketchbook examples below.

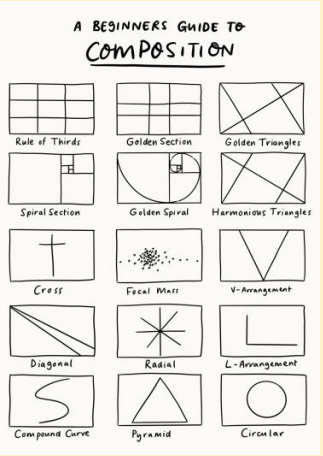
8 Student examples of personal outcomes.

Student examples of 2D relief and 3D card construction outcomes.

9 Composition and the Colour wheel.

The colour Wheel.

Primary colours. – Red, Yellow, Blue.
Secondary colours- Green, Orange, Purple.
Harmonious colours- next to each other on the colour wheel.
Complimentary Colours- opposite each other on the colour wheel.



10 LINKS & FURTHER READING

BBC Bitesize- card construction techniques.

BBC Bitesize-Ceramics materials and tools – AQA.

Chris Gilmore- Card artist creates hyper real sculptures with card.

Art Personal Learning Checklists

Art	Evidenced	Refined
Portrait Project: AO1- Develop ideas through investigations, demonstrating critical understanding of sources.		
I am able to research and annotate artists appropriate to the theme of your choice demonstrating your knowledge, opinions and understanding of the work.		
How to show the planning of ideas through either design sketches, digital drawing or collage.		
I know how to reflect on the techniques explored, what worked well, areas for improvements and how those techniques link with the artists I am looking at.		
Portrait Project: AO2- Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.		
How to experiment with observational drawing techniques-in a range of media.		
How to experiment with the medium of oil pastel, the use of colour and blending		
How to explore the use of clay to create a section of a portrait and experiment with the techniques the properties of the medium.		
How to use colour pencil effectively – blending and layering		
How to use painting techniques and to develop skills in colour mixing and paint application.		
Portrait Project: AO3- Record ideas, observations and insights relevant to intentions as work progresses.		
How to record through observational drawing using the gridded technique to ensure accuracy and proportion		
How to use photography creatively to record and explore portraiture.		
How to evidence through writing; how I intend to manipulate materials, develop ideas within the theme of 'Portraiture' and evaluate work and ideas as they progress		
Portrait Project: AO4- Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.		
How to present a sustained mixed media portrait outcome to include 2d and 3d elements making links with artists studied.		
How to present a series of well-edited photographs/ digital outcome making links with artists studied.		

Art Knowledge Organiser: Portraits.

1 TIER THREE VOCABULARY

Composition	Composition is the arrangement of elements within a work of art.
Analyse	Examine (something) methodically and in detail, typically in order to explain and interpret it.
Portrait	A painting, drawing, photograph, or sculpture of a person, especially one depicting the face or head and shoulders.
Mixed-media	A variety of media used in an entertainment or work of art.
Message	The statement the artist is trying to make.
Mood	The emotions that are elicited in the viewer of a piece of artwork, intentionally or unintentionally
Subject Matter	What the artwork is trying to portray. If, for example, you are looking at a painting of birds, then the subject matter is the birds.
Annotation	Written explanations or critical comments added to art or design work that record and communicate your thoughts Conceptual - an art form in which the underlying idea or concept and the process by which it is achieved are more important than any tangible product.
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Collage	a piece of art made by sticking various different materials such as photographs and pieces of paper or fabric on to a backing.

2 Concepts

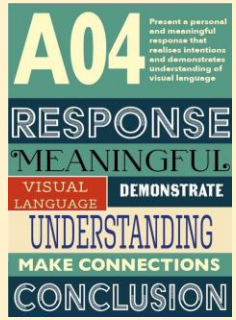
What is Cubism?
Cubism was a revolutionary new approach to representing reality invented in around 1907–08 by artists Pablo Picasso and Georges Braque. They brought different views of subjects (usually objects or figures) together in the same picture, resulting in paintings that appear fragmented and abstracted.

What is Abstraction?

Abstract art is **art** that **does** not attempt to **represent** an accurate depiction of a visual reality but instead use shapes, colours, forms and gestural marks to achieve its effect. Abstract means to remove from reality.

3 How you are assessed at GCSE.

The assessment objectives are equally weighted so each is worth 25% of your coursework grade. Evidence can be found throughout your project so for example a set of photos can gain you marks across several of the objectives.



4 Cubism, photographic joiners and photomontages.

Using photography and photomontage to create strange distorted portraits del Zou's work is clearly inspired by Cubism and David Hockney's photographic joiners.

Pablo Picasso

David Hockney

Bruno Del Zou

5 LINKS & FURTHER READING

Creating Digital Photomontages

Scan these QR codes to see a tutorial on how to use Photoshop to make photographic joiners.

This one is more complicated and uses multiply photographs.

BBC Bitesize videos on annotating work.

Art Knowledge Organiser: Portraits.

6 Developing ideas and techniques.

Photography, collage and Photomontage. This can be used for exploring ideas, experimenting with compositions and creating possible creative directions to develop further.

Gridded drawing technique. This is used to draw an images with accurate proportion.

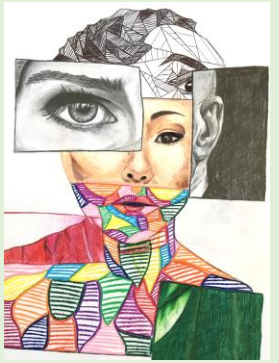
Experimenting with a range of painting and drawing techniques in various media.

7 Artists Studies- using their influence in your work.

Analyzing and investigating how other artists work and then using this to inspire your work is an important part of a GCSE, here are some sketchbook examples below.

8 Student examples of personal outcomes.

Student examples of mixed media outcomes.



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The colour Wheel.
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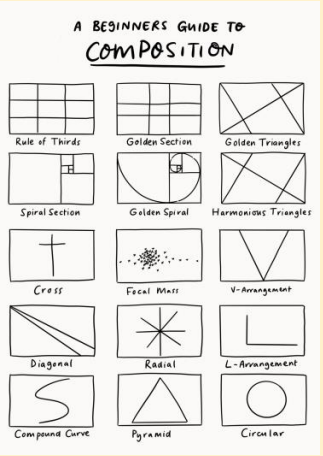


10 LINKS & FURTHER READING

David Hockney on his photocollage process (1983) - Bing video

The Delights of Seeing: Cubism, Joiners and The Multiple Viewpoint

Art Knowledge Organiser: Portraits.

Greater **R**eflection and **I**mprovement and **T**ime **Visual checklist of tasks** What do you need to do to improve and develop?

Quick collage experiments in the style of Brno del Zou 	Hockney artist study page 	Gridded pencil drawing 	Portrait pen drawing 
Brno del Zou study page 	Hockney style photographic joiner 	Collection of features 	Pattern portrait 
Set of portrait photos 	Illustrated Venn diagram 	Observational drawings of features 	Clay eye 
Own photomontage in the style of Brno del Zou 	Painted eye section 	Jenny Saville Artist study page 	Mixed media outcome 
Picasso artist study page 	Line drawing of photomontage 	Coloured pencil drawing 	Evaluation of your work Analysing and evaluating - Analysing and evaluating - AQA - GCSE Art and Design Revision - AQA - BBC Bitesize

Computer Science Personal Learning Checklists

Unit 1: Systems Architecture	S	O	R	T
I can describe the purpose of the CPU				
I can describe Von Neumann architecture				
I can describe common CPU components and their function				
I can describe the function of the CPU as fetch and execute instructions stored in memory				
I can describe how common characteristics of CPUs affect their performance				
I can describe embedded systems				
I can explain the difference between RAM and ROM				
I can explain the need for virtual memory				
I can describe the need for secondary storage				
I can describe data capacity and calculation of data capacity requirements				
I can compare common types of storage				
I can compare suitable storage devices and storage media for a given application, and the advantages and disadvantages of these				
Unit 2: Data Representation	**S**	**O**	**R**	**T**
Define different capacities of data				
Convert positive denary whole numbers (0-255) into 8-bit binary numbers and vice versa				
Convert between binary, denary and hexadecimal equivalents of the same number				
Add two 8-bit binary integers and explain overflow errors which may occur				
Understand the use of binary shifts				
Understand the use of binary codes to represent characters				
Understand the term 'character set'				
Explain the need for image metadata				
Explain the relationship between file size and image resolution				
Understand how sound is sampled and stored in digital form				
Explain how sampling intervals and resolution affect the size of a sound file using the terms:				
Explain the difference between lossy and lossless compression				
Explain the need for compression				

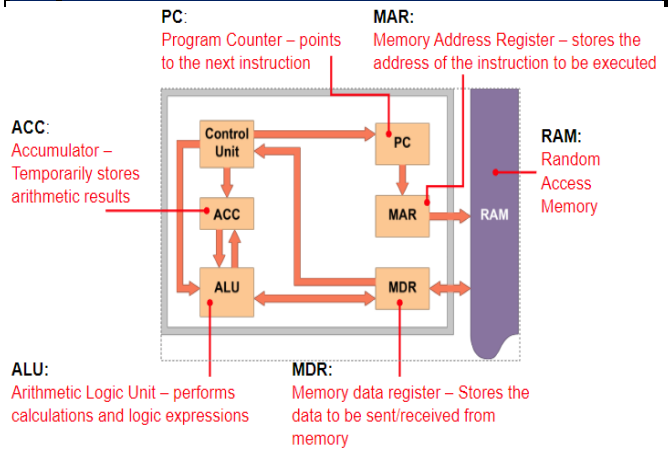
Unit 7: Programming	S	O	R	T
Run simple Python programs in Interactive and Script mode				
Write programs using selection to give different outputs based on conditions				
Write programs using different types of data (e.g. strings and integers)				
Correctly use different variable types (e.g. integer and floating point), assignment statements, arithmetic operators				
Use multiple selection statements to give more than 2 outcomes of code				
Write programs that use a loop to repeat sections of code				
Use a while loop to repeat code based on a condition				
Use counters correctly in for loops				
Be able to use for loops with 3 arguments				
Use string manipulation on values stored in variables				
Write programs that use lists				
Create a list and append or change elements in the list				
Create and call a subroutine				
Unit 6: Algorithms	**S**	**O**	**R**	**T**
I can state what is meant by an algorithm				
I can state what is meant by abstraction				
I can state what is meant by decomposition				
Be able to produce structure diagrams				
Understand and use binary and linear search				
Understand the standard sort algorithms				
Be able to apply each algorithm to a data set				
Be able to Identify an algorithm if given the code for it				
Understand flowchart symbols				
Create, interpret, correct, complete and refine algorithms using flowcharts				
I can use pseudocode to define the steps in a complex algorithm				
Understand how to identify and correct errors in algorithms				
Create and use of trace tables to follow an algorithm				

Computer Science Knowledge Organiser: Systems Architecture

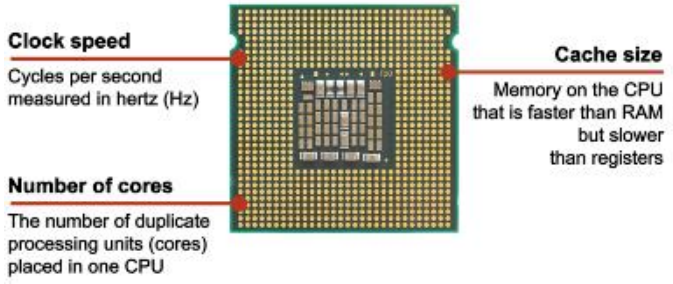
1 TIER THREE VOCABULARY

Accumulator	A special register that stores intermediate results of arithmetic and logical operations performed by the CPU.
Arithmetic Logic Unit (ALU)	Responsible for performing arithmetic operations and logical operations
Cache Memory	A type of high-speed memory that is used to store frequently accessed data and instructions
Central Processing Unit (CPU)	The primary component of a computer system responsible for executing instructions and performing calculations.
Clock Speed	The speed at which the CPU operates, measured in hertz
Control Unit	The component of the CPU that coordinates and manages the execution of instructions.
Magnetic Storage	A method of storing data using magnetized particles on a surface. Used in hard disk drives (HDDs)
Memory	The component of a computer system that stores data and instructions that are being actively used by the CPU
Memory Address Register (MAR)	A register that holds the memory address of data or instructions being read from or written to the memory.
Memory Data Register (MDR)	A register that temporarily holds the data being read from or written to the memory.
Non-volatile Memory	Permanent memory that retains stored data even when power is removed.
Optical Storage	Optical discs, such as CDs, DVDs, and Blu-ray,
Primary Storage	The main memory of a computer system, including RAM and cache memory, used to hold data and instructions currently being processed.
Program Counter (PC)	A special register that stores the memory address of the next instruction to be fetched and executed.
Random Access Memory (RAM)	Volatile memory that is used by the computer to store data and instructions temporarily. It provides fast access for reading and writing data.
Read-Only Memory (ROM)	Non-volatile memory that stores permanent instructions and data that are not typically modified.
Registers	Small, high-speed memory locations within the CPU used to store data and instructions that are currently being processed.
Secondary Storage	Non-volatile storage devices, such as hard disk drives (HDDs) or solid-state drives (SSDs), used for long-term storage of data and programs.
Solid-State Storage	Solid-state drives (SSDs), USB drives
Virtual Memory	Part of secondary storage that is used when RAM is full
Volatile Memory	Temporary memory that requires power to maintain stored data. When power is removed, the data is lost.
Von Neumann Architecture	instructions and data are fetched from the same memory using the fetch-decode-execute cycle.

2 Von Neumann Architecture



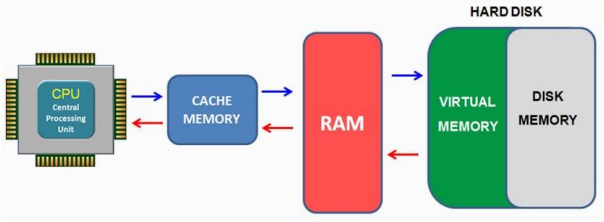
3 CPU Performance & Embedded Systems



Characteristic	Embedded system	General purpose machine
CPU speed	Typically slow	Typically very fast
Software	Has one purpose and cannot install new software	New software can be installed
Storage	Programs stored on ROM	Programs stored on hard drives
Reliability	Typically very reliable – e.g. a microwave should not have a bug that changes defrost to full power	As it runs many software programs it may be less reliable and need restarting the device

4 Primary Storage

Characteristic	RAM	ROM
Size	Typically 4 GB – 32 GB	Typically 4 MB – 8 MB
Used to store	Running programs and operating system	BIOS and bootstrap
Read ability	Yes	Yes
Write ability	Yes	No
Volatile	Yes	No



4 Secondary Storage

	Magnetic HDD	Solid State Drive (SSD)	Optical Media
Cost	Medium	High	Very low
Capacity	High	Medium	Very Low
Durability	Medium	High	Medium
Reliability	Medium	High	Low
Portability	Medium	High	Very High
Speed	Medium	High	Slow

Computer Science Knowledge Organiser: Data Representation

1 TIER THREE VOCABULARY

ASCII	A character encoding standard that assigns unique numeric codes to represent characters. 7 or 8 bits per character
Binary	A number system that uses a base-2 representation, consisting of only two digits: 0 and 1.
Binary Arithmetic	Mathematical operations performed on binary numbers
Binary Conversion	The process of converting a number from one base to binary (base-2) or vice versa.
Binary Representation	The representation of data or instructions in binary format.
Binary Shift	A binary operation that shifts the bits of a binary value Left shifts multiply the value by 2, while right shifts divide the value by 2.
Bit	Short for "binary digit," a bit is the smallest unit of data. It can represent a value of either 0 or 1.
Byte	A unit of digital information that consists of 8 bits.
Character	A single symbol or letter that can be represented using ASCII or other character encoding standards.
Compression	Reducing the size of a file to make it quicker to transmit and store on devices
Kilobyte (KB)	1,000 bytes.
Megabyte (MB)	1,000 kilobytes
Gigabyte (GB)	1,000 megabytes.
Terabyte (TB)	1,000 gigabytes.
Petabyte (PB)	A 1,000 terabytes.
Image	An image can be represented using pixels. Each pixel is assigned a binary value to represent its colour
Hexadecimal	Hexadecimal (or hex) is a number system which uses base 16.
Metadata	Data about data i.e Date created, author
Overflow error	An error that occurs when the computer attempts to handle a number that is too large for it.
Sample Rate	The number of samples taken per second
Sample resolution	The number of bits (audio bit depth) used for each sample
Sound	Sound waves are sampled at regular intervals, and each sample is converted into a binary number to represent the amplitude of the sound a point in time.
Unicode	An extension on ASCII uses 32 bit to include all world languages

2 Number Representation

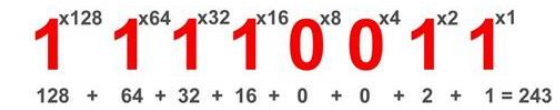
Units of Data Storage

- Bit
- Nibble - 4 bits
- Byte - 8 bits
- Kilobyte (KB) - 1,000 bytes
- Megabyte (MB) - 1,000 KB
- Gigabyte (GB) - 1,000 MB
- Terabyte (TB) - 1,000 GB
- Petabyte (PB) - 1,000 TB

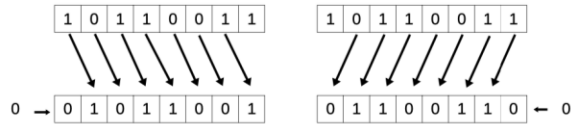
Addition

		Carry Over	Result
1.	0 + 0	0	0
2.	0 + 1	0	1
3.	1 + 0	0	1
4.	1 + 1	1	0
5.	1 + 1 + 1	1	1

Numbers



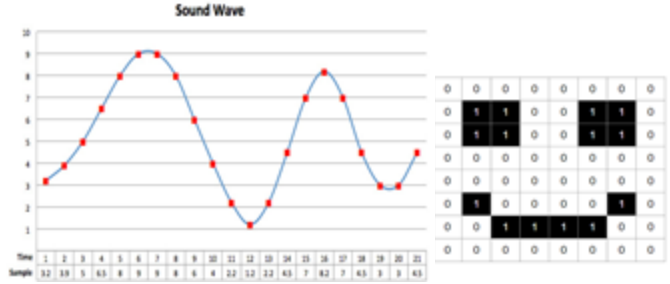
Shifting



3 Characters, images and sound

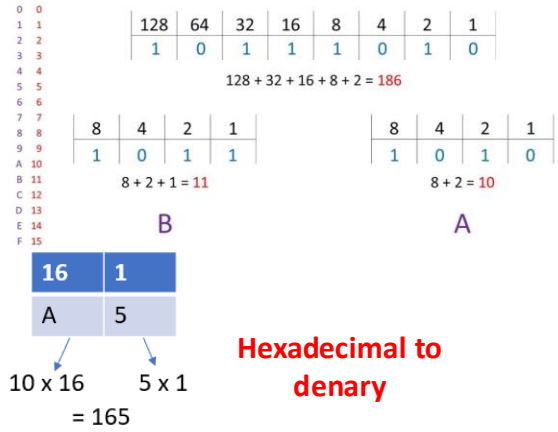
Binary	01100111	01101111	01101111	01100100	01100010	01111001	01100101
Decimal	103	111	111	100	98	121	101
Letter	g	o	o	d	b	y	e

goodbye



4 Hexadecimal

Convert 186 from Denary to Hexadecimal



4 Compression

Lossless:

- Decompressed file is the same as the original
- Doesn't compress as well as lossy
- For data you want to preserve
- Logs, documents, binaries, configuration

Lossy:

- Decompressed file might have lost information from the original
- Drops "unimportant" information from the file to make it compress better
- Images, sound, movies

Computer Science Knowledge Organiser: Programming

1	TIER THREE VOCABULARY
Abstraction	The process of simplifying complex systems or concepts by focusing on essential features while hiding unnecessary details.
Algorithms	Step-by-step instructions or procedures for solving a specific problem or performing a specific task.
Array	A collection of data items stored in sequential order
Arithmetic operators	Symbols used to perform mathematical operations such as addition (+), subtraction (-), multiplication (*), division (/), and others.
Boolean	A data type that represents logical values, either True or False.
Comments	Annotations in code that are not executed but provide information or explanations
Comparison operators	Symbols used to compare values, such as equal to (==), not equal to (!=), greater than (>), less than (<), greater than or equal to (>=), and less than or equal to (<=).
Concatenate	link together in a chain or series. Used in program to join data together
Conditional statements	Programming structures that allow different paths of execution based on specified conditions.
Data types	The classification of data in programming languages, including string (text), integer (whole numbers), float (decimal numbers), and Boolean (true/false).
Debugging	The process of identifying and fixing errors or bugs in a program to ensure it runs correctly.
Elif statement	A conditional statement that allows multiple conditions to be checked in sequence and executes if any of the conditions are true.
Else statement	A conditional statement that executes a block of code if the condition(s) in an if statement are false.
Error handling	Techniques used to catch and handle errors or exceptions that may occur during the execution of a program.
Float	A data type that represents numbers with decimal places.
For loop	A loop that iterates over a sequence of elements, such as a list or a defined number of times
If statement	A conditional statement that executes a block of code if a specified condition is true.
Indexing	The process of accessing specific elements in a list or string by their position using square brackets
Input	The process of providing data or information to a program during its execution.
Integer	A data type that represents whole numbers without decimals.
Iteration	The repetition of a process in order to generate a sequence of outcomes.

3 Output

```
# Printing a simple text
print("Hello, world!")

# Printing a variable
name = "Alice"
print("Hello,", name)

# Printing multiple variables
age = 25
print("Hello,", name, "You are", age, "years old.")
```

4 Input

```
# Taking input as a string
name = input("Enter your name: ")
print("Hello,", name)

# Taking input as an integer
age = int(input("Enter your age: "))
print("You are", age, "years old.")

# Taking input as a float
height = float(input("Enter your height in meters: "))
print("Your height is", height, "meters.")
```

5 Selection

```
# Example: Checking a number and string input using if statements
number = int(input("Enter a number: "))
if number > 0:
    print("The number is positive.")
elif number < 0:
    print("The number is negative.")
else:
    print("The number is zero.")

secret_word = "banana"
guess = input("Enter your guess for the secret word: ")
if guess == secret_word:
    print("Congratulations! You guessed the secret word correctly!")
else:
    print("Sorry, your guess is incorrect.")
```

Computer Science Knowledge Organiser: Programming

1 TIER THREE VOCABULARY

Lists	**A data structure in Python used to store an ordered collection of items.**
Logical operators	Operators used to combine or manipulate logical expressions, including AND, OR, and NOT.
Loops	Structures that repeat a block of code until a certain condition is met.
Nested conditionals	Conditionals within other conditionals, allowing for more complex decision-making.
Output	The result or data produced by a program after performing operations or calculations.
Parameters	Values passed to a function to customize its behaviour or provide inputs for calculations.
Programming language	A formal language with a set of rules and syntax that allows programmers to write instructions to be executed by a computer.
Python	A high-level programming language known for its simplicity and readability
Random module	A Python module that provides functions for generating random numbers and selecting random elements.
Return	A statement within a function that specifies the value to be returned as the result of the function.
Selection	Selection is a programming construct that allows you to execute different blocks of code depending on a condition.
Slicing	Extracting a portion of a list or string by specifying a range of indices.
String	A data type that represents a sequence of characters, typically used to store and manipulate text.
Subroutines	Blocks of reusable code that perform specific tasks or operations.
Syntax Error	The rules and structure governing the arrangement of words, symbols in a programming language. If they're not correct a program will not run
Testing	The process of verifying the correctness of a program by running various test cases
Variable	A named container that holds a value that can be changed and accessed during the program's execution.
While loop	A loop that repeats a block of code as long as a specified condition is true.

6 Comparisons

Operator	Description	Example
==	Equal	5 == 5
!=	Not equal	5 != 3
>	Greater than	5 > 3
<	Less than	3 < 5
>=	Greater than or equal to	5 >= 5
<=	Less than or equal to	3 <= 5

9 String Manipulation

```
1   x = "Hello year 9"
2   print(x.find("year"))
```

The find Command
Finds the starting index that the item being searched for starts at.
For example: this will output 6

String Slicing

Using the square brackets [and] we can output specific characters from a variable. The : separates the beginning and ending values

Example 1: would output "Hello"
Example 2: would output "year 9"

Example 1

```
1   x = "Hello year 9"
2   print(x[:5])
```

Example 2

```
1   x = "Hello year 9"
2   print(x[6:])
```

The len Command

```
1   print(len("Hello"))
```

Finds the number of characters in a variable
For Example: This would output 5

7 For Loop

```
# Example: Using a for loop with specified start, end, and increment values
print("Printing numbers from 1 to 10 with an increment of 2:")
for i in range(1, 11, 2):
    print(i)

print("\nPrinting numbers in reverse order:")
for i in range(10, 0, -2):
    print(i)
```

8 While Loop

```
# Example: Using a while loop to repeatedly ask the user for input
secret_word = "python"
guess = ""

while guess != secret_word:
    guess = input("Enter your guess for the secret word: ")
    if guess == secret_word:
        print("Congratulations! You guessed the secret word correctly!")
    else:
        print("Sorry, your guess is incorrect. Try again.")
```

10 Arrays

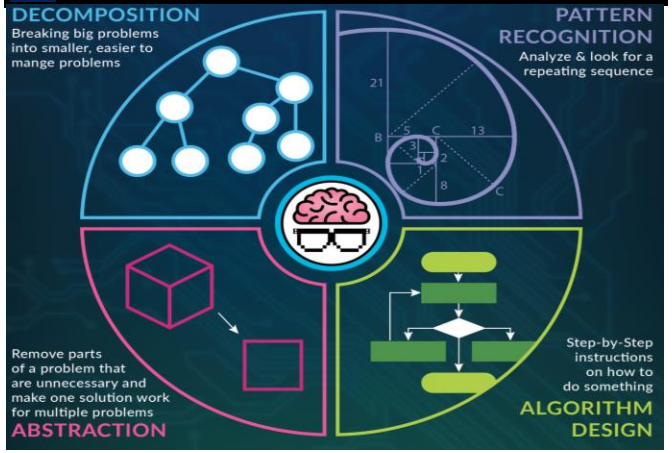
```
# Step 1: Creating a list
animals = ["cat", "dog", "bird"]
print("Initial list:", animals)

# Step 2: Adding an element
animals.append("fish")
print("After append:", animals)

# Step 3: Modifying elements
animals[2] = "parrot"
print("After modifying element at index 2:", animals)

animals[-1] = "lizard"
print("After modifying the last element:", animals)

# Step 4: Accessing elements
first_animal = animals[0]
print("First animal:", first_animal)
```

Computer Science Knowledge Organiser: Algorithms

1 TIER THREE VOCABULARY

Abstraction	Focusing on the essential details while ignoring unnecessary or irrelevant information.
Algorithm	Set of rules used to solve a specific problem or accomplish a task.
Binary Search	It repeatedly divides the search space in half by comparing the target value with the middle element of the list. If the target is less than the middle element, the search continues in the lower half; if it is greater, the search continues in the upper half.
Bubble Sort	Compares adjacent elements and swaps them if they are in the wrong order. It continues this process until the entire list is sorted.
Computational Thinking	Computational thinking is a problem-solving approach that involves breaking down complex problems into smaller, more manageable parts, identifying patterns, and developing algorithms to solve them.
Decomposition	Decomposition is the process of breaking down a complex problem or task into smaller, more manageable parts or subproblems.
Flowchart	A flowchart is a visual representation of the steps or actions in an algorithm or process. It uses various shapes, symbols, and arrows to illustrate the flow of control and the sequence of operations.
Insertion Sort	Starting with the second value in the list. If this value is greater than the value to the left of it, no changes are made. Otherwise this value is repeatedly moved left until it meets a value that is less than it.
Iteration	Iteration, also known as looping or repetition, is a programming construct that allows the execution of a set of instructions repeatedly.
Linear Search	Checks each element in a list or array one by one until the target element is found or the end of the list is reached.
Merge Sort	Divide-and-conquer sorting algorithm that recursively divides the list into smaller sublists, sorts them, and then merges them back together to produce a sorted list.
Pseudocode	A step-by-step description of an algorithm using simple English language text.
Selection	A programming construct - allows the execution of different sets of instructions based on certain conditions or criteria.
Sequence	A programming construct - Sequence is the order in which the statements are executed.
Trace Table	A table containing all the variables a program. Whenever the value of a variable changes, the change is indicated in the trace table.

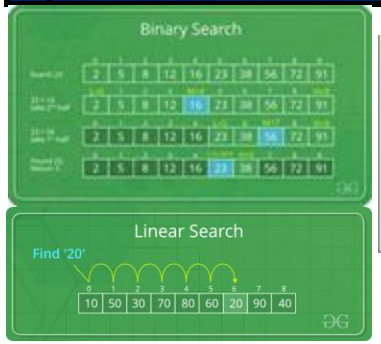
2 Computational Thinking



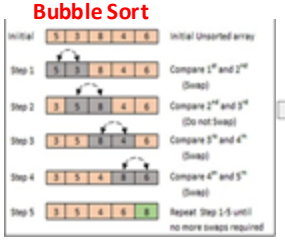
4 Flowcharts

Symbol	Usage
Start/Stop	The beginning and end points in the sequence.
Process	An instruction or a command.
Decision	A decision, either yes or no.
Input/Output	An input is data received by a computer. An output is a signal or data sent from a computer.

3 Searching & Sorting

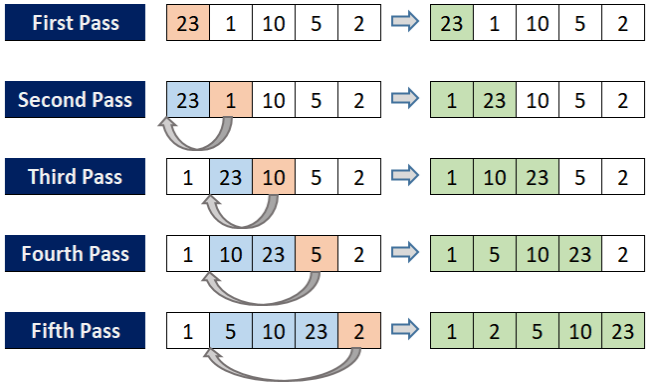


Bubble Sort



Merge Sort

Insertion Sort



4 Trace Tables

```
turns = 0
X = 3
while turns < 22
    X = X * 3
    turns = turns + 3
endwhile
print (X)
print (turns)
```

Turns	X	Output
0	—	—
0	3	—

Creative iMedia Knowledge Organiser: R095 Characters and Comics

1	TIER THREE VOCABULARY
Antagonist	The character who opposes the protagonist, often a villain.
Background Art	The artwork that represents the setting or environment in a comic.
Character Design	The process of creating the appearance, personality, and background of characters in comics.
Character Traits	The attributes, qualities, and personality of a character.
Client	An individual or organisation that commissions and receives the final media product.
Client Brief	A document that outlines the objectives, audience, and guidelines for a creative project.
Color Theory	The study of colors and how they interact, often used to evoke emotions.
Conflict	The central struggle or problem that drives the plot.
Dialogue	The spoken words between characters, often enclosed in speech bubbles in comics.
Exporting	The process of saving digital artwork or projects in specific file formats suitable for different uses, such as printing, online publishing
Facial Expressions	Visual representations of a character's emotions through their facial features.
Illustration	Creating images to accompany a story or text, often used in comics to visualize characters and scenes.
Narrative Structure	The organised way in which a story is told, including the sequence of events and plot development.

1	TIER THREE VOCABULARY
Narrative Text	Text within a comic that provides additional information or background, often found in boxes separate from speech bubbles.
Panel Layout	The arrangement of individual comic frames or panels on a page.
Plot	The sequence of events that make up the main story in a comic.
Protagonist	The main character around whom the story revolves.
Resolution	The conclusion of the story where conflicts are resolved.
Scene Composition	The arrangement of visual elements within a scene.
Speech Bubbles	Enclosed shapes containing dialogue or thoughts of characters.
Storyboarding	A sequence of drawings representing the shots planned for a comic or film.
Symbolism	The use of symbols to represent ideas or concepts in a story.
Target Audience	The specific group of people for whom the comic or media is intended.
Thought Bubbles	Bubbles that represent the thoughts of a character, usually cloud-shaped.
Typography	The art and technique of arranging type to make written language legible, readable, and visually appealing.
Visulisation Diagrams	Preliminary visual representations used to convey ideas for characters, settings, and scenes.

Creative iMedia Knowledge Organiser: R095 Characters and Comics

TA 1	TASKS

Task 1.1 A: Produces an effective interpretation of the client brief.
Task 1.1 B: Explanation of how the intended why it appeals to the target audience is comprehensive.

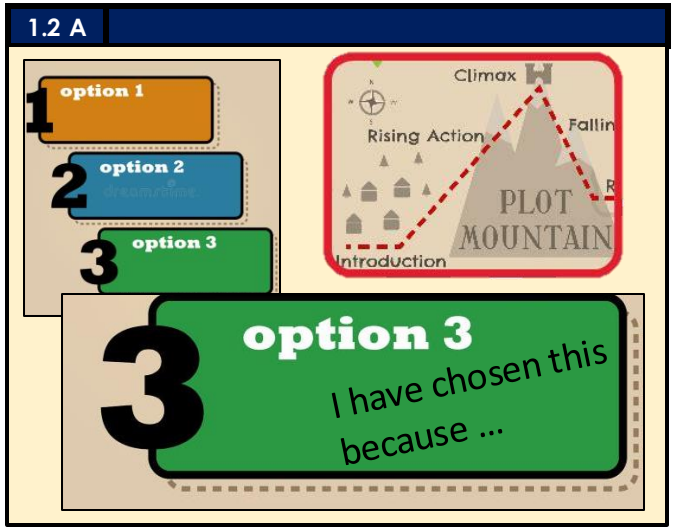
- An interpretation of the client brief and explanation of your target audience and how you will meet their needs.

Task 1.2 A: Produces detailed pre-production and planning documentation.

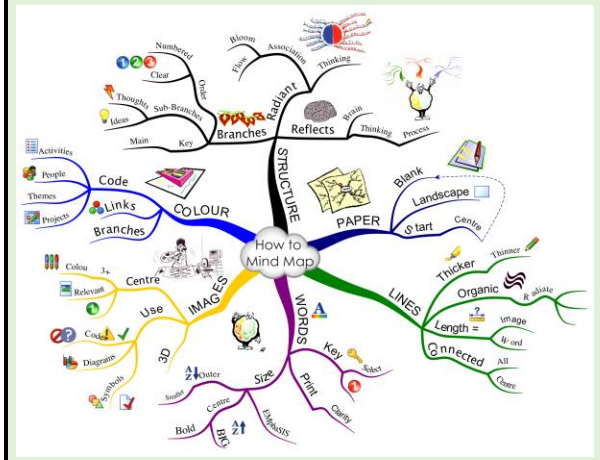
- Create a Story Mindmap
- Write Three possible story Ideas
- Justification of chosen story
- Write your chosen story in more detail.

1.1

1.2 A



1.2 A



TA1	LINKS & FURTHER READING

[What Is a Target Audience? Definition and Examples (cyberclick.net)]

[Exploring Plot Mountain: What It Is and How to Use It - The Teach Simple Blog]

Creative iMedia Knowledge Organiser: R095 Characters and Comics

TA 1 TASKS

Task 1.2 B: Pre-production and planning documentation support the creation of all elements of the final product. Character Planning -

- Create a Mindmap
- Create a Moodboard
- Create Visulisation Diagrams
- Justify Your chosen character designs

Task 1.2 C: Pre-production and planning documentation support the creation of all elements of the final product. Comic Planning –

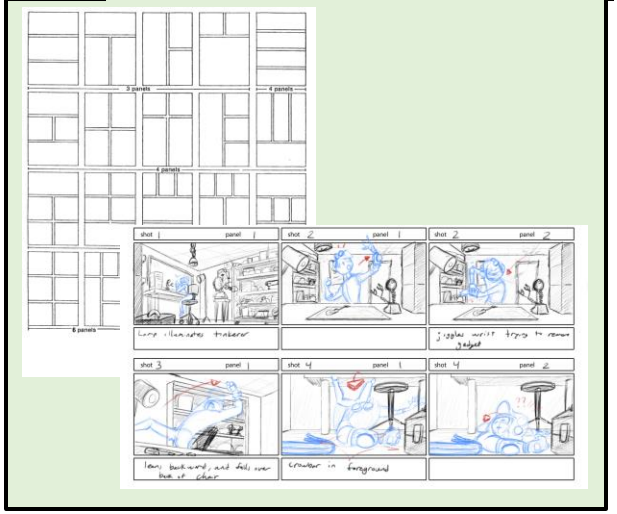
- Create a Panel layout / Design
- Create a storyboard for your comic (Template available)

Task 1.3: Demonstrates comprehensive understanding of how assets will contribute to the effectiveness of the final product.

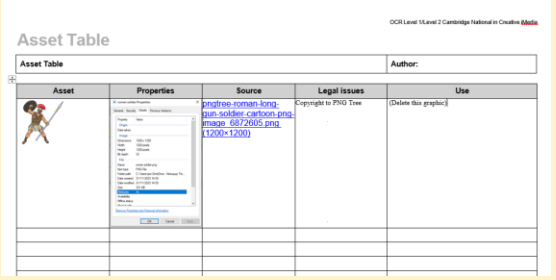
- Using the Template provided by OCR, identify all the assets you are going to need and explain why you need them.

1.2 B

1.2 C



1. 3



TA1 LINKS & FURTHER READING

What is a Mood Board — Definition & Examples Explained (studiobinder.com)

How to storyboard like a pro! (youtube.com)

Creative iMedia– R095 Characters and Comics

TA 2 **TASKS**

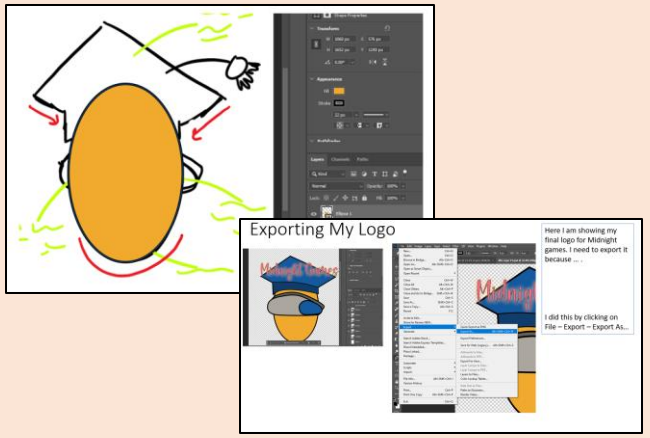
Task 2.1 A: Character and Asset Creation-

- You need to use appropriate tools on Photoshop to create the assets for your comic book.
- Your graphics need to be appropriate and creative, then evidence the properties of the graphics explaining why these file types were chosen(2.3).
- Create a range of assets that will be used in your graphic evidencing how you made them.

Task 2.1 B: Comic Book Creation

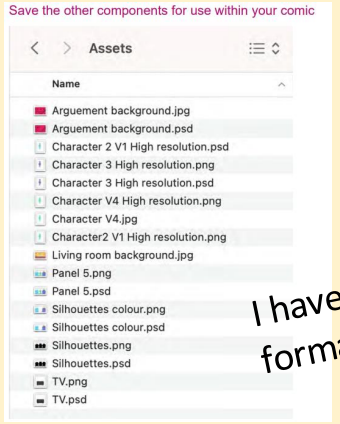
- You need to use appropriate tools on Comic Life to create the assets for your comic book.
- Your comic need to be appropriate and creative.
- Evaluate how your comic book is suitable for the target audience and how it meets the needs of the client.

2.1 A



2.1 B

2.1A



I have chosen this format because ...

TA2 **LINKS & FURTHER READING**

How to use Photoshop for beginners - learn the basics – Adobe

comiclife-3.0-gettingstarted1.1b (plasq.com)

Creative iMedia Knowledge Organiser: R095 Characters and Comics

TA 2 & 3 TASKS

Task 2.1 C: Exporting your Character, Assets and Final Comic Book.

- Evidence the properties of the graphics used explaining why these file types were chosen (Completed in 2.1).
- Evidence the properties of the comic explaining why these file types were chosen.

Task 3.1 A: Testing your Character, Assets and Final Comic Book.

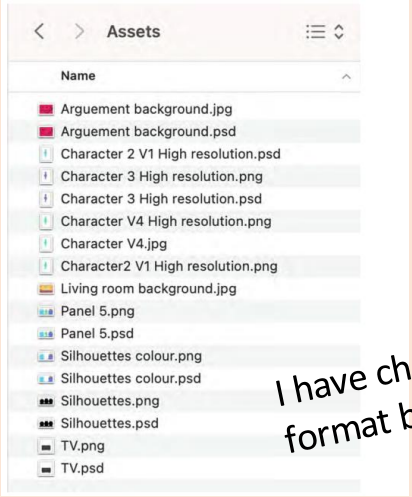
- Test the technical properties of the assets you used to create your comic. How are they suitable for the comic.
- Evaluate the effectiveness of your comic and how it meets the needs of the client and the needs of the Target Audience.

Task 3.2 B: Exporting your Character, Assets and Final Comic Book.

- Identify multiple areas you could improve if you had more time and fully explain how this would improve the comic. Easier to read, look better, more appealing to the Target Audience.

2.1 C

Save the other components for use within your comic



I have chosen this format because ...

3.1 A

I have created the character at 300dpi which is technically suitable for print. It is a JPG which is not the ideal format as it doesn't support transparency. I think the characteristics of the character were suitable for the simplified style of character I was aiming to achieve. The level of detail in the character design could be seen as lacking but it suited the style and aim of the comics story telling aim. The facial expressions were a little similar throughout the comic which is probably one of the less successful elements of the design, this was largely due to the limitations put on my character design but my artistic ability which isn't great!

Asset	Technical fitness for purpose
Living room background	The image I sourced from Getty images, is a high quality 300dpi resolution, this is a jpg format also but as this is a background transparency not really problem.
Argument background Panel 4	I created this background at 300 dpi and created it on a larger canvas to ensure that it would fill the panel and could be made smaller if needed.
Friend characters	I modelled the 2 other characters on the main character so they have the same technical properties.
Friend silhouettes	I modelled the 2 other characters on the main character so they have the same technical properties.
Television	I created this item on a small canvass but ensured it was a png so supported a transparent background and was also 300dpi.
Controller	I created this item on a small canvass but ensured it was a png so supported a transparent background and was also 300dpi.
Speech bubbles	I made these in the comic creation software I am not sure what the technical properties are, but the quality appears to be sufficient to make the product effective.

3.1 B

Explain how you could improve the character you have created

I think I could improve my character by giving it a more expressive face. For example, in the scene where the character is embarrassed it would be good to see this in the facial expression.

Explain how you could improve the comic you have created

I think I could improve my comic by adding some onomatopoeia to my comic. I could do this in the argument scene, this would make the comic look more like a comic and more exciting for the audience. Also, the styling on the first and last panels are different so doesn't suit the theme, the final panel also has a different chap which I would change. I have used onomatopoeic style text in the last panel but it doesn't work, I would change this.

Explain how your comic and character could be developed further

As I mentioned above my character is not as expressive as it could be, this might mean that I would need to develop my character to make a series of different faces that could be used. I could also develop the character to have them in different positions, such as sitting and standing which would have made the comic more realistic.

TA2&3 LINKS & FURTHER READING

comiclife-3.0-gettingstarted1.1b (plasq.com)

JPEG vs. PNG: Which one should you use? | Adobe

Drama Personal Learning Checklists

Skills and Knowledge for the exam (Rating: 5 highly competent 4 excellent use of skill/knowledge 3 good 2 inconsistent 1 emerging)	**Date** **1 - 5**	**Date** **1 - 5**	**Date** **1 - 5**	**Date** **1 - 5**	**Date** **1 - 5**	**Date** **1 - 5**	**Date** **1 - 5**	**Date** **1 - 5**
Date								
Interpreting the question. Picking out key instruction words. Referring to it throughout your answer. Correct numbering.								
Legibility and speed of writing to meet time limit. Spending the right amount of time on each question								
Quotes from the question, text, playwright, practitioner.								
Subject specific terminology.								
Proof reading								
Referral to characters, actors, designers, practitioners accurately.								
A: Evaluation of Live Theatre 500 words of notes								
Understanding and ability to evaluate performers.								
Ability to write and evaluate key sections of the performance and combine the theatrical elements.								
B: Page to Stage Knowledge of That Face plot, character and themes.								
Knowledge of the playwright, first performance and her intentions.								
A clear and concise way of describing your performance/design that is well justified for the introduction.								
Drilling down on a moment in the scene with subject specific language.								
Justifying why this is appropriate or would create the desired effect.								
Saying how you would play the character at another moment in the play.								
C) Knowledge the Woyzeck plot, character and themes. A clean copy must be taken in with you.								
Knowledge of the playwright, first performance and HSCP influences of that time.								
A clear and concise way of describing your interpretation that is well justified and relevant to a contemporary audience.								
In depth writing on the way key moments within your interpretation will communicate to a contemporary audience.								
Writing on how a practitioner has influenced your interpretation.								
Refering to OPC's								

Drama Personal Learning Checklists Component 2

Skills and Knowledge for the exam (Rating: 4, Excellent; 3, Good; 2, Reasonable; 1, Limited)	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4
Date:								
Performance Basics								
I have learnt my lines								
I am able to work well with others, giving ideas and being supportive to the group								
I am attending extra rehearsals								
The blocking of our extract is complete								
My Theatrical Skills **Theatrical Skill Focus – 20 Marks**								
I have developed my ability to interpret and perform a clear character								
I have developed a range of vocal techniques eg clarity of diction, inflection, accent, pace, pause and timing, projection								
I have developed a range of physical skills and techniques eg movement, body language, posture, gesture, gait and facial expression								
I have developed an appropriate performer/audience relationship and ensure sustained engagement throughout the performance								
My interpretation of the character is entirely appropriate to the play as a whole								
My personal interpretation is sensitive to the context								
My artistic intentions are achieved								
EVIDENCE – Devising Log – Section 1 **Response to a Stimulus – 20 Marks**								
I have explained my initial response to the stimuli we chose								
I have evaluated our ideas, themes and settings for our piece								
I have analysed my research findings								
I have stated our dramatic aims and intentions of the piece								
EVIDENCE – Devising Log – Section 2 **Development and Collaboration – 20 Marks**								
I have evaluated how I developed and refined my own ideas and those of the pair/group during rehearsal								
I have explained how I developed and refined the piece in rehearsal								
I have evaluated how I developed and refined my own theatrical skills during the devising process								
I have evaluated how I responded to feedback from peers/ our teacher.								

EVIDENCE – Devising Log – Section 2 Analysis and Evaluation – 20 Marks								
I have evaluated how I have developed my own theatrical skills								
I have analysed the benefits I brought to the group and how I shaped the outcome of the performance								
I have evaluated the areas that needed further development								
Comments:								

Drama Personal Learning Checklists Component 3

Skills and Knowledge for the exam (Rating: 4, Excellent; 3, Good; 2, Reasonable; 1, Limited)	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4	Rating 1 - 4
Date:								
Performance Basics								
I have learnt my lines								
I am able to work well with others, giving ideas and being supportive to the group								
I am attending extra rehearsals								
The blocking of our extract is complete								
Costume and props are organised								
My Theatrical Skills								
I have developed my ability to interpret and perform a clear character								
I have developed a range of vocal techniques eg clarity of diction, inflection, accent, pace, pause and timing, projection								
I have developed a range of physical skills and techniques eg movement, body language, posture, gesture, gait and facial expression								
I have developed an appropriate performer/audience relationship and ensure sustained engagement throughout the performance								
My interpretation of the character is entirely appropriate to the play as a whole								
My personal interpretation is sensitive to the context								
My artistic intentions are achieved								
Comments:								

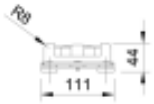
Understanding engineering drawings	S	O	R	T
Interpreting engineering drawings				
Sizes of parts or elements to be made				
Details on materials				
Information on finishes				
Various views of the product				
Tolerances				
Scale				

Using 2D and 3D CAD to create drawings	S	O	R	T
Title blocks				
Scales				
3rd Angle Orthographic Projection				
Isometric OProjection				
Dimensions – Linear, Chain and Parallel				
Section Views				
3D workspaces and 3D modelling				
Line types – Centre line, hidden detail				

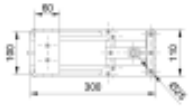
Year 10 Learning Cycle 1 Engineering - Engineering Drawings

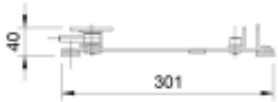
Engineering Drawings

A set of drawings of a product, its individual parts and components. It will have different views looking from the top - **Plan**, and sides **Front** and **End.** These can be in 2D and 3D and could contain information such as:



- Materials
- Sizes - **Dimensions**
- Date of drawing/who drew it
- Scale
- Sections and 3D views
- Manufacturing

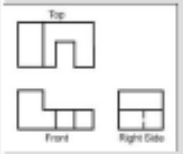
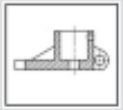
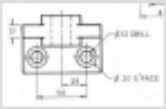




Manufacturing Specifications

- A Manufacturing Specification is a list of processes in order for your product to be made to the correct dimensions.
- It should include any safety points, tollerances, machinery tools required and cutting feeds & speeds.

Key Words	Definitions
Orthographic views	Are the standard views used to lay out a set of engineering drawings. They must conform to British standards (BS8888) to allow a common format of presenting information to various people such as manufacturers.
Scale	Informs the engineer what scale should be used when using the drawing. A scale of 5:1 indicates that the drawings are five times smaller than the original product should be.
Title blocks	Are used to display key sections of information about the drawing, i.e. scale, who made the drawing, the date it was drawn, the drawing number, Tolerance, materials.
Section views	Show a drawing of a part that may have been cut through to allow the reader to see further details
Isometric views	Are often used by engineers and designers to produce a three dimensional representation of the product or part
Finishes	Information gives details on what the finish of the part or product would look like, for example, a knurled finish on a tightening clamp
Detail views	Are sometimes used by engineers to explain the details of more .complex parts in an engineering drawing

Technique	Description/ notes	Diagram
Orthographic Projection/ Working Drawings	• Includes "Front", "Plan" and "End" 2D Views, and often an Isometric 3D View • Standardised method for scale, dimensions and line types • Great for manufacturing	
Isometric	• Common 3D sketching method • Can be drawn free-hand or using isometric paper and ruler • Angles are at 30 degrees • Great for seeing most of the products	
Exploded View	• Helps see a final design of a product and all it's parts • Can see where all the parts fit • Great for manufacturers	
Section	• A section view shows a cutaway section of the part to show internal structure	
Dimensions	• Dimension show the sizes of the parts and features of the product	
CAD	Computer Aided Design uses software to produce engineering drawings in two and three dimensions	

Interpreting engineering information

Engineers need to interpret the information found on engineering drawings to assist them in manufacturing.The information should be used to identify key areas in preparation for planning including Equipment, Tools and Tollerence.

English Personal Learning Checklists

A Christmas Carol		S	O	R	T
Stave One	How did ACC help to shape the way Victorians celebrated Christmas?				
	How does Dickens present the Victorian miserly rich?				
	How does Dickens implore the readership to have sympathy for the poor?				
	What does Marley warn against, and why would this be relevant to a Victorian audience? How does this link to the concept of free will?				
Stave Two	How does the appearance of the Ghost of Christmas Past reflect its purpose and intention?				
	How is Scrooge evidently beginning to change? What impact does this have upon the reader?				
	How does Fezziwig represent morality and social responsibility?				
	How does the end of the relationship between Belle and Scrooge exemplify the consequence of Scrooge's greed?				
Stave Three	How does the appearance of the Ghost of Christmas Present represent some of its values? What is a Cornucopian mindset?				
	What is the purpose of The Cratchit family?				
	How does Dickens act as a 'voice for the poor man's child' through his depiction of Ignorance and Want?				
	How are the motifs of heat and music used in this stave to express Dickens' attitudes regarding merriment?				
Stave Four	How does the appearance of the Ghost of Christmas Yet to Come reflect its significance? How does this character link to the Grim Reaper?				
	In what ways does Dickens construct the businessmen to reflect his disgust towards the negative impacts of capitalism?				
	How does the theme of consequence feature in this stave? What does Dickens imply about free will?				
	How does Tiny Tim's death contrast with Scrooge's? What is Dickens' intention here?				
Stave Five	How are Scrooge's movements different to that of Stave One? What are the connotations of his verbs?				
	Structurally, how is the ending cyclical, and what does this show?				
	Why is it essential that we know 'Scrooge kept his promise, and became a second father to Tiny Tim'?				
	How does ACC reflect a narrative for social change?				

Poetry	S	O	R	T
What is ‘Romanticism’? Where can this be seen in ‘The Prelude’?				
What are Wordsworth’s main messages in ‘The Prelude’?				
How does Blake feel towards the struggling poor?				
How is structure used in London?				
How is power presented in Ozymandias?				
How does the position of the voice impact tone and theme within Ozymandias?				
What is the impact of the Duchess’ lack of voice within My Last Duchess?				
How is structure used to reflect theme in My Last Duchess?				

Enterprise and Marketing Knowledge Organiser Design a business proposal

	TASKS

Task 1 – Complete market research to aid decisions

- Explain the overall aims of your market research.
- Choose appropriate market research tools that will help you to achieve the research aims. You should choose two primary and one secondary market research tool.
- Select your sampling method(s). Give reasons for your selection.
- Create your three chosen market research tools. You must be able to collect both quantitative and qualitative data.
- Carry out your market research.
- Collate your market research findings. Select and use the most appropriate method(s) to present the results.
- Review the results of your completed market research

colour	tally	total
red	𝍸 𝍸 𝍸 |	16
blue	||||	4
green	𝍸 |||	8
yellow	𝍸 |	6

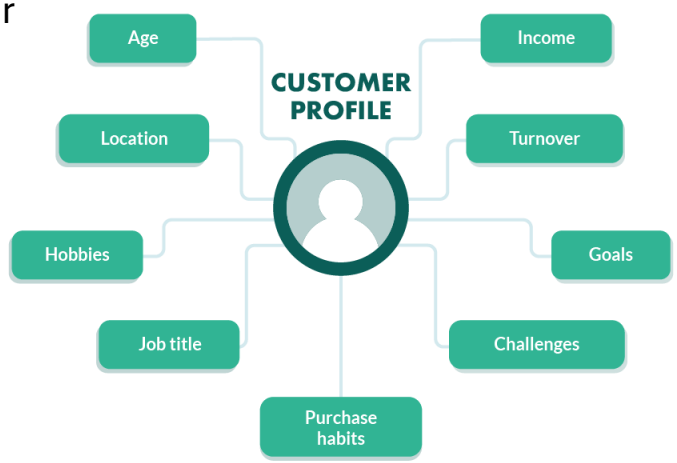
Enterprise and Marketing Knowledge Organiser Design a business proposal

TASKS

Task 2 – Identify a customer profile

- Referring to your market research findings, apply your knowledge of market segmentation to create and describe your customer profile.

- Justify your customer profile decision with reference to your market research findings.



Enterprise and Marketing Knowledge Organiser Design a business proposal

TASKS

Task 3 – Produce a design proposal

- Use your customer profile and your market research findings to create the outline of the design mix for your t-shirt.
- Give reasons for your chosen design mix, referring to your customer profile and market research findings.
- Use your design mix to generate two product design ideas. You must provide evidence of using a different creative technique for each product design idea.
- You will need to select **one** material type, **one** colour choice and **one** sleeve length for each design. You also need to select at least **two** design options for your t-shirt from the list provided on pages 4–5. Make a note of whether you have used a standard or non-standard colour, or more than one colour as this will affect your variable cost of production.
- For one of your design ideas, describe how you have used your design mix and market research findings to inform the design

Enterprise and Marketing Knowledge Organiser: Design a business proposal

SurveyMonkey®

	TASKS

Task 4 – Develop a product proposal

- Produce a self-assessment of both designs.
- Obtain verbal and written feedback on your designs from different individuals (e.g. interviews and questionnaires).
- Identify the strengths and weaknesses of your design proposals based on the feedback received.
- Create your final t-shirt design by modifying one of your designs, clearly labelling the alterations that you have implemented.
- Explain the reasons for choosing the final t-shirt design, making reference to the design mix

Enterprise and Marketing Knowledge Organiser Design a business proposal

	TASKS

Task 5 – Review whether a business proposal is financially viable

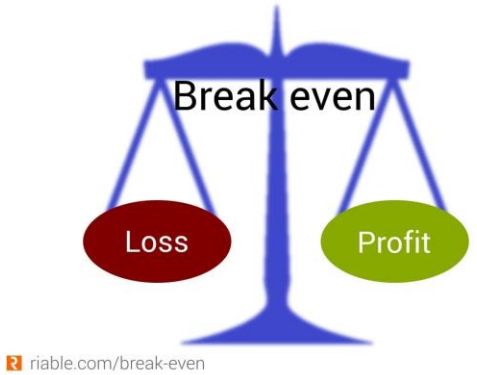
Part One You must:

- Identify all relevant costs (including fixed costs) and calculate the total variable costs for your t-shirt design.
- Predict the likely number of your t-shirts that may sell in the first month. Give reasons for your decision.
- Recommend a pricing strategy and a selling price which are appropriate for your chosen t-shirt design and customer profile. Give reasons for your decision.
- Complete the following calculations:

☐ Predicted total costs for the first month.
☐ Predicted revenue for the first month.
☐ Predicted total profit for the first month.

Part Two You must:

- Calculate the break-even level of sales. Describe what the results show.
- Describe the potential impact on the break-even level of sales of a change in price. Consider the impact this could have for the business proposal.
- Use all of your calculations to evaluate the financial viability of your business proposal



French Personal Learning Checklists

Mes Passetemps (My hobbies)	S	O	R	T
Explore events in the francophone world				
Use *aimer* + noun and *aimer* + infinitive				
Talk about what you do online				
Use the present tense of regular –er verbs				
Discuss the pros and cons of using the internet				
Say what you do to stay active				
Use the present tense of irregular verbs				
Be able to listen and transcribe in French				
Talk about what you watch				
Form and answer questions				
Be able to prepare a role play				
Make plans to go out				
Use the near future tense				
Respond to invitations				
Say what you did last weekend				
Use the perfect tense				
Pronounce é, er, ez correctly in French				
Take part in an interview				
Ask questions in the perfect tense				
Use 2 tenses together (present and perfect)				
Use your vocab booklet to sort your learning				

Mon clan, mon tribu (My family and friends)	S	O	R	T
Talk about your identity				
Use emphatic pronouns				
Talk about your weekend routine				
Use reflexive verbs in the present tense				
Make longer sentences using sequencers and connectives				
Be able to use possessive adjectives correctly				
Discuss friends and friendship				
Be able to make adjectives agree with the noun				
Translate a passage in to French				
Talk about what people look like				
Understand the position of adjectives				
Describe a photo in French				
Talk about positive role models				
Use direct object pronouns				
Use the present, perfect and near future tenses in your work				
Talk about celebrations				
Recognise adverbs				
Use your vocab booklet to sort your learning				

1.3 Drainage basins of the UK	S	O	R	T
Identify Flows and Stores of water in UK drainage basins (Hydrological Cycle)				
Define the terms interception, infiltration, throughflow and overland flow				
Describe how water passes through the Hydrological Cycle (Label a Diagram)				
Outline the effects of flooding in **one** location in the UK (Tewkesbury, River Severn)				
Describe strategies for river channel and drainage basin management in the UK to reduce the risk of flooding (Soft and Hard Engineering, and Land Use Zoning).				
Explain a range of factors which affect river discharge and result in River Flooding: - Physical Factors (including climate, vegetation and geology) - Human Factors (e.g. urbanisation)				
Explain the cause of flooding in **one** location in the UK (Tewkesbury, River Severn).				
Explain how Soft and Hard Engineering, and Land Use Zoning can reduce River Flooding.				
Assess whether we should continue to build homes on floodplains.				
Evaluate conflicting viewpoints over river/floodplain management and floodplain development (for example, the building of new homes) current and future.				
To decide on the best strategy(ies) to manage flooding in the future.				
Draw and interpret an Annual River Regime (yearly flow of a river)				
Draw and analyse a Flood Hydrograph				
Interpret O.S. Maps/Photographs/Satellite Images to identify flood risks.				
Understand the terms Flood Frequency and Flood Magnitude				
Calculate mean frequency (recurrence interval) of a hazard e.g. flood				

1.2a Landform Process and Change RIVERS	S	O	R	T
Describe these processes of fluvial (river) erosion: Hydraulic Action, Abrasion, Attrition, and Solution.				
Describe how material is transported in a river during: Traction, Saltation, Suspension, Solution and deposited				
Draw a labelled diagram/Describe the features of these landforms: V–shaped valley, waterfall (including plunge pool), gorge, meander (including slip-off slope), floodplain (including levees)				
Outline river management strategies to reduce the effects of erosion.				
Explain the formation of V-shaped Valleys				
Explain how different types of geology (rock type) lead to the development of a waterfall (gorge and plunge pool)				
Explain the formation of meanders and oxbow lakes				
Explain the formation of floodplains (including levees)				
Explain how climate (e.g. seasons) and extreme weather affect river discharge and the rate at which river landforms change.				
Explain how human intervention can lead to unintended consequences in rivers.				
Weigh up (evaluate) the advantages and disadvantages of river management strategies				
Justify whether human intervention should take place to reduce the effects of erosion.				
Identify and describe river landforms on an O.S. Map using map evidence.				
Study a photograph/satellite image of a river landscape that I haven't seen before and identify landforms at different scales.				
Draw and interpret river cross-sections.				

2.1 The urban-rural continuum	S	O	R	T
Describe the overall pattern of urban areas in the UK (naming example areas).				
Define the terms urban-rural continuum, sphere of influence, commuting and counter-urbanisation.				
Place types settlements into a hierarchy/along the urban-rural continuum and identify characteristics of these settlements.				
List services found in different types of settlements.				
Give examples of how technology is helping to change rural areas.				
Define the term sustainable community (using examples from the Egan's Wheel).				
Describe examples of sustainable rural strategies.				
Explain why urban areas have a greater sphere of influence				
Explain why some people move from cities to the countryside (counter-urbanisation).				
Explain why people commute and why this can cause issues (e.g. transport issues).				
Give reasons why services, such as shops or schools, close in some rural places (including changes in technology, commuting and second homes)				
Give reasons why some rural areas are experiencing depopulation and poverty (deprivation) and not others e.g. Scottish Highlands versus Rural Suffolk (East Anglia)				
Weigh up (evaluate) the strengths and weakness of various strategies that may help make rural communities sustainable (using stakeholders' viewpoints).				
Define the term Population Density and know how and why this varies around the UK.				
Analyse maps/graphs/data using TEA to show changes in population, transport, deprivation e.g. flow lines maps of commuter flows, choropleth maps of deprivation scores.				
Compare population pyramids of urban areas and different rural areas.				

2.2 Population and urban change	S	O	R	T
Describe how the UKs population has changed in the last 150 years				
Define the term birth rate, ageing population, migration				
Identify the 8 features of a Sustainable Community (The Egan's Wheel) and describe an example of a sustainable urban community (BedZED).				
Define the terms Greenfield site and Brownfield site				
Describe the location and features of **one named** Greenfield site and **one named** Brownfield site in the UK (Before and After)				
Describe how UK highstreets have changed (include Clone Towns) and can be improved.				
Describe how the UKs population has changed in the last 150 years				
Explain why the UK has: •Fairly low Birth Rates and very low death rates (leading to Natural Increase). •An ageing Population. •More migration into the country than out of the country.				
Explain why (and where) new houses are needed in the UK				

2.2 Population and urban change	S	O	R	T
Explain the consequences of an Ageing Population in the UK				
Give a range of factors which have changed retailing (shopping) in the UK *(including Economic, Cultural and Technological Changes)*				
Suggest why it is a challenge to create Sustainable Urban Communities in the UK				
Suggest why stakeholders (different groups of people) hold different views about new housing in the UK				
Suggest why stakeholders (different groups of people) hold different views about migration.				
Weigh up (evaluate) the costs and benefits of Out-of-Town Shopping and Internet Shopping				
Decide whether it is better to build on Brownfield or Greenfield sites.				
Rank order strategies for improving the retail environment (the High Street)				
Construct and read a line graph of population change over time.				
Read a stacked bar chart showing changed in the UKs population due to migration and births minus deaths.				
Create and read a Choropleth Map/Located Bar Map.				
Interpret the UKs population Pyramid				
Calculate net migration (immigration – emigration) and natural population change (births – deaths)				

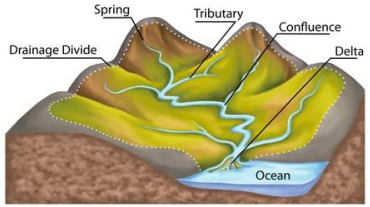
Geography Knowledge Organiser: Drainage Basins of the UK

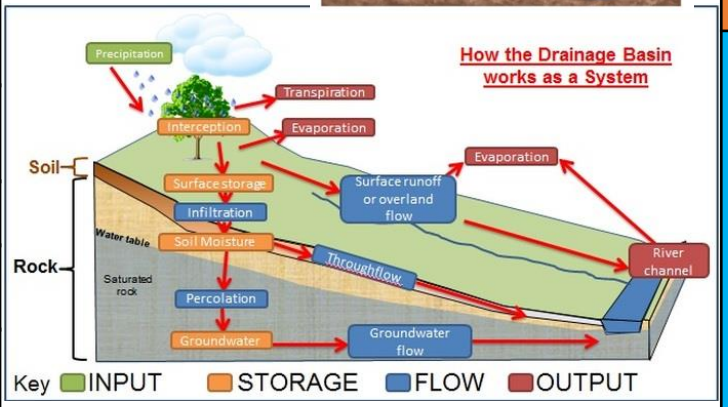
1 TIER THREE VOCABULARY

Cumecs	An abbreviation of cubic metres per second - which is a measure of the discharge of a river
Discharge	The amount of water flowing through a river channel or out of an aquifer. Discharge is measured in cubic metres per second (**cumecs**).
Flash floods	Flooding caused by a sudden downpour of rain. The rain falls so quickly it cannot soak into the ground.
Frequency	A number that describes the mean time gap between similar events such as floods or landslides.
Hard Engineering	Artificial/Man-made structures/defences to control natural processes
Impermeable	Soil or rock which does not allow water to pass through it, such as clay.
Infiltration	The movement of rainwater or snow melt into the soil.
Lag Time	The time delay between peak rainfall and peak discharge in a river.
Overland flow	The flow of water across the ground surface. Also called **Surface-Run Off**
Permeability	The ability of a rock to allow water to pass through it.
Permeable	A rock which allows water to pass through it, such as limestone.
Soft Engineering	Using natural methods/working with the environment, rather than trying to control it.
Water cycle	The continuous flow of water between the earth's surface and the atmosphere - also called the **hydrological cycle**.

2 Drainage Basin

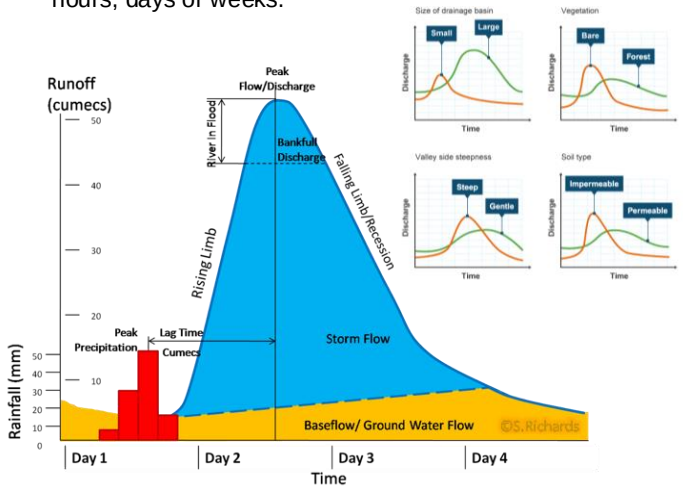
An area of land drained by a river and its **tributaries** (smaller channels which feed into a main channel)





3 Flood Hydrograph

A type of line graph that shows variation in **discharge** of a river. Time, which is on the horizontal axis, could be in hours, days or weeks.

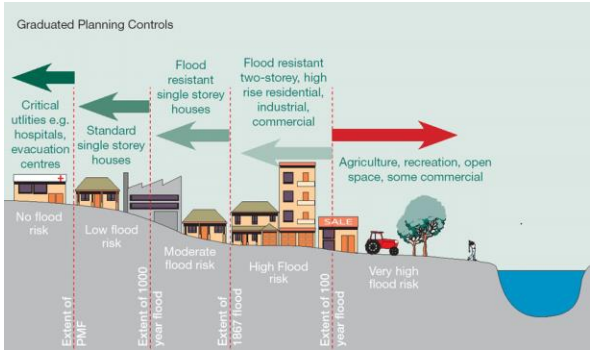


4 Flood management strategies

	Strategy	Advantages	Disadvantages
HARD	**Flood wall**	Can be permanently fixed or removable (demountable)	May obstruct views and access to river. If removable – takes a long time to install.
HARD	**Dam**	Reservoir behind often used for recreation. Can also produce hydroelectric power.	Expensive to construct. Reservoir floods farmland/ habitats. Traps sediment.
SOFT	**Affores tation**	Cost effective (cheap). Reduces amount of water entering the river channel. Creates habitats.	May have to purchase farmland to plant trees. Difficult to do in highly populated areas.
SOFT	**Land Use Zoning**	Essential services protected. Parks/agriculture can cope with flooding and allow water to infiltrate, reducing surface run-off/increasing lag.	Most floodplains already built on. Lack of greenfield space for new developments, other than on the floodplain.

5 Floodplain management/Land use zoning

The management of flooding and/or land use development on a Floodplain



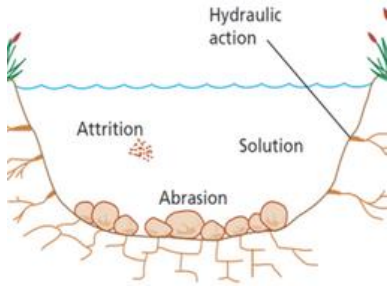
Geography Knowledge Organiser: Landform Process and Change RIVERS

1 TIER THREE VOCABULARY

Deposition	**The laying down of material in the landscape. Deposition occurs when the force that was carrying the sediment is reduced.**
Differential Erosion	Where different rock types (geology) erode at different rates, as they have varying resistance.
Floodplain	The flat area beside a river channel that is covered in water during a flood event.
Interlocking spurs	A feature of V-shaped valleys where the river meanders from side to side so that the hillsides interlock rather like the teeth of a zip.
Lateral erosion	The process by which a river can cut sideways into its own riverbank.
Lower Course	The lowland section of the river, near the sea, where deposition is the most important process, and the valley becomes wider and flatter.
Middle Course	The section of the river between the uplands and the lowland, where transport of eroded material is the most important process, and the river begins to cut sideways.
Oxbow lake	The loop of an old meander that is no longer connected to the river channel by flowing water.
Plunge pool	The pool of water found at the base of a waterfall. Plunge pools are erosional features created by abrasion and hydraulic action of the plunging water.
Unintended Consequences	The accidental, negative impacts of Human Activity/ Intervention e.g. river management.
Vertical erosion	When the force of water, that is wearing away the landscape, is concentrated downwards.
V-shaped Valley	A deep v-shaped valley is usually found in the upper course of the river where the water has considerable erosive power.

2 Four types of erosion in a river

Fluvial erosion is erosion due to moving water in a river.



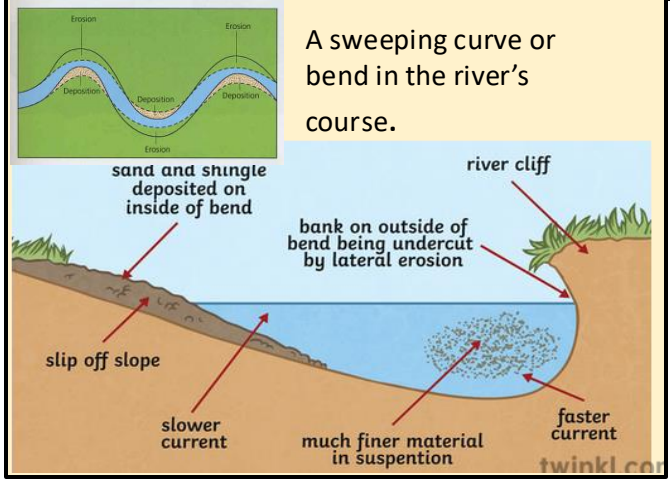
Hydraulic Action
Force of the water hitting the river bed and banks.

Solution
Slightly acidic water dissolves chalk & limestone.

Attrition
Stones collide together and are broken down becoming smaller and smoother.

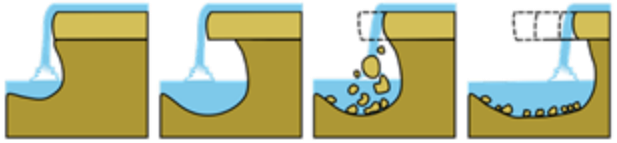
Abrasion
Stones carried by the river scrape along the riverbed and banks wearing it away.

3 Cross section of a river meander



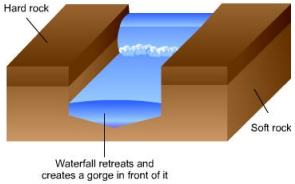
A sweeping curve or bend in the river's course.

4 Formation of a waterfall and gorge



1. Waterfalls typically form in the upper stages of a river. They occur where a band of hard rock overlies a softer rock. Falling water and rock particles erode the soft rock below the waterfall, creating a plunge pool.
2. The soft rock is undercut by erosional processes such as hydraulic action and abrasion creating a plunge pool where water and debris swirl around eroding the rock through corraision further deepening it and creating an overhang.
3. Hard rock overhang above the plunge pool collapses as its weight is no longer supported.
4. Erosion continues and the waterfall retreats upstream leaving behind a gorge.

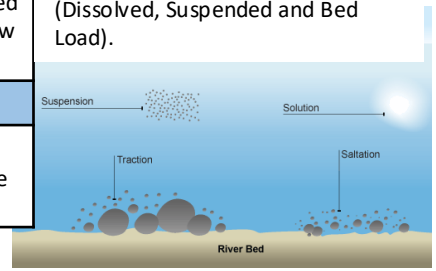
A steep sided gorge is formed when the river retreats. The river takes up the whole width of the valley



5 Transportation in rivers

Suspension	Fine light material (alluvium) carried in the rivers flow
Solution	Minerals dissolved in the water

The movement of material as it is carried by a river through the landscape.
The sediment carried by a river (Dissolved, Suspended and Bed Load).



Saltation	Small pebbles and stones bounce along the riverbed.
Traction	Large boulders and rocks roll along the riverbed.

Geography Knowledge Organiser: The urban-rural continuum

1 TIER THREE VOCABULARY

Ageing Population	A country (or place) which has a high proportion of people aged over 65 is said to have an ageing population.
Commuting/ Commuter Zone	The process of travelling some distance between home and work on a regular basis. A rural area, which is close to an urban area, where many commuters choose to live. (often called Dormitory villages, as people only sleep there evenings/weekends)
Counter-Urbanisation	The movement of people and businesses from large cities to smaller towns and rural areas.
Population Density	The number of people living in a set area of land (e.g. one square kilometre). A low population density = sparse, A high population density = crowded
Rural	Areas of the countryside (e.g. Small Towns/Villages) with a population of less than 10,000
Rural-Urban Fringe	Where the urban area ends, and the rural area begins (not a clear boundary)
Services	Meeting a public need e.g. public services provided by the government such as Health care, Education, Emergency Services or other services such as Bank, Hairdresser, Restaurants etc
Types of Rural Places	**Commuter Belt** (*Dormitory Villages, Rapid Change*), **Accessible rural** (*Leisure and Amenity e.g. enjoyment/tourism/Second Homes) or (Coastal Retirement e.g. elderly residents/ageing population),* **Remote Rural** (*Deep Green, isolated*),
Urban	Built up environments (Towns and Cities) with a population of 10,000 or more
Urban-rural continuum	A sliding scale with urban areas (cities) at one end and remote rural areas (countryside) at the other.

Very Urban CBD (Highstreet) → Inner City (LQ Housing/ Old Industry) → Suburbs (MQ/HQ Housing) → Rural-Urban Fringe (industry, O.O.T. Retail) → Greenbelt → Commuter/Dormitory Village → Accessible Rural → Remote Rural (Deep Green)

2 Causes and impacts of Counter-urbanisation

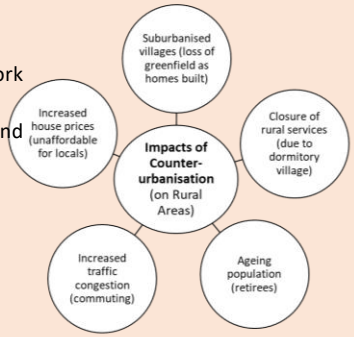
Why?

- Increased car ownership/efficiency
- Teleworking (people can work from home), due to Broadband and 4G
- Motorway improvements.

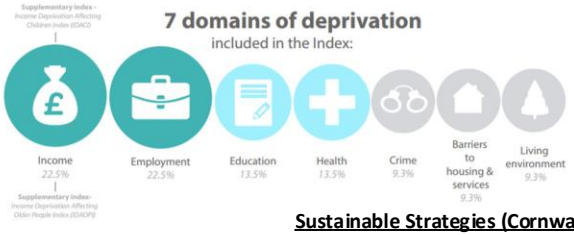
Urban Push: Crime/ Noise/ Lack of Green space

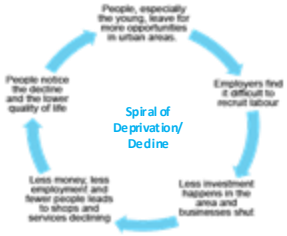
Rural Pull: Peace/ Access to countryside/ Large Gardens

Be aware! House prices are often more expensive in rural areas than urban areas (with the expectation of London)



3 Deprivation and decline





Sustainable Strategies (Cornwall)

Mobile Services = *Banks on Wheels* **(Invest in Services)**

Superfast Broadband (Improve infrastructure)

Eden Project (Invest in Tourism)

4 Sphere of influence

Large urban areas have a larger **sphere of influence** (attract/effect people over a larger area) as they have more high order shops and services e.g. international airports, universities, shopping centres, major hospitals. So, people are willing to travel further. These services need a large **threshold population**. ***Sphere of influence can also be a measure of how far positive/ negative effects reach e.g. noise***

Low Order Goods/Services	High order Goods/Services
Buy/visit frequently, Cheap, Travel a short distance, Convenience Newspaper, Milk, Bread, Weekly shop, Post Office	Rarely buy/visit, Expensive, Travel far, Comparison, Furniture, Electricals, University, Major Hospital, Airport

Sphere of influence The area affected by a place or event. Effects can be good or bad.

5 Sustainable communities

A community, in an urban or rural area, that provides a good quality of life for residents with local jobs and local services and which is designed to have minimum impact on the environment.

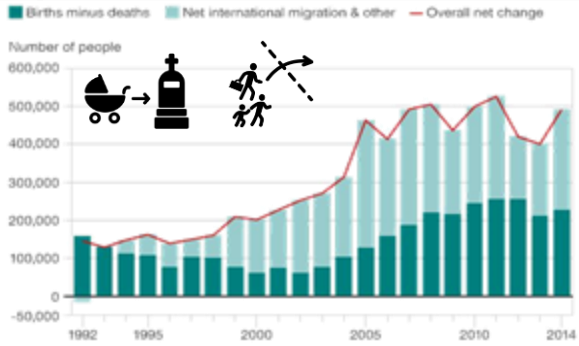
Egan's Wheel

Geography Knowledge Organiser: :Population and urban change

1 TIER THREE VOCABULARY

Birth Rate	The number of children born in one year for every 1,000 people in a country
Brownfield site	A development site where older buildings are demolished or renovated before a new development takes place. Often found in the Inner City.
Death Rate	The number of people dying in one year for every 1,000 people in a country
Economically Active	People of working age (16 to 64 years) who have could earn money.
Elderly Dependents	People over the age of 65 years, who are not earning money and are dependent on others/the government
Greenbelt	A government policy used to prevent the spread of cities into the countryside. It is very difficult to get planning permission for new homes in a green belt.
Greenfield site	A plot of land that has not been used before for building.
Infant Mortality Rate	The number of children who die before the age of one for every 1,000 that are born.
Life Expectancy	The average age that people can be expected to live to in a country (years)
Migration	People moving: Emigration is people leaving a country. Immigration is people coming into a country. Net Migration = people coming in – people leaving.
Natural Population Change	Population Change which is due to their being more births than deaths. **Births – Deaths = Natural Population Change** (this could be a negative number)
Urban Renewal	Change, taking place in urban areas by replacing or improving existing buildings and amenities like streets, parks. Also called Urban Regeneration/Redevelopment. Leading to Re-urbanisation (people moving back into urban areas).
Young Dependents	People under the age of 16, who are not earning money and are dependent on others/the government

2 UK Population Change



Line graph of **net population change** over time **(continuous data)**

Stacked Bars (Compound bars) the number of people added due to **Births – Deaths** and Net Migration **(discrete data in categories)**

3 Migration into the UK

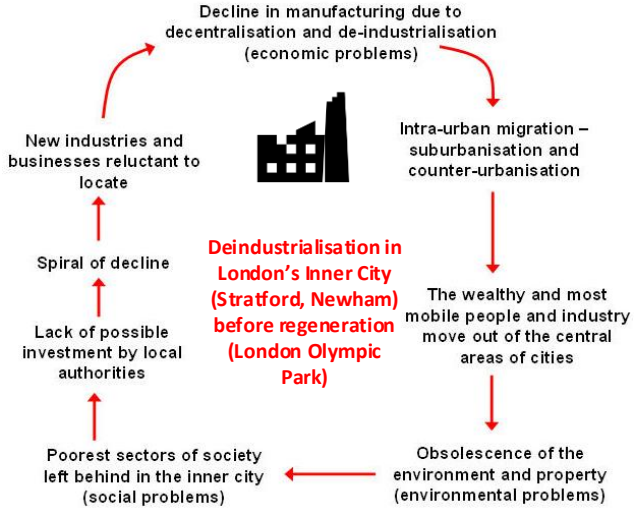
Benefits of Migrants to the UK:
- Cultural diversity (food, sport, music).
- Fill low skilled e.g. farm workers, and high skilled jobs gaps e.g. NHS.
- Economically active workers pay tax and spend money in local economy.
- May set up own businesses and create employment opportunities for others.

Net migration = Number of emigrants (leaving) – Number of immigrants (arriving)

Today half of the UK's population growth each year comes from positive net international migration.

Costs of Migrants to the UK:
- Cultural tensions (race/religion) and discrimination. Competition for jobs.
- Misconception that migrants will require benefits (cost tax payers money).
- Language barriers.
- Strain on public services (health/education).
- Lack of available/affordable housing.

4 Deinsdustrialisation in the UK



5 Decline of UK High Streets (Retail)

Clone Towns (Chain Stores)	Out of Town (O.O.T) retail	Online Retail (Internet)
More competitive prices	Large free, flat car park, close to suburbs	More choice and easy to compare.
Customers know quality	Undercover and all in one place.	Delivered to your door (saves driving).
Independent stores close	More choice & entertainment	Cheaper prices/ online discount codes.

Health and Social Care Personal Learning Checklists

Creative and therapeutic activities		Pupil tick if completed	Teacher signed
Therapies and their benefits	Describe yoga as a therapy		
	Explain how the yoga therapy benefits the adolescence in relation to PIES		
	Describe art therapy		
	Explain how the art therapy benefits the adolescence in relation to PIES		
Creative activities and their benefits	Select one creative activity you want to deliver		
	Explain the factors that affected your choice of activity: Physical - Intellectual – Emotional - Social		
	Explain the benefits for the individual or group in terms of PIES		
	Produce a plan for your creative activity, to include: Use the planning sheet to help. □aims of the activity □timescales □resources needed □safety considerations □communication □methodology to be used □how you will collect feedback on your delivery of the creative activity from those that take part		
	Explain what cultural considerations you had to make when designing your activity		
	Write your feedback question/ questionnaire		
Deliver a creative activity and evaluate your own performance	You need to deliver the creative activity that you have planned. You must: • Introduce the activity. • Supervise the activity. • Collect feedback from those that took part. • Use appropriate communication skills.		
	Teacher Observation Record for this task.		

To apply knowledge of creative and therapeutic activities and design an activity for young children	Pupil tick if completed	Teacher signed
Evaluate your own performance considering: Strengths and weaknesses of: □your planning □your communication skills □how you encouraged participation of the individual/group. (What went well/ what didn't go well)		
Suggestions for improvements, what you would do differently and why?		
Separated folder into labelled sections		
Numbered all the pages		
Signed Student declaration form		

Health and Social Care Personal Learning Checklists

	Supporting individuals through life events	Pupil tick if completed	Teacher signed
Learning Outcome 1: Growth and development through a life stage	Chose an individual to research, aged 65 or older.		
	Describe the milestones of growth and development that the individual has experienced during young adulthood (11-18 years), using PIES. ○ Physical ○ Intellectual ○ Emotional ○ Social		
	Explain how the growth and development of the individual has been affected by: □ two environmental factors □ two economic factors □ two physical factors		
Learning Outcome 2:Impacts of life events.	You need to speak to an individual who has experienced two life events and is willing to talk to you about their experience		
	Plan your interview questions making sure you have asked about two life events and their impacts		
	Conduct your interview		
	Interview notes		
	Photos of interview		
	Complete interview authentication form		
	Explain two life events your individual experienced		
	For one of the life events explain the impacts under the following headings; ○ Physical ○ Intellectual ○ Emotional ○ Social ○ Financial		
	If there is no impact you must explain why		
	For one of the life events you must consider the needs of the individual following the life event, e.g. weight gain help, stress management. ○ GP practice ○ Citizens advice		

	Supporting individuals through life events	Pupil tick if completed	Teacher signed
Learning Outcome 3: Research and recommend support to meet and individual's needs	Following your interview write about the support they could have that meets their needs ○ Formal ○ Informal ○ Charities		
	Justify the support you have chosen, mention their needs		
	Chose four practitioners and explain their role in providing support to your individual		
	Explain what person centred values are and how you applied them		
	State how your support is person centred for your individual		
	Proof read your work		
	Number pages and sign declaration sheet		

Health and Social Care Personal Learning Checklists

Principles of care in health and social care settings		Pupil tick if completed	Teacher signed
Learning Outcome 1: The rights of service users in health and social care settings	Know examples of each type of setting. · Health care · Social care		
	Understand the rights of service users · Choice · Confidentiality · Consultation · Equal and fair treatment · Protection from abuse and harm		
	Be able to explain that service users are entitled to have these rights met in health and social care settings.		
	Be able to give examples of how service users' rights are met.		
	Explain the benefits to service users' health and wellbeing when their rights are maintained: · Empowerment · High self-esteem · Service users' needs are met · Trust		
	Be able to give examples of how maintaining rights will benefit service users' health and wellbeing.		
	Can link benefits to rights in health and social care settings		
Learning Outcome 2: Person-centred values	Person-centred values and how they are applied by service providers		
	Know the meaning of person-centred values.		
	Be able to give examples of how the person-centred values can be applied in health and social care settings by service providers.		
	Know the meaning of the 6Cs.		
	Be able to give examples of how service practitioners use the 6Cs to inform and deliver person-centred values		
	Give examples of how applying the person-centred values will benefit service providers.		
	Can link the benefits of applying person-centred values in health and social care settings		
	Explain the effects on service users' health and wellbeing if person-centred values are not applied.		
	Be able to apply examples in all health and social care settings.		
	Can analyse the effects and make connections between the PIES		

Health and Social Care Personal Learning Checklists

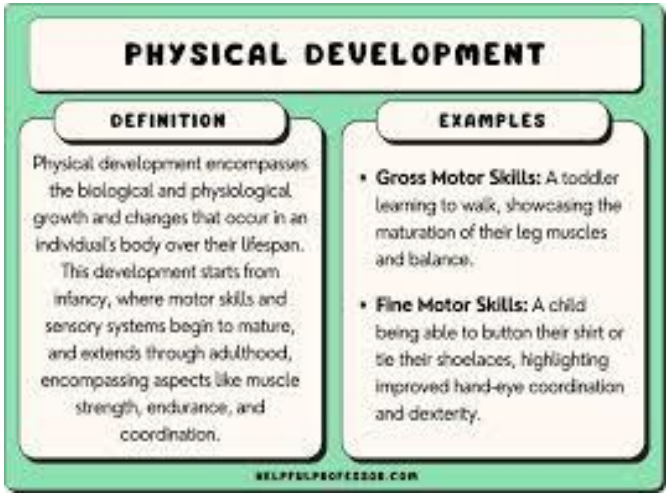
Principles of care in health and social care settings		Pupil tick if completed	Teacher signed
Learning Outcome 3: Effective communication in health and social care settings	An understanding of the verbal communication skills linked with how and when they could be used with service users in health and social care settings.		
	Explain the benefits of using verbal communication		
	Can show an understanding of the non-verbal communication skills linked with how and when they could be used with service users in health and social care settings.		
	Can explain the benefits of using non – verbal communication		
	Understands the importance of active listening in health and social care settings		
	Explain the benefits of using active listening		
	Understands the importance of special methods of communication in H&S care settings		
	Explains the benefits of using special methods of communication		
	Can explain the importance of effective communication in health and social care settings and how it supports person centred values		
	Explain how effective communication can meet service users' needs		
	Explain how effective communication can protect the rights of service users		
	Can explain the impact of good communication skills		
	Can explain the impact of poor communication skills		
Learning Outcome 4: Protecting service users and service providers in health and social care settings	Know the meaning of 'safeguarding'.		
	Explain the reasons why service users need safeguarding		
	Examples of the impacts of a lack of safeguarding.		
	Understand the safeguarding procedures in a care settings.		
	Understand the reasons for having DBS checks for all staff.		
	Explain why safeguarding training is needed for all staff		
	Understand the reasons for carrying out infection prevention in different types of care settings		
	Explain how PPE, general cleanliness and personal hygiene methods protect the health and wellbeing of service providers and service users in different types of settings		
	Know the difference between a 'procedure' and a 'measure' and their importance		
	Explain how safety measures protect service providers and service users in different types of health and social care settings .		
	Understand how security measures protect service users and staff in different settings		
	Be able to identify different security measures, e.g., lanyards, locks, restricting access, monitoring of keys		

Heath and Social Care Knowledge Organiser

Task 1

Describe the milestones of growth and development for an individual, using PIES.

For the same life stage, explain how the growth and development of the individual has been affected by three different factors

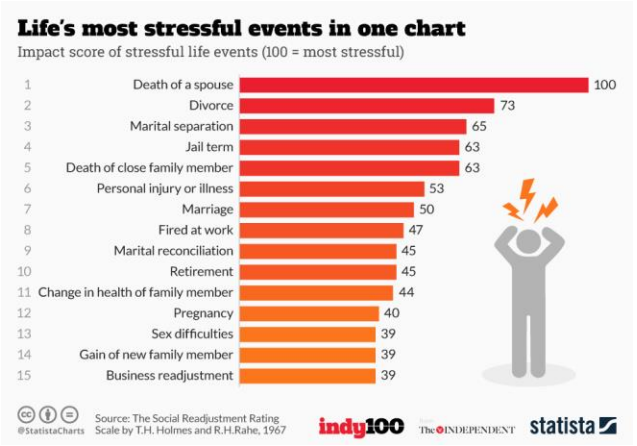


Task 2

Describe two life events that the individual you interviewed experienced, including the life stage(s) when they happened.

Explain the impacts of one of these life events on your chosen individual at the time it occurred. You must consider the following impacts:

- physical
- intellectual
- emotional
- social
- financial.



Heath and Social Care Knowledge Organiser

Task 2b

Write about the support that could meet the needs of your individual, considering the following sources:

□ formal

□ informal

□ charities.

• A recommendation of support to include:

Justification of your choices, to include how practitioners/care givers will support and meet the individual's needs and how you have applied person-centred values

Key Vocabulary	
Dementia	Group of symptoms that effect how a [person thinks, remembers, solves problems, uses language
Depression	A medical condition that effects your thoughts and feelings
Empathy	Ability to identify with other people's feelings
Fine motor skills	Smaller actions using the smaller muscles, e.g grasping an object
Gross motor skills	Larger movement of arms, legs, feet or the entire body
Peer group	Group of people, usually the same age
Vulnerable	A word to describe someone who is less able to protect themselves

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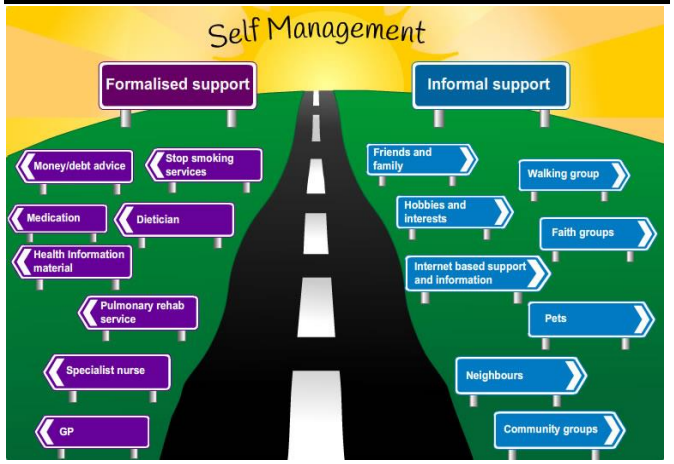

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4 LINKS & FURTHER READING

Lose weight - Better Health - NHS (www.nhs.uk)

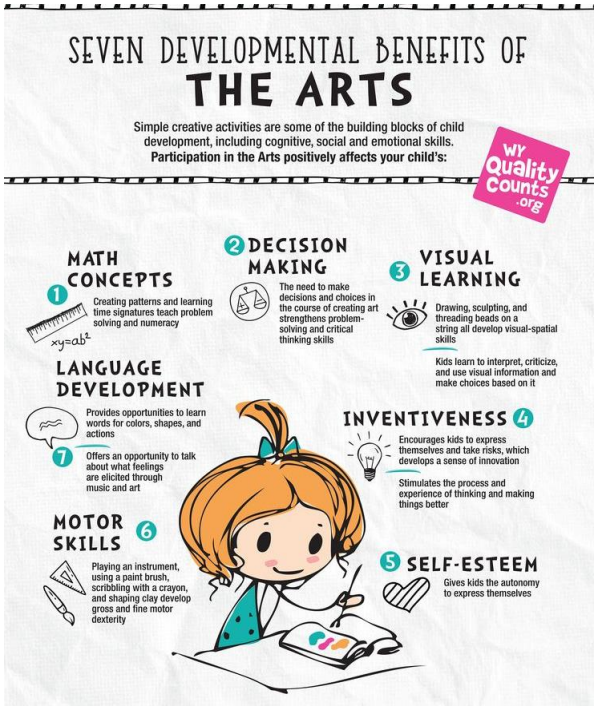
Stress - Every Mind Matters - NHS (www.nhs.uk)

Home | Relate

Heath and Social Care Knowledge Organiser

Task 1

- Select one creative activity you want to deliver.
- Explain the factors that affected your choice of activity.
- Explain the benefits for the individual or group in terms of PIES.
- Produce a plan for your creative activity



Task 2

You need to deliver the creative activity that you have planned.

You must:
- Introduce the activity.
- Supervise the activity.
- Collect feedback from those that took part.
- Use appropriate communication skills

Task 3

You now need to evaluate how you planned and delivered your creative activity.

Use feedback and self-reflection, to evaluate your own performance considering:

- Strengths and weaknesses.
- Suggestions for improvements: what you would do differently and why

Heath and Social Care Knowledge Organiser

Task 3

You now need to evaluate how you planned and delivered your creative activity.

Use feedback and self-reflection, to evaluate your own performance considering:

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Task 4

- Describe the two therapies.

- Explain how the two therapies benefit the individual or group in relation to PIES

2

3

4

History Personal Learning Checklists

Paper 1: The Blitz		S	O	R	T
Why was London a target?	The situation at the start of WWII				
The First Blitz 7th September 1940-May 1941	The nature of attacks on London				
	Early Problems				
	Types of bomb used				
The Impact of the First Blitz on Civilian Life	Concerns about morale & shelter life				
	Censorship, propaganda, newsreels, and reporting				
	Balham Tube disaster				
	Baby Blitz & Bethnal Green disaster, 1943				
V1 & V2 attacks, June 1944-March 1945	V1 attacks				
	V2 attacks & Deptford bombings				
	Local newspapers				
London's response to the war	Monarchy and government				
	Continuing leisure activities in London				
5.1 The Context of London in the Second World War	Why was London a target?				
	The situation at the start of WWII				

Paper 1: Warfare through time		S	O	R	T
Warfare in 1250: Introduction					
Nature of warfare, including size, shape, strategy	Castles and tactical formations				
	Recruitment of cavalry				
	Assize of Arms, mercenaries and scutage				
Composition of the Army: 1250-present	**Infantry**/schiltrons/pikemen/bowmen				
	Cavalry: Knights, Dragoons				
	Artillery: Musket men				
	Specialist troops: Engineers, logistics, medical, EOD				
Change in Weapons: 1250- present	Longbow, schiltron, sword				
	Cannon				
	Arquebus, matchlock, flintlock, Brown Bess, Rifles				
	Bayonets				
	Machine guns, mini bullets				
Recruitment and Training: 1250-present	Feudal, Assize of Arms, paid troops				
	The Tudor System, general muster, pressing				
	Militia Act 1757, Colonels' regiments, bought commissions				
	Cardwell's reforms, 1870 Army Act, cadet training				
	Conscription, volunteers, National Service Act, women				
d 250-	Purveyance, Royal Armouries, Baggage				

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	Cardwell's reforms, 1870 Army Act, cadet training				
	Conscription, volunteers, National Service Act, women				
Requisition and Provisioning: 1250-Present	Purveyance, Royal Armouries, Baggage trains,				
	Free Quarter, requisition, plunder, taxes				
	War Office, Army clothing department				
	Land Transport Corps, Army Service Corps				
Impact on Civilians: 1250-Present	Raids and plunder on property				
	Taxes, damage, plunder, free-quarter				
	Public opinion on war, war reporting				
	Total war, fear of nuclear, rationing, home front				
The Battles case studies: 1250-Present	Battle of Falkirk				
	Battle of Agincourt				
	Battle of Naseby				
	Battle of Waterloo				
	Battle of Balaclava				
	Battle of the Somme & Western Front				
	The Iraq War 2003				

History Knowledge Organiser: Paper 1 Warfare

How far did methods of training and recruiting troops change over time?

1	TIER THREE VOCABULARY
Officer Training Schools:	**Institutions that educate and train military officers.**
Basic Training:	Initial training for new military recruits.
Special Forces:	Elite military units with specialized training.
Technological Training:	Instruction on using modern military technology and equipment.
Reserve Forces:	Backup military personnel who can be mobilized when needed.
Conscription:	Mandatory enlistment into national service, often the military
Militia	: Civilian army or reserve forces, often called up in emergencies
Feudal Levy:	Obligation of vassals to provide military service
Mercenaries:	Soldiers for hire, not bound by national allegiance
Standing Army:	Permanent, professional army maintained by a state
Training Drills:	Systematic military exercises to build discipline and skill
Regiments:	Military units, larger than a company and typically commanded by a colonel
Draft:	Systematic conscription of citizens into the military

2 MEDIEVAL AND EARLY MODERN PERIODS : c.1250s-1700s

The Medieval Period In the early Medieval Period, kings relied on the feudal levy to raise an army, but by the late Medieval Period this was changing. As tactics changed, kings needed fewer knights. Though the nobility still provided cavalry, there was a wider use of infantry (especially after the Black Death). Scutage allowed kings flexibility to pay only for the men they needed, on contracts for the duration of a campaign e.g. Welsh longbowmen in France. These men came ready-trained and with their own equipment. Kings also made use of the Assize of Arms (all freemen 16 to 60 to serve if called for) to increase the number of recruits rapidly.

The early modern period During the early modern era there were further changes in recruitment and training. Early Tudor armies followed the pattern of medieval armies – a mix of nobles and paid soldiers. However, Tudor kings, worried by the power of the nobles, began to develop the Assize of Arms into the muster. This meant a large force could be raised quickly, though they were not well-trained. From 1573 Trained Bands appeared – handpicked men trained to use newer weapons such as the pike and musket. Officers still tended to be drawn from the higher ranks of society. The Civil War saw major changes. Parliament created the "New Model Army", a trained, disciplined and paid professional army, with promotion based on ability, not birth. Charles II disbanded it in 1660, but in its place, he created the first modern regiments e.g. the Coldstream Guards (part Royalist, part NMA). Recruiting parties, led by officers, visited local fairs and markets to find volunteers. There was also a wide use of foreign mercenaries e.g. Hanoverians.

3 INDUSTRIAL PERIOD : c. 1750s - 1800s

Training and recruitment in the 18th and 19th centuries There was little change in recruitment and training until the late 19th century. The navy continued to rely heavily on press gangs, while the army continued to make use of recruiting officers. The latter half of the 19th century, however, witnessed significant change as a result of developments in warfare and government legislation. However, in the 1850's the Crimean War (1853-56) and the Indian Rebellion (1857) highlighted weaknesses in recruitment and training. The Prussian victory over France in 1870-71 also showed the importance of a modern, well-trained professional army. In 1853 the navy ended impressment and introduced continuous service contracts, with a pension; In the 1870's Cardwell's army reforms brought the following series of changes:

- fixed 12-year terms (six in the army, six in the reserve)
- purchase of commissions was ended
- existing regiments were reorganized in localities and given local names

As a result of these reforms the British Army now had a constant supply of well-trained soldiers and the quality of officers improved.

4 MODERN PERIOD : c.1900s-present day

The 20th century saw major changes, particularly in recruitment. The army has traditionally relied on volunteers, but during the latter part of World War I, and then again during World War II, conscription was introduced to ensure that Britain had enough fighting men. The period after World War II also saw compulsory military service during peacetime.

World War I

In 1914 the small British Army grew rapidly through volunteers. Propaganda helped persuade over 2.5 million recruits to volunteer for "Kitchener's Army". Recruitment offices were set up across the UK, 54 million posters were printed, 8 million letters were sent out and 20,000 speeches were made. Many men joined Pals Battalions with friends from their own areas. They were given at least 3 months training before going to the front. In 1916 with casualties increasing and the number of volunteers falling, for the first time in history conscription was introduced. Men between 18 and 41 were eligible. By the war's end 2.5 million conscripts had been enlisted.

World War II

World War II also saw conscription introduced. It was introduced in May 1939, before war began, and was the first ever peacetime conscription. All men aged 18-41 were eligible and over 3 million conscripts served in the armed forces (as well as 1.4 million who volunteered).

The post-war period

In 1948 the government introduced National Service of 18 months for men aged 17-21 (conscription by another name). ended in 1960 when Britain returned to a smaller, volunteer, standing army. In the 21st century the modern army is more selective, with recruits serving up to 22 years. Basic training is 14 weeks, followed by a year of specialist training – a far cry from previous centuries.

4 LINKS & FURTHER READING

Warfare – 13th, 14th and 15th centuries - The development of warfare overview - WJEC - GCSE History Revision - WJEC - BBC Bitesize

10 How did warfare change in the C20th (youtube.com)

History Knowledge Organiser: Paper 1 Warfare

How have tactics and strategy changed over time?

1	TIER THREE VOCABULARY
Siege Warfare:	Military blockade and assault of a city or fortress
Cavalry Charges:	Attacks by soldiers on horseback
Feudal Warfare:	Combat involving knights and vassals under the feudal system
Castle Sieges:	Encirclement and attack of a fortified structure
Crusades	Medieval military expeditions with religious objectives
Line Infantry:	Soldiers arranged in linear formations for muskets
Artillery	: Large-caliber firearms, such as cannons and mortars
Guerrilla Warfare:	Irregular warfare by small, mobile groups.
Trench Warfare:	Fighting from protective trenches.
Blitzkrieg:	Fast, powerful attacks meant to quickly overwhelm the enemy.
Combined Arms:	Strategy integrating different military forces for synergistic effects.
Asymmetric Warfare:.	Combat between forces of unequal strength and tactics
Cyber Warfare: Drone Warfare:	Attacks on digital infrastructure Use of UAVs for military operations

4 LINKS & FURTHER READING

10 How did warfare change in the C20th (youtube.com)

2 MEDIEVAL AND EARLY MODERN PERIODS : c.1250s-1700s

The Medieval Period

Medieval strategy was based on the concept of limited warfare. Battles were usually a last resort. Armies tried to achieve victory through sieges of key towns and fortresses rather than risk a battle. Armies were made up of mounted knights, archers and infantry. Battles often began with volleys of arrows, to create gaps in the enemy line for cavalry to exploit. Infantry could also be used in hand to hand fighting. Archers proved particularly effective in battles such as Falkirk and Agincourt.

By the late Middle Ages cavalry were used less and there was more emphasis on longbowmen and infantry – including knights fighting on foot e.g. the battle of Towton (1461) in which over half the 50,000 combatants lost their lives. The increasing use of pikes also made cavalry less effective e.g. the Scots use of the schiltron at Falkirk.

The early modern age

The early modern era saw changes in strategy. The use of cannon meant made castles and fortified towns less effective, so sieges were far less frequent. Wars were more often decided on the battlefield. This period – the so-called "pike and shot era" - saw the emergence of mixed units of infantry with pikes and handheld firearms. Cavalry were still used but were less effective in the face of massed musketeers, protected by pikemen.

In the Civil War both sides used very similar tactics. Before the start of the battle both sides would line up facing each other. In the centre would be pikemen and musketeers flanked by the cavalry on each side. The heavy artillery would be positioned at the rear and would fire over the infantry. The cavalry would attack first in an attempt to break the line of the opponents and make them scatter.

3 INDUSTRIAL PERIOD : c. 1750s - 1800s

The emergence of linear tactics

As firearms improved the number of musketeers increased, and the number of pikemen reduced. The introduction of the rifle and bayonet at the end of the 17th century made pikemen redundant. By the 18th century linear tactics were in widespread use, with infantry soldiers becoming even more important in battle formations. The linear gave commanders flexibility by allowing them to change formation quickly on the battlefield. Infantry could be manoeuvred into:

- **line formation** - long lines, 2 to 4 ranks deep. They fired "en masse" in order to break the enemy line
- in **column** – to advance rapidly on the enemy
- into a **square** – to counter a cavalry charge (though being in a square made infantry vulnerable to artillery).

Linear tactics were used from the mid-17th century to the mid-19th century by British commanders like Wellington at Waterloo.

By the **late 19th century**, however, as rifles and artillery became more accurate over greater distances, linear formations were abandoned. Troops now operated in a loose order described as a **chain**, with one or two paces between individuals. When faced with opponents like the Boers in the Boer War (1899-1902) the British army also had to adapt its tactics to an enemy which avoided pitched battles.

4 MODERN PERIOD : c.1900s-present day

World War I

Strategy and tactics changed again during World War I. At the beginning of the war both sides "**dug in**" and took up **defensive** positions in trenches. It became a **war of attrition**, with the strategy of both sides being to deprive the other of resources and manpower while sapping their will to fight. Though it was soon obvious that frontal attacks by infantry were not effective against weapons like machine guns, commanders continued to send waves of infantry "over the top" to break the enemy line as was seen at the Somme. Attacks would be preceded by artillery barrages with the intention of destroying enemy defences. Later in the war the allies began to use the "**creeping barrage**" - a forward-moving artillery barrage followed by advancing troops, a tactic which proved far more effective. Eventually however it was Germany's economic collapse which ended the war.

World War II

World War II saw further changes in strategy and tactics. The German bombing of British cities, the "**Blitz**", aimed to destroy morale and to force the country to surrender. The government's response was a policy of "**total war**" – mobilisation of all the nations' resources to defeat the enemy. As a result, civilians played a much greater role in this war. They had to accept rationing and blackouts and worked in armament factories to supply the military with weapons. The German use of Blitzkrieg also changed tactics. World War II was much more fluid war than World War I and fought across larger areas. The combination of planes, tanks and infantry meant forces had to be better coordinated. **Tanks** had a huge impact and some of the most decisive battles such as el Alamein and the Battle of the Bulge featured large numbers of them. The use of motor transport and better radio communications enabled tactics to be more flexible.

The post-war period

Since 1945, warfare has become even more complex. Modern warfare relies on combined arms tactics – coordinating aircraft and drones with ground forces. The nature of warfare has also changed, so strategic planning has had to take into account developments such as cyber-attacks and terrorist activities, as well as preparedness for more conventional types of warfare.

History Knowledge Organiser: Paper 1 Warfare How important was technology in changing warfare over time?

1 TIER THREE VOCABULARY

Gunpowder	A chemical explosive that revolutionized weaponry.
Siege Engines:	Machines designed to break or circumvent fortifications.
Cannons and Artillery:	Large-caliber guns used in warfare
Industrial Revolution	Period of rapid industrial growth affecting military production
Railroads:	Trains used for transporting troops and supplies.
Telegraph:	Early communication device that transmitted coded messages
Stirrups	: Devices that allow riders to balance and use weapons more effectively
Crossbows and Longbows:	Advanced bows with greater range and power.
Muskets and Rifles:	Early firearms with improved range and accuracy
Tanks and Armored Vehicles:	Combat vehicles with protective armor.
Aircraft: Precision-Guided Munitions:	Planes used for combat, reconnaissance, and transport Weapons that can be guided to a target with high accuracy
Nuclear Weapons:	Weapons with massive explosive power from nuclear reactions
Radar and Sonar Drones:	Detection systems using radio waves and sound. Unmanned aerial vehicles.

10 How did warfare change in the C20th (youtube.com)

2 MEDIEVAL AND EARLY MODERN PERIODS : c.1250s-1700s

The Medieval Period

Most medieval wars involved sieges and as time passed a type of arms race developed. Attackers used ever more sophisticated weapons to try to capture castles while defenders developed counter-measures to stop them.

- Besieging armies had **a variety of siege machines** - trebuchets and mangonels fired stones to break down walls; battering rams, cats and weasels to loosen walls; siege towers and scaling ladders to get over walls, while ballistas fired arrows at defenders. Attackers also built tunnels to undermine walls.
- In response castles developed more **complex defences** - moats to prevent undermining; wide, high walls with towers and heavily defended entrances (barbican gates with drawbridge portcullis and murder holes). Arrow slit windows protected defenders and gave them a wide view of the enemy.
- **Concentric castles** were the most sophisticated in terms of design and needed only a relatively **small garrison**.

Battle weapons like swords and armour also changed in design, for example chainmail was replaced by plate armour. A new weapon, the crossbow, also appeared alongside the long bow.

The early modern period

The introduction of **gunpowder and cannon** in the late Middle Ages began to revolutionise the technology of warfare. The first guns (arquebus) were slow to load and not very accurate. In the 17th century they were replaced by **flintlock guns** which were far more devastating. Cannon were also much more common by the late 16th century. Initially, because they were heavy, they wereat sea (Spanish Armada), rather than land battles. In the **17th century,** cannon became lighter and more accurate and played a greater role in land battles. However, battles still tended to be decided by foot soldiers (pikemen and musketeers) and cavalry. used more for sieges and

3 INDUSTRIAL PERIOD : c. 1750s - 1800s

The industrialisation of warfare

During the period of the industrial revolution Britain was almost constantly at war. War became industrialised, which changed the nature of war.

- **Mass production** of standardized parts meant that weapons could be produced rapidly and cheaply e.g. the Lee Enfield rifle. This was particularly true after the Crimean war. Weapons became faster to load, more accurate, increased in range and altogether more deadly.
- **New production methods** improved the quality of weapons and munitions. The Bessemer process in 1856 produced cheap high-grade steel. In the 1860s this was used for artillery, replacing cannon made from cast iron.
- New methods of loading cannon were introduced. William Armstrong introduced **breech-loaded cannon** (replacing muzzle loaded cannon which were slow to load.) They were made from steel, were more accurate and fired over longer distances eg. Armstrong's 1887 "monster gun", with a range of 8 miles.
- From the 1830s the forces also adopted **brass cartridges** replaced powder and shot. They were quicker and less dangerous to load. This went hand in hand with the development of breech-loaded weapons.
- **Steamships and the railway** speeded up the movement of troops and supplies and the **telegraph** allowed **rapid communications**.

Britain became the world's largest producer of weapons; Birmingham was the world's greatest gun-making centre and The Royal Small Arms Factory in London produced arms for Britain's forces e.g. the Lee Enfield rifle. From the 1870s the British army also bought machine guns (Gatling Gun and Maxim Gun) from America. By the end of the 19th century weaponry was far more lethal and easier to manufacture than it had been 100 years before.

4 MODERN PERIOD : c.1900s-present day

Technology in the 20th century

In the 20th and 21st centuries further technological changes were introduced.

World War I

A whole **new range of weapons** on land, sea and for the first time, in the air, appeared. **Aircraft**, **tanks** and **submarines** transformed warfare, making it even more destructive. During both world wars citizens (particularly women) were mobilised in large numbers to mass produce weapons and munitions.

World War II

The weapons of World War I became even more powerful. **Long range bombing** by aircraft led to the development of radar to detect enemies with ASDIC and SONAR for submarines. Technology had produced weapons that allowed wars to be fought over ever greater distances, though battles between soldiers on the ground still ultimately decided the outcome of battles. The use of the atomic bomb at the end of the war ushered in a new era in technology.

The post-war period

Technology has continued to develop, and weapons become ever **more destructive**. The use of nuclear bombs to end the war against Japan led to a **nuclear arms race**. Initially carried by long range bombers, by the 1960s both the USA and USSR had ICBMs. For the first time technology had produced weapons capable of destroying the world (MAD). In the 1960s therefore, the USA and USSR began to negotiate to reduce this threat.

More recent technology uses GPS to allow **drones** (UAVs) to locate enemy soldiers and attack specific targets with precision. Their operators do not need to be in the warzone to do this. While some developments in technology have allowed war to be fought over wider and wider distances, the bulk of fighting e.g. Iraq and Afghanistan is still done by troops on the ground (though they do have a huge amount of technology as support)

History Knowledge Organiser: Paper 1 Warfare The experience of war - provisioning

1	TIER THREE VOCABULARY
Feudal Levy	**The summoning of knights and soldiers by a lord.**
Chivalry	The medieval knightly system with its religious, moral, and social code.
Foraging:	The act of searching for and gathering food and supplies from the surrounding area.
Baggage Train	: A convoy of wagons and pack animals carrying an army's supplies
Quartermaster.	: An officer responsible for organizing and distributing supplies
Pack Animal	: An animal used for carrying supplies.
Centralized Control:	The consolidation of military logistics under the control of the state or monarchy.
Supply Train	: A convoy of wagons, carts, and pack animals carrying supplies
Magazine	: A storehouse for military supplies, especially ammunition and food
Standardized Rations:	Uniform food provisions given to soldiers to ensure consistent nutrition
Armory	: A place where weapons and military equipment are stored and maintained.
Hardtack	: A hard, dry biscuit used as a long-lasting food ration for soldiers and sailors.
Mass Production:	The large-scale manufacturing of goods using assembly lines and automated processes

2 MEDIEVAL AND EARLY MODERN PERIODS : c.1250s-1700s

Provisioning war in 1250 involved a complex system of logistics and resource management, essential to support armies during campaigns and sieges. The process required meticulous planning and coordination, with a focus on gathering, transporting, and distributing supplies.

Supply Chain Management

•**Foraging and Requisitioning**: Armies would forage for food and requisition supplies from local towns and villages. This could include taking grain, livestock, and other resources, often without compensation.
•**Baggage Trains**: Armies traveled with baggage trains that included wagons and pack animals carrying food, tents, weapons, and other equipment. These trains were essential but also slowed down the army's movement and made them vulnerable to attacks.
•**Quartermasters**: Individuals responsible for the organization and distribution of supplies within the army. They ensured that soldiers received their rations, and that equipment was maintained.
Food and Drink
•**Staple Foods**: The primary food for soldiers included bread, grains, and dried legumes. Meat was provided when available, often from livestock driven with the army or acquired through foraging.
Weapons and Armor
•**Armories**: Weapons and armor were often stored in central locations, such as castles or fortified towns. These armories supplied soldiers with necessary equipment before campaigns.
•**Smithies and Artisans**: Blacksmiths and armorers accompanied armies or were established in supply bases to repair and produce weapons and armor as needed.
Logistics and Transportation
•**Pack Animals**: Horses, mules, and oxen were used to transport supplies. Each animal could carry a significant amount of weight, but also required fodder, which added to the logistical burden.
•**Wagons and Carts**: Used for transporting bulk supplies, these vehicles required maintained roads and bridges, which could be a challenge in hostile or remote territories

3 INDUSTRIAL PERIOD : c. 1750s - 1800s

Provisioning war in 1500 marked a period of significant transition in military logistics and supply management, influenced by advancements in technology, the changing nature of warfare, and the rise of centralized state power.
Provisioning war from 1700 to 1900 saw significant advancements due to industrialization, improved transportation, and better organizational methods. This period includes several major conflicts such as the Napoleonic Wars, the American Revolutionary War, and the Crimean War, each highlighting the evolving nature of military logistics and supply chains.
State Control: Governments and centralized administrations became more involved in military logistics. Departments such as the British War Office and the French Ministry of War managed supplies and logistics.

4 MODERN PERIOD : c.1900s-present day

1. Industrial and Technological Advancements
•**Mass Production**: The industrial capacity of nations increased dramatically, allowing for the mass production of weapons, vehicles, uniforms, and other supplies. This was particularly evident during both World Wars.
•**Automation and Mechanization**: The use of automated production lines and mechanized transport systems greatly enhanced the efficiency and speed of provisioning.
2. Transportation and Logistics
•**Motorized Transport**: The use of trucks, tanks, and other motorized vehicles revolutionized logistics, enabling faster and more flexible movement of supplies.
•**Railroads and Air Transport**: Railroads continued to play a vital role, but the advent of air transport introduced a new dimension to military logistics, allowing for rapid delivery of troops and supplies to distant and otherwise inaccessible locations.
•**Shipping and Naval Logistics**: Modern cargo ships and naval supply vessels ensured that large quantities of supplies could be transported across oceans efficiently.
Notable Conflicts and Campaigns
•**World War I (1914-1918)**: Highlighted the importance of trench logistics, motorized transport, and mass production of munitions.
•**World War II (1939-1945)**: Saw significant advancements in logistics, including the use of air transport, mechanized infantry, and naval supply chains.
•**Gulf War (1990-1991)**: Demonstrated the effectiveness of modern logistics and supply chain management in supporting rapid, large-scale operations.
•**Global War on Terror (2001-present)**: Involves complex logistical operations in diverse and often remote regions, with a focus on counterinsurgency and counterterrorism.

History Knowledge Organiser: Paper 1 Warfare The Blitz

1 TIER THREE VOCABULARY

ARP Wardens	**: Volunteers responsible for enforcing blackout regulations and assisting civilians during air raids**
Blackout:	Measures taken to prevent light from being visible to enemy aircraft, including covering windows and dimming streetlights.
Propaganda:	Information disseminated by the government to maintain morale and provide instructions on safety measures
Gas Mask:	Protective masks issued to civilians to protect against potential gas attacks, carried in small boxes
Ration Book:	Booklets issued to citizens to control the distribution of food and other essential items under rationing.
Auxiliary Fire Service (AFS):	Supplementary fire brigades that assisted in combating fires during air raids
Public Shelters:	Large communal shelters built in public spaces for civilians to use during air raids
Anderson Shelter	A small, corrugated steel structure provided to households with gardens, partially buried in the ground for protection.
Morrison Shelter	A sturdy indoor steel frame used as a table shelter inside homes to protect from falling debris.
Operation Pied Piper:	The mass evacuation of children, pregnant women, and vulnerable civilians from cities to the countryside.
Blitz Spirit	: The term used to describe the resilience, unity, and determination of Londoners during the Blitz.
Home Guard:	Volunteer force of men ineligible for regular military service who assisted in local defense and civil defense measures.
Fuel Rationing	Measures taken to limit the use of fuel to ensure adequate supplies for essential services.

2 CONTEXT OF LONDON IN THE SECOND WORLD WAR

The Blitz refers to the sustained bombing campaign carried out by Nazi Germany against the United Kingdom, particularly London, during World War II from September 7, 1940, to May 11, 1941. This period was characterized by nightly air raids intended to demoralize the British population and cripple the nation's war production capabilities. The experience of Londoners during the Blitz was one of resilience and determination in the face of relentless attacks. London was a primary target during the Blitz for several strategic and symbolic reasons. Here are the key factors that made London a focal point for Nazi Germany's bombing campaign:

Economic and Industrial Hub:

1. **Port and Docks**: London was a major port and industrial center, particularly in the East End, which housed important docks and warehouses. These facilities were crucial for importing essential goods and raw materials, as well as for exporting manufactured products.
2. **Manufacturing**: The city was home to numerous factories producing war materials, including weapons, aircraft parts, and other military supplies. Disrupting these facilities would hamper the British war effort.

Transportation and Communication:

1. **Railway Network**: London was a central hub for the British railway network, facilitating the movement of troops, equipment, and supplies across the country. Damaging the railways would disrupt logistics and military operations.
2. **Communication Networks**: As the capital, London had critical communication infrastructures, including telephone exchanges and telegraph systems. Disrupting these would impede military coordination and civilian administration.

Government and Military Command:

1. **Political Center**: London was the seat of the British government, including key institutions like the Houses of Parliament and 10 Downing Street, the Prime Minister's residence. Attacking these targets aimed to destabilize British governance.
2. **Military Headquarters**: The city housed important military command centers, such as the War Office and the Admiralty, making it a strategic target for disrupting military planning and operations.

Symbolic Significance

Capital City:

1. **National Morale**: As the capital, London was the heart of the British nation. Attacking it was intended to demoralize the British population and weaken their resolve to continue fighting.
2. **International Perception**: Bombing London aimed to send a message to the world, demonstrating Nazi Germany's power and determination to conquer Britain.

Psychological Impact:

1. **Terror Campaign**: The Blitz was part of a broader strategy of "total war," aimed at breaking civilian morale through fear and terror. Bombing densely populated areas of London was meant to create panic and chaos.

3 HOW DID LONDON PREPARE FOR WAR?

Civil Defense Measures

1. Air Raid Precautions (ARP)

- **Blackout Regulations**: All lights had to be dimmed or covered to prevent enemy aircraft from identifying targets. Streetlights, vehicle headlights, and windows were all subject to blackout measures.
- **Air Raid Wardens**: ARP wardens were responsible for ensuring compliance with blackout regulations, guiding people to shelters, and assisting in emergency situations.

2. Shelter Provision

- **Public Shelters**: Large public air raid shelters were constructed in parks, public spaces, and basements of buildings. Notable examples include the use of the London Underground stations, which provided shelter to thousands of people.
- **Anderson Shelters**: These were small, corrugated steel shelters distributed to households with gardens. They were partially buried in the ground and covered with earth for additional protection.
- **Morrison Shelters**: These were indoor steel cages that could be used as table shelters inside homes, offering protection from debris in case of a building collapse.

3. Evacuation Plans

- **Operation Pied Piper**: Initiated in September 1939, this massive evacuation plan moved children, pregnant women, and vulnerable civilians from London and other major cities to the countryside to protect them from air raids.
- **Billeting**: Evacuees were placed with host families in rural areas, and schools were often relocated to safer locations.

Military and Emergency Services Preparations

1. Anti-Aircraft Defenses

- **Barrage Balloons**: Large balloons tethered with steel cables were deployed to deter low-flying enemy aircraft and force them to fly at higher, less accurate altitudes.
- **Anti-Aircraft Guns**: Batteries of anti-aircraft guns were positioned around London to defend against bombers. These included both heavy and light anti-aircraft artillery.

2. Firefighting and Emergency Services

- **Auxiliary Fire Service (AFS)**: Supplemented the regular fire brigades with additional personnel and equipment. The AFS was crucial in dealing with the widespread fires caused by incendiary bombs.
- **Emergency Medical Services**: Hospitals prepared for mass casualties by organizing additional medical staff and supplies. First aid posts and casualty clearing stations were established throughout the city.

Public Information and Morale

1. Public Information Campaigns

- **Propaganda and Information**: The government conducted campaigns to educate the public on safety measures, how to use gas masks, and what to do during an air raid. Posters, leaflets, and radio broadcasts were widely used.
- **Gas Masks**: Distributed to all civilians, gas masks were a precaution against potential gas attacks. People were trained on their use, and children carried their masks in small boxes.

2. Maintaining Morale

- **Winston Churchill's Speeches**: The Prime Minister's rousing speeches played a crucial role in bolstering public morale, emphasizing resilience and determination.
- **Cultural Activities**: The government encouraged cultural activities, including theatre, music, and cinema, to keep spirits high and provide a sense of normalcy.

Economic and Industrial Adjustments

1. Dispersal of Industry

- **Factory Relocation**: Some critical industries were moved out of London to less vulnerable locations. Factories that remained in London were often camouflaged or protected by reinforced structures.
- **Home Guard**: Also known as "Dad's Army," this volunteer force consisted of men who were ineligible for regular military service. They played a key role in local defense and assisted in air raid precautions.

2. Rationing and Resource Management

- **Food and Fuel Rationing**: Introduced to ensure fair distribution and conservation of essential resources. Ration books were issued to every citizen.
- **Utility Conservation**: Measures were taken to conserve fuel and electricity, including restrictions on heating and lighting.

History Knowledge Organiser: Paper 1 Warfare The Blitz

1	TIER THREE VOCABULARY
Blitz:	The German bombing campaign against the United Kingdom during World War II, from September 1940 to May 1941
Luftwaffe	The German Air Force responsible for carrying out the bombings.
Incendiary Bomb:	A type of bomb designed to start fires upon impact, causing widespread damage and chaos.
Incendiary Bomb:	A type of bomb designed to start fires upon impact, causing widespread damage and chaos.
Incendiary Bomb	A type of bomb designed to start fires upon impact, causing widespread damage and chaos.
Air Raid Shelter	A structure designed to protect civilians from bombs during air raids. Public shelters and private shelters like Anderson and Morrison shelters were commonly used
Air Raid Shelter	A structure designed to protect civilians from bombs during air raids. Public shelters and private shelters like Anderson and Morrison shelters were commonly used.
Blackout	Regulations to prevent light from being visible to enemy aircraft, including covering windows and dimming streetlights.
Evacuation Center: A	Temporary shelter where people displaced by bombings or other emergencies can stay while awaiting relocation to safer areas
High-Explosive Bomb	A type of bomb designed to cause significant damage through a powerful explosion, often used by the Luftwaffe during the Blitz.
Casualties	The number of people killed or injured in an event, such as a bombing or disaster.
Civil Defense	Measures and strategies implemented to protect civilians during wartime, including air raid precautions, shelters, and evacuation plans.

2 FIRST DAY OF THE BLITZ

The first day of the Blitz, September 7, 1940, marked the beginning of a sustained bombing campaign by Nazi Germany against the United Kingdom, particularly focusing on London.

The Attack Begins

•**Initial Bombing**: The first major attack began in the late afternoon at around 4:30 PM. Approximately 348 German bombers, escorted by 617 fighters, launched a massive raid on London.

•**East End Targeted**: The primary targets were the docks and industrial areas in the East End of London, particularly around the River Thames, which was a crucial hub for shipping and logistics.

2. Scale and Intensity

•**Duration**: The bombing continued for several hours, with waves of bombers dropping high explosives and incendiary bombs.

•**Fires and Damage**: The bombing caused extensive fires that illuminated the sky, making it easier for subsequent waves of bombers to identify their targets. The fires raged out of control, leading to significant destruction.

3. Immediate Impact

•**Casualties**: On the first day alone, more than 400 people were killed, and around 1,600 were seriously injured.

•**Destruction**: Thousands of homes were destroyed or damaged, and significant infrastructure, including docks, warehouses, and factories, was hit.

4. Civil Defense Response

•**Firefighters and Emergency Services**: Firefighters worked tirelessly to control the fires, while rescue teams searched for survivors in the rubble. The Auxiliary Fire Service (AFS) played a crucial role in these efforts.

•**Sheltering**: Civilians sought refuge in air raid shelters, including the London Underground stations, which provided safety from the bombings above.

3 South Hallsville School disaster

Evacuees Sheltering: At the time of the disaster, hundreds of evacuees, including many children and their families, were sheltering in the school. They were awaiting transportation to safer areas outside of London.

Bombing: The school was directly hit by a high-explosive bomb during a Luftwaffe air raid.

Casualties: The exact number of casualties remains uncertain, but it is estimated that between 400 and 600 people were killed. Many bodies were never recovered due to the scale of the destruction and subsequent fires.

3 Mickey's shelter

Mickey's Shelter was a notable and well-loved makeshift air raid shelter during the Blitz in London, offering refuge to civilians from the bombings. Located in the East End, it was situated in the basement of a commercial building and became a symbol of community resilience and support.

East End Location: Situated in one of the most heavily bombed areas of London, Mickey's Shelter was easily accessible to many workingclass families and individuals living nearby.

Organized Efforts: Volunteers and local community members organized activities, distributed food, and ensured the shelter was a comfortable place despite the ongoing bombings.

Community Hub: Beyond a place of refuge, it served as a community hub where people could come together, support one another, and maintain a sense of normalcy amid the chaos of war.

History Knowledge Organiser: Paper 1 Warfare The Blitz

1 TIER THREE VOCABULARY

Underground Station	A train station located below ground level, part of the London Underground (Tube) network.
Air Raid Shelter:	A structure or space designed to protect civilians from bombs during air raids
High-Explosive Bomb:	A powerful bomb designed to cause extensive damage through a large explosion
Flooding:	The rapid influx of water, often resulting in dangerous conditions and complicating rescue efforts.
Casualties:	The number of people killed or injured in an event, such as a bombing or disaster
V-1 Flying Bomb:.	A cruise missile used by Nazi Germany, also known as the Buzz Bomb or Doodlebug
Pulse Jet Engine:	The type of engine used to power the V-1 flying bomb
V-2 Rocket:	The world's first long-range guided ballistic missile used by Nazi Germany.
Victory Garden	A home or community garden created to boost food production during wartime.
Self-Sufficiency:	The ability to provide for oneself without reliance on outside resources.
Rationing:	The controlled distribution of scarce resources, goods, or services.
Allotment:	A small plot of land rented by an individual for growing food.
Propaganda:	Information, especially biased or misleading, used to promote a political cause or point of view

LINKS & FURTHER READING

2 Balham tube disaster 14th October 1940

Bomb Impact: A 1,400 kg high-explosive bomb dropped by the Luftwaffe struck the road above Balham Station. The bomb exploded on Balham High Road, creating a massive crater and causing significant structural damage.
Flooding: The explosion ruptured water and sewage mains, causing flooding in the station. This resulted in a rapid influx of water and mud into the underground tunnels.
Casualties: Approximately 66 people sheltering in the station were killed, and many others were injured. The flooding and structural damage made rescue operations challenging and dangerous.
The Balham Tube disaster on October 14, 1940, was a tragic event during the Blitz when a high-explosive bomb caused significant structural damage and flooding at Balham Underground Station, resulting in the deaths of approximately 66 people. The disaster underscored the dangers faced by civilians even in designated shelters and led to improvements in safety measures for Underground stations used during air raids.




3 V1 & 2 attacks

The V-1 and V-2 attacks on London were significant and terrifying aspects of the later stages of World War II, representing advanced technology in Germany's arsenal. These attacks, part of the broader strategic bombing campaign, aimed to demoralize the British population and disrupt wartime production.
First Attack: The first V-1 attack on London occurred on June 13, 1944.
Introduction: The V-2 rocket, developed by German engineer Wernher von Braun, was the world's first long-range guided ballistic missile, introduced in late 1944.
he V-1 and V-2 attacks on London in 1944 and 1945 were significant aspects of Nazi Germany's late-war strategy. The V-1 flying bomb, an early cruise missile, and the V-2 rocket, the first long-range guided ballistic missile, caused substantial casualties and damage in London. These attacks highlighted the advances in military technology and the importance of psychological warfare, prompting intense Allied efforts to counter and mitigate their impact.

4 Government response to war

The response of the London government to the war, particularly during the Blitz and the V-weapon attacks, was multifaceted and aimed at protecting the civilian population, maintaining morale, and ensuring the city's resilience in the face of sustained bombings.
Food Rationing: Introduction of ration books to control the distribution of food and other essential items, ensuring fair distribution and preventing shortages.
Fuel and Material Rationing: Measures to conserve fuel, raw materials, and other resources critical to the war effort
"**Dig for Victory**" was a campaign initiated by the British government during World War II to encourage citizens to grow their own food. This campaign aimed to reduce reliance on imported food and mitigate the impact of food shortages due to the war.
Ministry of Agriculture: The campaign was led by the Ministry of Agriculture, which produced informational materials, including pamphlets, posters, and radio broadcasts

Hospitality and catering providers

You must understand, be able to name, and explain the two different provisions in hospitality and catering.
Commercial: the business aims to **make profit** from the hospitality and catering provision that they provide.
Non-commercial: the service provider **doesn't aim** to make a profit from the service they provide.

Commercial (residential)

Commercial (residential): meaning the hospitality and catering provision aims to create a profit from the service they provide, but also offers accommodation.

For example:

- hotels, motels & hostels
- B&B, guest houses and Airbnb
- holiday parks, lodges, pods, and cabins
- campsites and caravan parks.

Non-commercial (residential)

Non-commercial (residential): the hospitality and catering provision offers accommodation but does not aim to make a profit from the service they provide.

For example:

- hospitals, hospices, and care homes
- armed forces
- prisons
- boarding schools, colleges, and university residences.

Commercial (non-residential)

Commercial (non-residential): catering establishments that aim to make a profit from their service, but no accommodation is provided.

For example:

- restaurants and bistros
- cafes, tea rooms and coffee shops
- takeaways
- fast food outlets
- public houses and bars
- airlines, cruise ships, long distance trains
- pop up restaurants
- food and drink provided by stadiums, concert halls and tourist attractions
- mobile food vans and street food trucks
- vending machines.

Non-commercial (non-residential)

Non-commercial (non-residential): catering establishments with no accommodation provided and don't aim to make a profit from their service.

For example:

- schools, colleges, and universities
- meals on wheels
- canteen in working establishments (subsidised)
- charity run food providers.

Types of service in commercial and non-commercial provision

You need to be able to understand and know the different types of service within commercial and non-commercial provision. They are split into two main categories of food service and residential service.

Food service

The different types of food services in the catering sector are listed below. You should know the meaning of each one and be able to provide examples. For instance;

Table service

- Plate: the food is put on plates in the kitchen and served by waiting staff. Good portion control and food presentation consistent.
- Silver: a waiter will transfer food from a serving dish to the customer's plate using a silver spoon and fork at their table.
- Banquet: a range of foods suitable for large catered events such as weddings, parties, or award ceremonies.
- Family style: the food is placed on serving bowls on the customer's table for customers to share between them.
- Gueridon: is served from a trolley to the customer's table, the food is then cooked and/or finished and presented in front of the customer. Creates an atmosphere of sophistication and entertainment.

Counter service

- Cafeteria: all types of food and drink are shown on a long counter for customers to move along with a tray for them to choose what they want to eat.
- Fast food: the food and drink is displayed on a menu behind the counter, often with pictures. Quick, simple, and usually served with disposable packaging.
- Buffet: a range of foods served on a big serving table where customers walk up to collect their plate and help themselves to food and drink. The food can be hot or cold, and some items could be served by waiting staff.

Personal service

- Tray or trolley: the meals are served on trays from a trolley and customers sometimes order items in advance.
- Home delivery: the customer's order is made over the phone or online, and is then delivered by the business to their address.
- Takeaway: food that's cooked by the business onsite and then eaten elsewhere.

Residential service

Listed below are the different types of residential types of service in the hospitality and catering sector. You should know the different types of service offered in various hospitality provisions.

Rooms:

- single/ double/ king/ family
- suite (en-suite bath/ shower room, shared facilities).

Refreshments:

- breakfast/ lunch/ evening meal
- 24-hour room service/ restaurant available.

Leisure facilities:

- spa
- gym
- swimming pool.

Conference and function facilities:

- large rooms
- overhead projector and computer
- pens and paper provided
- refreshments available.

Types of employment roles and responsibilities within the industry

There are four main areas within the industry that you should know the roles and responsibilities within. They are listed below:

Front of house

- Front of house manager: oversees all staff at the restaurant, provides training, hiring of staff, and ensures good customer service.
- Head waiter: oversees the waiting staff of the restaurant in high-end eating establishments.
- Waiting staff: greets customers, shows them their table, takes food and drink orders from customers, and serves them their order. Makes sure customers' needs are met, and that the food order is made correctly.
- Concierge: advises and helps customers with trips and tourist attractions. Books taxis for customers and parks customer cars.
- Receptionist: takes bookings, deals with questions and complaints from customers, checks-in customers, takes payment, and provides room keys.
- Maître d'hôte: oversees the service of food and drinks to customers. They greet customers, check bookings, reservations, and supervise waiting staff.

Kitchen brigade

- Executive chef: in charge or the whole kitchen, developing menus and overlooking the rest of the staff.
- Sous-Chef: the deputy in the kitchen and is in charge when the executive chef isn't available.
- Chef de partie: in charge of a specific area in the kitchen.
- Commis chef: learning different skills in all areas of the kitchen. Helps every chef in the kitchen.
- Pastry chef: prepares all desserts, pastry dishes and bakes.
- Kitchen assistant: helps with the peeling, chopping, washing, cutting of ingredients, and helps washing dishes and stored correctly.
- Apprentice: an individual in training in the kitchen and helps a chef prepare and cook dishes.
- Kitchen porter/ plongeur: washes the dishes and other cleaning duties.

Housekeeping

- Chambermaid: cleans guests' rooms when they leave, and restocks products that have been used, they also provide new bedding and towels.
- Cleaner: cleans hallways and the public areas of the establishment.
- Maintenance: repairs and maintains the establishment's machines and equipment, such as heating and air conditioning. These responsibilities could also include painting, flooring repair or electrical repair.
- Caretaker: carries out the day to day maintenance of the establishment.

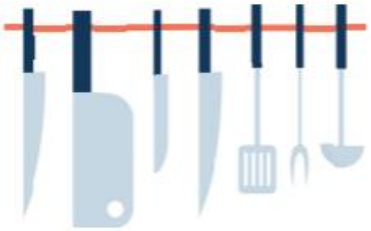
Management

- Food and beverage: responsible for the provision of food and drink in the establishment which will include breakfast, lunch, dinner, and conferences.
- Housekeeping: ensuring laundering of bed linen & towels, ordering of cleaning products and overseeing housekeeping staff duties.
- Marketing: promotes events and offers to increase custom at the establishment, and is responsible for the revenue of the business.

Types of employment contracts and working hours

You need to know the following types of employment contacts and working hours.

- **Casual:** this type of contact could be provided through an agency and used to cover employees that are absent from work due to illness. There is no sick pay or holiday entitlement with this type of employment.
- **Full time (permanent):** working hours including start and finishing times are fixed and stated in this type of contract. A contact of this nature allows the employee to have sick pay and holiday entitlement.
- **Part-time (permanent):** working hours mean that the employee works on certain days of the week. Work times are stated in the contract, including the starting and finishing times that are fixed in this type of contract. The employee has sick pay and holiday entitlement in this type of contact.
- **Seasonal:** this type of contract is used when a business needs more staff due to busy times throughout the year, such as the Christmas period. The contract will state for the employee to work for a specific time frame only. Also, the contract would not expect further or regular work after the contact is complete.
- **Zero hours contract:** this type of contact is chosen between the employer and the employee. This means that the employee can sign an agreement to be available for work when the employer needs staff. No number of days or hours is stated in the contract and the employer doesn't require to ask the employee to work, and neither does the employee have to accept the work offered. No sick pay or holiday entitlement is offered for this type of contract.



Pay and benefits in the industry

The following pay and benefits are what you should be aware of in the industry.

- **A salary:** this type of pay is a fixed amount of money paid by the employer monthly, but is often shown as an annual sum on the contract.
- **Holiday entitlement:** employees are entitled to 28 days paid a year. Part-time contracts are entitled less depending to their contract hours.
- **Pension:** on retirement age, an employee qualifies for a pension contribution by the employer and the government.
- **Sickness pay:** money paid to the employee with certain contracts when they are unable to go to work due to illness.
- **Rates of pay:** national minimum wage should lawfully be offered to all employees over 18 years of age. This rate is per hour and is reviewed each year by the government.
- **Tips:** money given to an employee as a 'thank you' reward for good service from the customer.
- **Bonus and rewards:** given from an employer to the employee as a way of rewarding all the hard work shown from the employee throughout the year, and helping make the business a success. Also known as remuneration.

Working hours

The working hours directive in the UK states that employees on average cannot work more than 48 hours which is worked out over a period of 17 weeks. Employees can choose not to follow this and work more hours if they want to.

People under the age of 18 cannot work more than eight hours a day and 40 hours a week.

Employees that work six hours or more a day must have a break of 20 minutes, and have the right to have at least one day off every week.

Maths Personal Learning Checklists

Congruence, Similarity and Enlargement	Sparx Code	S	O	R	T
Enlarge a shape by an integer & fractional scale factor	U519, 314				
Identify similar shapes	U551				
Find missing angles & lengths in similar shapes	U578				
Use parallel lines to find missing angles	U826				
Establish a pair of triangles are similar	U551				
Understand the difference between congruence & similarity	U790				
Understand congruent triangles	U866				
Higher Tier only:					
Enlarge a shape by a negative scale factor	U314				
Areas of similar shapes	U630				
Volumes of similar shapes	U110				
Prove a pair of triangles are congruent	U887				

Trigonometry	Sparx Code	S	O	R	T
Understand hypotenuse, adjacent & opposite sides	U605				
Use sine, cosine & tangent to find missing lengths	U283				
Use sine, cosine & tangent to find missing angles	U545				
Use Pythagoras to find missing sides	U385				
Know/use exact trigonometric values	U627				
Higher Tier only:					
Use trigonometry in 3D shapes	U170				
Use 1/2absinC to find the area of non-right angles triangles	U592				
Use sine rule to find missing sides or angles	U952				
Use cosine rule to find missing sides or angles	U591				

Equations and Inequalities	Sparx Code	S	O	R	T
Form and solve one-step & two-step equations	U755, U325				
Form and solve one-step & two-step inequalities	U759				
Represent inequalities on a number line	U509				
Draw straight line graphs	U741				
Solve equations using straight line graphs					
Form & solve equations with unknowns on both sides	U870				
Form & solve inequalities with unknowns on both sides	U738				
Higher Tier only:					
Represent solutions to inequalities using set notation					
Show solutions to inequalities on a graph	U747				
Solve quadratics by factorisation	U178, 228				
Solve quadratic inequalities in one variable	U133				

Simultaneous Equations	Sparx Code	S	O	R	T
Understand the idea of multiple solutions					
Solve a pair of simultaneous equations graphically	U836				
Solve a pair of simultaneous equations algebraically	U757, U760				
Form & solve simultaneous equations from given information	U137				
Higher Tier only:					
Solve non-linear simultaneous equations graphically	U875				
Solve non-linear simultaneous equations algebraically	U547				
Solve a pair of simultaneous equations with a third unknown					

Angles and bearings	Sparx Code	S	O	R	T
Draw and interpret scale diagrams	U257				
Measure, read and calculate bearings	U525				
Calculate bearings using angle rules	U107				
Solve bearings using Pythagoras & trigonometry	U164				
Bearings using the sine & cosine rule (H tier only)	U952, U591				

Maths Knowledge Organiser

VOCABULARY

Enlarge: to make a shape bigger (or smaller) by a given multiplier

Scale Factor: the multiplier of enlargement

Centre of enlargement: the point the shape is enlarged from

Similar: when one shape can become another with a reflection, rotation, enlargement or translation.

Congruent: the same size and shape

Corresponding: items that appear in the same place in two similar situations

Parallel: straight lines that never meet (equal gradients)

Constant: a value that remains the same

Inverse: function that has the opposite effect.

Hypotenuse: longest side of a right-angled triangle. It is the side opposite the right-angle

Variable: a symbol for a number we don't know yet.

Equation: an equation says that two things are equal–it will have an equals sign=

VOCABULARY

Expression: numbers, symbols and operators grouped together to show the value of something

Identity: An equation where both sides have variables that cause the same answer includes ≡

Linear: an equation or function that is the equation of a straight line

Intersection: the point that two lines meet

Substitute: replace a variable with a numerical value

Eliminate: to remove

Cardinal directions: the directions of North, South, East, West.

Angle: the amount of turn between two lines around their common point.

Bearing: angle in degrees measured clockwise from North.

Perpendicular: where two lines meet at 90° Parallel: straight lines always the same distance apart and never touch. They have the same gradient.

Clockwise: moving in the direction of clock hands.

Scale: the ratio of the length of a drawing to the length of the real thing.

Protractor: used for measuring or drawing angles.

Maths Knowledge Organiser: Congruence, Similarity & Enlargement

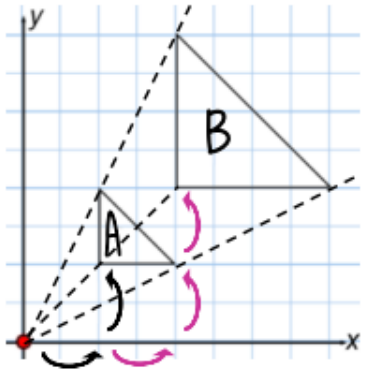
Positive scale factors R

Enlargement from a point

Enlarge shape A by SF 2 from (0,0)

The shape is enlarged by 2

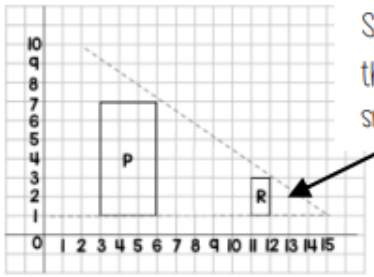
The distance from the point enlarges by 2



Fractional scale factors R

Fractions less than 1 make a shape SMALLER

R is an enlargement of P by a scale factor $\frac{1}{3}$ from centre of enlargement (15,1)

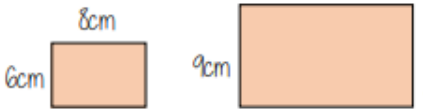


SF: $\frac{1}{3}$ - R is three times smaller than P

Identify similar shapes

Angles in similar shapes do not change.
e.g. if a triangle gets bigger the angles can not go above 180°

Similar shapes

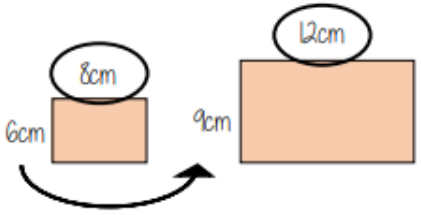


Scale Factor:
Both sides on the bigger shape are 1.5 times bigger

Compare sides: 6 : 9 = 2 : 3 ; 8 : 12 = 2 : 3

Both sets of sides are in the same ratio

Information in similar shapes



Compare the equivalent side on both shapes

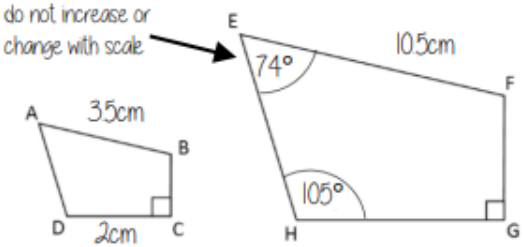
Scale Factor is the multiplicative relationship between the two lengths

Shape ABCD and EFGH are similar

Notation helps us find the corresponding sides

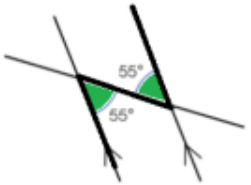
AB and EF are corresponding

Remember angles do not increase or change with scale



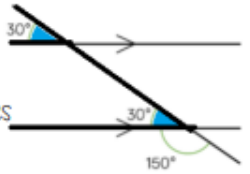
Angles in parallel lines R

Alternate angles



Because alternate angles are equal the highlighted angles are the same size

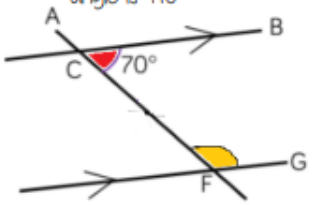
Corresponding angles



Because corresponding angles are equal the highlighted angles are the same size

Co-interior angles

Because co-interior angles have a sum of 180° the highlighted angle is 110°



As angles on a line add up to 180° co-interior angles can also be calculated from applying alternate/ corresponding rules first

Maths Knowledge Organiser: Congruence, Similarity & Enlargement

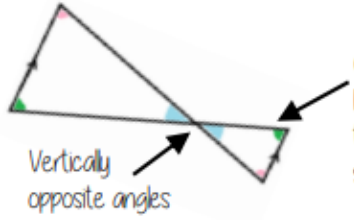
Similar triangles

Shares a vertex

Because corresponding angles are equal the highlighted angles are the same size

Parallel lines – all angles will be the same in both triangle

As all angles are the same this is similar – it only one pair of sides are needed to show equality

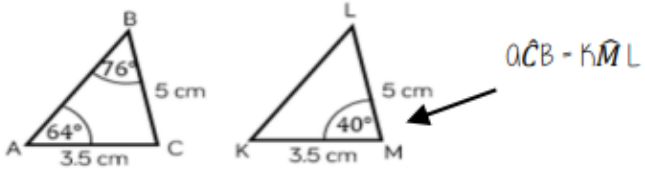


All the angles in both triangles are the same and so similar

Vertically opposite angles

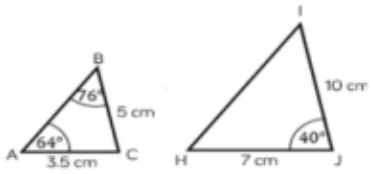
Congruence and Similarity

Congruent shapes are identical – all corresponding sides and angles are the same size



$A\hat{C}B = K\hat{M}L$

Because all the angles are the same and AC-KM BC-LM triangles ABC and KLM are **congruent**



Because all angles are the same, but all sides are enlarged by 2 ABC and HIJ are **similar**

Conditions for congruent triangles

Triangles are congruent if they satisfy any of the following conditions

Side-side-side

All three sides on the triangle are the same size

Angle-side-angle

Two angles and the side connecting them are equal in two triangles

Side-angle-side

Two sides and the angle in-between them are equal in two triangles (it will also mean the third side is the same size on both shapes)

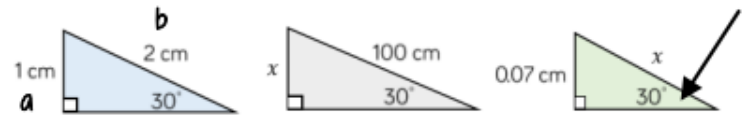
Right angle-hypotenuse-side

The triangles both have a right angle, the hypotenuse and one side are the same

Maths Knowledge Organiser: Trigonometry

Ratio in right-angled triangles

When the angle is the same the ratio of sides a and b will also remain the same



a : b
1 : 2

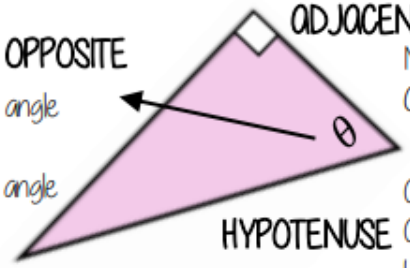
$\frac{a}{b} = \frac{1}{2}$

a : b
x : 100
50 : 100

a : b
0.07 : x
0.07 : 0.14

Hypotenuse, adjacent and opposite

ONLY right-angled triangles are labelled in this way



OPPOSITE
Always opposite an acute angle
Useful to label second
Position depend upon the angle in use for the question

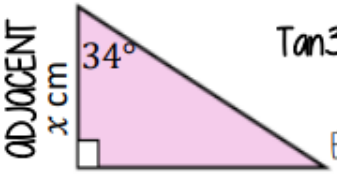
ADJACENT
Next to the angle in question
Often labelled last

HYPOTENUSE
Always the longest side
Always opposite the right angle
Useful to label this first

Tangent ratio: side lengths

$\tan\theta = \frac{\text{opposite side}}{\text{adjacent side}}$

Substitute the values into the tangent formula



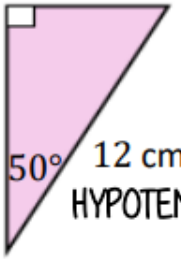
$\tan 34 = \frac{10}{x}$

Equations might need rearranging to solve

$x \times \tan 34 = 10$

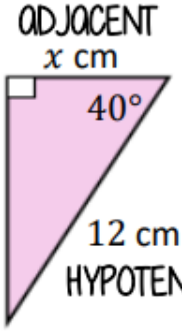
$x = \frac{10}{\tan 34} = 14.8\text{cm}$

Sin and Cos ratio: side lengths



$\sin\theta = \frac{\text{opposite side}}{\text{hypotenuse side}}$

NOTE
The Sin(x) ratio is the same as the Cos(90-x) ratio



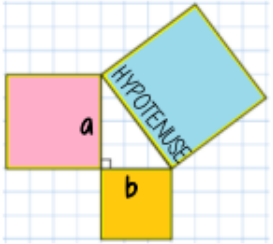
$\cos\theta = \frac{\text{adjacent side}}{\text{hypotenuse side}}$

Substitute the values into the ratio formula

Equations might need rearranging to solve

Maths Knowledge Organiser: Trigonometry

Pythagoras theorem R



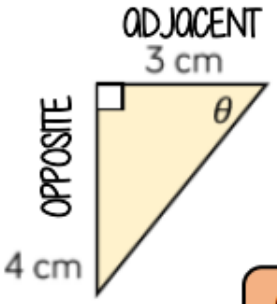
Hypotenuse² = a² + b²

This is commutative – the square of the hypotenuse is equal to the sum of the squares of the two shorter sides

Places to look out for Pythagoras
- Perpendicular heights in isosceles triangles
- Diagonals on right angled shapes
- Distance between coordinates
- Any length made from a right angles

Sin, Cos, Tan: Angles

Inverse trigonometric functions



Label your triangle and choose your trigonometric ratio

Substitute values into the ratio formula

$\tan\theta = \frac{3}{4}$

$\theta = \tan^{-1}\frac{3}{4}$

$\theta = 36.9°$

$\theta = \tan^{-1}\frac{\text{opposite side}}{\text{adjacent side}}$

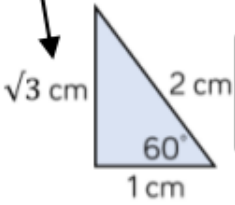
$\theta = \sin^{-1}\frac{\text{opposite side}}{\text{hypotenuse side}}$

$\theta = \cos^{-1}\frac{\text{adjacent side}}{\text{hypotenuse side}}$

Key angles

This side could be calculated using Pythagoras

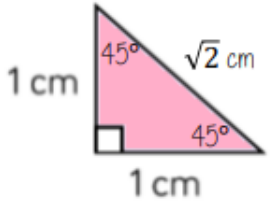
Because trig ratios remain the same for similar shapes you can generalise from the following statements



$\tan 30 = \frac{1}{\sqrt{3}}$ $\tan 60 = \sqrt{3}$

$\cos 30 = \frac{\sqrt{3}}{2}$ $\cos 60 = \frac{1}{2}$

$\sin 30 = \frac{1}{2}$ $\sin 60 = \frac{\sqrt{3}}{2}$



$\tan 45 = 1$

$\cos 45 = \frac{1}{\sqrt{2}}$

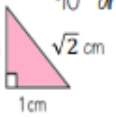
$\sin 45 = \frac{1}{\sqrt{2}}$

Key angles 0° and 90°

$\tan 0 = 0$

~~$\tan 90$~~

This value cannot be defined – it is impossible as you cannot have two 90° angles in a triangle



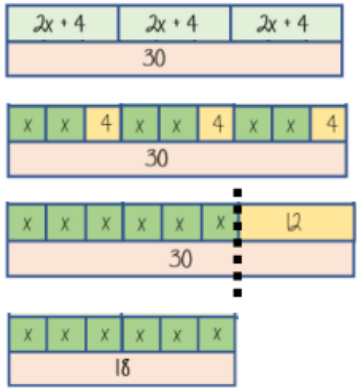
$\sin 0 = 0$ $\sin 90 = 1$

$\cos 0 = 1$ $\cos 90 = 0$

Maths Knowledge Organiser: Equations and Inequalities

Solve equations R

$3(2x + 4) = 30$



$3(2x + 4) = 30$

Expand the brackets

$6x + 12 = 30$

$-12 \quad -12$

Substitute to check your answer. This could be negative or a fraction or decimal

$6x = 18$

$\div 6 \quad \div 6$

x
3

$x = 3$

Form and solve inequalities R

Two more than treble my number is greater than 11

Form

x → x3 → +2 → 11

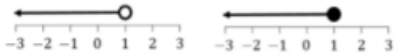
$3x + 2 > 11$

Solve

x ← -3 ← -2 ← 11

$x > 3$

Solutions on a number line



$x < 1$ $\quad$ $x \leq 1$

Both represent values less than 1

Includes the value 1

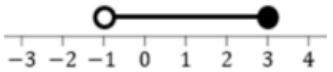
$x > 1$ $\quad$ $x \geq 1$

Both represent values more than 1

Includes the value 1

- ● Includes the value it sits above
- ○ Does NOT include the value it sits above

Values less than or equal to 3 but also more than -1



$-1 < x \leq 3$

This includes the integer values 0,1,2,3

Maths Knowledge Organiser: Equations and Inequalities

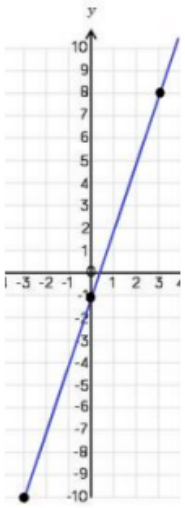
Plotting straight line graphs R

$y = 3x - 1$ → 3 x the x coordinate then – 1

x	-3	0	3
y	-10	-1	8

Draw a table to display this information

This represents a coordinate pair (-3, -10)



You only need two points to form a straight line

Plotting more points helps you decide if your calculations are correct (if they do make a straight line)

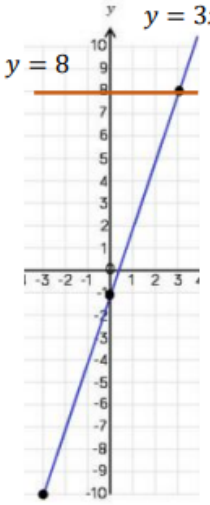
Remember to join the points to make a line

Find solutions graphically

For linear equations there is only one point the graph meets the x value

$x = 2$
$y = 4$

These two lines will cross at (2,4) because they are just x= and y= they are parallel to axes and meet in one place



$3x - 1 = 8$

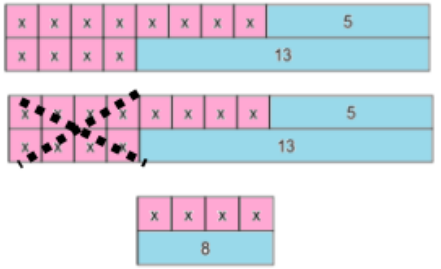
Remember equation of a line format is y = mx + c

The solution is the point the two lines meet

(3,8)

Equations: unknown on both sides R

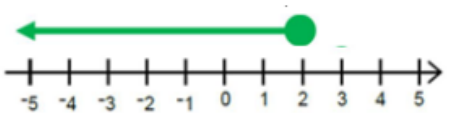
$8x + 5 = 4x + 13$



$8x + 5 = 4x + 13$
$-4x \quad -4x$
$4x + 5 = 13$
$-5 \quad -5$
$4x = 8$
$\div 4 \quad \div 4$
$x = 2$

Inequalities: unknown on both sides

$8x + 5 \leq 4x + 13$ → $x \leq 2$



Any value 2 or less will satisfy this inequality

Maths Knowledge Organiser: Simultaneous Equations

Is (x, y) a solution?

x and y represent values that can be substituted into an equation

Does the coordinate (1,8) lie on the line y=3x+5?

This coordinate represents x=1 and y=8

$y = 3x + 5$

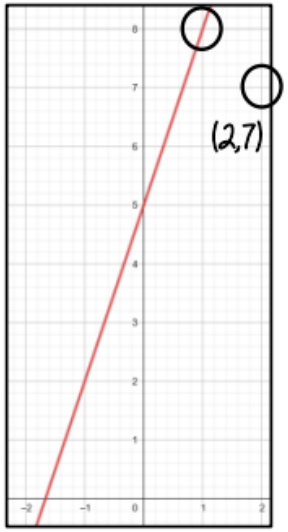
$8 = 3(1) + 5$

As the substitution makes the equation correct the coordinate (1,8) IS on the line y=3x+5

Is (2,7) on the same line?

$7 \neq 3(2) + 5$

No 7 does NOT equal 6+5



Substituting known variables

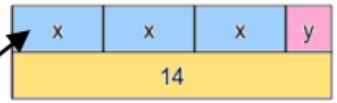
A line has the equation $3x + y = 14$

Two different variables, two solutions

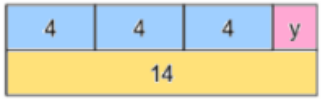
Stephanie knows the point x = 4 lies on that line. Find the value for y

$x = 4$

$3x + y = 14$



$3(4) + y = 14$



$12 + y = 14$

$-12 \quad -12$

$y = 2$

Substituting in an expression

$x = 2y$

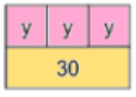
$x + y = 30$

Pair of simultaneous equations (two representations)

Substitute 2y in place of the x variable as they represent the same value

$x = 2y$

$x + y = 30$



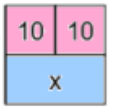
$3y = 30$

$3y = 30$

$\div 3 \quad \div 3$

$y = 10$

$x = 2y$



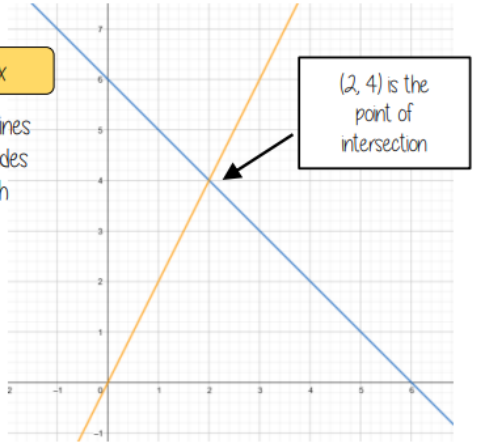
$x = 20$

Maths Knowledge Organiser: Simultaneous Equations

Solve graphically

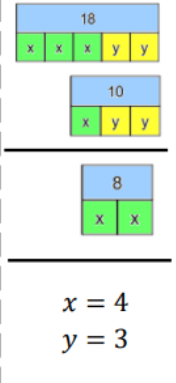
$x + y = 6$ $y = 2x$

Linear equations are straight lines
The point of intersection provides the x and y solution for both equations



The solution that satisfies both equations is
$x = 2$ and $y = 4$

Solve by subtraction

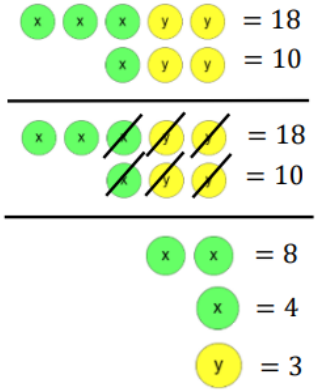


$x = 4$
$y = 3$

$3x + 2y = 18$
$-\ x + 2y = 10$

$2x = 8$
$\div 2 \quad \div 2$
$x = 4$

$x + 2y = 10$
$(4) + 2y = 10$
$-4 \quad -4$
$2y = 6$
$\div 2 \quad \div 2$
$y = 3$



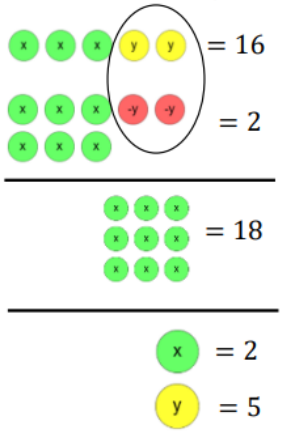
Solve by addition

$3x + 2y = 16$
$+\ 6x - 2y = 2$

$9x = 18$
$\div 9 \quad \div 9$
$x = 2$

$3x + 2y = 16$
$3(2) + 2(y) = 16$
$6 + 2y = 16$
$-6 \quad -6$
$2y = 10$
$y = 5$

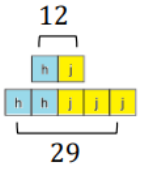
Addition makes zero pairs



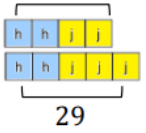
Solve by adjusting one

$h + j = 12$
$2h + 2j = 29$

No equivalent values



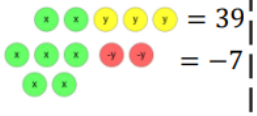
$2h + 2j = 24$
$2h + 2j = 29$



By proportionally adjusting one of the equations – now solve the simultaneous equations choosing an addition or subtraction method

Solve by adjusting both

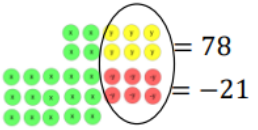
$2x + 3y = 39$
$5x - 2y = -7$



Use LCM to make equivalent x OR y values
Because of the negative values using zero pairs and y values is chosen choice

$4x + 6y = 78$
$15x - 6y = -21$

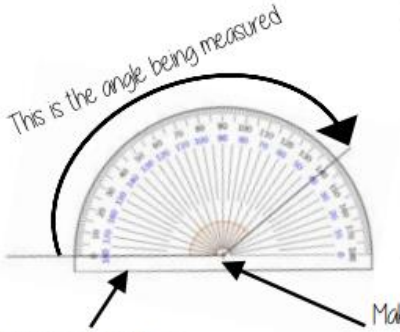
Now solve by addition



Addition makes zero pairs

Maths Knowledge Organiser: Angles and Bearings

Measure angles to 180° R

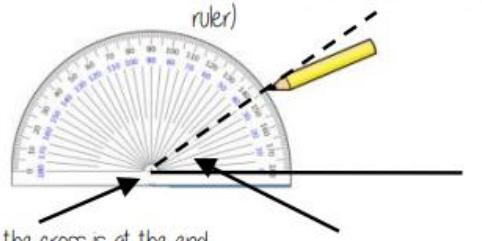


Read from 0° on the base line. Remember to use estimation. This is an obtuse angle so between 90 ° and 180 °

Draw angles up to 180° R

Draw a 35° angle

Make a mark at 35° with a pencil and join to the angle point (use a ruler)



Angle notation R

The letter in the middle is the angle
The arc represents the part of the angle

Angle Notation: three letters $A\hat{B}C$ This is the angle at B = 113 °

$\angle ABC$ is also used to represent the angle at B

Scale drawings R

1 : 20

For every 1cm on the model there are 20cm in real life

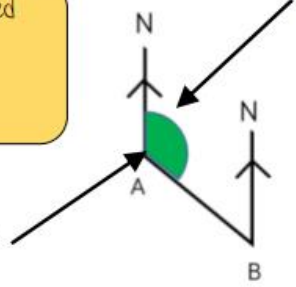
Remember: Scale drawings ONLY change lengths and distances. Angles remain the same

Understand and represent bearings

- A bearing is always measured from **NORTH**
- It is always given as three figures

The angle indicated starts from the North line at A and joins the path connecting A to B

This angle shows the bearing of **B from A**



The bearing of B from A is calculated by measuring the highlighted angle

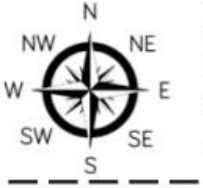
The sentence... "Bearing of ____ from _____" is really important in identifying the bearing being represented

Using **estimation** it is clear this angle is between 090° and 180°

Directions

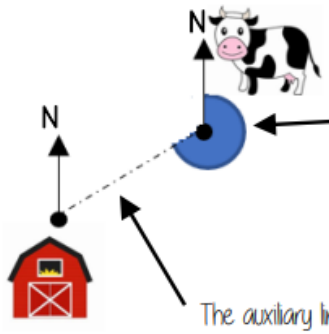
Clockwise

Anti-Clockwise



Maths Knowledge Organiser: Angles and Bearings

Measure and read bearings



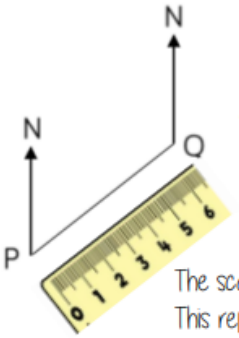
The bearing of the cow to the barn

This angle is measured from **NORTH**
It is measured in a clockwise direction
Estimation indicates this angle is between 180° and 270°
Use a protractor to measure accurately
Remember: bearings are written as three figures

The auxiliary line is drawn to help you measure and draw the angle that is measured to represent the bearing

Scale drawings using bearings

Remember – angles **DO NOT** change size in scaled drawings



The bearing measurements do not change from "real life" to images

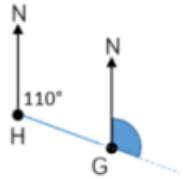
The units in the ratio scale are the same

The scale may need to be calculated from the image. This represents 30km from P to Q

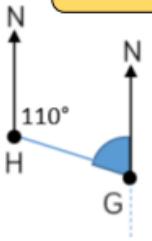
6cm = 30km
6:3,000,000

Bearings with angle rules

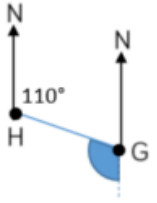
Because two North lines are **PARALLEL**....



They form **corresponding** angles and therefore are the same size



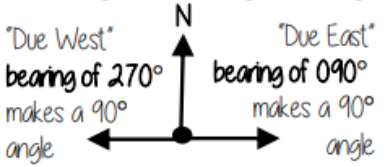
They form **co-interior** angles and add up to 180°



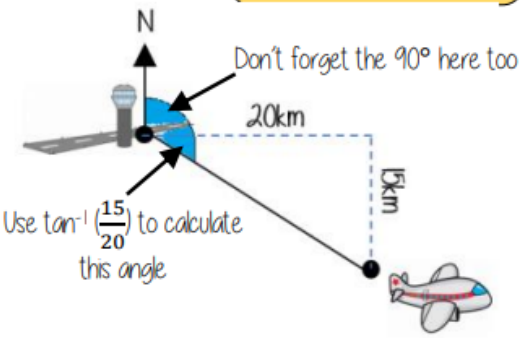
They form **alternate** angles and therefore are the same size

Bearings with right-angled geometry

Look for Right-angles:
Pythagoras
Trigonometry (Sin, Cos, Tan)



A plane flies East for 20km then turns South for 15km. Find the bearing of the plane from where it took off.



Music Personal Learning Checklists

Component 1: - I can recognise and define the term / I can apply the term in class discussion/listening tasks/exam questions.....		S	O	R	T
Dynamics	Italian terms with abbreviations				
	Pianissimo (pp)				
	Piano (p)				
	Mezzo-piano (mp)				
	Mezzo Forte (mf)				
	Forte (f)				
	Fortissimo (ff)				
	Crescendo <				
	Diminuendo >				
Rhythm	Rests, note durations				
	Syncopation				
	Time signatures				
	Tempos with Italian terms				
	Polyrhythm				
	Augmentation/diminution				
	Anacrusis				
Structure	Binary				
	Ternary				
	Rondo				
	Arch-shaped, through-composed				
	Theme and variations				
	Sonata				
	Concerto				
	Cadenza				
	Call and response				
	Song form				

Component 1: - I can recognise and define the term / I can apply the term in class discussion/listening tasks/exam questions.....		S	O	R	T
Melody	Conjunct				
	Disjunct				
	Arpeggio, broken chords, triadic				
	Scalic				
	Intervals within one octave				
	Passing notes				
	Diatonic				
	Chromatic				
	Slide/portamento				
	Ornamentation - Trills				
	acciaccaturas				
	appoggiaturas				
	Ostinato				
	Phrasing				
	articulation				
Instrumentation	The Orchestra – strings, brass, woodwind, percussion,				
	Pop/Rock instruments				
	Instrumental technique – pizzicato, tremolo, pitch bend, mute				
Texture	Polyphonic				
	Homophonic				
	Monophonic				
	Melody and accompaniment,				
	Heterophonic				
	Imitation				
Harmony and tonality	Chords, primary chords, major/minor chords				
	Keys and key signatures, major, minor, modal, bitonal, atonal				

Music Personal Learning Checklists

Popular Music		S	O	R	T
Meldoy	Riff				
	Pitch Blend				
	Melisma				
	Hook				
	Slide				
	Glissando				
	Improvisation				
	Ostinato				
	Blue notes				
Harmony	Power chords				
	Chord Symbols e.g. C7				
	Stock chord progressions e .g. I, VI, IV, V				
Tonality	Pentatonic				
	Modal				
	Blues Scale				

Popular Music		S	O	R	T
Structure	Into/Outro				
	Verse				
	Chorus				
	Break				
	12 bar Blues				
	Drum Fill				
Timbre	Pop instruments eg drum kit, electric guitar				
	Pop instrumental				
	Indian instrument technique eg pit ch bend				
Tempo/Metre/Rhythm	Bpm (beats per minute)				
	Metronome marking				
	Groove				
	Backbeat				
	Off beat				
	Swing				
	Shuffle				

Component 2 – Performing Music PLC (Solo)		S	O	R	T
Choosing a SOLO piece to record	I have discussed with my instrumental/vocal teacher that I am a GCSE musician and that I need to prepare a complete solo piece/song to record in the February performance exams.				
	I have chosen a suitable piece for the solo performance recording.				
	I have the sheet music/tab OR guide recording to learn from. Copy to teacher				
	I have given a copy to my music teacher.				
Practicing the piece/song	I am able to demonstrate technical control				
	I am able to demonstrate accuracy				
	I am able to demonstrate expression				
	I am able to demonstrate a sense of style and attention to detail				
	I am able to demonstrate ensemble skills such as timing and tuning				
Component 3 – Composing Music		**S**	**O**	**R**	**T**
Composition Basics	I have selected the following instruments/voices to write for.				
	I have chosen my intended audience				
	I have researched and selected a style/genre				
	Having researched appropriate artists, I want to include the following musical ideas in my own work (syncopated bass line? 2 part vocal harmony? Drum fill? Extension chords?)				

Musical forms and devices

Area of study 1 - Eduqas GCSE Music

Baroque era (1600-1750)

- Harpsichord
- Ornaments
- Terraced dynamics
- Basso continuo
- Small orchestra (mostly strings, plus some wind)
- Suite, sonata, oratorio, chorales, trio sonata
- **Bach, Handel, Vivaldi**

Classical era (1750-1810)

- Slightly larger orchestra
- Piano introduced
- Alberti bass
- String quartets
- Symphony, solo sonata, solo concerto
- Balanced, regular phrases
- **Haydn, Mozart, Beethoven**

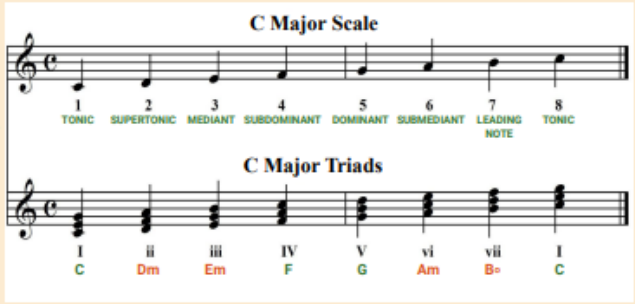
Romantic era (1810-1910)

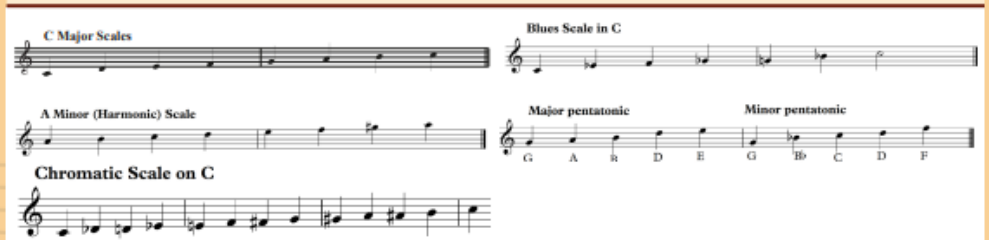
- Lyrical, expressive melodies
- Large orchestra
- Wider range of dynamics
- Richer harmonies and use of chromatic chords
- Programme music
- Opera symphony
- **Tchaikovsky, Grieg, Schumann, Dvorak, Brahms, Verdi, Wagner**

Scales and chords

A **CHORD** is a group of two or more notes played at the same time. A **TRIAD** has three notes. A **CHORD SEQUENCE/ PATTERN** is a series of chords. **DIATONIC HARMONY** is based on the chords of major/minor scales.

Primary chords I, IV, V
Secondary chords ii, iii, vi, vii





Form and structure

BINARY **A B**
Two sections: A usually ends in a related key (e.g. dominant or relative minor), but B returns to the tonic. B will contain with some change/contrast.

TERNARY **A B A**
Three sections: section B provides a contrast (e.g. new tune key change). A may return exactly or with some slight changes.

RONDO **A B A C A**
A longer form: A returns throughout the piece, with contrasting sections called 'episodes', containing new ideas and using different keys.

MINUET AND TRIO **II: AB: II II:CD :II AB**
The minuet was a type of graceful dance from the 17-18th century, and was often used as the 3rd movement in symphonies in the Classical era. The minuet had two repeated sections, the trio had two new repeated sections, with a return to the minuet at the end (no repeat).

VARIATIONS **A a A A 𝒜**
The main theme (tune) is repeated and developed a number of times in a variety of different ways.

STROPHIC **A A A**
A simple form where the song uses the same melody over and over.

Devices

Repetition	A musical idea is repeated exactly.
Imitation	An idea is copied in another part.
Sequence	Repetition of an idea in the same part at a higher/lower pitch.
Ostinato	A short, repeated pattern or phrase.
Drone	A long held or constantly repeated note(s).
Arpeggio/ broken chord	The notes of a chord played individually.
Alberti bass	A broken chord accompaniment (I,V,iii,V) common in the Classical era.
Anacrusis	An 'up-beat' or pick-up before the first strong beat.
Dotted rhythms	A rhythm using dotted notes (gives a 'jagged' or 'bouncy' type of effect).
Syncopation	Off beat accents.
Conjunct	Notes that move in steps.
Disjunct	Notes that move in leaps/ intervals.
Regular phrasing	Balanced parts of a melody (like the phrases in a sentence) e.g. four bar phrases.

Cadences

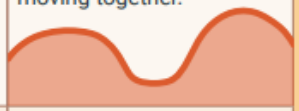
The two chords at the end of a phrase

Perfect	**V-I**	Strong ending – sounds 'finished'; a musical full stop.
Plagal	**IV-I**	Sounds finished but 'softer'; Amen.
Imperfect	**I-V, ii-V, vi-V**	Sounds unfinished.
Interrupted	**V-vi**	Moves to an unexpected chord; 'surprise'.

Music for ensemble

Area of study 2 - Eduqas GCSE Music

Texture

MONOPHONIC	A single melodic line. 
HOMOPHONIC	A chordal style or melody and accompaniment: moving together. 
POLYPHONIC	A more complex (contrapuntal) texture with a number of different lines. 
Melody and accompaniment	A tune with accompaniment (e.g. chords).
Unison	All parts play/sing the same music at the same time.
Chordal	The music moves in chords (e.g. like a hymn/ chorale).
Descant	A decorative, higher pitched line.
Countermelody	A new melody, combined with the theme.
Round	A short (vocal) canon.
Canon	The melody is repeated exactly in different parts but starting at different times, with parts overlapping.
Drone	Long held notes.
2-3-4 part texture	Textures which have 2/3/4 different lines.

Jazz and blues

Scat: vocal improvisation using wordless/ nonsense syllables.
Improvised: music made up on the spot.
Blue notes: flattened 3rd, 5ths, 7ths.
Syncopation: off-beat accents.
Call and response: a phrase played/sung by a leader and repeated by others.
Walking bass: bass line that 'walks' up and down the notes of a scale/arpeggio.
Swing style: 'jazzy' rhythm with a triplet/ dotted feeling.

A jazz ensemble may contain:

Rhythm section

- Drums
- Bass (guitar or double bass)
- Piano/guitar

'Horn section'

- Trumpet
- Trombone
- Saxophone

Some groups use a wider range of instruments e.g. clarinet, violin.

12 bar blues

Chords

I	I	I	I
IV	IV	I	I
V	IV	I	I/V

Example in C major

C	C	C	C
F	F	C	C
G	F	C	C/G

Chamber music

Chamber music was music for a small ensemble, originally played in a small room in someone's home.

Baroque: The **trio sonata** featured one or two soloists, plus **basso continuo** (which consisted of a low-pitched instrument such as a cello playing a bassline, with an instrument playing chords e.g. harpsichord).

Classical: String quartets (two violins, a viola and a cello) were popular. They had **four** movements, with the 1st movement usually in sonata form.

Romantic: Chamber music groups were more varied in the Romantic era, using a wider range of instruments (e.g. piano quintet, horn trio). Performances happened in larger concert halls as well as in small 'chambers'.

A piece of music for:

DUET	2 performers
TRIO	3 performers
QUARTET	4 performers
QUINTET	5 performers
SEXTET	6 performers
SEPTET	7 performers
OCTET	8 performers

Musical theatre

Musical numbers may include:
Solo: a song for one singer.
Duet: a song for two singers.
Trio: a song for three singers.
Ensemble: a song sung by a small group.
Chorus: a large group (usually the full company/cast).
Recitative: a vocal style that imitates the rhythms and accents of speech.
Overture: an orchestral introduction to the show, which usually uses tunes from the show.
The orchestra/band is used to **accompany** the voices and to **underscore**.

Voices

Soprano
Alto
Tenor
Bass

The band/orchestra (sometimes called the 'pit' orchestra), may use **strings, woodwind** (sometimes called 'reeds'), **brass** and **percussion** and/or a rock/pop band, depending on the style. Most shows also use keyboards or synths.

Popular Music

Area of study 4 - Eduqas GCSE Music

Popular music includes:

- **POP**
- **ROCK**
- **RAP**
- **HIP HOP**
- **REGGAE**

Plus many other genres, e.g. soul, ska, heavy metal, R&B, country, rock'n'roll.

FUSION: when two different styles are mixed together. This can be two styles of popular music e.g. 'rap metal', or could combine a popular music genre with other styles, folk-rock, gospel, world music, classical to create a new and interesting sound. **Jazz fusion** (jazz and pop) is a popular genre.

Instruments

ELECTRIC GUITAR:

- Lead guitar: plays the melody/ solos/riffs
- Rhythm guitar: plays the chords/ accompaniment.

BASS GUITAR: plays the bass line.
DRUM KIT: provides the beat.
LEAD SINGER: the main vocalist.
BACKING VOCALS: singers who provide harmony.

Pop/rock groups may also include **acoustic** (not electric) instruments e.g. trumpet, trombone, saxophone and/or electronic keyboards/synthesizers.

Features and techniques found in popular music

Riff	A short, repeated pattern.
Hammer on	Finger brought sharply down onto the string.
Pitch bend	Altering (bending) the pitch slightly.
Power chords	A guitar chord using the root and 5th note (no 3rd).
Distortion	An effect which distorts the sound (creates a 'grungy' sound).
Slap bass	A percussive sound on the bass guitar made by bouncing the strings on the fret board.
Fill	A short, improvised drum solo.
Rim shot	Rim and head of drum hit at same time.
Belt	A bright, powerful vocal sound, high in the chest voice.
Falsetto	Male voice in a higher than usual range.
Syllabic	One note sung per syllable.
Melismatic	Each syllable sung to a number of different notes.
A cappella	Voices singing without instrumental accompaniment.

The structure of a pop/rock song may include:

INTRO: short opening section, usually instrumental.
VERSE: same music but different lyrics each time.
CHORUS: repeated with the same lyrics each time (refrain).
MIDDLE EIGHT: a link section, often eight bars, with different musical ideas.
BRIDGE: a link/transition between two sections.
OUTRO: an ending to finish the song (coda).
*You may also hear a pre-chorus, instrumental interlude or instrumental solo.

***Strophic songs, 32 bar songs (AABA) and 12 bar blues are also found in popular music.**

A typical rock ballad in verse-chorus form could follow the pattern:

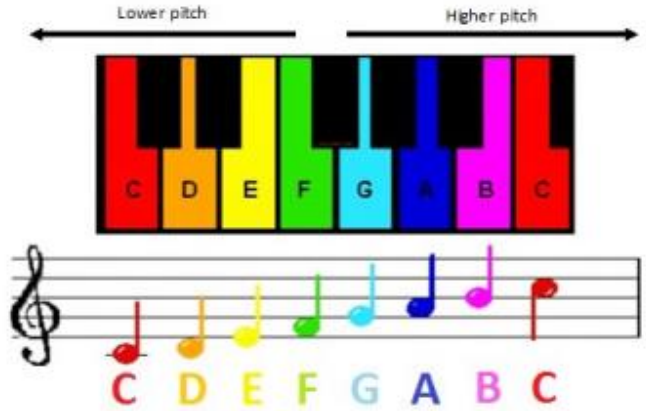
- Intro
- Verse 1
- Chorus
- Verse 2
- Chorus
- MiddleEight
- Chorus
- Outro

Technology

Amplified	Made louder (with an **amplifier**).
Synthesized	Sounds created electronically.
Panning	Moving the sound between left and right speakers.
Phasing	A delay effect.
Sample	A short section of music that is reused (e.g. looped, layered).
Reverb	An electronic **echo** effect.

Orchestral Families

Strings			Woodwind	Brass	Percussion	
Bowed	*Struck*	*Plucked*			*Tuned*	*Untuned*
Violin	Grand Piano	Harp	Piccolo	Trumpet	Xylophone	Bass Drum
Viola		Classical Guitar	Flute	French Horn	Marimba	Snare Drum
Cello			Oboe	Trombone	Vibraphone	Cymbals
Double Bass			Clarinet	Tuba	Timpani	Gong
			Bass Clarinet		Glockenspiel	Triangle
			Bassoon		Tubular Bells	Tambourine

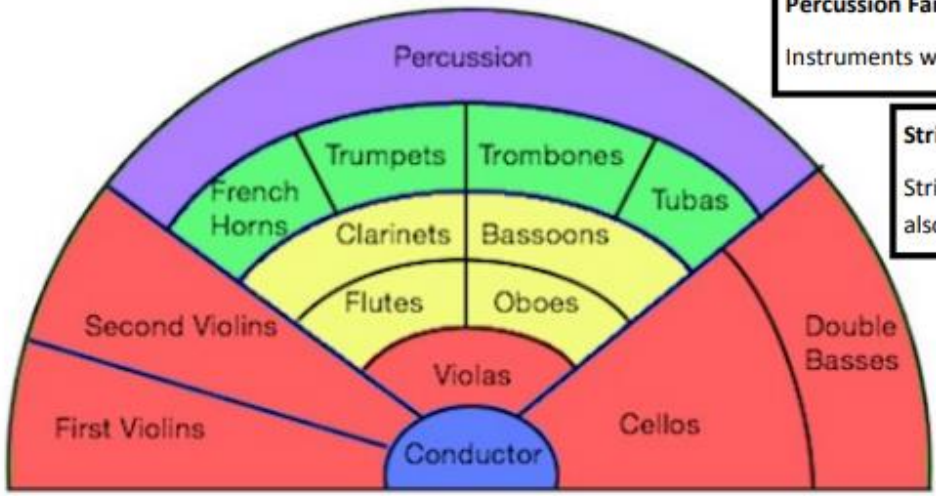


Woodwind Family

A selection of instruments divided into 2 sub families: flutes and reed Instruments. Flutes create sound by air passing over a small hole. It creates a light breathy tone. Reed instruments use a piece of bamboo reed to create a vibration (in turn creating sound).

Percussion Family

Instruments which are hit. These fall into 2 sub-families: tuned (able to play different pitch) and Untuned (drum)



String Family

String instruments are made from wood and have strings. They are usually played with a ***bow*** but can also be plucked. This is called pizzicato

Brass Family

Brass instruments are made out of metal. The sound vibrations are created by the players lips.

Program Music

A piece of orchestral music which tells a story. The instruments portray characters and moods, to create imaginative visual images. This style was popular in the 19th century, when music developed close links with literature and art.

The Conductor

The conductor stands at the front of an orchestra and directs it. The will indicate the main beats in the music using a 'baton' (white stick). All musicians look at the conductor whilst playing using peripheral vision. The conductor is ultimately in control of the whole piece.

Leitmotif

A melody used in film music to represent a character.

GCSE PE Personal Learning Checklists

Physical Training – Paper 1	S	O	R	T
The concepts of Health and Fitness, including the relationship between them				
The definitions of the Components of Fitness				
How to link Sports and Activities to the required Components of Fitness				
Reasons for and limitations of fitness testing				
How to measure the Components of Fitness and demonstrate how data is collected				
The Principles of Training and Overload				
How to Apply the Principles of Training				
Types of Training				
How to Calculate Intensity e.g. Heart rate				
Considerations to prevent Injury				
High Altitude Training and seasonal aspects				
Warming Up and Cooling Down				

Applied Anatomy and Physiology – Paper 1	S	O	R	T
Bones and the Functions of the Skeleton				
Structure of the Skeletal System/Functions of the Skeleton				
Muscles of the Body				
Structure of a Synovial Joint				
Types of Freely Movable Joint that allow different Movements				
How Joints differ in design to allow certain types of Movement				
How the major muscles and muscle groups of the body work antagonistically on the major joints of the skeleton to affect movement in physical activity at the major movable joints				

Movement Analysis – Paper 1	S	O	R	T
First, Second and Third Class Levers				
Mechanical Advantage				
Analysis of basic movements in sporting examples				
Planes and Axes				

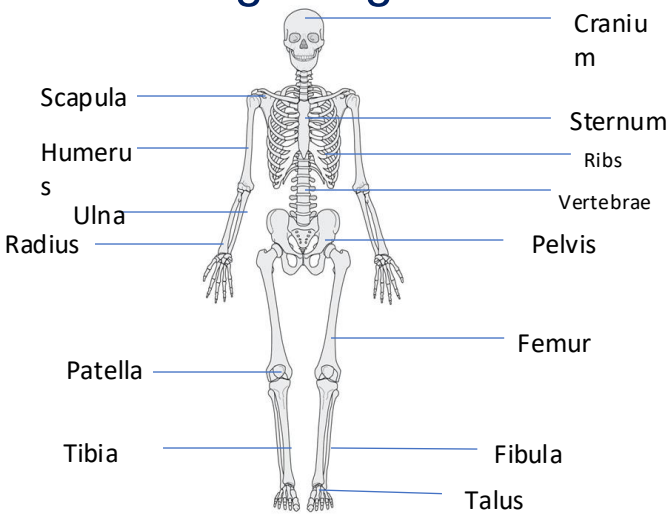
PE Knowledge Organiser

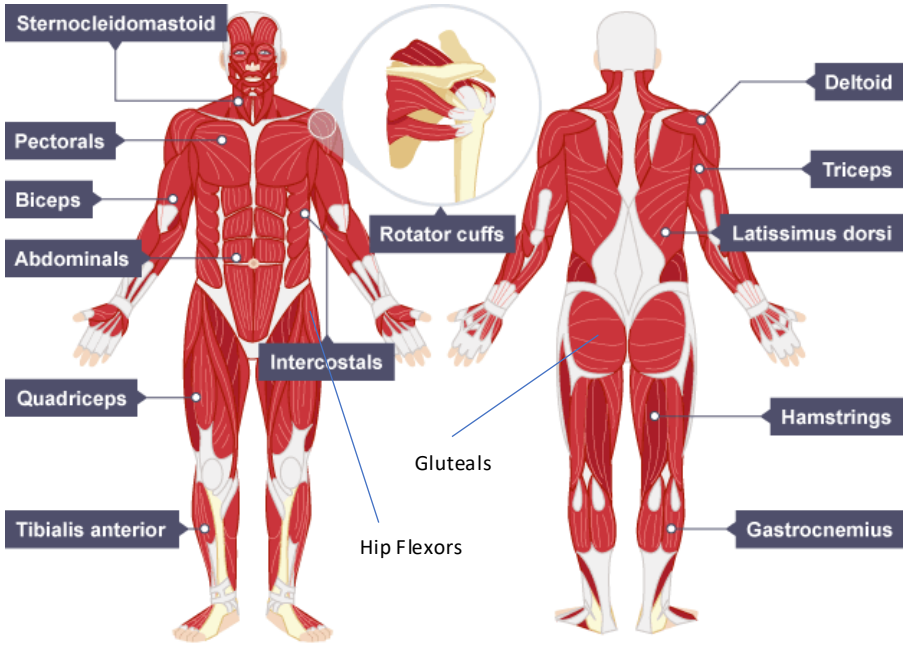
1	TIER THREE VOCABULARY
Aerobic	With oxygen. When exercise is not too fast and is steady, the heart can supply all the oxygen that the working muscles need. Summarised as: glucose + oxygen → energy + carbon dioxide + water.
Agility	The ability to move and change direction quickly (at speed) whilst maintaining control.
Agonist	Muscle or group responsible for the movement.
Alveoli	Air sacs in the lungs.
Anaerobic	Without oxygen. When exercise duration is short and at high intensity, the heart and lungs cannot supply blood and oxygen to muscles as fast as the respiring cells need them. Summarised as: glucose → energy + lactic acid.
Antagonist	Acts to produce the opposite action to the agonist. They work in antagonistic pairs.
Balance	The maintenance of the centre of mass over the base of support. Reference can be made to whilst static (still) or dynamic (whilst moving).
Cardiac Cycle	The process of the heart going through the stages of systole and diastole (see Blood pressure) in the atria and ventricles (see Heart chambers).
Cardiac Output	The amount of blood ejected from the heart in one minute or stroke volume x heart rate.
Cardiovascular endurance	The ability of the heart and lungs to supply oxygen to the working muscles.
Circuit Training	A series of exercise stations whereby periods of work are interspersed with periods of rest.

1	TIER THREE VOCABULARY
Closed Skill	A skill which is not affected by the environment or performers within it. The skill tends to be done the same way each time.
Coordination	The ability to use different (two or more) parts of the body together, smoothly and efficiently.
Continuous training	Involves working for a sustained period of time without rest. It improves cardio- vascular fitness. Sometimes referred to as a steady state training.
EPOC (Excess post exercise oxygen consumption)	Sometimes referred to as oxygen debt (now an outdated term), EPOC refers to the amount of oxygen needed to recover after exercise. EPOC enables lactic acid to be converted to glucose, carbon dioxide and water (using oxygen). It explains why we continue to breathe deeply and quickly after exercise.
Fartlek training	Swedish for 'speed play'. Periods of fast work with intermittent periods of slower work. Often used in running, ie sprint, jog, walk, jog, sprint, etc.
Fitness	The ability to meet/cope with the demands of the environment.
FITT	FITT is used to increase the amount of work the body does, in order to achieve overload (see SPORT). FITT stands for: x frequency – how often you train x intensity – how hard you train x time – the length of the training session x type – the specific method, eg continuous training.
Flexibility	The range of movements possible at a joint.
Haemoglobin	The substance in the red blood cells which transports oxygen (as oxyhaemoglobin) and carbon dioxide.

1	TIER THREE VOCABULARY
Health	A state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity (as per the World Health Organisation- WHO). Ill health refers to being in a state of poor physical, mental and/or social well- being.
High Intensity Interval Training (HIIT)	It's an exercise strategy alternating periods of short intense anaerobic exercise with less intense recovery periods (see Interval training).
Hypertrophy	The enlargement of an organ or tissue from the increase in the size of its cells.
Interval Training	Periods of training/work that are followed by periods of rest, eg work, rest, work, rest (see High intensity interval training).
Movement Types	x flexion – decrease in the angle of the bones at a joint x extension – increasing the angle of bones at a joint x abduction – movement away from the midline of the body x adduction – movement towards the midline of the body x rotation – movement around an axis x plantar flexion – pointing the toes at the ankle/increasing the ankle angle x dorsi flexion – toes up at the ankle/decreasing the ankle angle.
Muscular Endurance	Ability of a muscle or muscle group to undergo repeated contractions, avoiding fatigue.
Obese	A term used to describe people with a large fat content, caused by an imbalance of calories consumed to energy expenditure. A body mass index (BMI) of over 30 or over 20% above standard weight for height ratio.

PE Knowledge Organiser





Types of Muscle Contraction

Isotonic Contractions

These contractions occur when there is movement of the body. The ends of the muscles move closer together to cause the movement.

Isometric Contractions

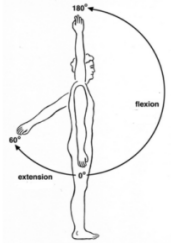
This type of contraction takes place when the body is being held in the same position. The length of the muscle during these contractions stays the same length.

Isotonic Concentric Contraction occurs when the muscle shortens e.g. biceps contracting concentrically during the upwards phase of a bicep curl / triceps contracting concentrically during the upwards phase of a press-up

Isotonic Eccentric Contraction occurs when the muscle lengthening (antagonist) is under tension. An eccentric contraction provides the control of a movement on the downward phase and it works to resist the force of gravity e.g biceps contracting eccentically when lowering the weight in a bicep curl / triceps contracting eccentically during the downwards phase of a press-up.

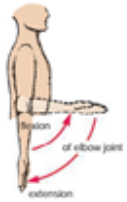
Flexion and extension at the shoulder

- The **Deltoid** causes flexion at the shoulder
- The **Latissimus dorsi** causes extension at the shoulder



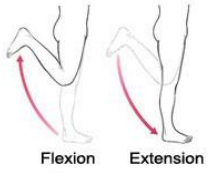
Flexion and extension at the elbow

- The **Biceps** cause flexion at the elbow
- The **Triceps** cause extension at the elbow



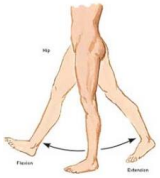
Flexion and extension at the knee

- The **Hamstrings** cause flexion at the knee
- The **Quadriceps** cause extension at the knee



Flexion and extension at the hip

- The **Hip Flexors** cause flexion at the hip
- The **Gluteals** cause extension at the hip

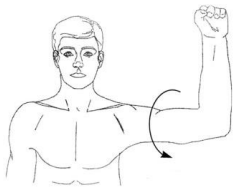


Flexion and extension at the ankle

- The **Tibialis Anterior** causes dorsiflexion at the ankle
- The **Gastrocnemius** cause plantar flexion at the ankle

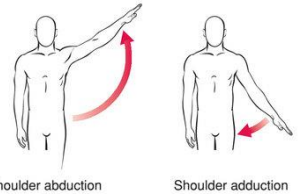
Rotation of the Shoulder

- The **Rotator Cuff** causes rotation at the shoulder



Abduction and Adduction at the shoulder

- The **deltoid** causes abduction at the shoulder
- The **Pectorals / Latissimus Dorsi** cause adduction at the shoulder



PE Knowledge Organiser

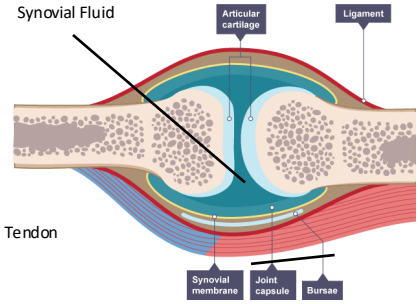
Function of the Skeleton

- **Support:** the bones are solid and rigid. They keep us upright and hold the rest of the body – the muscles and organs – in place.
- **Movement:** the skeleton helps the body move by providing anchor points for the muscles to pull against.
- **Structural shape and points for attachment:** the skeleton gives us our general shape such as height and build. The skeleton also provides anchorage points for the muscles to attach via tendons, so when muscles contract movement occurs.
- **Protection:** certain parts of the skeleton enclose and protect the body's organs from external forces e.g. the brain is inside the cranium. This function is especially important in activities that involve contact. E.g. rugby, boxing.
- **Production of Blood Cells:** the bone marrow in long bones and ribs produce red and white blood cells.
- **Mineral Storage:** bones store several minerals e.g. calcium, which can be released into the blood when needed.

Types of Bones

FLAT bones protect vital organs e.g. cranium protects your brain, ribs protect heart and lungs.
LONG bones enable gross (large) movements e.g. femur, tibia and fibula in the leg which allow us to run, humerus, radius and ulna in arm which allows us to throw a ball.
SHORT bones enable fine (small) movements e.g. fingers allowing you to spin a cricket ball.

Synovial Joints



Ligaments
Attaches bone to bone to keep the joint stable eg knee when kicking the ball or restricts movement/prevents movement to stop injury.
Cartilage
Found between bones and prevents friction by stopping the bones from rubbing together.
Synovial Membrane
Secrets synovial fluid.
Synovial Fluid
Is produced by the synovial membrane and helps lubricate the joint.
Joint Capsule
This is lined with synovial membrane. It encloses the joint making sure the cartilage and synovial fluid remain in place.
Bursae
Fluid filled sac providing cushion between bones and tendons. This stops friction at the joint.
Tendons
Attach muscle to bone. When a muscle contracts to move a joint, it is the tendon which pulls on the bone, keeps muscles/bones stable or holds join in place.

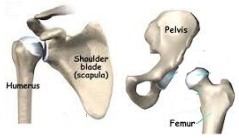
Bones Located at Joints

Head and Neck = Cranium and Vertebrae
Shoulder = Scapula and Humerus
Chest = Ribs and Sternum
Elbow = Humerus, Radius, Ulna
Hip = Pelvis, Femur
Knee = Femur, Tibia, Patella
Ankle = Tibia, Fibula, Talus

Musculo-skeletal System

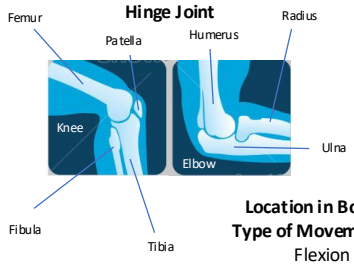
Types of Joint

Ball and Socket Joint



Location in Body: Shoulder and Hip
Type of Movement Allowed by Joint:
Flexion, Extension, Adduction, Abduction, Rotation

Hinge Joint



Location in Body: Knee and Elbow
Type of Movement Allowed by Joint:
Flexion and Extension

Types of Bones

FLAT bones protect vital organs e.g. cranium protects your brain, ribs protect heart and lungs.
LONG bones enable gross (large) movements e.g. femur, tibia and fibula in the leg which allow us to run, humerus, radius and ulna in arm which allows us to throw a ball.
SHORT bones enable fine (small) movements e.g. fingers allowing you to spin a cricket ball.

How do MUSCLES WORK?

Muscles can only PULL they cannot push. This means that they must work in pairs to allow parts of the body to move back and forth. THESE PAIRS ARE CALLED **ANTAGONISTIC PAIRS.**

Antagonistic Pairs

- A muscle must work in partnership with another muscle to allow movement to occur.
- The muscle that causes the movement (the pulling muscle) is called the **AGONIST** or **PRIME MOVER**. When this muscle contracts in becomes shorter.
- During this time the other muscle within this partnership is relaxing. This muscle is called the **ANTAGONIST** and is lengthening while it relaxes.

EXAMPLES:
When we flex our elbow the bicep is the **agonist** and the tricep is the **antagonist**. However these roles are reversed when the elbow extends ,with the tricep becoming the **agonist** and the bicep becoming the **antagonist**.

When dorsiflexion occurs in our ankle the tibialis anterior is the **agonist** and the gastrocnemius is the **antagonist**. However these roles are reversed when plantar flexion occurs at the ankle, with the gastrocnemius becoming the **agonist** and the tibialis anterior becoming the **antagonist.**

BICEPS	TRICEPS
HAMSTRINGS	QUADRICEPS
GASTROCNEMIUS	TIBIALIS ANTERIOR
HIP FLEXORS	GLUTEALS
DELTOID	LATISSIMUS DORSI

PE Knowledge Organiser

Health:
State of complete mental, physical and social wellbeing and not merely the absence of disease or infirmity

Relationship between health and fitness:

- Ill health can negatively affect fitness as the individual may be too unwell to train.
- Increases in fitness can positively affect health and well-being e.g. you may be less likely to get ill, you may feel better about yourself; **HOWEVER**, an increase in fitness cannot prevent illness.

Fitness:
Ability to meet the demands of the environment

Components of Fitness:

1) **Cardiovascular endurance:** the ability of the heart and lungs to supply oxygen to the working muscles.
2) **Agility:** The ability to move and change direction quickly (at speed) whilst maintaining control.
3) **Balance:** maintaining the centre of mass over the base of support.
4) **Co-ordination:** the ability to use different (two or more) parts of the body together smoothly and efficiently.
5) **Flexibility:** the range of movement possible at a joint.
6) **Muscular endurance:** Ability of a muscle or muscle group to undergo repeated contractions avoiding fatigue.
7) **Power / Explosive strength:** the product of strength and speed (strength x speed).
8) **Reaction Time:** the time taken to initiate a response to a stimulus.
9) **Speed:** the maximum rate at which an individual is able to perform a movement or cover a distance in a period of time (speed = distance divided by time)
10) **Strength:** the ability to overcome a resistance
    a) **Maximal** – the largest force possible in a single maximal contraction
    b) **Dynamic** – repeated contractions
    c) **Explosive** – (see POWER)
    d) **Static** – the ability to hold a body part in a static position.

When asked to explain remember to give specific sporting examples:

- Power is needed in football to kick the ball harder when shooting so it is more difficult for the goalkeeper to save.
- A gymnast uses power gain height when jumping. This will give them more time to complete the move.
- Cardiovascular fitness is important in hockey as each game lasts a long time therefore they need to be able to transport oxygen around the body effectively for the duration of the match. This will help them maintain the quality of performance throughout game.

Reasons for Fitness Testing:

- To identify strengths and weaknesses, this allows them to work on weaknesses
- To allow you to plan your training
- To show a starting level of fitness
- To monitor improvement
- To monitor the success of a training programme
- To compare against normative data
- To motivate and set goals

Limitations with Fitness Testing:

- Tests are often not sports specific (give an example)
- They do not replicate the movements in a sport
- They don't replicate the high pressure environment of sporting activities/non competitive
- Some are not reliable
- Some are maximal which means the performer is required to try their best
- Protocols MUST be followed or else the tests are invalid

Components of Fitness and Fitness Testing

Fitness tests:

- **Agility = Illinois agility run:** Cones arranged in 10m x 5 m rectangle with 4 cones down the middle, performer starts face down, performer runs round the cones as fast as possible, performer is timed, compare results to national averages.
- **Balance = Stork Balance Test:** start balanced on 2 feet, hands placed on hip, one leg lifted so that the toes of the lifted leg touch the inside of the planted leg, timekeeper tells the individual to raise the heel on the planted leg and starts the stopwatch, individual balances for as long as possible, timer stops clock when the individual loses their balance, compare to national averages.
- **Cardiovascular endurance = multi-stage fitness test:** Cones set out 20m apart, test gets progressively harder, individual runs 20m in time with 'bleeps', time between bleeps gets shorter as levels increase, performer runs for as long as possible, score recorded as a level when performer finishes e.g. level 8 bleep 4, compare to national averages.
- **Co-ordination = wall toss test:** tennis ball starts in one hand, stand 2m from wall, on 'GO' the performer works for 30 seconds, performer throws ball against wall and catches it with opposite hand, if ball is dropped the time continues, compare to national averages.
- **Flexibility = sit and reach test:** Remove shoes, sit on floor with feet flat against sit and reach board, performers legs must be straight, performer pushes forward slider as far as possible, score is recorded in centimetres, compare to national averages.
- **Muscular endurance = abdominal curl conditioning test:** Performer lies on mat in a sit-up position, partner holds ankles, performer sits up on bleep and down on bleep (staying in time), the test gets progressively harder as bleeps get faster, score is how many sit ups you did, compare to national averages
- **Power / Explosive strength = vertical jump test**: with flat feet, stand and push the wall ruler with fingertips as high as possible, apply chalk to finger tips, from a standing position jump as high as possible marking the ruler with chalk, record height jumped, compare to national averages.
- **Reaction time = ruler drop test:** Place thumb and index finger together of dominant hand, partner holds metre ruler above, without warning partner drops ruler, individual being tested must catch the ruler, measure in 'cm', compare to national averages
- **Maximal Strength test = one rep max:** lift weight once using the correct technique, if completed attempt a heavier weight until heaviest weight is discovered, take 1 rep max weight and divide it by body weight, compare to national averages.
- **Strength = handgrip dynamometer test:** hold dynamometer in dominate hand, bend elbow at 90 degrees and place against body, squeeze with maximum effort, record best score, compare to national averages.
- **Speed = 30m speed test:** set up two cones 30m apart, use a flying start, individual is timed running as fast as they can for 30m, compare to national averages.

PE Knowledge Organiser

Heart as a Double Pump:

- Left side pumps oxygenated blood to the body (cells and working muscles)
- Right side pumps deoxygenated blood to the lungs.

Terms:

1) Heart rate - beats per minute
2) Stroke volume – blood pumped out per beat
3) Cardiac output = stroke volume x heart rate – amount of blood pumped out per minute
4) Maximum heart rate – 220 – age
5) Resting heart rate – lowest possible heart rate when you are inactive
6) Recovery rate – time taken for heart rate to get back to normal

Exam examples:

Explain why it is important that a performers heart rate increases during exercise?

- Need oxygen for muscles due to exercise/ need to get O2 to the working muscles quicker to sustain performance.
- More CO2 is produced by the muscles and this needs to be removed.

Explain why resting heart rate is lower than recovery heart rate?

- Resting heart rate is lower because this is the heart rate whilst the individual is inactive (1)
- At rest the body has its lowest demand on the circulatory system/lower demand for oxygen/less blood flow/less CO2 (1)
- recovery heart rate is higher as the body needs increased blood flow/ more oxygen to recuperate after exercise/pay back oxygen debt **(1)**

Structure of the Heart:

- Left / Right Atriums – Upper Chambers
- Left / Right Ventricles – Lower Chambers
- The heart contains valves to prevent the backflow of blood
- Vena Cava – Vein that brings deoxygenated blood back to the right side of the heart.
- Aorta – Artery that takes oxygenated blood from the left side of the heart to the body tissues / cells.
- Pulmonary Artery – only artery in the body that carries deoxygenated blood. This artery takes the blood from the right side of the heart to the lungs.
- Pulmonary Vein – only vein in the body that carries oxygenated blood. This vein takes blood from the lungs and returns it to the left side of the heart.

Pathway of Blood Around the Body:

- Deoxygenated blood from the right atrium passes through valves into the right ventricle. The valves prevent the blood from returning to the atrium.
- The deoxygenated blood is then sent from the right ventricle to the lungs via the pulmonary artery.
- At the lungs gaseous exchange takes place in capillaries around the alveoli. Carbon-dioxide is passed from the blood stream into the alveoli in exchange for oxygen.
- The now oxygenated blood is taken back to the left atrium via the pulmonary vein.
- The oxygenated blood then passes from the left atrium to the left ventricle.
- From the left ventricle the oxygenated blood is sent around the body at high pressure through the aorta.
- At the body gaseous exchange takes place again. This time oxygen is taken from the red blood cells and passed to the body tissues in exchange for carbon-dioxide.
- The deoxygenated blood is taken back to the right atrium at low pressure by the vena cava.

Blood Pressure:

- The force exerted by circulating blood on the walls of the blood vessels.
- Systolic = when the heart contracts (beats)
- Diastolic = in between heart beats when the heart is relaxed.

Systolic
Diastolic

Circulatory, Aerobic and Anaerobic Systems

Red Blood Cells:

- Carry oxygen around the body
- Produced in the bone marrow of our long bones.
- Contain haemoglobin to which the oxygen attaches to create oxyhaemoglobin

Cardiac Cycle

Two phases:

Diastole Phase – When the heart relaxes and fills with blood

Systole Phase – When the heart contracts and sends blood out of it.

Arteries:

- Carry blood away from the heart.
- Most arteries carry oxygenated blood (oxygen rich).
- Thick walls to withstand the high blood pressure.
- Small / narrow lumen so that the blood is forced around the body at a high pressure.
- Strong elastic walls that can easily increase and decrease in diameter.

Veins:

- Veins carry blood towards the heart.
- Most veins carry deoxygenated blood (carbon dioxide rich).
- Thinner walls than arteries as the blood is pumped through at a low pressure.
- Due to the low pressure veins contain valves to prevent the backflow of blood.
- They also have a large lumen to allow more blood to pass through them

Capillaries:

- In Capillaries gaseous exchange takes place.
- Capillaries are one cell thick to enable substances to enter and leave the blood stream (allows rapid diffusion).
- Capillaries surround our alveoli and body tissues (e.g. muscles) to allow gaseous exchange to take place (the exchange of oxygen and carbon-dioxide).
- Huge network throughout the body linking arteries and veins (large surface area for gaseous exchange to take place).

Vasoconstriction / Vasodilation

- Vasoconstriction and vasodilation work together to cause 'blood shunting' (the redistribution of blood around the body).
- Vasoconstriction is reducing the diameter of small arteries, so by reducing the blood flow to certain parts of the body.
- Vasodilation is increasing the diameter of small arteries to increase blood flow to certain parts of the body.
- This occurs during exercise. Vasoconstriction reduces blood flow to parts of the body not needed during exercise e.g. bladder / stomach, and that blood is redistributed to the muscles that are being used in the activity.
- Vasodilation occurs around the muscles so that more blood, carrying oxygen, can get to the muscles to create more energy. This will allow a performer to perform for longer and maintain their standard of play.

Types of Training:

1) **Interval =** Training that involves set periods of work followed by set periods of rest. It usually involves periods of intense exercise followed by periods of rest so that the performer can recover. The intensity of interval training can be altered to suit the individual by altering the time working and / or the time resting.
2) **High Intensity Interval Training(HIIT) =** Short bursts of extreme effort with even shorter rest periods. A 2 : 1 work ratio is often used e.g. 30 seconds work, 15 seconds rest. During HIIT training the performer will be working anaerobically so it will develop their ability to withstand the build up of lactic acid.
3) **Continuous =** Exercising for a sustained period of time without rest. It improves cardiovascular fitness. Sometimes referred to as 'steadystate' training. The performer normally trains at a low to moderate intensity but for an extended period of time 20 minutes +. During continuous training the performer will be working aerobically so it will develop their ability to get oxygen into the body and create energy.
4) **Fartlek =** Also known as 'speed play', this type of training involves performers varying their speed / intensity. It can involve different speeds (walk, jog, sprint) or running at different terrains (uphill, down hill, on sand). Altering the intensity allows the performer to use both their aerobic and anaerobic energy systems.
5) **Circuit =** A series of exercises performed one after the other with a rest in between. Each circuit involves different activities called 'stations'. Stations are often set out to work all of a performers body (arms, core, legs). In circuit training performers often work for a set amount of time and then have a set rest period e.g. work 30 seconds, rest 30 seconds. Progressing these sessions is easy as the performer can increase the work time or decrease the rest time.
6) **Weight =** Involves the lifting of weights / resistance to develop muscular strength or endurance. The beauty of weight training is that it can focus on specific muscles / muscles groups so that sessions can be designed to suit an individual's needs. This type of training involves REPS (completing one lift of a weight) and SETS (the completion of a number of reps). To develop strength / power performers must lift heavy weights but for a low number of reps. To develop strength / power performers should lift above 70% of their one rep max for 4 – 8 reps. To develop muscular endurance performers must lift lighter weights but for a higher number of reps. To develop muscular endurance performers should lift below 70% of their one rep max for 12 – 15 reps.
7) **Plyometric =** Is a type of training that is used to increase power (strength x speed). It typically takes the form of bounding, hopping or jumping. The aim of plyometrics is to use your body weight and gravity to stress the muscles involved. This type of training involves the muscles working eccentrically (lengthening) when landing (often quadriceps) which helps them store elastic energy. This energy is released when the performer pushes up , working their muscles concentrically (shortening) e.g. jumping (hamstrings).
8) **Static Stretching =** Stretching to the limit and holding the stretch isometrically.

Types of Training, Principles of Training and Parts of a Training Session

Principles of Training (S.P.O.R.T):

S = Specificity

Training should be specific to the needs of an individual and demands of the sport that they take part in.

e.g. Sprinters would use interval training as it has short rest periods and they work anaerobically compared to the long distance runners who would use continuous training as they need to work aerobically for longer periods of time. This would mean each type of performer is improving a relevant aspect of fitness for their activity.

PO = Progressive Overload

Working harder than normal whilst gradually and sensibly increasing the intensity of training.

e.g. Needed for any improvement to be made e.g. drop in resting heart rate Starting at 5KG and increasing to 6KG once 5KG becomes too easy. In this way the muscles adapt to the new work loads increasing the strength of the individual.

R = Reversibility

If an individual stops or decreases their training level, then fitness and performance are likely to drop.

T = Tedium

Tedium refers to boredom. Training should be altered and varied to prevent an individual from getting bored and demotivated.

Principles of Overload (F.I.T.T) :

Works with the principle of PROGRESSIVE OVERLOAD.

F = Frequency – refers to how often someone trains. As fitness increases a performer can start to train more often.

I = Intensity - refers to how hard a performer trains e.g. how fast they run, how heavy the weight is that they can lift. As fitness increases, the intensity should be suitably increased.

T = Time - refers to how long you train for. As fitness increases, the length of time spent training may well increase.

T = Type - refers to the type of training used e,g, HIIT. The training type must remain suitable to gain the specific fitness benefits that are required.

Training Zones:

- Aerobic Training Zone = 60 – 80% of maximum heart rate
- Anaerobic training Zone – 80 – 90% of maximum heart rate
- Maximum heart rate = 220 – age

Justifications of Training Methods

• Training should involve vital component s for the sport. (specificity)

• Training should try and mimic many of the specific movements required in a sport. (specificity + type)

• Performing activities that can easily be included within training session to complement other (named) training types, eg continuous training, agility etc

• If no / little equipment is required, methods (e.g. plyometrics) can easily be integrated into session.

• Using methods that can be specifically designed / altered for a specific sporting session, e.g. jumping to reach a ball in basketball, sprinting away from a defender in football.

• How many people can perform the session? If methods can be completed by large groups it would be better for games sports eg whole squads

• Is there space to perform the training method / activity? Fartlek, interval and continuous can be completed on a rugby pitch or in a sports hall as it requires no specific equipment.

Specific Training Techniques (High Altitude Training)

- High altitude training is carried out by elite performers.
- Involves carrying out training at a high altitude, 2000m or more above sea level.
- The idea behind this training method is that there is less oxygen in the air at high altitude. This makes training very difficult as the body finds it harder to carry oxygen to the working muscles.
- As a result, the body compensates by making more red blood cells to carry what oxygen there is in the air.
- Therefore by the end of training the body has more red blood cells. This means when the athlete returns to sea level they will have more red blood cells to carry more oxygen to the working muscles.

Benefits

- Endurance athletes can sustain exercise at a higher intensity for a longer period of time.

Issues

- It can be very difficult to complete.
- Some athletes suffer from altitude sickness – a feeling of nausea.
- The benefits are lost quite quickly once the athlete returns to sea level.

Safety Principles When Training

- The training type and intensity used should match the training purpose.
- A warm-up and cool down should be completed prior to and after training.
- Over training should be avoided e.g. use of appropriate weights.
- Appropriate clothing and footwear should be worn which protect / support and allow movement.
- Taping / bracing should be used as necessary to protect and support areas of weakness.
- Hydration should be maintained with fluid intake.
- Stretches should not be overstretched or bounce.
- Technique used should be correct e.g. weight lifting technique.
- Appropriate rest should be given in between sessions to allow for recovery.
- Spotters should be used when weight training if heavy weights are being attempted.

PE Knowledge Organiser

Function:
to bring oxygen into the body and remove carbon dioxide.

Alveoli:
- These are small air sacs found in the lungs.
- This is were gaseous exchange takes place within the respiratory system.
- Oxygen enters the blood stream to be sent to the heart.
- Carbon dioxide replaces the oxygen (**exchanged**) in the alveoli so that it can be removed from the body.

Key features of the Alveoli:
- Alveoli walls are only **one cell thick** and are **moist** – easy to exchange gases
- They are **very small**, however their are **millions** within the lungs – large surface area
- Covered with **huge network of capillaries** – constant blood supply

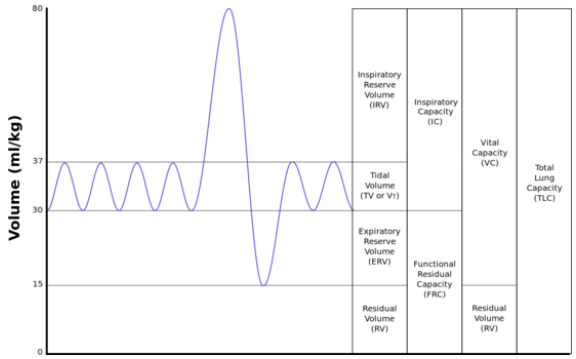
Aerobic Respiration (exercise):
- Energy is created **with** the presence of oxygen.
- Used for **low intensity**, **long duration** activities.
- Very effective method of producing energy. However the process is slow and gradual, much slower than anaerobic.

Anaerobic Respiration (exercise):
- Energy is created **without** the presence of oxygen.
- This is not an efficient process as it produces 1/20th as much energy as aerobic respiration.
- However the process is three times as quick so energy can be produced for **high intensity** (explosive) activities performed over a **short period of time**.
- After a short period of time performance drops as lactic acid builds up, resulting in oxygen debt.

Oxygen Debt
- The amount of oxygen needed to break down the lactic acid within the body.
- Lactic acid is produced due to the body not having enough oxygen to break down the glucose. This means that the glucose is only partially broken down.
- Oxygen is paid back when the performer has stopped working

Key Terms:
1) Respiratory rate - breathes per minute
2) Tidal volume – amount of air inhaled / exhaled per breath
3) Minute Volume= Respiratory Rate x Tidal Volume– amount of air inhaled per minute
4) Residual volume = the volume of air that remains in the lungs after maximal expiration.
5) Expiratory reserve volume (ERV) = the additional air that can be forcibly exhaled after the expiration of a normal tidal volume.
6) Inspiratory reserve volume (IRV) = the additional air that can be forcibly inhaled after the inspiration of a normal tidal volume.

Spirometer Trace

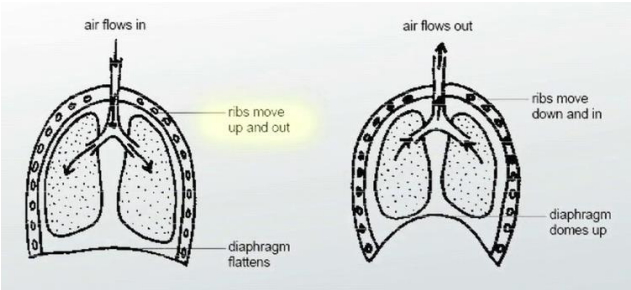


During Exercise the following happens:
1) Respiratory rate - Increases
2) Tidal volume – increases
3) Minute Volume= increases
4) Residual volume = stays the same.
5) Expiratory reserve volume (ERV) = decreases
6) Inspiratory reserve volume (IRV) = decreases

Inspiration / Expiration

Inspiration (How we breathe in):
- The diaphragm contracts and flattens.
- The intercostal muscles contract which causes the rib cage to rise.
- Both these actions cause the chest cavity to increase in size / volume.
- This reduces the pressure in the chest cavity, due to this the air passes from the higher pressure outside of the lungs to the lower pressure inside the lungs.
- This causes the lungs to expand and fill the chest cavity

Expiration (How we breathe out):
- The diaphragm relaxes and bulges up, returning to its original dome shape.
- The intercostal muscles also relax causing the ribs cage to lower.
- Both these actions cause the chest cavity to decrease in size / volume.
- The reduction in the size of the chest cavity increases the pressure of the air in the lungs and causes it to be expelled.
- The air passes from the high pressure in the lungs to the low pressure in the bronchi and trachea.



Exam Example:
11) As soon as we start to exercise our breathing rate and depth of breathing increases.
(a) Explain **two** reasons why the respiratory system responds in this way when beginning exercise.

1. **Explanation 1:** Increased/more demand for oxygen (1) to supply (working) muscles/because need (more) energy for exercise/removal of lactate/removal of lactic acid (1)

2. **Explanation 2:** More carbon dioxide is produced during exercise **(1)** therefore there is an increased need to remove carbon dioxide **(1)**

Additional muscles used during inspiration and expiration during exercise:

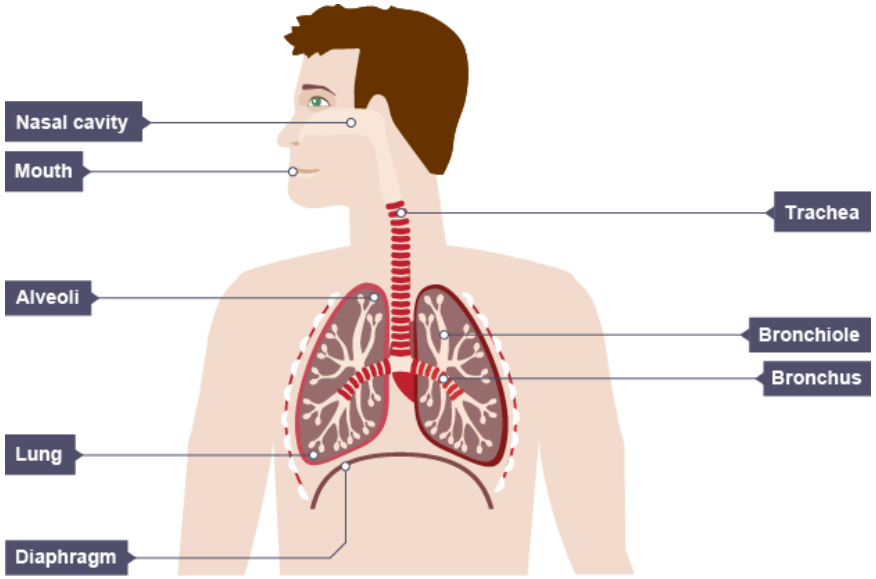
During inspiration:
When exercising the **PECTORALS** and **STERNOCLEIDOMASTOID** muscles contract assisting the performer inhale air. These allow the chest cavity to further increase in size (have a larger volume) so more air can enter the lungs.

During expiration:
When exercising the **ABDOMINAL** muscles contract assisting the performer exhale air. They help force air out of the lungs faster and so speed up expiration.

Respiratory System

The Pathway of Air into the Body

- When we breathe in, air moves through the mouth and nose.
- It then travels down the trachea. The inner surface of the trachea is covered in tiny hairs called **CILIA**, which catch particles of dust. The trachea is kept open **by RINGS OF CARTILAGE**.
- Near the lungs the trachea divides into two tubes called bronchi (one enters left lung and the other the right).
- Once in the lungs the bronchi split into smaller bronchi before dividing into even smaller tubes called bronchioles.
- At the end of each bronchiole are openings to the alveoli. There are usually several alveoli coming from one bronchiole, forming a little clump that resembles a cluster of grapes.
- At the alveoli gaseous exchange occurs. Capillaries carrying blood surround each alveoli resulting in oxygen being passed into the bloodstream from the alveoli in exchange for carbon dioxide which passes from the blood stream into the alveoli.



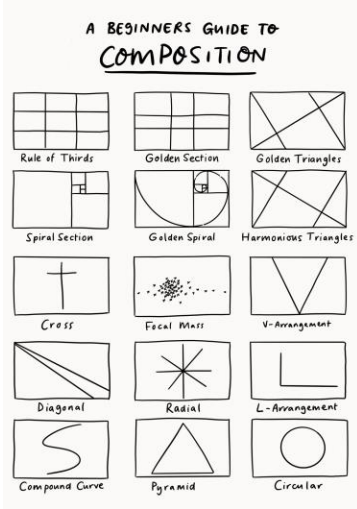
Photography Environments	Evidenced	Refined
AO1- Develop ideas through investigations, demonstrating critical understanding of sources.		
Understand how to research annotate photographers on the theme of "Environments", demonstrating your knowledge, opinions and understanding of their work.		
Be able to respond to photographers through your own practical work showing your understanding of their visual language.		
Be able to show the planning of your ideas and photoshoots through either composition sketches, digital drawing and collage.		
Be able to reflect on the techniques you have explored: what worked well, areas for improvements and how those techniques link with the artists you are looking at.		
AO2- Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.		
Plan photoshoots effectively considering location, weather and camera kit.		
Be able to experiment with angles, viewpoints and composition and show this through exciting and varied contact sheets. (min 30 photos per shoot)		
Understand to explore the use of colour within your environment photography.		
Understand how to develop your photography skills learning basic camera functions.		
Use Photoshop or digital software to effectively edit and develop your images.		
Use digital and physical collage to create abstract fine art experiments.		
AO3- Record ideas, observations and insights relevant to intentions as work progresses.		
Understand to record creatively through the lens, really think and look at the world around you.		
Know to be aware of line, shape, texture, pattern, tone and colour in your photography.		
Understand to develop your understanding of light and time when taking photographs to gain correct exposures.		
Be able to use light painting techniques effectively and imaginatively to explore ideas.		
Understand to develop skills in long exposure photography. (Shutter speed and aperture)		
Be able to evidence through writing: how you intend to develop your ideas within the theme of "Environments" and evaluate your work and ideas as they progress.		
AO4- Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.		
Be able to present a response to "Environments"- Abstraction, colour and composition.		
Be able to present a fine art response to Abstract collage work both digital and physical.		
Be able to present a response to Light painting and Long exposure work.		
Understand to learn how to be selective and present a series of well edited and professional Photographs that link with the project of Environments.		

Photography Knowledge Organiser: Environments.

1 TIER THREE VOCABULARY

Composition	**Composition is the arrangement of elements within a work of art.**
Analyse	**Examine (something) methodically and in detail, typically in order to explain and interpret it.**
Exposure	**The amount of light that reaches your camera's sensor. Therefore, this exposure determines how light or dark your images look.**
Balance	**The distribution of the visual weight of objects, colours, texture, and space.**
Message	**The statement the artist is trying to make.**
Mood	**The emotions that are elicited in the viewer of a piece of artwork, intentionally or unintentionally**
Subject Matter	**What the artwork is trying to portray. If, for example, you are looking at a painting of birds, then the subject matter is the birds.**
Annotation	**Written explanations or critical comments added to art or design work that record and communicate your thoughts Conceptual - an art form in which the underlying idea or concept and the process by which it is achieved are more important than any tangible product.**
Influence	**Be inspired by the style of art styles and movements.**
Aperture	**A space through which light passes in an optical or photographic instrument, especially the variable opening by which light enters a camera.**
Photomontage	**A montage constructed from photographic images.**
Shutter Speed	**The speed at which the shutter of the camera closes.**

2 Concepts



Abstract art is **art** that **does** not attempt to **represent** an accurate depiction of a visual reality but instead use shapes, colours, forms and gestural marks to achieve its effect.

What is abstraction?

Abstract means to remove from reality. **Abstract photography,** sometimes called non-objective, experimental, conceptual or concrete photography, is a means of depicting a visual image that does not have an immediate association with the object.

3 How you are assessed at GCSE.

4 Photographers

Uta Barth

Nik Strangelove

Alexander Rodchenko

William Eggleston

5 LINKS & FURTHER READING

This is a technical history of colour photography.
https://blog.scienceandmediamuseum.org.uk/a-short-history-of-colour-photography/
This is a good article about colour photography.
https://www.nytimes.com/2010/08/08/nyregion/08artsnj.html
A brief history of colour photography.
https://photography.tutsplus.com/articles/the-reception-of-color-photography-a-brief-history--cms-28333
Annotating work.
https://www.bbc.co.uk/bitesize/guides/zgtngdm/revision/1

Photography Knowledge Organiser: Environments.

6 Developing ideas.

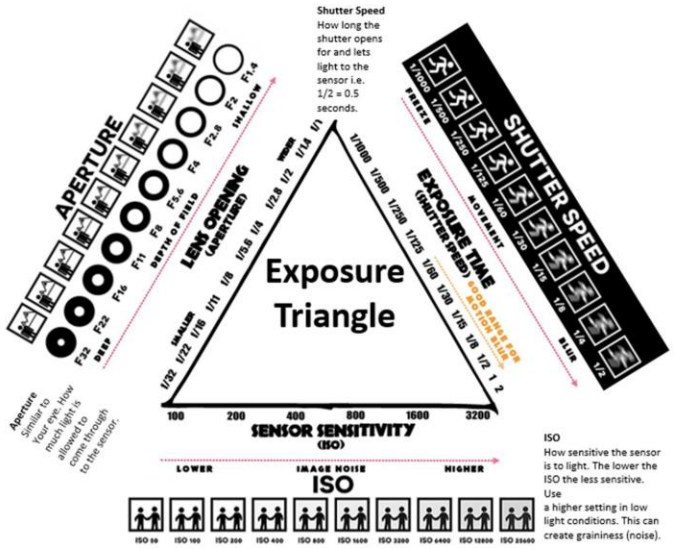
Double exposure photography and painting by Charles Sheeler


Collage and Photomontage by Alexander Rodchenko and Jon Andrew Stewart.


Contemporary digital Photomontage

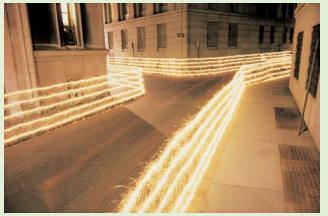
Dawn Gardner and Madgiel Lopez use Photoshop and Illustrator To create these images.


7 Technical information.



8 Light painting.

Eric Staller: Light Painting Photography, 1976. Eric Staller could be called the father of light graffiti or light drawing in its present day form



LichtFaktor- A German based light graffiti crew.

9 Long exposure photography.

Landscape photographers may intentionally use long shutter speeds to create a sense of motion on rivers and waterfalls, while keeping everything else completely sharp.

10 LINKS & FURTHER READING

https://lightpaintingphotography.com/light-painting-history/

https://lightpaintingphotography.com/

Tate Museum article on Modernism.
https://www.tate.org.uk/art/art-terms/m/modernism

MoMa article about about Alexander Rodchenko
https://www.moma.org/artists/4975

Tate Museum article on Constructavism.
https://www.tate.org.uk/art/art-terms/c/constructivism

Religious Studies Personal Learning Checklist

Buddhism Beliefs		S	O	R	T
The Buddha's life and its significance	The birth of the Buddha and his life of luxury				
	The Four Sights: illness, old age, death, holy man (Jataka 075)				
	The Buddha's ascetic life				
	The Buddha's journey to Enlightenment.				
	The Demon King Mara				
	The Buddha's path as a teacher				
Three Universal Truths (three marks of existence)	Anicca (Impermanence)				
	Anatta (No fixed self)				
	Dukkha (Life is suffering)				
The Four Noble Truths	Suffering (dukkha) including different types of suffering				
	The causes of suffering (samudaya); the Three Poisons, ignorance, greed and hate				
	The end of craving (tanha), interpretations of nibbana (nirvana) and Enlightenment				
	The Middle Way - Eightfold Path (magga) to nibbana/nirvana				
The Noble Eightfold Path	The Way of Wisdom				
	The Way of Morality/Ethics				
	The Way of Meditation				
Buddhist Teachings and Philosophies	Dhamma				
	Dependent Arising				
	Kamma and Samsara				
	Sutta				
	Vanaya				
	Dhammapada				
	5 Precepts				
	6 Perfections				
	Metta (Loving kindness)				
	Karuna (Compassion)				

Buddhism Beliefs		S	O	R	T
Different Denominations	Origins of disagreements				
	Therevada				
	Mahayana				
	Tibetan				
Human Personality	The Five Aggregates (skandhas)				
	Sunyata				
	The possibility of attaining Buddhahood				
	and Buddha-nature.				
Human destiny	Arhat (a 'perfected person')				
	The Bodhisattva ideals/path				
	Pure Land Buddhism				
	Places of Worship				
	Artefacts				
Meditation	Samatha (concentration and tranquillity) including mindfulness of breathing				
	Vipassana (insight) including zazen				
	the visualisation of Buddhas and Bodhisattvas.				
	Death and Funeral rites in Theravada communities and in Japan and Tibet.				
	Mandalas				
	Zen Gardens				
	Kung-fu				
Festivals and retreats	Wesak				
	Parinirvana Day.				
Buddhism in the UK	Main denominations and representation in the UK				

Religious Studies Personal Learning Checklist

Buddhism Practices		S	O	R	T
Places of worship	Temples				
	Shrines				
	Monasteries (viharas)				
	Meditation halls (gompa)				
	Buddha rupa				
	Artifacts				
	Offerings				
Puja	Devotional offering				
	Role at home				
	Aid to mental concentration				
	Mantra recitation				
	Use of malas				
Meditation	Samatha				
	Mindfulness breathing				
	Vipassana				
	Zazen				
	Visualisation of Buddhas and Bodhisattvas				

Buddhism Practices		S	O	R	T
Death	Death in Therevadan tradition				
	Tibetan tradition				
	Japanese				
Festivals and Retreats	Wesak				
	Parinirvana Day				
	Uposatha days				
Great Britain	Representation of Buddhism in the UK				
Ethical Teachings	Kamma (karma)				
	Samsara				
	Loving kindness (metta)				
	Non-violence (ahimsa)				
Ethical Issues	Abortion				
	Euthanasia				
	Marriage and divorce				
	War				
	Wealth				

Religious Studies Personal Learning Checklist

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	Mandalas				
	Zen Gardens				
	Kung-fu				
Festivals and retreats	Wesak				
	Parinirvana Day.				
Buddhism in the UK	Main denominations and representation in the UK				

Religious Studies Personal Learning Checklist

Christian Beliefs		S	O	R	T
Nature of God	Omnipotent				
	Omniscient				
	Omnibenevolent				
	Holy Trinity				
	Problem of Evil and Suffering				
	Genesis 1				
	Adam and Eve				
	Role of The Word (John 1:1-3)				
	Role of the Spirit (Genesis 1: 1-3)				
	Heaven				
Afterlife	Hell				
	Judgement				
	Resurrection				
Jesus	Incarnation				
	Son of God				
	Crucifixion				
	Resurrection				
	Ascension				
	Sin				
	Original Sin				
	Salvation				
	Atonement				

Christian Practices		S	O	R	T
Worship	Liturgical				
	Non-liturgical				
	Worship at home				
	Worship in the church				
Prayer	Prayer types				
	Lord's prayer				
Sacraments	What are they?				
	What do they mean?				
	Baptism				
	Communion / Eucharist				
Pilgrimage	Iona				
	Lourdes				
Celebrations	Christmas				
	Easter				
Role of the Church in the community	Food banks				
	Street Pastors				
Role of the Church in the wider world	Ecumenism (reconciliation)				
	Response to persecution				
	Charities (CAFOD, Tearfund, Christian Aid)				

Religious Studies Personal Learning Checklists

Relationships and Families		S	O	R	T
Sexuality	Sex Before marriage				
	Sex outside of marriage				
Contraception	Natural				
	Man Made				
Marriage	Ceremony				
	P.U.R.P.O.S.E				
Homosexuality	Cohabitation				
	Same Sex Marriage				
Divorce	Reasons for divorce				
	Marriage vows				
	Sanctity of Marriage				
	Remarriage				
Families	Nuclear				
	Extended				
	Role of parents				
	Role of children				
	Role of the family				
	Polygamy				
Roles of men and women	At home				
	In the Church				
	Traditional v Modern				

Gender	Prejudice				
	Discrimination				
	Contemporary Issues				
	Equality				
Crime and punishment		**S**	**O**	**R**	**T**
Crime and its causes	Good and Evil intentions				
	Poverty and Upbringing				
	Mental illness and addiction				
	Greed and hatred				
	Opposition to unjust laws				
Views on different types of crime	Hate crimes				
	Theft				
	Murder				
Punishment	Retribution				
	Deterrence				
	Reformation				
	Prison				
	Corporal Punishment				
	Community service				
	Death Penalty				
Forgiveness	Sanctity of life				
	Salvation				
	Reconciliation				

Religious Studies Knowledge Organiser

Christian Beliefs and Teachings

1. Beliefs about God

Christianity is a monotheistic religion – they believe in ONE God. This Christians believe God is:

- Omnipotent (all powerful)
- Omniscient (all knowing)
- Omnipresent (everywhere)
- Benevolent (loving)
- Transcendent (beyond understanding)
- Immanent (personal)
- Just (fair and the perfect judge)
- Eternal (no beginning and no end)
- Forgiving (he will forgive sins)

2. The Trinity

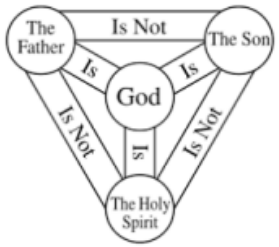
Means three in one God in three parts (God is divisible): The Father, the Son, and the Holy Spirit.

The Nicene Creed explains the nature of The Trinity:

The Father is the powerful creator of everything – "Maker of heaven and earth"

The Son is Jesus Christ, who came to Earth as God in human form.

The Holy Spirit is the invisible power of God that works within the world today to guide and inspire us.



"I believe in one God: The Father, Son and Holy Spirit."

3.Creation

In the book of Genesis it says that God created the world in 6 days, and on the 7th He rested.

Some Christians take this LITERALLY and read this story as fact (fundamentalist). Others see the Genesis story as a symbol or metaphor (Liberal). Adam is the first man and is created from the dust of the earth.

Eve sins, by being tempted by the devil and eating the forbidden fruit. Humans are banished from Eden. They must now work, feel pain and die.

"In the beginning God created the heavens and the earth."

"Then God said, "Let them rule over the fish of the sea and over the birds of the sky.'

4.Crucifixion

Jesus was sentenced to death by Pontius Pilate, the Roman Governor by crucifixion. There are several ways in which the crucifixion affects Christians today. It gives them confidence that if they accept Jesus' sacrifice, sin can no longer destroy their love because God forgives those who faithfully ask for forgiveness. They believe that suffering is a part of life, just as it was a part of Jesus' life and that, having experienced it, God understands what the sufferer is going through.

"Forgive them Father for they do not know what they do."

5. Incarnation

Christians believe Jesus is the Son of God. He is God in human form, or God 'incarnate'.

This means that he is fully human and fully God (divine) at the same time. This is important because it shows that Jesus is truly God on earth, but he understands our suffering and problems as he was a human.

He shows he is God as he forgives sins, performs miracles and was resurrected at death. He shows he is human as he feels pain, was born to a human mother, and died on the cross.

"The word became flesh and made his dwelling among us"

6.Jesus' resurrection & ascension

- ✓ Jesus was placed in a tomb on Good Friday.
- ✓ Some of Jesus' female followers went to the tomb
- ✓ Jesus was nowhere to be found and the stone had rolled away

The belief that Jesus rose from the dead is known as the resurrection and is a key teaching in the Christian faith. After meeting his disciples and asking them to carry on his good work, Jesus left them for the last time and ascended, body and soul, into Heaven.

"Jesus said to her, "I am the resurrection and the life. The one who believes in me will live, even though they die."

7. Parables

These are stories that Jesus told to his followers in order to teach them a message.

The Good Samaritan - A man is willing to save a stranger who has been attacked, even though their nations are enemies.

The sheep & the goats - Jesus teaches that those who will go to heaven are sheep, loyal and obedient. While those who don't do as they are told are goats, and will go to hell.

"Whatever you did for the least of these brothers of mine, you did for me"

8. Salvation

Salvation means to be saved from sin, and the consequences of sin (hell) to gain a place in heaven.

Sin has separated humans from God, and salvation enables humans to get close to God again.

Jesus' death makes up for the original sin committed by Adam & Eve and so can bring people back to God. There are three ways that we can find atonement and find salvation. Law (doing good deeds and following the law); Grace (believing in God and receiving his unconditional love); and Spirit (through Spirit (the guidance of the Holy Spirit)

"For God so loved the world that he gave his one and only Son, that whoever believes in him shall not perish but have eternal life."

9. Why do people believe in God?

Design Argument - Our world is too complicated to have just happened by chance. The only person powerful enough to do this is God.

Moral Argument - We all have a sense of right and wrong, and feel feelings of guilt when we do bad things. Christians believe the conscience is actually God.

Upbringing - Many people are Christians because they were brought up to be a Christian.

Religious Studies Knowledge Organiser

Christian Practices

1. Worship

- Liturgical – Follows a set routine e.g. RC
- Non-liturgical - Does not follow a set routine
- Informal – Can be anywhere following any pattern
- Private – worshipping alone
- Prayer – Communicating with God

Why is worship important?

- It brings a sense of togetherness as a community
- It makes a person feel closer to God
- It is peaceful – allowing for prayer and meditation
- It is an external expression of their faith.

2. Prayer

Nature and purpose of prayer

1. To get closer to God and communicate with him
2. To praise God and thank him for what he has done
3. To ask for God's help
4. To say sorry to God and ask for forgiveness

Set Prayers: Prayers that are in a prayer book that are said at certain times, for example during a church service.

The Lord's Prayer: The most famous prayer. Known by most Christians

Informal Prayer: Any prayer done personally and privately.

"Our Father who art in heaven, hallowed be thy name"

"Give us this day our daily bread. And forgive us our sins."

3. Eucharist/Communion

This is a Church service that recreates Jesus' last supper with his disciples. Members of the church come forward to receive bread and wine. The bread representing the body of Christ and the wine the blood.

The celebrates Jesus' sacrifice through his death and resurrection

It is considered a sacrament, and outward sign of inner grace.

It remembers The Last Supper.

It brings the Christian Community together.

Catholics believe in transubstantiation. This means they believe the bread and wine literally become flesh and blood.

Most other Christians see the bread and wine as symbolic.

"This is my body Eat this and remember me."

"This is my blood...drink this and remember me."

4. Baptism

This Sacrament is rite of passage. A physical act, that Christians believe, has a permanent effect on the soul.

Infant Baptism: A baby is taken to a church, where a priest or vicar will bless that child with holy water, making the sign of the cross upon them. Parent's and God Parent's are present, and a candle is lit. This welcomes the child into their Christian family, and cleanses the child of the Original Sin of Adam and Eve.

Adult /Believers Baptism: An adult, normally over 13, is asked questions about their faith. They are fully immersed (under water) to wash away their sins (not just original sin), and so they can start a new one in the church.

"Go and make disciples of all nations, baptising them in the name of the father the son and the Holy Spirit.

5. Pilgrimage

A religious journey made to a place of religious importance.

Lourdes: A town in France that Christians visit too remember the miracle performed by Saint Bernadette and to be healed by the waters.

Bernadette was said to have had visions of the Virgin Mary. She moved the mud at her feet and water appeared and is said to be a miracle.

Pilgrims visit the site to drink the waters in the hopes it will heal them and clear their sins.

Iona: An island off the coast of Scotland, discovered by St. Colomba. Said to be so beautiful that it must be the creation of God.

Called the "thin place", as the space between heaven and earth was so thin.

Christians go there on a residential to pray and fast in order to appreciate God and try and connect to Him.

They also complete chores, go on long walks to appreciate the area.

6. Role of the Church

The Church has always been involved in caring for others, a London church set up the first Samaritans phone service for those feeling suicidal. One way in to put their faith into action is food banks and street pastors.

Key organisations (research these!)

- Corrymeela – reconciliation & ecumenism
- Spring Harvest – Mission & evangelism
- CAFOD – Catholic Agency for Overseas Development
- Tearfund – Water for developing countries.
- Christian Aid – Short term aid following disasters.
- Street Pastors – Engage with those on the streets to care for them.

"For where two or three gather in my name, there I am with them."

7. Evangelism and Missions

Evangelism: This is the spreading of the faith, often done by preaching the words of the gospel.

Mission: This is a specific journey to a place to help spread the religion. Often to a country or area of a different faith. A person who does this is called a Missionary.

Locally: Local Churches might fund work in the community, have open events at the church, have courses to welcome people to the faith.

Nationally: Churches may be linked together and hold events like summer camps, special events held for people of different faiths (interfaith Dialogue)

Globally: People choose to go to poorer areas to help with education, host concerts or TV shows about religion.

"Go into all the world and preach the gospel to all creation."

8. Reconciliation

Reconciliation means to come to peace and harmony after a conflict. As Jesus is the prince of peace he would want us to forgive others for their sins, as they are forgiven by God.

Corrymeela: An organization which works to promote peace and pacifism across the world. They go into places of conflict, e.g Northern Ireland, and provide safe spaces to promote peace.

Quakers also aim to do this by protesting against violence and wars. For example, they were very vocal surrounding the wars in Afghanistan and are inspired by the teaching, 'blessed are the peacemakers.'

9. Persecution

Persecution is how people are treated badly for their beliefs or other factors. Christians, historically, have been persecuted against.

Christians believe that they should work to overcome persecution, but also promote positive relationships.

Organisations like the Barnabas Fund work to identify areas where Christians are persecuted, and how to help them.

Religious Studies Knowledge Organiser

Buddhism: Key Vocabulary

P = Pali
S = Sanskrit

Abhidhamma (P) **Abhidharma** (S) A section of the Tipitaka that gives philosophical and psychological explanations of the Dhamma.
Ahimsa 'Not harming', non-violence.
Anapanasati 'Mindfulness of the breath' in samatha.
Anatta No independent or permanent self.
Anicca The impermanent nature of all things.
Arahant In Theravada Buddhism, one who has attained Nibbana.

Bhavana 'Cultivation' or meditation.
Bhikkhu (Bhikshu – S)/**Bhikkhuni** (Bhikshuni – S): A Buddhist monk/nun.
Bodhisattva 'Enlightenment Being', one who seeks enlightenment for the sake of all beings.
Brahma viharas The four sublime states: compassion, loving kindness, sympathetic joy for others, and even-mindedness.
Buddha 1. One who is fully awake or enlightened; 2. Siddattha Gotama.

Canon The accepted Buddhist scriptures.
Chorten A Tibetan stupa.

Dagoba A Sri Lankan stupa.
Dana 'Generosity'.
Dhamma 1. The universal law of life; 2. The teachings of the Buddha.
Dhammapada A Buddhist scripture containing 423 sayings attributed to the Buddha.
Dharmachari (m), **Dharmacharini** (f) An ordained member of the Western Buddhist Order.
Dhyana 'Meditation'.
Dukkha Suffering, unsatisfactoriness.

Engaged Buddhism The use of Buddhism to help people by engaging mindfulness.
Enlightenment The state of having developed the wisdom to see life as it really is.

Five Khandhas The five elements that make up a human being.
Four Noble Truths Suffering; the cause of suffering; the end of suffering; the way to end suffering.
Four Sights Old age, sickness, death (i.e. suffering); a holy man (i.e. the determination to overcome suffering).

Gelong A Tibetan Buddhist monk.

Hinayana 'Small Vehicle', a term used by Mahayana Buddhists for the Theravada school.

Jataka 'Lives', stories of the Buddha's previous lives.

Kamma (P) **Karma** (S) 1. Actions that influence one's future; 2. The law of cause and effect.
Karuna 'Compassion', sharing in the sufferings of others.
Kasina An object of focus in meditation.
Kathina A festival during which lay Buddhists donate robes to the vihara.
Kesa 1. A robe worn by a Japanese priest; 2. A scarf worn by Dharmacharis and Dharmacharinis.
Koan A word or phrase intended to bring about satori in Zen Buddhism.
Kshanti 'Patience'.

Lama A guru, or senior teacher, in Tibetan Buddhism.
Lhagtong Vipassana in Tibetan Buddhism.

Mahayana 'Great Vehicle', the progressive Buddhist tradition of Eastern Asia.
Maitreya The next Buddha for our world.
Mala A string of beads used as an aid to mindfulness in puja.
Mandala A pattern created to represent spiritual reality.
Mantra A phrase chanted repeatedly during worship to evoke particular aspects of enlightenment.
Metta 'Loving kindness'.
Mitra A committed member of the Friends of the Western Buddhist Order.
Mondo Rapid questions and answers to bring about satori in Zen Buddhism.
Mudra Symbolic hand gestures used in Tibetan worship or on Buddha rupas.

Nembutsu Chanting 'Namu Amida Butsu' in Japanese Pure Land Buddhism.
Nibbana The state of peace achieved when suffering and its causes are overcome.
Noble Eightfold Path Eight steps towards overcoming desires and reaching Nibbana.

Pagoda A Burmese, Chinese or Japanese stupa.
Pansil The Five Precepts (short for Pancha Sila).
Patimokkha Rules for monks and nuns.
Pavarana Day A day when bhikkhus reflect on their behaviour during the Vassa.
Prajna 'Wisdom'.
Puja Worship.
Punna 'Merit', fortunate kamma.

Right Livelihood The principle that a person's employment should conform to Buddhist ethics.
Rupa 'Form', an image of the Buddha.

Samadhi State of deep meditation.
Samanera A novice, or trainee bhikkhu.
Samatha Meditation to establish calmness.
Samsara 1. The ordinary, ever-changing world; 2. The cycle of rebirths.
Sangha 'Assembly'. 1. The community of Buddhists; 2. The community of bhikkhus.
Satori 'Awakening', a flash of enlightenment in Zen Buddhism.
Sila 'Morality'.
Six Paramitas 'Six Perfections', virtues that lead a Bodhisattva to enlightenment.
Sky burial A traditional Tibetan funeral in which the corpse is exposed to the open air to be eaten by vultures.
Stupa Monument containing relics of the Buddha or important Buddhist teacher.
Sunyata 'Emptiness', the nature of things that have no fixed identity.
Sutta (P) **Sutra** (S) 'Thread', a text giving a teaching.

Tanha Desire, craving, wanting.
Tantra 'Pattern', mystic writings in Tibetan Buddhism. 1. The oneness of all things; 2. Techniques for visualisation.
Thanka In Tibetan Buddhism, a wall-hanging depicting the Buddha or an aspect of Buddhism.
Theravada 'The Way of the Elders', the main school of Buddhism in South-East Asia.
Three Poisons The causes of human unhappiness: greed, hatred, ignorance.
Three Refuges Devotion to the Three Treasures.
Three Treasures (Three Jewels) The Buddha, the Dhamma, the Sangha.
Three Universal Truths The characteristics of life: anicca, anatta, dukkha.
Tipitaka (P) **Tripitaka** (S) 'Three Baskets', the three collections of Buddhist texts: the Vinaya, the Suttas and the Abhidhamma.
Trikaya 'The Three Bodies', a way of explaining different aspects of buddhahood in Mahayana Buddhism.
Triple Gem The Three Treasures.

Upaya kausala 'Skilful means'.
Uposatha Day (Moon Day) The fortnightly recitation of the Patimokkha.

Vajra 'Thunderbolt', a symbol of power in Tibetan Buddhism.
Vajrayana 'Diamond or Thunderbolt Vehicle', a type of Mahayana Buddhism represented by Tibetan Buddhism.
Vassa The rainy season in South East Asia.
Vihara 'Resting Place', a Buddhist monastery.
Vinaya The rules of discipline for monks and nuns.
Vipassana 'Insight' meditation to see clearly the true nature of things.
Virya 'Energy'.

Wat A Thai Buddhist temple.
Wesak A festival to commemorate the birth, enlightenment and death of the Buddha.

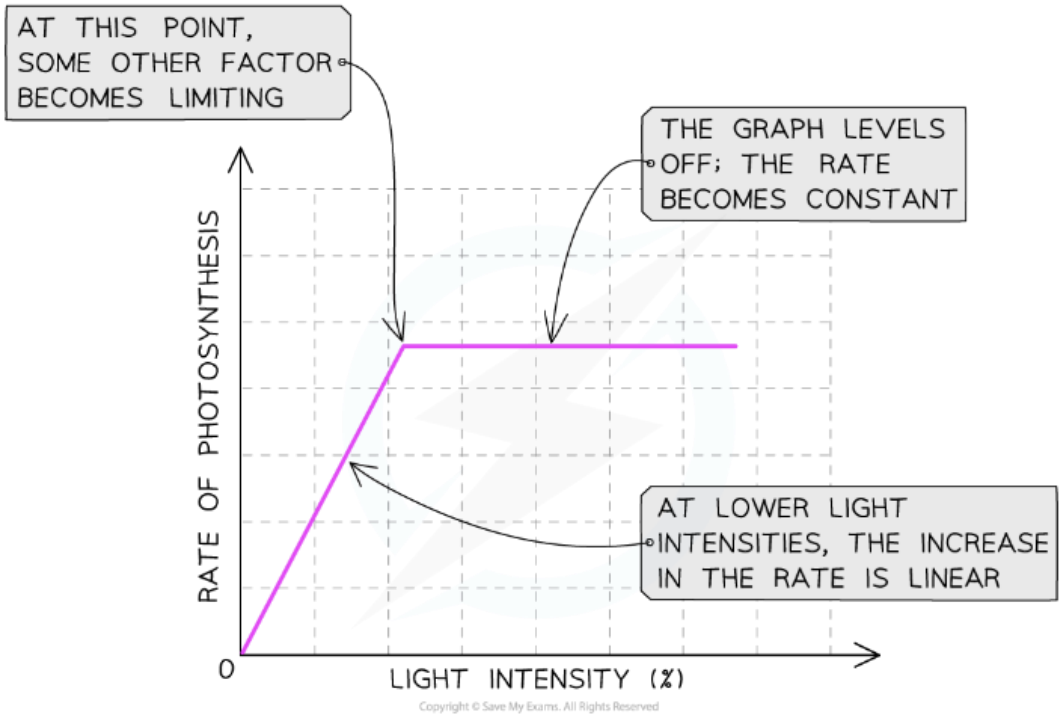
Za-zen 'Sitting meditation' in Zen Buddhism.
Zhiney Samatha in Tibetan Buddhism.

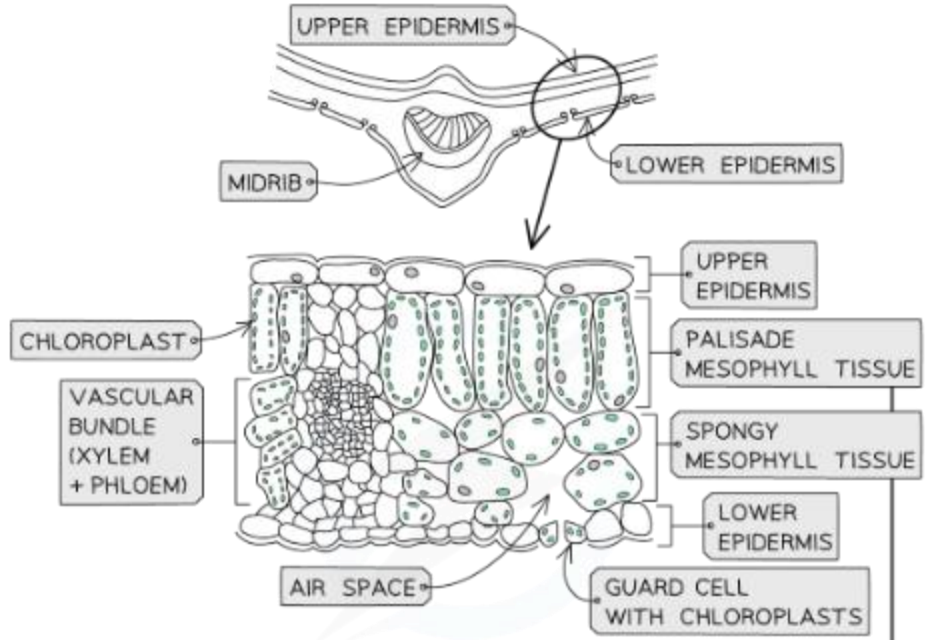
Science Personal Learning Checklists

Plants and photosynthesis	S	O	R	T
1. Describe the structure of a leaf to include the different plant tissues				
2. Explain how the structure of plant tissues are related to their function within the leaf (plant organ) inc stomata and guard cells				
3. Know the word equation for photosynthesis **Carbon dioxide + water ⍰ Glucose + oxygen**				
4. Describe how photosynthesis is an endothermic reaction				
5. Explain how plants use glucose made from photosynthesis				
6. Higher ONLY: Explain the limiting factors of photosynthesis				
7. Higher ONLY: Explain and use inverse proportion in the context of photosynthesis				
8. Required practical 6: investigate the effect of light intensity on the rate of photosynthesis using an aquatic organism such as pondweed				
Transport in cells	**S**	**O**	**R**	**T**
9. Describe & explain the process of diffusion, including examples				
10. Describe & explain the process of osmosis (inc calculation of water uptake & percentage gain and loss of mass of plant tissue)				
11. Describe & explain the process of active transport, including the example in the roots				
12. Required practical 3: investigate the effect of a range of concentrations of salt or sugar solutions on the mass of plant tissue				
13. Describe the process of transpiration and translocation including the role of the different plant tissues				
Plants and photosynthesis	**S**	**O**	**R**	**T**
14. Describe the role of stomata and guard cells in the control of gas exchange and water loss				

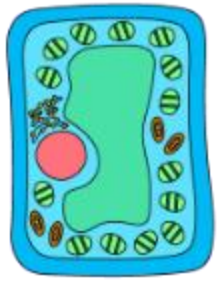
Science Knowledge Organiser

CARBON DIOXIDE + WATER → (LIGHT, CHLOROPHYLL) → GLUCOSE + OXYGEN





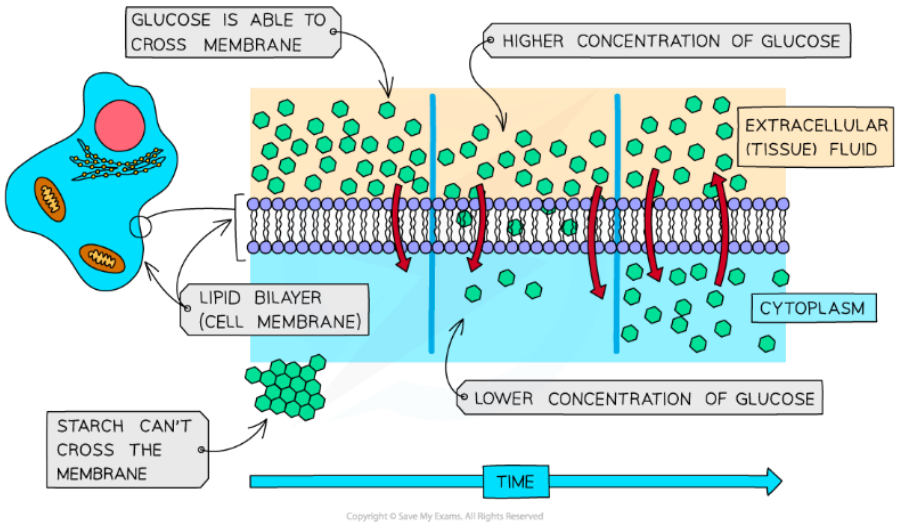
THIS IS WHAT WE TYPICALLY THINK OF WHEN WE THINK OF A PLANT CELL, BUT IT'S JUST ONE OF THE TYPES OF CELL FOUND IN A LEAF

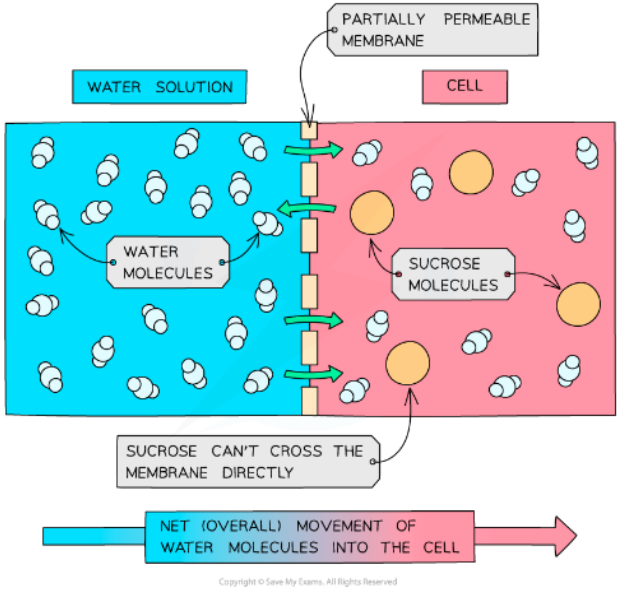


MADE FROM PALISADE MESOPHYLL CELLS

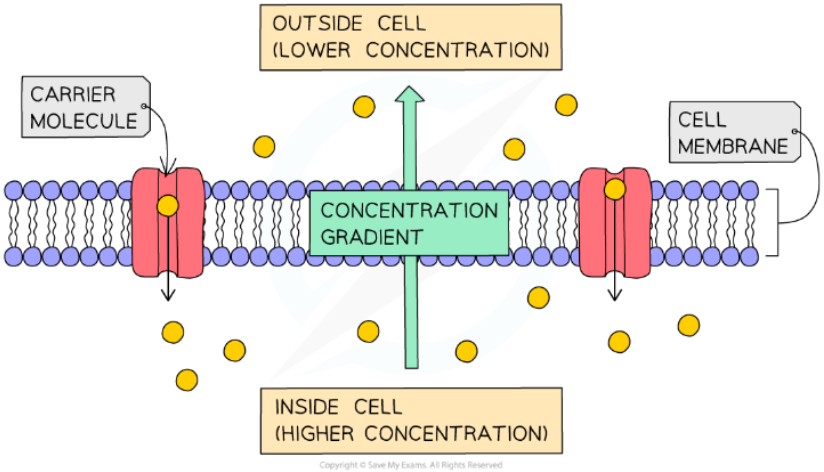
Science Knowledge Organiser

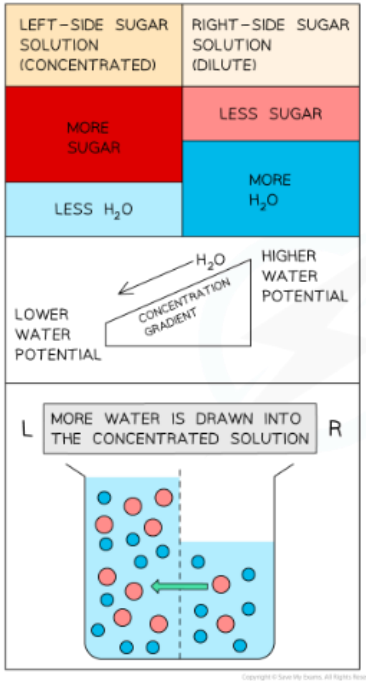
Diffusion

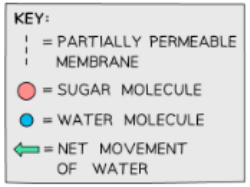




ACTIVE TRANSPORT ACROSS THE CELL MEMBRANE





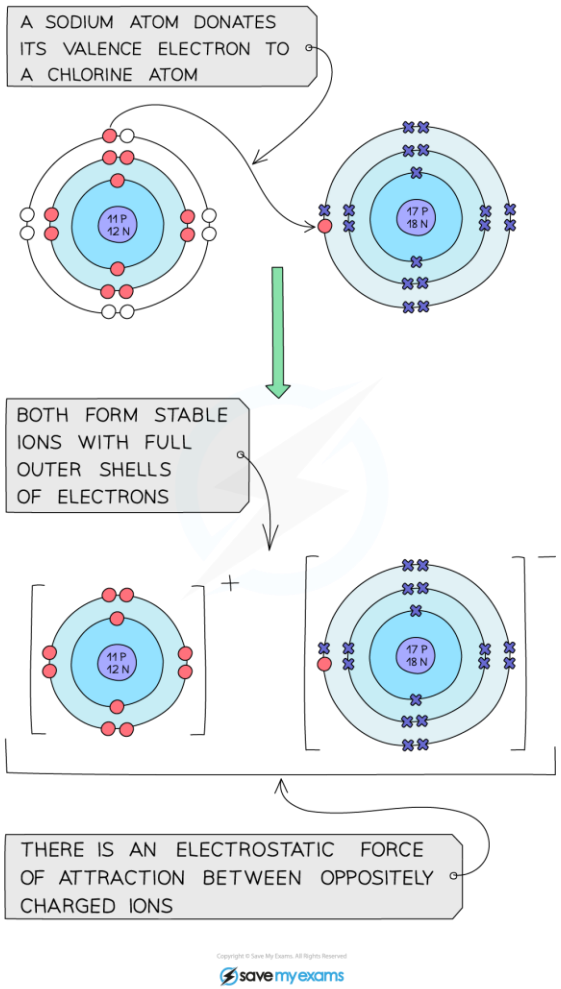


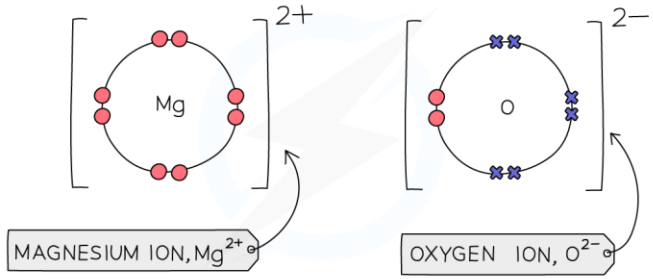
Solution	How it affects diffusion
Dilute	A solution with a high concentration of water molecules (high water potential) and a low concentration of solute molecules (lots of water, not a lot of solute)
Concentrated	A solution with a low concentration of water molecules (low water potential) and a high concentration of solute molecules (lots of solute, not a lot of water)

Bonding and structure	S	O	R	T
Ionic Bonding; dot and cross diagrams				
Properties of giant Ionic lattice				
Covalent bonding dot and cross				
Properties of simple covalent molecules				
Silicon dioxide, diamond and graphite				
Allotropes of carbon				
Chemical formula				

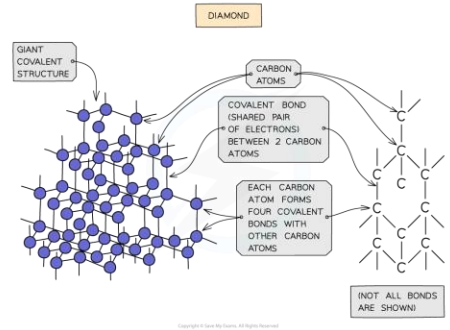
Quantitative Chemistry	S	O	R	T
Recall the conservation of mass law				
Give 2 different examples when the conservation of mass law appears not to be true				
Explain these observations when a gas is one of the products				
Explain these observations when a gas is one of the reactants				
Calculate mean average Mean = Add up values (NOT anomalies)/ number of values you have				
Calculate uncertainty Uncertainty = range/ 2				
Calculate the (RFM) or Mr of a compound Total Ar of all atoms in a compound e.g NaCl = 23 + 35.5 = 58.5				
Calculate the Percentage by mass of an element in a compound Percentage by mass = (total Ar of the element/ total Mr) x 100				
Recall the equation that links moles, mass and RFM Moles = Mass/ RFM				
Higher ONLY: Use/ rearrange moles equation to do simple calculations				
Higher ONLY: Use balanced symbol equations and moles calculations to carry out amount of substance calculations				
Higher ONLY: Use balanced symbol equations and moles calculations to work out limiting reagents				

Science Knowledge Organiser

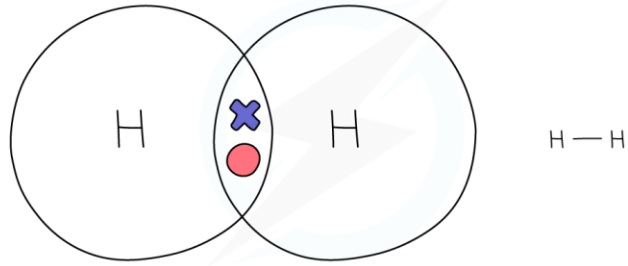




- Sodium is a group 1 metal so will lose one outer electron to another atom to gain a full outer shell of electrons
- A positive sodium ion with the charge 1+ is formed
- Chlorine is a group 7 non-metal so will need to gain an electron to have a full outer shell of electrons
- One electron will be transferred from the outer shell of the sodium atom to the outer shell of the chlorine atom
- A chlorine atom will gain an electron to form a negatively charged chloride ion with a charge of 1-



- Covalent substances tend to have small molecular structures, such as Cl_2, H_2O or CO_2
- These small molecules are known as **simple molecules**
- Small covalent molecules can be represented by dot and cross diagrams
- You need to be able to describe and draw the structures of the following molecules using dot-and-cross diagrams: hydrogen (H_2), chlorine (Cl_2), oxygen (O_2), nitrogen (N_2), hydrogen chloride (HCl), water (H_2O), ammonia (NH_3) and methane (CH_4)
- The correct dot and cross diagrams for these molecules are shown below:



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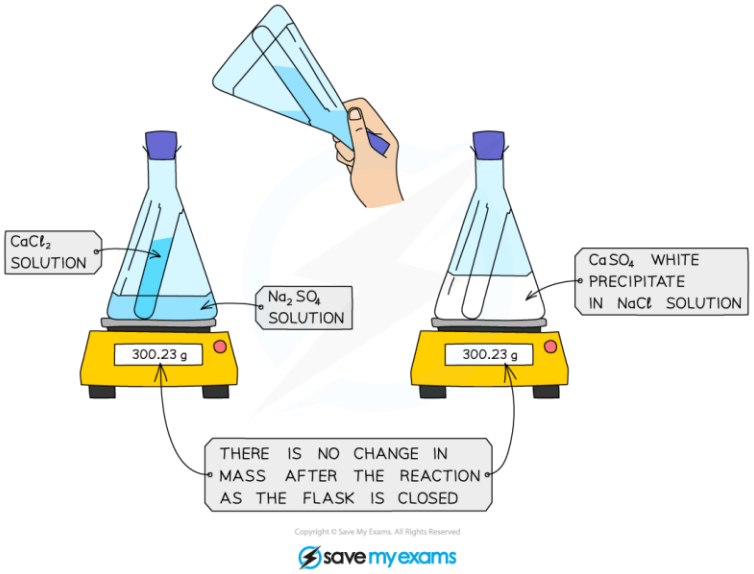

Substance	Atoms present	Calculation	M_r
Hydrogen H_2	2 x H	(2 x 1)	2
Water H_2O	(2 x H) + (1 x O)	(2 x 1) + (1 x 16)	18
Potassium carbonate K_2CO_3	(2 x K) + (1 x C) + (3 x O)	(2 x 39) + (1 x 12) + (3 x 16)	138
Calcium hydroxide $Ca(OH)_2$	(1 x Ca) + (2 x O) + (2 x H)	(1 x 40) + (2 x 16) + (2 x 1)	74
Ammonium sulfate $(NH_4)_2SO_4$	(2 x N) + (8 x H) + (1 x S) + (4 x O)	(2 x 14) + (8 x 1) + (1 x 32) + (4 x 16)	132

•Chemical amounts are measured in moles

•The mole, symbol mol, is the SI unit of **amount of substance**

•One mole of a substance contains the same number of the stated particles
- This can be atoms, molecules or ions

•One mole contains **6.02 x 10^{23}** particles; this number is known as the **Avogadro Constant**
•For example:

- One mole of sodium (Na) contains 6.02 x 10^{23} atoms of sodium
- One mole of hydrogen (H_2) contains 6.02 x 10^{23} molecules of hydrogen
- One mole of sodium chloride (NaCl) contains 6.02 x 10^{23} formula units of sodium chloride

•The mass of 1 mole of a substance is known as the **molar mass**
- For an element, it is the same as the **relative atomic mass** written in grams
- For a compound, it is the same as the relative molecular or **formula mass** in grams

Atomic Structure	S	O	R	T
1. History of the Atom Including plum pudding model & Rutherford's Gold Leaf alpha particle scattering experiment & discovery of nucleus.				
2. Structure of the Atom Draw model; nucleus; p, e, n; charge; mass; atomic number; mass number; isotope & ion definitions.				
3. Radioactive Decay Alpha, beta, gamma decay; decay equations.				
4. Detecting Radiation Count rate; Geiger Muller tube & source experiment; alpha, beta, gamma: ionising & penetrating power, what it is stopped by etc				
5. Half Life description, calculations from Qus & graph.				
6. Irradiation & contamination Definitions, impact on human health,				

Electricity Circuits	S	O	R	T
1. Circuit symbols & Circuit diagrams Filament bulb, cell, battery, switch, ammeter, voltmeter, resistor, variable resistor, light dependent resistor, thermistor, fuse, diode, LED				
2. Current & Charge Definition, *Recall & apply:* ***Q= I x t***				
3. Potential difference Definition, modelling				
4. Series circuits Rules for current, & p.d				
5. Parallel circuits Rules for current, & p.d.				
6. Resistance Definition, units, *Recall & apply:* ***V = I x R***				
7. Resistors in Series & Parallel				
8. Required Practical 3: Resistance of Wire *Change length of wire & measure resistance*				
9. Ohm's Law Definition & graphs				
10. I / V graphs Test circuit, graph, conclusions for:				
•Resistor				
•Filament bulb				
•Diode				
11. Thermistors Temperature/resistance graphs, conclusions, uses				
12. Light Dependent Resistors (LDRS) Light intensity/resistance graphs, conclusion, uses				

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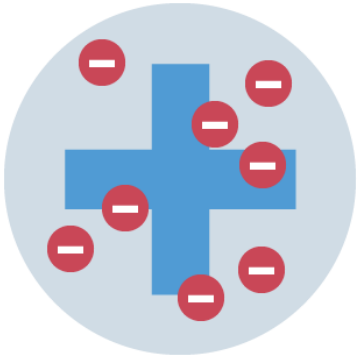
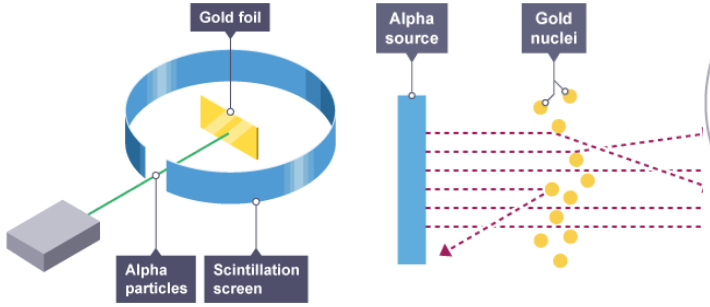
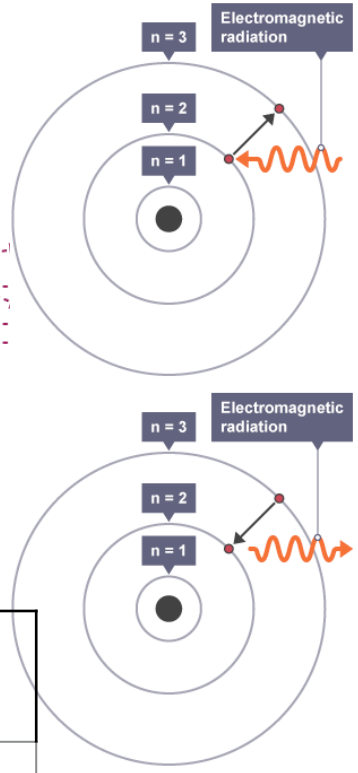
The plum pudding model

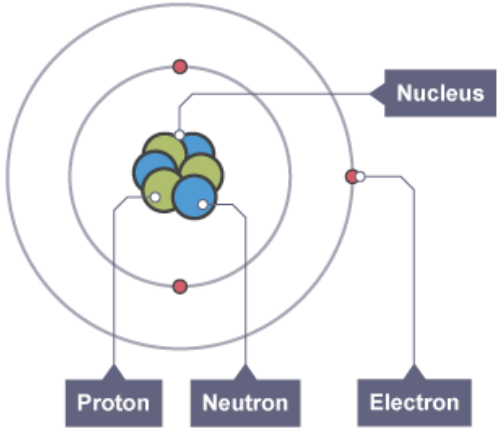


Rutherford gold leaf experiment



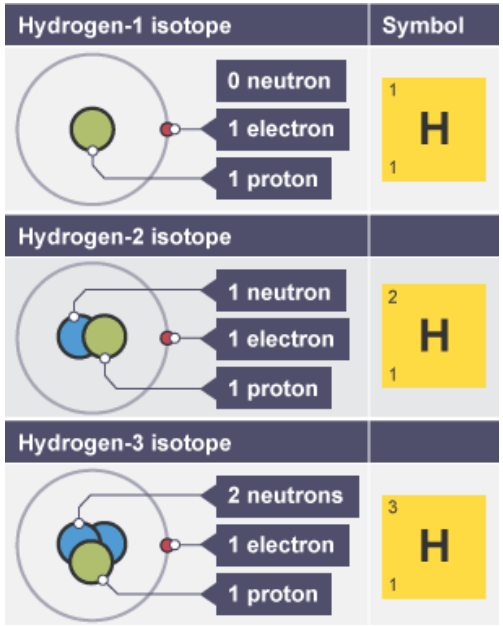
Current Bohr model





Relative charge	Relative mass	
Proton	+1	1
Neutron	0	1
Electron	-1	Close to 0 (1/2,000)

isotopes



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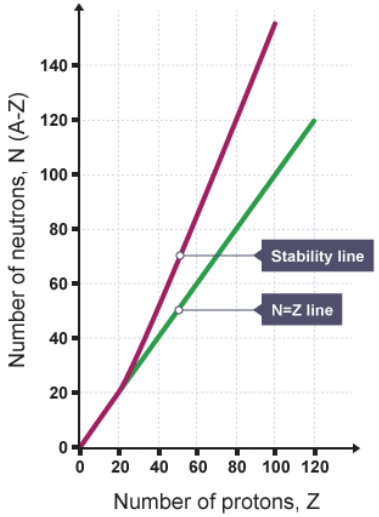
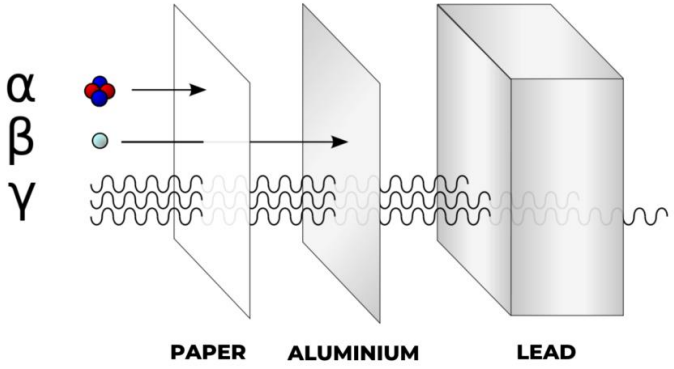
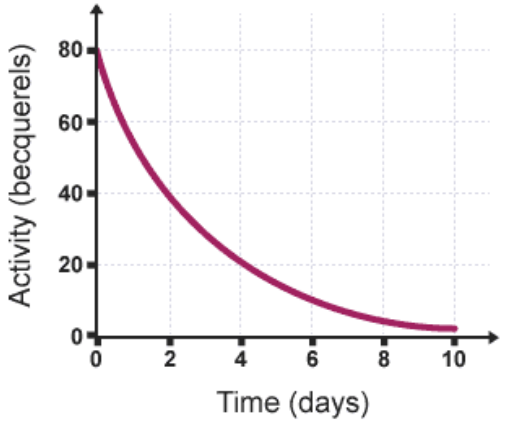
Some isotopes are unstable



Particle	What is it	Charge	Range in air	Penetration	Ionisation
Alpha (α)	2 protons + 2 neutrons	+2	Few cm	Stopped by paper	High
Beta (β^-)	Electron	−1	Few 10s of cm	Stopped by few mm Aluminium	Medium
Gamma (γ)	Electromagnetic wave	0	Infinite	Reduced by few mm Lead	Low

Half-life is the time it takes for half of the unstable nuclei in a sample to decay or for the activity of the sample to halve or for the count rate to halve. Count-rate is the number of decays recorded each second by a detector, such as the Geiger-Muller tube.





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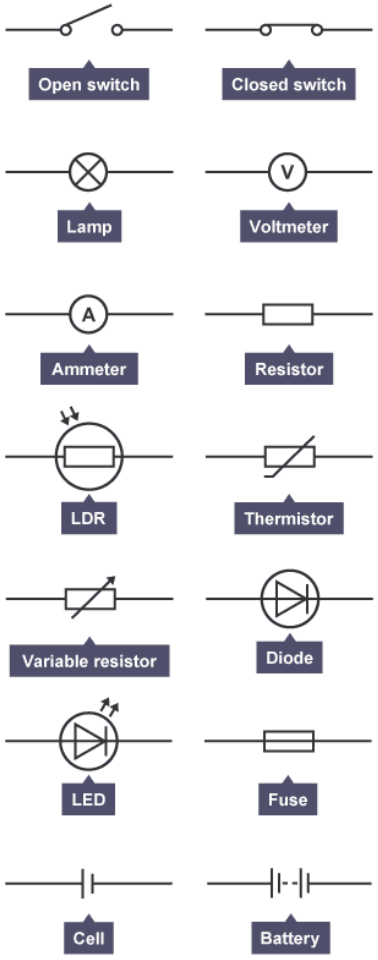
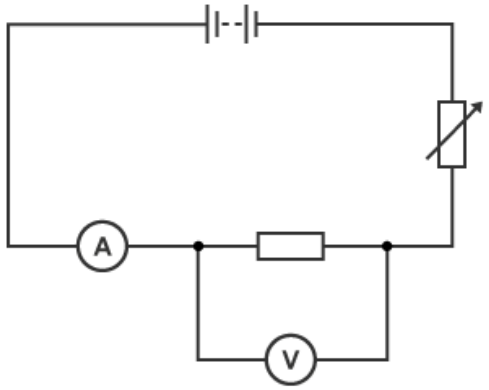


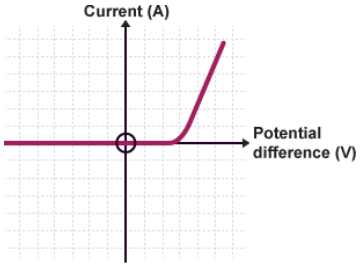
charge = current × time

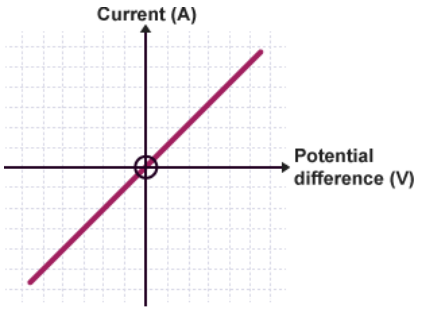
$Q=I\times t$

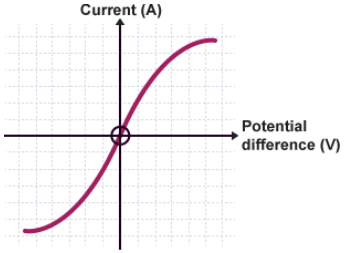
This is when:

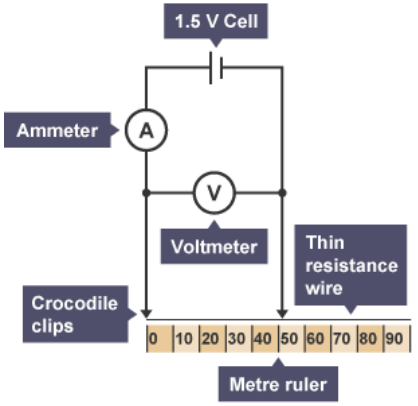
- charge (Q) is measured in coulombs (C)
- current (I) is measured in amps (A)
- time (t) is measured in seconds (s)











Spanish Personal Learning Checklists

Viajes (Travel and Tourism)	S	O	R	T
use me gusta/ me gustaría +infinitive				
describe a photo				
discuss travel plans				
use comparatives				
use se puede + infinitive				
talk about festivals in the Spanish speaking world				
use the superlative				
using 'if' clauses with the present tense				
say what you did on holiday				
use acabar de + infinitive				
use lo + adjective to give opinions				
use a range of structures to give opinions in the past				
describe where you stayed				
use the imperfect tense				
give and spot positive / negative opinions				
talk about holidays using different tenses				
using suelo + infinitive				
use strategies to work out meaning				
translation into Spanish/English				
write at least 40-50/ 80-90/130-150 word essay on the topic				
USE YOUR VOCAB BOOKLET TO SORT YOUR LEARNING				

Diviértete (My personal world: Media and technology)	S	O	R	T
revise nationalities and countries (Spanish speaking countries)				
use question words to form questions				
revise knowledge of name/age/ numbers/months/dates / birthdays/alphabet/phonics				
describe others in detail (talking about Spanish speaking sports stars)				
use a wide range of adjectives and intensifiers				
use expressions of frequency				
use the present tense and irregular verbs with confidence to talk about life online				
use stem changing verbs				
use opinion verbs and expressions with a range of justifications				
revise sports and free time activities				
arranging to go out				
revise tengo que + infinitive to say why you cannot go out				
use the near future tense				
using sequencing words				
planning a cinema visit				
revise TV and film genres				
revise the preterite tense to say what you did at the weekend				
use past time phrases				
talk about days that went wrong				
use the direct object pronouns				
recognize and use three tenses				
translation into Spanish/English				
write at least 40-50/ 80-90/130-150 word essay on the topic				
USE YOUR VOCAB BOOKLET TO SORT YOUR LEARNING				

Sports Science Knowledge Organiser: Principles of Training

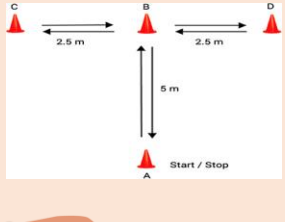
TASKS

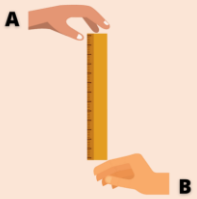
Task 1 – Components of fitness applied in sport

- Research and select the tests that are appropriate for each of your selected activities
- Undertake the selected fitness tests and interpret your results data

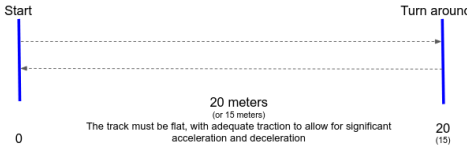
Task 2 – Components of fitness applied in sport

- Research which components of fitness are relevant to skills in both activities
- Demonstrate the skills linked to each component of fitness for both activities
- Design tests for two main skills you have highlighted in one of your selected activities
- Do the skills tests and collate the results data

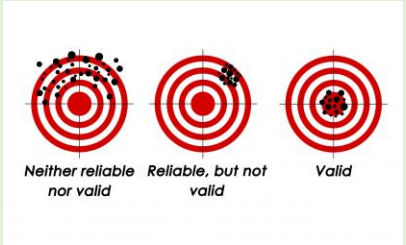


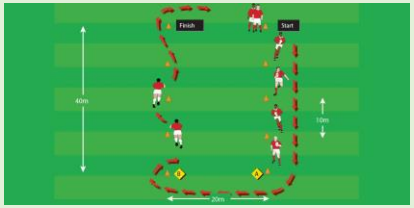


Multi-stage Fitness Test Track



	men	women
excellent	> 13	> 12
very good	11 - 13	10 - 12
good	9 - 11	8 - 10
average	7 - 9	6 - 8
poor	5 - 7	4 - 6
very poor	< 5	< 4





4 LINKS & FURTHER READING

Performance Evaluation Tests - more than 101 available (brianmac.co.uk)

Complete Guide to Fitness Testing (topendsports.com)

Sports Science Knowledge Organiser: Principles of Training

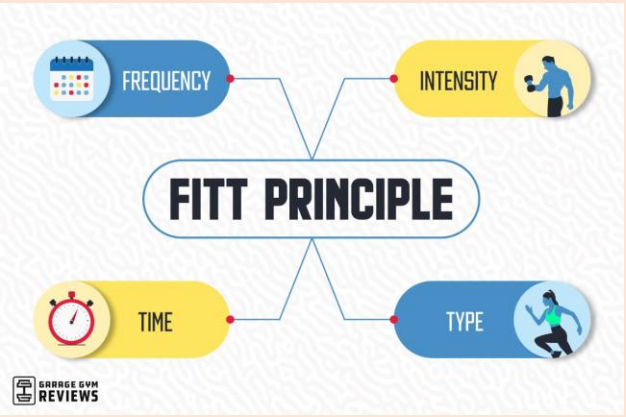
TASKS

Task 3 – Apply principles of training in sport

- Discuss how the principles of training (SPOR and FITT) and SMART goals can be applied to your clients training programme
- Describe the benefits and drawbacks of each training method
- Describe the differences between aerobic and anaerobic exercise

Task 4 – Organising and planning a fitness training programme

- Plan and develop a six-week fitness training programme for your selected activity, which considers the aims of the programme, appropriate equipment, the organisation of the programme and considers appropriate principles of training
- Include relevant warm up and cool down routines that can be used before and after each session, these do not have to change from session to session
- Complete an effective risk assessment that considers the safety considerations.



4 LINKS & FURTHER READING

The principles of training - Principles of training - Edexcel - GCSE Physical Education Revision - Edexcel - BBC Bitesize

Workout Plan Templates: Download Or Make Yourself | PureGym

Sports Science Knowledge Organiser: Principles of Training

TASKS

Task 5 – Review own performance in planning and delivery of a fitness training programme

- Compare the pre and post test results for the fitness training programme
- Describe the strengths of the programme and the areas that need improving
- Describe how you adapted your plan
- Describe how the plan could be improved if the process was to be repeated in future.

Table 2.53 Results of a fitness training programme

Initial goal: To improve upper-body strength over a six-week period so that one rep max scores improve and rugby tackling performance improves. • **S:** target is specific to strength and to rugby. • **M:** one rep max and tackles completed are numerical scores that can be measured. • **A:** achievable to increase scores by any amount in a six-week period. • **R:** realistic as any improvement is accepted. • **T:** six weeks to complete.	
Fitness test: One rep max scores	**Skill test:** Number of tackles completed in 60 seconds
Pre-training Bicep curl: 15 kg Tricep curl: 15 kg Bench press: 35 kg Lateral pull down: 30 kg Deltoid fly: 10 kg each arm	**Pre-training** 10 tackles completed
Mid-training Bicep curl: 20 kg Tricep curl: 18 kg Bench press: 40 kg Lateral pull down: 30 kg Deltoid fly: 12 kg each arm	**Mid-training** 11 tackles completed
End of training Bicep curl: 22 kg Tricep curl: 20 kg Bench press: 45 kg Lateral pull down: 35 kg Deltoid fly: 15 kg each arm	**End of training** 13 tackles completed
Conclusions: The gradual improvements in one rep max (upper-body strength) has also led to a higher success rate in the tackling skill test ...	

Sports Science Knowledge Organiser: Principles of Training

1	TIER THREE VOCABULARY
Aesthetic sports	Sports in which the athlete's body shape is also judged.
Agility	The ability to move and change direction quickly while maintain control
Balance	The ability to maintain a position; this involves maintaining the centre of mass over the base of support
Cardiovascular endurance	The ability of the heart and lungs to get oxygen to the working muscles and for use by the body.
Circuit Training	A series of exercises performed at work stations with periods of work and rest
Continuous training	Any activity or exercise that can be continuously repeated without suffering undue fatigue
Co-ordination	The ability to use two or more body parts together smoothly and efficiently
Fartlek training	'Speed play' which generally involves running, combining continuous and interval training with varying speed and intensity
Field-based training	Technology that can be used to provide data outside of a laboratory in the setting where the sports take place, for example a football pitch.
FITT	Principle of overload; frequency, intensity, time and type.
Flexibility	The range of movement possible at a joint
Interval training	Any training that involves periods of work and rest
Laboratory based technology	The use of technology inside a laboratory to provide data

1	TIER THREE VOCABULARY
Maximal tests	Fitness tests that require a maximal effort in order to produce a valid, comparable result.
Muscular endurance	The ability of a muscle to sustain repeated contractions.
Normative data	Data and statistics used to compare scores against set standards.
Objective measures	Facts that provide figures/numbers, which can allow a performer to monitor improvement
PAR-Q	Physical activity readiness questionnaire
Plyometrics training	Repeated exercises such as bounding, hoping or jumping over hurdles, which are designed to create fast, powerful movements
Power	The exertion of rapid muscular strength; it can be remembered as strength x speed.
PNF	Proprioceptive neuro muscular facilitation- advanced form of flexibility training
Reaction Time	The time taken from the onset of a stimulus to the start of the reactive movement
Reliability	A fitness test ir reliable if it can be repeated and gives similar results each time
SMART	Principles of goal setting; specific, measurable, achievable, realistic and time bound.
SPOR	Principles of training; specificity, progression, overload and reversibility.
Validity	Refers to how well a fitness test measures the component of fitness that it aims to test.